

Botswana Mini-Case Study 2003

Recent Experience in Interconnection Disputes



International Telecommunication Union

This mini case study was conducted by Robert Bruce and Rory Macmillan of Debevoise & Plimpton, London U.K. with the active participation of country collaborators Cuthbert Lekaukau, Martin Mokgware and M. O. Tamasiga. The views expressed in this paper are those of the authors, and do not necessarily reflect the views of ITU, its members or the government of Botswana.

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This is one of five mini case studies on interconnection dispute resolution undertaken by ITU. Further information can be found on the web site at <http://www.itu.int/ITU-D/treg>.

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International Telecommunication Union

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I. Introduction

With a population of about 1.7 million, Botswana has a GDP of about 32 billion Pula (BWP 1.00 = US\$ 0.20). Botswana's telecommunication sector is served by one fixed line operator with about 140,000 fixed lines, a teledensity of about 8.2%, and two mobile operators with a total of about 460,000 mobile subscribers, a penetration rate of about 27.3%.

The Botswana Telecommunications Authority (BTA) enjoys a well-deserved reputation as one of the first countries in the African region to establish an independent regulatory agency. For example, the agency establishes and finances its operational budget as well as exercises licensing authority. In 1999, the agency resolved its first interconnection dispute between the Botswana Telecommunications Corporation (BTC) and the two major cellular operators in Botswana, Mascom Wireless and Vista Cellular in BTA Ruling No. 1 of 1999.

The resulting interconnection agreement between BTC and Mascom and Vista established charges on a revenue sharing basis that were valid for a 24 month period extending from February 17, 1998. Prior to the expiration of the agreement, the parties decided to extend its validity; and in March 2001 they commenced negotiations to review it. However, BTC and Mascom reached deadlock in their discussions, and on July 5, 2002 both parties filed with BTA an interconnection dispute for determination. On February 26, 2003, BTA issued through its Chairman, C.M. Lekaukau, its ruling in the dispute, BTA Ruling No. 1 of 2003 (see annex 1 ("the Ruling")), which breaks new ground by setting forth in substantial detail its rationale for setting new interconnection charges through reliance on international benchmarks.

The Ruling, which is attached as annex 1, warrants careful review by other regulatory agencies and is discussed in detail in the following section. It is particularly notable since it is the first time an African regulator has adopted European Union (EU) benchmarks (Morocco's Agence Nationale de Réglementation des Télécommunications (ANRT) has used them before but not exclusively). Although the Ruling settled a dispute between Mascom and BTC only and did not involve other operators, the extensiveness and quality of the reasoning in the written decision offers an indication of how BTA may approach such matters in the future. The Ruling, then, is effectively a precedent for disputes that may arise in relation to interconnection agreements more generally.

II. BTA Ruling No. 1 of 2003

(a) Background to the Dispute over Termination Charges

The controversy between BTC and Mascom centered around proposed changes to termination charges to apply to each party for termination on the other's network. Mascom essentially sought the extension of charges established in BTA Ruling No. 1 of 1999 whereas BTC advocated significant changes in monthly mobile and fixed termination rates as follows:

Table 1: Call Termination Rates (BW Pula)

	Rates in effect at time of dispute (Mascom Proposal)	Rates proposed by BTC
Termination on BTC Network:		
- Peak	24.0	35.0
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- Peak	96.0	75.0
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Note: BWP 1.00 = US\$ 0.20

(b) Rationale for BTA Ruling No.1 of 2003

The Ruling outlines the various legal and policy factors underlying the decision reached in February 2003 and warrants a careful analysis of the various considerations and factors weighed by BTA.

Legal Basis and Framework for Addressing Interconnection Disputes

The Ruling first considered the legal basis and framework for dealing with interconnection disputes in Botswana, including Article 47 of the Telecommunications Act of 1996 (hereinafter the "Act"), the licenses of the two parties, the interconnection agreement reached as a result of the 1999 Ruling, and the Telecommunications Policy of Botswana adopted in 1995. The Act provides that BTA has the power to decide interconnection controversies and to set such terms and conditions as seem to be "fair and reasonable" to it. BTA has wide discretion to decide what is fair and reasonable and can weigh a variety of considerations including significant market power, the possibility of revenue sharing, benchmarking, the promotion of universal access, the subscriber base, transparency, cost orientation, reasonable rate of investment, non-discrimination, market structure as well as other factors. The Ruling notes as well that BTC and Mascom licenses include requirements consistent with Article 47 of the Act.

Cost Analysis

The interconnection agreement between the parties acknowledged that interconnection charges will be based on cost but that costing figures may not be available in the short term, and that another method should be used. While intended to be based on costs, the agreement stipulated that interconnection should produce a reasonable return on assets and resources involved, encourage network usage, and not inhibit the growth of cellular services. (Ruling at 18.) The Ruling confirms that charges should satisfy what are described as the "triad of interconnection", i.e. charges fair to operators, fair to end-users and consistent with the mandate of BTA.

The Ruling considered three major models for dealing with interconnection: revenue sharing, sender keeps all, and interconnection usage charges. Although it acknowledged that the initial 1999 Ruling had been based on a revenue sharing model, it concluded that such arrangements are based on negotiations reflecting the relative market power of the parties and that the model tended to give rise to discrimination, disputes among operators and not to be conducive of vibrant competition for consumer tariffs. Noting that there were three types of interconnection charges for origination, termination, and transit, the Ruling concluded that interconnection usage charges should be the basis for a new interconnection arrangement which should largely center around termination charges independent of charges to consumers.

Reliance on Benchmarking

The Ruling rejected an attempt by Mascom to urge BTA to rely on the ratio of fixed to mobile termination charges in neighboring African countries. It concluded that these ratios and the underlying termination charges were based on revenue sharing and not on efficient interconnection arrangements. The Ruling focused on various costing methodologies and benchmarking as two broad approaches to set interconnection charges. The Ruling concluded that historical or backward looking costs did not reflect current technological trends and would not result in efficient pricing. Instead, Long Run Incremental Costs (LRIC) or Long Run Average Incremental Costs (LRAIC) were surrogates reflective of costs in competitive markets. In turn, the Ruling reasoned that benchmarking could be a useful regulatory tool to the extent it was based on outcomes in countries with markets subject to substantial competition or where LRIC or LRAIC costing methodologies had been applied. The Ruling reviewed the European Union (EU) approach to developing benchmarks for interconnection charges at various tiers of the network.

BTC had introduced into the record of the proceeding an historical cost study. Mascom had, in turn, offered data from the EU as well as developing countries noting trends toward the reduction of termination charges. BTA concluded that it was not feasible in the context of the pending proceeding to develop a cost model for termination charges and any such model for BTC would require a comparable model for Mascom.

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Selecting Benchmark Data

BTA considered with care the potential uses of benchmark data and, in particular, the countries to be used in the benchmark study. It considered a number of different factors in weighing potential sources of benchmark data. First, it rejected the use of benchmark data from countries that did not rely on the calling party pays principle that is used in Botswana. Second, it rejected use of benchmarking precedent from neighboring African countries on the ground that there was no substantial competition in termination charges in any of the neighboring countries nor did they utilize LRIC principles in setting interconnection charges. (Ruling at 35.) Third, it concluded that, as a result of the framework of EU directives, EU countries represented a “relatively homogeneous regulatory framework in each country that facilitates intra and extra-EU comparisons”. The Ruling noted as well that the EU benchmarking methodology has been “tried and tested” and that many regulatory authorities in the EU had developed and actually implemented cost methodologies such as LRAIC. Hence EU countries were viewed as representing a “good sample of countries that have reached or are in the process of reaching efficient cost-oriented termination charges for fixed networks . . . ”. (Ruling at 37.)

Regulating Mobile Termination Charges

Likewise, the Ruling noted that “there is an increasing trend amongst regulators in favor of regulation of mobile termination charges”, in the UK and Austria in particular. Other EU regulators, including Sweden, France and Belgium, were viewed as using efficient benchmarking to mandate significant decreases in mobile termination charges.

Significantly, the Ruling recognized as well that given the different economic and sector development conditions in the EU, the selection of benchmark termination charges for BTC and Mascom might result in charges below their efficient forward looking costs. However, the Ruling acknowledged this risk in a forthright fashion in tailoring transition periods for the effectiveness of new charges.

Fixed Termination Rates: Use of Mid-Range EU National Rates

The Ruling followed the EU’s structure of analyzing the various levels of interconnection, depending on where in the network hierarchy the call is terminated and the distance the call has to be carried: “Local” represents interconnection at the local exchange; “Single Transit” represents interconnection at the “Metropolitan” level, including the use of one tandem switch; “Double Transit” or “National” allows access to all customers on the network and includes tandem links of at least 200 km. The Ruling concluded that Botswana should use the “national” level of interconnection—as opposed to local or single tandem interconnection charges—as the basis for termination charges. In addition, the Ruling found that an average or mid-range of all fifteen EU countries would provide a “fair and reasonable basis” on which to determine BTC’s fixed network termination charges.

Mobile Termination Rates: Use of EU Best Practice Rates

Interestingly, the Ruling concludes that the average or mid-range of all EU countries does not constitute an efficient benchmarking methodology for mobile network termination charges because many EU countries are still only in the process of introducing cost-based regulation of mobile termination. Instead, the Ruling opted for the average or mid-point in the EU’s “current best practice” range, although it did not identify its source for this. Given the higher level of costs of charges, the Ruling concluded that it would not be unreasonable to use such charges on a transitional basis for efficient benchmark termination charges for Mascom.

Transition Period

The Ruling then considered how to deal with the transition period given the fact that the proposed levels of charges were significantly below current charges. It recognized explicitly the trade-off between the rapid implementation of its regulatory policy objectives and the potential adverse impact with respect to operators’ financial imperatives. It declared succinctly that “regulatory objectives require a short implementation timeframe while the financial imperatives suggest a longer implementation timeframe.” (Ruling at 41.)

The Ruling then summarized its mandatory approach to BTC fixed termination charges and Mascom mobile termination charges.

Table 2: Rates imposed by the February 2003 BTA Ruling (BW Pula)

Operator	Effective date until 29/2/04	From 1/3/04
BTC		
	Peak Off peak	15.0 12.0
Mascom		
	Peak Off Peak	85.0 68.0

Note: BWP 1.00 = US\$ 0.20

The Ruling will remain valid for 24 months effective from the date of the ruling. The parties are free to reach an agreement that does not breach the fundamental tenets of the Ruling during the period of the agreement subject to the approval of BTA. The parties have the option to appeal to the High Court under Section 56 of the Act to seek judicial review.

(c) Observations Concerning Ruling No. 1 of 2003

The Ruling is indicative of a national regulator that views its role in a pragmatic and facilitative way. BTA engaged itself in the dispute only after the parties to an earlier interconnection proceeding had been unable to agree to modifications to that agreement. During the proceeding it appears that BTA was actively engaged in guiding the parties to agree to a new approach to interconnection based on interconnection usage charges rather than the revenue sharing agreement that had been the basis for the original interconnection agreement. It also sought to use the resources of at least one of the parties, Mascom, to generate relevant benchmarking data to be used in the proceeding although ultimately BTA relied for principled reasons on different sources of benchmarked data.

Second, although there are obvious elements of “rough justice” in the use of benchmarked data, it is clear that BTA sought to utilize such data to achieve its objectives in a focused way. It chose EU reference data because of the relatively disciplined and homogenous framework in which such data was developed, and rejected the use of benchmarking data for neighboring African countries because it was concerned that their reference interconnection agreements were based on negotiation-driven revenue sharing agreements and not LRAIC principles.

Third, having utilized EU reference data to move toward more efficient pricing arrangements, BTA applied sensitivity and judgment to the process of implementing new reference standards. For example, as illustrated in the table above, it provided for a two stage phase-in of recommended new levels of termination charges, with the first stage commencing on the effective date of the ruling and the second stage in March 2004. In this respect, BTA sought to balance its institutional priorities in favour of a rapid introduction of new regulatory initiatives against concerns about the financial imperatives facing BTC and Mascom.

It also tempered the use of EU benchmarking by utilizing termination charges at the national rather than local level as a better reflection of the competitive and overall state of the market in Botswana compared to more developed economies.

(d) Additional Issues Raised by the Ruling

There are at least two areas where the broader implications of the novel approach chosen by the BTA might warrant further analysis and assessment.

Encouraging Information Sharing Among Regulators, EU and Regional Organizations

The first concerns the process by which national regulators obtain access to the latest and most reliable data on current interconnection agreements. The BTA illustrates how useful, for example, data from the EU may be to national regulators dealing with telecommunications sectors in transition and with the implementation of new regulatory mandates. It may thus be worthwhile to encourage more focused discussions between the European Commission, which collects enormous amounts of sector-specific data in connection with its reports on the implementation of the EU framework on an annual basis, and regulators in emerging markets, who might find some or all of this data highly relevant in carrying out their responsibilities. The European Commission, for example, publishes national interconnection rates, including fixed to fixed and fixed to mobile, unbundled local loop prices, retail tariffs, and a host of other data from its Member States. EU interconnection rates published in December 2002 are included in Annex 2 of this report. Other data can be found on the EU's Information Society website (see annex 2).

In addition, various national regulators in the EU such as the National IT and Telecom Agency (NITA) in Denmark have had significant experience using benchmarked data and often provide useful support to regulators in developing markets. Such experiences might be further developed and expanded to increase partnering relationships with peer regulators interested in both benchmarking data collected as well as benchmarking know-how. In addition, there may be more to be done in conditioning regulated entities to provide such data to national regulators. Regional regulatory organizations might also consider collecting and publishing relevant data for their respective regions. Often operators in emerging markets will have ownership or other affiliations with operators with experience in many international markets. Such operators could be expected to provide useful reference data as well as analysis and information that would assist in applying external benchmarks in a local context.

Developing LRIC/LRAIC Models

Second, it may also be useful in tandem with the collection of relevant benchmark information to encourage through consultative discussions the development of LRAIC or LRIC models for BTC. The experience of other national regulators such as NITA in Denmark¹ illustrates how such models can be developed through the engagement of incumbent and other competitive operators. Whether such an exercise could make a significant contribution to BTA's overall framework may depend, of course, on the degree to which operators other than BTC have an incentive, as well as access to the relevant information, to assist BTA. Such long run costing models may offer another tool to BTA to evaluate and use effectively relevant external data as an "internally generated" costing yardstick.

III. Other Interesting Developments

(a) Development of Mobile -to-Mobile Interconnection agreements

One of the current issues facing BTA is the development of mobile -to-mobile interconnection rates between Mascom and Vista Cellular, the second and smaller mobile operator in Botswana. Currently, there is no agreement between the two operators with the de facto interconnection arrangement being a sender keeps all modus operandi. BTA is encouraging commercial discussions between the two operators; however, there are numerous impediments to the discussions including the issue raised by one of the operators arguing that both operators should pay each other for services rendered. In addition, there is not shared confidence between the operators with respect to the traffic figures used in settlement.

While BTA is limited in what it can do to develop trust in the commercial relationship between the operators, there may be scope for BTA to begin a dialogue between the operators on the

¹ See ITU Denmark Mini Case Study: Beyond Disputes and Towards Consensus Building on TREG at http://www.itu.int/ITU-D/treg/Case_Studies/Index.html, including references to a series of international LRIC/LRAIC cost models.

basis of current commercial arrangements between mobile operators in other markets. In this practical respect, relevant agreements that might be used as background for the BTA's involvement concerning mobile -to-mobile interconnection issues could be useful. Thus the same "networks" for the flow of information relating to fixed-to-mobile and mobile -to-fixed termination, including those that could be activated by the two operators themselves, might serve as the backbone for the next phase of BTA's involvement with interconnection issues.

(b) Industry Consultative Processes

BTA is currently involved in an ongoing consultative process with the key stakeholders in Botswana with respect to interconnection and other related policy concerns. BTA is currently involved in the drafting of interconnection guidelines, which at this stage have been distributed to industry stakeholders for comment. BTA considers the process of consultation to be a priority as it seeks to involve stakeholders prior to finalizing policies, regulations and taking other actions that may affect the operations of telecommunications service providers.

ANNEX 1

BTA Ruling No. 1 of 2003, Ruling on Interconnection charges Dispute between Botswana Telecommunications Corporation and Mascom Wireless (PTY) Limited, 26 February 2003.

<http://www.bta.org.bw/pubs/Ruling%20no%203-%20Interconnection%20Disputes%20BTC-Mascom%20%2025%20FEB%202003.pdf>



(Date: 26 February 2003)

BOTSWANA TELECOMMUNICATIONS AUTHORITY (BTA)

BTA RULING NO. 1 OF 2003

**[Pursuant to Section 19 as read with Section 47
of the Telecommunications Act, 1996 (No. 15 of 1996)]**

RULING ON INTERCONNECTION CHARGES DISPUTE

BETWEEN:

BOTSWANA TELECOMMUNICATIONS CORPORATION

AND

MASCOM WIRELESS (PTY) LIMITED

C. M. LEKAUKAU, EXECUTIVE CHAIRMAN

The parties herein, namely, Mascom Wireless (Pty) Limited and Botswana Telecommunications Corporation (hereinafter referred to as Mascom and BTC respectively) entered into and concluded an Interconnection Agreement (hereinafter referred to as the Agreement) on the 13 day of August 1999. The essence of such an Agreement was to facilitate interoperability and access into each other's network, and its concomitant compensation, one being a fixed line network operator (BTC) and the other being a mobile cellular operator (Mascom). The said Agreement provided inter alia for the review and termination of the same. I must point out from the onset that the interconnection charges that were incorporated into the Agreement were set by the Botswana Telecommunications Authority (herein after referred to as BTA and/or the Authority) following a dispute settlement process (see in this regard BTA Ruling No. 1 of 1999). The interconnection charges that the Authority set in 1999 were to be valid for a period of 24 months effective 17 February 1998. The parties however decided to extend the interconnection charges' validity period in terms of the Agreement, which is the subject of these proceedings.

2. In March 2001, the parties commenced negotiations with a view to review the Agreement. A series of meetings were held as evinced by several correspondences between the parties on this subject matter. In the final analysis, the negotiations reached a deadlock. Pursuant to a jointly signed declaration of dispute dated

5 July 2002, the parties filed with the Authority, an interconnection dispute for determination, the gravamen thereof being national interconnection charges.

3. It is now apposite for me to spell out the prevailing charges, which Mascom is desirous of having them retained, and the proposed charges, which BTC is advocating for as follows (all in Thebe per minute):

- (a) Call Termination on BTC network (not taking into account corresponding volume discounts)

	<u>Current</u>	<u>Proposed by BTC</u>
Peak	24.0	35.0
Off-Peak	19.1	25.0

- (b) Call Termination on Mascom network

	<u>Current</u>	<u>Proposed by BTC</u>
Peak	96.0	75.0
Off-Peak	76.9	58.0

4. It is worth mentioning that after the parties declared a dispute, BTC on the 8 July 2002 served a notice of termination of the Agreement on Mascom and thereby gave a 24 months notice pursuant to Article 17.1 of the Agreement. The notice of termination spurred Mascom to raise two points in limine namely, that there was no longer a dispute between the parties as a result of the notice of termination and furthermore that BTC had waived

its rights under the Agreement to seek review of the Agreement by serving the said notice of termination.

5. The two points in limine are crucial in that once I uphold them jointly or severally, they shall render consideration of the variation and/or review of the Agreement unnecessary and that would be the end of the matter. Before I discuss the said points in limine, it is appropriate for me to outline the procedure, which the parties were advised by the Authority to follow and which the parties complied therewith.

6. In brief, BTC and Mascom were advised to submit in a case-stated format their written submissions and arguments (hereinafter referred to as the Initial Submissions), which they did on 4 October 2002. The said written submissions were exchanged between the parties to enable them to know each other's cases. Following the exchange of Initial Submissions, the parties were given an opportunity to respond to each other's submissions in writing (hereinafter referred to as the Reply Submissions). Mascom and BTC submitted their Reply Submission to the BTA on 22 November 2002. The said Reply Submissions were also exchanged between the parties. After the Reply Submissions, the parties were further afforded an opportunity to make oral submissions (hereinafter referred to as the Oral Hearings). The first of these were in the absence of each other (Mascom individual Oral Hearing in the morning of 21 January 2003 and BTC individual Oral Hearing in the morning of 22 January 2003)

and then a final one in each others' presence for purposes of making oral rebuttals (the joint Oral Hearing in the afternoon of 23 January 2003).

7. In the morning of the day of the joint Oral Hearing Mascom wrote BTA a letter in which it raised two points touching on the propriety or otherwise of the procedure and the possible violation of the rules of natural justice by the Authority. When amplifying those points during the joint Oral Hearing, Mascom also sought postponement of the joint Oral Hearing so as to be afforded ample time to respond. In reply during the joint Oral Hearing, BTC wanted the matter to proceed as scheduled. In my corresponding ruling read out during the beginning of the joint Oral Hearing, I held that the procedure adopted by the Authority as detailed in the preceding paragraph more than substantially complied with the rules of natural justice. The parties were afforded ample time to prepare their cases. They were also given reasonable time to make Initial and Reply Submissions and also afforded individual and joint Oral Hearings and thus the request for postponement was properly refused.

8. Before addressing the preliminary and substantive issues, I consider it important to underline the importance of this dispute and to place it in context.

9. The setting of fair and efficient interconnection charges is an essential requirement for the creation of a competitive

telecommunications market. Interconnection charges can account for a substantial proportion of operators' expenses and can also constitute a very significant revenue flow, and hence the importance thereof cannot be overstated. I therefore consider that the establishment of a correct and appropriate interconnection charge framework is of fundamental importance in ensuring a consumer friendly and pro-competitive telecommunications market in Botswana.

PRELIMINARY ISSUES

10. I shall now address the preliminary points raised by Mascom seriatim.

Whether there is a dispute

11. In its Submissions and during Oral Hearings Mascom has argued that there is no dispute. According to Mascom, BTC's serving of a notice of termination, altered the factual position with regard to the joint declaration of dispute and therefore required a formal withdrawal of the dispute by the parties. Mascom further argued that by serving the notice of termination, BTC was accepting to abide by the existing terms and conditions of the Agreement until it lapses 24 months after the date of the notice. In short, Mascom is arguing that the serving of notice of termination vitiated the review process that has been initiated three days earlier. During the hearing Mascom was asked by the Authority

whether their case was that once a party serves a notice of termination, it forgoes the right to invoke the other provisions of the Agreement during the notice period. In response, Mascom suggested that in so far as the review was concerned, BTC could not during the notice period seek to continue to review the Agreement.

12. In its Reply Submission and during Oral Hearings BTC argued that the serving of notice did not preclude it from continuing with the review process which it had initiated.

13. A dispute, by its very nature, presupposes the co-existence of a non-frivolous claim and a rejection of the said claim. In other words, there must be both a claim and a rejection in order to constitute a dispute or difference. The issue for determination now is whether there is a dispute between the parties, bearing in mind the notice of termination served on Mascom by BTC. **I hold that the serving of notice of termination by BTC on Mascom did not in any way affect the factual position of the parties herein.** The reason for so holding is that the Agreement still subsists and it will only lapse after 24 months from the date of notice of termination. Not only that, even the dispute still subsists since the provision under which it was declared remains valid notwithstanding the notice of termination. In any case the Agreement expressly recognises this fact. Clause 16.5 thereof provides as follows:

“For the avoidance of doubt, it is hereby agreed that notwithstanding these provisions for review the terms and conditions of this Agreement shall remain in full force and effect during such review until such time as the Parties complete an agreement replacing or amending this Agreement.”

14. **Taking into consideration all of the analysis and discussion above, I hold that there is indeed a dispute between the parties.**

Whether BTC has waived its rights to seek review or variation of the Agreement.

15. It has been argued by Mascom that, BTC, by serving a notice of termination thereby waived its right to seek a review or variation of the Agreement. Mascom places heavy reliance on Article 16.3 of the Agreement, which states as follows:

“If notwithstanding the parties negotiating in good faith pursuant to clause 16.2 above, at the end of (two months) from the date of the Review Notice the Parties have failed to agree appropriate modifications to this Agreement and the Review Notice has not been withdrawn by the issuing party then the parties will each agree either to:

- (a) each prepare a written proposal on the dispute and send the other party a copy of such proposal within 7 days of the end of such period; and refer the dispute for resolution in accordance with the procedures specified in clause 21; or (my underlining)
- (b) terminate this Agreement."

16 According to Mascom's interpretation of the clause cited supra, the parties can only choose one option and cannot elect both. In other words, once a party proceeds by referring a dispute to the BTA for determination, then and only then will such party be precluded from seeking termination of the same Agreement. Mascom is therefore arguing that the aforecited provisions are mutually exclusive. At this juncture, it is worth mentioning that BTC's notice of termination was pursuant to Article 17.1 as stated in its letter dated 8 July 2002 and not Article 16.3, which Mascom is relying upon.

17. Article 17.1 of the Agreement, which BTC is relying upon, states as follows:

"This Agreement will remain in force unless and until terminated by either party giving to the other at least 24 months notice in writing to expire at the end of the Initial Period or at the end of any calendar month

thereafter or either Party ceases to hold a licence granted by the Regulatory Authority."

18. I hold that serving of notice of termination of the Agreement herein did not ipso jure (through law) and ipso facto (through fact) mean that the terms and conditions of the Agreement lapsed at the time the notice was served. The Agreement will only lapse after effluxion of 24 months from the 8 July 2002, the date on which the notice was served. In the interim, all the constituent terms and conditions of the Agreement remain in existence. Once such terms and conditions are in existence; as I hereby hold, the parties' rights, duties and obligations arising therefrom still subsist. The end result thereof is that any party may invoke any of the provisions of the existing Agreement. The notice of termination did not therefore freeze or stall the operation of the terms of the Agreement.

19. If I were to extend Mascom's interpretation of the Agreement to its logical conclusion, it would mean that once a party has served a 24 months notice as provided for in the Agreement, then there can never be any exercise of any of the terms of the Agreement for instance, review of the terms of Agreement whatsoever. A party will be precluded and estopped from invoking any of the terms of the Agreement and this could not have been the intention of the contracting parties. Serious and far reaching economic ramifications within the telecommunications sector may arise if such an important Agreement is rendered immune from,

not only review, but also the exercise of any rights emanating from the Agreement for a period of 24 months, which is the notice period.

20. The telecommunications market is an ever-evolving industry and having to wait for a period of 24 months (notice period) without invoking any of the terms of such a very vital agreement may have adverse consequences within the telecommunications industry. I would therefore adopt a conjunctive interpretation of Article 16.3 for purposes of giving effect to the intention of the parties and to remove any absurdity that may arise therefrom and to further ameliorate any adverse repercussions (as stated above) that may arise once I find solace in a disjunctive interpretation. The use of the word ‘or’ in the said Article is therefore construed conjunctively as opposed to disjunctively, bearing in mind that in ordinary usage “or” is disjunctive whereas under certain instances like in the present case, it is construed conjunctively. In this connection see Uddin v. Associated Portland Cement Manufactures Ltd [1965] 2 QB 582. On the basis of this progressive reasoning, I am inclined to conclude that BTC did not waive its right to seek a review of the said Agreement by serving a Notice of Termination of the Agreement on Mascom.

21. Even if I were to rule that BTC can only and distinctively seek either a review or termination of the Agreement, that is to say, to adopt a disjunctive interpretation, the end result shall be the same. If it is review on its own, that does not present any

difficulty at all as the Authority is now asked to review the said Agreement by BTC. On the other hand, if it is termination as preceded by the served notice, still a review of the Agreement shall be in order for the simple reason that notice of termination did not in any way extinguish any of the terms of the Agreement, for instance, review of the said Agreement.

22. If I were to invoke, mero motu, a common sense approach that if two or more acts by the same individual are repugnant or inconsistent, the last one must prevail, still, such an approach does not advance the Mascom case any further. In this case, BTC asked initially for a review of the Agreement and three days later served a notice of termination of the said Agreement. If I uphold that notice of termination must prevail, the aforestated conclusion is also reached, which is: notice of termination does not ipso facto and ipso jure freeze the operation of the terms of the Agreement and BTC will be justifiably entitled to invoke any of the provisions of the Agreement.

23. Assuming I were to agree with Mascom that the provisions of clause 16.3 are mutually exclusive and should be interpreted disjunctively, I still cannot agree that BTC could be said to have waived its right to continue with the review process it initiated prior to the serving of notice of termination. In that case my position would be that BTC did exercise its option, in terms of clause 16.3, on 5 July 2002 by opting for a review process and that by so doing it may have precluded itself from opting for a termination process.

24. I accordingly hold that BTC has not waived its right to seek a review of the Agreement.

25. Having adequately addressed the preliminary points in limine raised by Mascom I shall now proceed to briefly consider instances under which a review of the Agreement may be possible.

26. In terms of the Agreement, certain procedural and substantive requirements have to be satisfied in order to initiate the review process. The relevant clause thereof is clause 16, dealing with the giving of the review notice, and review when there is a material change of circumstances. In the circumstance the said conditions precedent have been satisfied by BTC. In any event, Mascom is not arguing that there was non compliance with either procedural and or substantive requirements of the said article dealing with review. **On the basis of the afore mentioned justification I hold that BTC is entitled to seek a review of the Agreement.**

LEGAL BASIS FOR THE DETERMINATION OF INTERCONNECTION CHARGES

27. In reviewing the appropriate legal basis for the determination of interconnection charges, I shall place heavy reliance on the Act, the licences of the two parties herein, the Agreement and the

Telecommunications Policy of Botswana (1995), (hereinafter referred to as the “Policy”).

The Telecommunications Act, 1996 (No. 15 of 1996)

28. The relevant provision thereof is section 47 of the Act, which inter alia, provides that in the event of an interconnection dispute the Authority shall have the power to decide on the matter and set down such terms and conditions for interconnection as seem fair and reasonable to it. The fundamental indicia thereof is what seems to be a “fair and reasonable” interconnection charge to the Authority in each case.

29. What amounts to “fair and reasonable” charge as provided for in section 47 depends upon a host of several considerations. Such considerations may include significant market power or otherwise of the operators, the possibility of revenue sharing by concerned operators, level of competition, benchmarking, promotion of universal access, interconnect access charge, consumer interests; subscriber base, transparency, cost orientation; reasonable rate of return on investment, non discrimination, market structure and the Policy. It is not intended that the above stated list is exhaustive, nor that all the factors listed above would necessarily be relevant in any particular dispute. As stated above, it will be upon the Authority to determine what is fair and reasonable in the circumstances. In addition, the Authority is mindful of its mandate under section 17 of the Act,

which is the promotion and development of efficient telecommunications services in Botswana.

Telecommunications Policy for Botswana

30. The Policy recognises interconnection as forming part of the liberalisation process and development of competition in the telecommunications sector. It is prudent for me to refer to the relevant exposition in the Policy where a justification for a mandatory and mutual interconnection obligation is stated at paragraph 8.6 page 18 as follows:

“Justification. In order to rationalise the use of present network and to avoid duplication of infrastructure all new and present networks should be interconnected for national economic benefit as well as for the benefit of the consumer.”

31. The Policy further advocates for a fair and reasonable pricing. In this connection, see paragraph 8.9 at page 20 where it is stated as follows:

“Prices should be deemed fair and reasonable if they reflect recovery of the investment in the medium to long term perspective.”

32. An interpretation of the afore-cited Policy guideline reflects or advocates for a fair and reasonable pricing criteria, taking into account all the goals enshrined in the Policy, such as recovery of the investment, promotion of universal access, liberalisation, effective competition and the interests of consumers.

BTC and Mascom Licences

33. In respect of BTC's licence the relevant clause is 5.1, which embraces the principle of cost orientation for regulated tariffs, which includes interconnection charges. See also clause 7.2.3 of the said licence, which obliges the BTC to ensure, that interconnect elements charged for are sufficiently unbundled and that they are based on underlying costs. With respect to Mascom's licence, the relevant clause is clause 3 dealing with leased lines and fixed links. Sub clause 3.1.3 thereof provides that for purposes of establishing interconnection of its public land mobile network elements and the public switched telephone network of BTC, Mascom shall use leased lines. Furthermore, sub-clause 3.4 states that in the event of a dispute relating to the reasonableness of any leased line service or charge, the parties shall refer the dispute to the Authority for determination.

34. When reconciling and juxtaposing the two licences of the parties with the Act, I have no doubt in my mind that Mascom licence is consistent with the Act in that it requires reasonable interconnection charges as contained in clause 3 of the licence.

Concerning BTC's licence, I have no hesitation in concluding that it is equally consistent with the Act insofar as it requires cost based charges, which are an integral component or subset of fair and reasonable charges. In other words, cost based charges and other considerations will shed light on what is fair and reasonable. A licence by its very nature sets out the scope, terms and conditions that the concerned operator should comply with. It may be equated to a contract between the operator and the Authority under which the operator enjoys rights, duties and obligations. A violation of those rights, duties and obligations may attract or be visited by a form of sanction imposed thereon by the Authority. It therefore follows that the BTC and Mascom are duty bound to comply with the terms and obligations imposed by their licences.

My finding is that both the BTC and Mascom licences are consistent with the requirements of section 47 of the Act.

Interconnection Agreement

35. Appendix C of the Agreement between the parties herein recognises cost-based charges. At paragraph 1 thereof it is stated as follows:

“The parties recognise that:

- It is the intention that interconnection charges will be based on costs (my emphasis), although it is stated in the cellular tender document that the costing figures may not be available in the short term and another method should be used;

- The charges should:
 - (a) compensate the provider fairly for the services it provides and produced (sic) a reasonable return on the assets and resources involved;
 - (b) encourage increased networks usage and in the long run reduce costs of service to the customers;
 - (c) not be prohibitively high to inhibit the growth of cellular services".

36. The Agreement also recognises cost based charges. Not only that, it also states under (a) above that the charges should compensate the operator fairly, and in my view this encompasses fairness as required in section 47. Under (b) above increased network usage as well as reduction of costs of services to customers is encouraged when setting interconnection charges and lastly (c) advocates for charges that are not prohibitively high to the extent of inhibiting cellular growth. Interpreting all these three guidelines jointly and cumulatively, I make a finding that they require fair and reasonable interconnection charges. The said charges should satisfy what I may term the "triad of interconnection", that is to say, the said charges should be fair to the operators, fair to the end-users or customers and lastly satisfy the general mandate of the Authority as provided for in the organic statute and the Policy. In the final analysis, the said three

guidelines in the Agreement are consistent with section 47 of the Act, which requires fair and reasonable interconnection charges.

37. Taking into account all of the analysis and discussion above, I hold that the legal principle for determining interconnection charges in Botswana is the “fair and reasonable” test. It is therefore entirely upon the Authority to determine whether in the setting of interconnection charges, cost orientation and or efficiency should be invoked in addition to or forming part of any other criteria which the BTA may deem appropriate and justifiable to satisfy the fundamental or critical epithet of fair and reasonable pricing. Interconnection charges may, in appropriate circumstances be deemed to be fair and reasonable if they approximate costs or are based on efficiency criteria.

PRICING OF INTERCONNECTION

38. I have identified the following three principal approaches to the pricing of interconnection around the world: revenue sharing arrangements; sender keeps all arrangements (i.e. bill and keep); and interconnection usage charges (hereinafter referred to as IUC). However, sender keeps all arrangements are not relevant to this dispute and hence I shall only discuss revenue sharing arrangements and IUCs.

Revenue Sharing Arrangements

39. Revenue sharing arrangements are relatively simple to implement. Historically, they were the result of negotiations between the corresponding non-competing operators. Hence, revenue sharing arrangements are generally not cost-oriented and therefore they are generally considered to be economically inefficient. Therefore, the actual revenue share amounts tended to reflect the bargaining power of the respective operators. As such, operators often tended to focus on the relative ratio of revenues being assigned to each operator, rather than the absolute level of the revenue amounts. Once competition is introduced, as it is in our jurisdiction, the revenue sharing arrangements becomes impractical and as well exhibits a number of policy disadvantages.

40. From a practical perspective, revenue sharing arrangements introduce a high degree of unpredictability in the revenue flows of terminating operators, and recurrence of disputes. If an entrant wants to lower one of its consumer prices that has traditionally been the subject of a revenue sharing arrangement, the result will be lower revenue share amounts not just for that operator but for all the operators involved in carrying the call. However, these interconnecting operators have no desire to accept lower payments in order to support the competitive strategy of the other operator.

41 Revenue sharing arrangements have a number of additional disadvantages. First, as may be apparent from the discussion above, revenue sharing arrangements are not conducive to vibrant consumer tariff competition. Second, revenue sharing arrangements may also be discriminatory. For example, in competitive markets, different originating operators may set different consumer tariffs for a call to the same terminating network. Hence, the terminating operator may be paid more or less by different originating operators for exactly the same service (termination of traffic), depending on the respective consumer tariffs of the originating operators.

42. My Ruling (No. 1 of 1999), which established the current interconnection framework in Botswana, was generally reflective of a revenue sharing arrangement. At that time, with the recent introduction of mobile services by Mascom and Vista, and the continuing de facto BTC monopoly on fixed services and in order to promote stability and certainty in the sector, it was necessary to set termination and origination charges for BTC only. Based on the fixed consumer tariffs, these BTC termination and origination charges resulted in fixed corresponding revenue share amounts for Mascom.

Interconnection Usage Charges

43. IUCs are the charges payable between interconnecting operators for the actual use of each others' network to originate, transit or terminate a call. Hence, there may be up to three types of IUCs: origination, transit and termination. I will now focus on IUC termination charges, given that IUC transit charges are not applicable to this dispute and that IUC origination charges are generally used and are appropriate for situations where the terminating operator sets the corresponding consumer tariff.

44. The originating operator would, from the consumer tariff that it determines and collects, pay a set amount to the corresponding terminating operator. The amounts paid would generally be independent of the consumer tariff. The residual amount, that is the amount remaining from the consumer tariff after termination charges, is the amount retained by the originating operator (hereinafter referred to as the retention amount).

45. I am of the view that IUCs are currently the best practice approach for the pricing of interconnection in markets where competition has been introduced, such as in Botswana. This is for a number of practical and policy reasons.

46. From a practical perspective, IUCs have been proven around the world as the most sustainable approach to interconnection pricing in competitive multi-operator environments. From a policy perspective, I find that IUCs have number of advantages. First, IUCs are more conducive to vibrant competition in the consumer tariffs. With IUCs, the originating operator has a more direct control on its retention amount, given that it has to pay the terminating operators the corresponding (fixed) charges. Second, IUCs tend to be most equitable under competitive scenarios. In these instances, a terminating operator will charge all operators who terminate their traffic on its network the same non-discriminatory (termination) interconnection charge. Third, IUCs are generally more compatible with the principle of cost-orientation. Because IUC termination charges are independent of consumer tariffs, they may be set at efficient cost-oriented levels.

47. Having addressed the advantages and disadvantages associated with the interconnection pricing methods, I shall now dwell on the submissions of the parties. In its Initial Submission, BTC did not address the pricing of interconnection issue directly. However, I note that BTC appears to include elements of IUCs and of revenue sharing arrangements. The BTC Initial Submission focused on the presentation of the estimates of BTC's origination and termination charges of calls to/from the mobile network. This has elements of IUCs. BTC, however, appears to propose that the changes in its origination and termination charges be undertaken

within the context of a fixed consumer tariff. In effect, therefore, such a proposed increase would appear to result in a reduction in the corresponding shares received and retained by Mascom, respectively. This is an element of a revenue sharing arrangement, with a proposed increase in the share for BTC.

48. In its Reply Submission, BTC did not address the interconnection pricing issue directly. It did, however, address the issue of the relative ratio of fixed to mobile termination charges in neighbouring African countries, in response to the specific benchmarking approach proposed by Mascom in its Initial Submission. As I pointed out earlier, most of the discussions associated with the relative ratio of mobile to fixed interconnection charges are more reflective of revenue sharing arrangements rather than the IUCs.

49. In the Oral Hearings, however, BTC appeared to recognise the relative advantages of the IUC termination charges over a revenue sharing arrangement. In particular, BTC noted the benefits of de-linking (wholesale) interconnection charges from the (retail) consumer tariffs.

50. In its Initial Submission, Mascom did not address the pricing of interconnection issue directly. However, based on my analysis, the Mascom Initial Submission, which places emphasis on the relative ratio of fixed to mobile charges appears to reflect a revenue sharing arrangement.

51. In the Oral Hearings, Mascom, when presented with a revenue sharing versus IUC arrangements options by the Authority, appeared to recognise the relative advantages of the latter over the former.

52. My review of the international practice and experience of interconnection pricing suggests that as sector reforms have taken place around the world, including the introduction of competition, an increasing number of regulators have discarded revenue sharing arrangements in favour of IUCs.

53. I note that while in their Initial and Reply Submissions BTC and Mascom do not directly address the pricing of interconnection issue, once the matter was presented as a clear choice by the Authority during the Oral Hearings, both parties appeared to recognise the relative advantages of the IUC termination charges over revenue sharing arrangements. I further note that in practice, the parties have already adopted a IUC termination charge regime.

54. For practical and policy reasons discussed above, I consider that an IUC termination charge regime is the most desirable approach for the pricing of interconnection in Botswana at this time. I therefore direct that an IUC termination charge approach for interconnection pricing between BTC and Mascom be implemented.

SETTING OF INTERCONNECTION CHARGES

55. In considering the substantive issues under dispute I have carefully reviewed the Initial and Reply Submissions and the arguments made during the Oral Hearings. In order to better understand the dynamics of the dispute, I have undertaken a thorough analysis and assessment of data provided by both parties. I have also reviewed and assessed what I consider appropriate and efficient interconnection trends and practices in other countries, especially with respect to the current best practice of using efficient benchmarks.

56. Given that I have directed BTC and Mascom to implement an IUC termination charge approach to the pricing of interconnection, the next fundamental step is to examine the appropriate methodology for the determination of termination charges for BTC and Mascom. I have identified costing methodologies and benchmarking approaches as the two broad principal approaches to the setting of interconnection and I proceed to examine the advantages and disadvantages of these two approaches.

Costing Methodologies

57. The cost approaches can be identified into two principal criteria as follows: (1) historical or backward-looking approach; and (2) the forward-looking approach.

Backward-Looking Approach

58. This approach involves the compilation of accounting and other historical data to model the actual network in place and to price it based on what was paid for each network element. The best-known variation of this approach is fully distributed cost (“FDC”) or “fully allocated costs”. Due to general lack of detailed analytical accounting data, however, FDC allocates the relevant investment across broad service categories.

59. The main criticism of this approach is conceptual. In comparison to the forward-looking approach, the backward-looking approach does not adequately reflect the dynamics of competitive markets. Hence, the costs that are calculated by this approach may not be economically efficient.

60. There are also a number of practical criticisms to this approach. One practical criticism of the backward-looking approach that I find particularly pertinent is that historical costs may reflect investment, operational or technological inefficiencies of the operator. These inefficiencies have often been found to be relatively large, especially in state-owned monopoly operators. Further, historical costs do not reflect changes in technology or management methods – such technology and methods, if utilised today, could imply a much lower cost. Another possible form of inefficiency is that often the operator may have over-invested in

the past so that it currently has spare capacity. Hence, with respect to the setting of interconnection charges, it is argued that historically inefficient operators may be “passing on their inefficiencies” as a result of the adoption of this approach. Additionally, such inefficiencies could be passed to the consumer in the form of higher consumer tariffs.

61. In combination, these criticisms have resulted in a significant shift. While still being widely used for management purposes, regulators are increasingly replacing backward-looking approaches with forward-looking costing methodologies and/or benchmark approaches.

Forward-Looking Approach

62. This approach is generally preferred by most regulators because it reflects better the dynamics of competitive markets. Competitive operators are compelled to look forward to set prices to compete, rather than to look back at prices based on their historical investments. Accordingly, the costs that are calculated by this approach, including, in particular, IUC termination costs, are generally considered to be economically efficient because they most closely approximate the prices that would otherwise be present in effectively competitive markets. Therefore I am inclined, to hold the view that cost orientation, in as much as it leads to charges that approximate costs, is an appropriate principle to apply in the current circumstances.

63. The forward-looking approach uses current and projected future prices and attempts to calculate an efficient network to provide the services in question. The most common and generally accepted forward-looking approach is long-run incremental costs (“LRIC”). LRIC are the incremental costs that would arise in the long run with a defined increment to demand.

64. LRIC may be implemented in a number of ways, including the European Commission’s long run average incremental costs (“LRAIC”) and the United States of America’s Federal Communications Commission’s total element long run incremental costs (“TELRIC”). These variations are based on the LRIC standard but differ in terms of the size of the increment and the treatment of joint and common costs. All of these variations include “mark-ups” to cover a portion of joint and common costs.

Benchmarking

65. Benchmarking is often used by regulators as a transitional or complementary approach. There are different benchmarking methodologies. In particular, an efficient benchmarking approach would use actual or projected efficient prices in other countries. Efficient prices would result from effective competition or where the regulator has established prices based on an acceptable costing methodology. For instance, the European Union (“EU”) used a variant of efficient benchmarking to ensure the progressive

reduction of fixed interconnection charges in the transition period between the general introduction of competition in 1998 and the implementation of LRAIC and other costing methodologies by national regulators in the EU. Specifically, the EU's "best current practice" approach avoided many of the common pitfalls of benchmarking. For instance, it did not select an average or the mid-range of existing charges. Given that at the beginning of this period there was no effective competition in most EU countries or that most countries had not implemented efficient costing methodologies, taking an average or a mid-range of all existing charges would likely have resulted in inefficient benchmark termination charges not oriented to costs.

66. The EU's "best current practice" approach may be summarized as follows. For each level of interconnection, it reviewed the standardized interconnection prices for its 15 member countries. The EU has defined three levels of interconnection charges for fixed termination depending on where in the network hierarchy the call is terminated and the distance the call has to be carried: "Local" represents interconnection at the local exchange; "Single Transit" represents interconnection at the "Metropolitan" level, including the use of one tandem switch; "Double Transit" or "National" allows access to all customers on the network and includes tandem links of at least 200 km. The EU then ranked the standardized prices for each level from the lowest to highest. For each level, the EU based its "best current practice" range on the three lowest interconnection charges in its member

countries. Hence, the lowest interconnection price constituted the lower end of the “current best practice” range while the third lowest interconnection price constituted the upper end.

67. In its Initial Submission, BTC proposed using the backward-looking costing methodology it had earlier developed for the estimation of its own origination and termination charges. Based on these cost calculations BTC argues that its origination and termination charges under the current arrangements are too low and do not allow it to fulfill its obligation of cost-orientation. In its Reply Submission, BTC insisted that its cost-based approach was superior to the benchmark approach proposed by Mascom in its Initial Submission.

68. During the Oral Hearings, BTC continued to put forward its cost-based approach to support its proposed interconnection charges. It maintained its position that the benchmark comparisons proposed by Mascom were inferior in principle to the implementation of a costing methodology.

69. On the other hand, Mascom in its Initial Submission provides an extensive international comparison of fixed and mobile interconnection charges and the relative ratio of fixed to mobile termination charges. After reviewing world-wide and continental averages, Mascom also provides data for a number of developing countries as well as for the 15 member countries of the EU. Mascom argues that these absolute and relative comparisons

support the status quo arrangement in Botswana. Commenting on the EU experience Mascom notes that some regulators have been significantly reducing mobile termination charges. However, Mascom argues that LRAIC-type modelling, especially for mobile services, is generally at its infancy even in the EU.

70. In the Oral Hearings, Mascom continued to express its preference for a benchmark approach to the setting of interconnection charges. Mascom further elaborated on its position with respect to cost methodologies. It noted that it was not opposed in principle to the development and implementation of an approved costing methodology. What Mascom rejected was the imposition of any particular type of methodology by BTC without BTA approval. It argued that the BTA had not made a final decision on an approved costing methodology and hence any specific proposal by BTC was in principle not acceptable to Mascom. At this point, I wish to acknowledge that the Authority has not yet developed principles to be applied by operators in the setting of tariffs as provided for under section 18(1) of the Act and that shall be done in due course. The Authority is nonetheless duty bound to make a determination herein on the basis of what it considers fair and reasonable.

71. Based on my review of the Submissions and the Oral Hearings and my extensive analysis and assessment of approaches used by regulators around the world to set fixed and mobile interconnection charges, and taking into consideration the

policy and practical advantages and disadvantages of each approach as summarized above, I consider that the current best practice approach for the setting of interconnection charges is a forward-looking LRIC methodology, as it tends to result in the calculation of economically efficient cost oriented charges. I recognise, however that due to the time required to develop and implement such a methodology, it would not be feasible or desirable to implement a forward looking LRIC approach within the context of the current dispute. In the long run, the Authority supports the development and implementation of a forward-looking costing methodology for the determination of interconnection charges.

72. Taking into account the impracticality of implementing a forward-looking LRIC methodology, I have in the interim, considered a number of options with respect to the setting of interconnection charges. Given my findings above, in assessing these options I will place special emphasis on whether their implementation is likely to result in efficient termination charges for BTC and Mascom.

73. One option I considered was to set the BTC interconnection charges based on the backward-looking costing methodology proposed and implemented by BTC. I am of the view that the backward-looking costing methodology is conceptually inferior to the preferred forward-looking costing methodology, in that it does not accurately reflect the workings of competitive markets.

74 If I were to assume that the costing methodology proposed by BTC was acceptable to the Authority, its adoption in this dispute would raise the question of the appropriate methodology to be applied by the BTA to calculate the termination charges for Mascom. Under this scenario, the principle of symmetrical regulatory treatment and fairness would suggest that the same backward-looking cost methodology would also be applied to Mascom. However, due to the time required to actually implement such a methodology for Mascom, this option does not appear to be feasible or desirable within the context of this dispute. Hence, for conceptual and practical reasons, I do not consider this option to be implementable. From a practical perspective, therefore, the most appropriate remaining option appears to be an efficient benchmarking approach.

75. Based on my analysis and discussion above, I hold that an efficient benchmarking methodology is the most likely to result in efficient benchmark termination charges for BTC and Mascom.

76. There are two principle variables in implementing an efficient benchmarking methodology. One is the countries to be included in the benchmark sample. The other is the selection criteria of the actual benchmark level or range within that sample. I shall now discuss these in turn.

Sample of Countries

77. In their Submissions, BTC and Mascom presented a number of different samples. I found the world-wide or continental samples presented by Mascom as generally unhelpful, given that the methodologies used to calculate the interconnection charges are not known. Further, many of these samples may include countries with Receiving Party Pays (RPP) regimes, which would make the sample inappropriate given the Calling Party Pays (CPP) regime currently used in Botswana.

78. Mascom presented some samples of Southern African countries. Indeed, I consider that, in principle, the review of African, Southern African or SADC member countries samples could be important. However, I was not given any information with respect to whether any African country has implemented LRIC-type costing methodologies for the calculation of fixed and mobile termination charges. Further, there does not appear to be a significant number of countries in Africa where sufficient competition would result in efficient termination charges. In summary, there is nothing to suggest that in Africa there exists a useful number of countries from which to construct a sample that would incorporate either efficient charges based on appropriate costing methodologies or efficient charges that result from effective competition. In effect, if I were to choose a sample of

African countries, I would be concerned that much of the sample would include interconnection charges that are the result of negotiations, rather than cost-orientation. Hence, I consider that a comparison with these countries would not promote the efficiency objective; rather, such a comparison would reflect the relative negotiating power of the respective operators in each of the countries. In spite of the intuitive appeal of selecting a sample of African countries, I consider that African comparisons are not an appropriate sample.

79. Mascom also placed some emphasis on the 15 member countries of the EU. I have researched the experience of the EU countries with respect to fixed and mobile interconnection. Based on this review, I consider that the EU countries represent a sample that is particularly well-suited to meet the BTA objective for the setting of efficient termination charges for BTC and Mascom, for a number of reasons, some of which I discuss below.

80. First, EU countries apply a CPP or CPP-like arrangement for fixed-mobile interconnection. This is consistent with the situation in Botswana. Second, as part of EU governance arrangements, all EU countries are required to implement and comply with European Commission Directives, including with respect to interconnection and interconnection costing methodologies. This results in a relatively homogenous regulatory framework in each country that facilitates intra and extra-EU comparisons. Third, the EU has developed and implemented for more than four years a

well-defined and highly-regarded benchmarking methodology for interconnection charges. This methodology includes the criteria for ensuring adequate comparability to take into account the level of physical interconnection (local, metropolitan and national), the time-of-day that the call is undertaken and the structure of interconnection charges. The fact that the EU benchmarking methodology has been tried and tested ensures that, if I were to consider it, it would be a reasonable alternative. Fourth, many of the national regulatory authorities have developed and actually implemented costing methodologies, including LRAIC methodologies for interconnection charges.

81. For fixed termination, most national regulators in the EU have implemented costing methodologies to guide interconnection charge setting. Of this group, six have implemented forward-looking LRAIC methodologies and an additional number are in the process of developing LRAIC to be implemented in the near future, replacing historical costing methodologies. Hence, I consider that the EU provides a good sample of countries that have reached or are in the process of reaching efficient cost-oriented termination charges for fixed networks, based on the implementation of costing methodologies. In fact, in recognition of this, in 2002 the EU decided to discontinue its “current best practice” benchmarking because of the progressive reduction of interconnection charges to the “current best practice” recommendations.

82. With respect to mobile, there is an increasing trend amongst regulators in favour of the regulation of mobile termination charges. In the EU, in particular, the UK and Austria, have developed and implemented LRIC-based costing methodologies. Other EU regulators have used other approaches, including efficient benchmarking, to mandate significant decreases in mobile termination charges, including in Sweden, France and Belgium.

83. I recognise that the economic and telecommunications development conditions in the EU are different from those of Botswana. One possible risk in this regard is that the selection of the EU sample may result in benchmark termination charges for BTC and Mascom that are below their efficient forward-looking costs. I have fully considered this possibility and have taken the necessary precautions, including the implementation of a transition period, to mitigate this risk.

84. Based on the analysis and discussion above, I hold that the 15 member countries of the EU provide the most appropriate efficient benchmarking sample to be used in the setting of efficient termination charges for BTC and Mascom.

Benchmarking Selection Criteria

85. For fixed termination, I am confident that most of the EU countries have reached or are in the process of reaching efficient cost-oriented termination charges. Based on my review of the data provided by BTC as part of this process, I consider that the EU-defined “National”-level interconnection is the most comparable to the situation in Botswana. **Hence, for fixed termination, I hold that an average or mid-range of all the 15 EU countries for “National” interconnection constitutes an efficient benchmarking methodology and hence a fair and reasonable basis on which to determine the efficient benchmark termination charge for BTC.**

86. For mobile termination, I am not confident that most of the EU countries have reached or are in the process of reaching efficient cost-oriented termination charges. Hence, for mobile termination, I do not consider an average or a mid-range of all the 15 EU countries to constitute an efficient benchmarking methodology. **Instead, I hold that an average or mid-range of the “current best practice” range, as defined by the EU, constitutes an efficient benchmarking methodology and hence a fair and reasonable basis on which to determine the efficient benchmark termination charge for Mascom.**

DETERMINATION OF BTC AND MASCOM TERMINATION CHARGES AND IMPLEMENTATION ISSUES

87. I have already decided on a new framework for the pricing of interconnection (IUC termination charge approach), which is independent of consumer tariffs and on the methodology for the setting of these termination charges (based on efficient EU benchmarking). I now proceed to determine the actual efficient benchmark termination charges for BTC and Mascom. I do not, however, intend to enforce immediately the resultant efficient termination charges. I consider below a transition period and volume discounts.

Volume Discounts

88. In order to facilitate the development of the mobile sector, in my ruling of 1999, I ordered mandatory volume discounts on the revenue amount for the termination of traffic on the then largest operator, BTC. I did not at that time order volume discounts to the termination of traffic on Mascom. In 2003, however, Mascom is significantly larger than BTC, at least in terms of subscribers.

89. Based on the data submitted by the operators as part of this process, I have confirmed a significant traffic imbalance between BTC and Mascom. The most recent data available to the Authority shows that BTC terminates 2.5 to 3.0 times as much traffic on the Mascom network than does Mascom terminate traffic on the BTC

network. Given market developments and the continuing traffic imbalance between BTC and Mascom, I am of the view that the application of mandatory volume discounts only for termination on the BTC network is no longer appropriate.

90. Based on the analysis and discussion above, I direct that, starting on the effective date of this ruling, the mandatory volume discounts on the termination of Mascom-originated calls on the BTC network be discontinued.

Transitional Arrangements

91. The efficient benchmark termination charges I have determined for BTC and Mascom are significantly below the respective current termination charges.

92. In these circumstances, I consider that a transition period is necessary as a risk-mitigating measure. Further, I recognize that a transition period is appropriate to allow both BTC and Mascom to reasonably accommodate the efficient benchmark interconnection charges. I also consider that there is a trade-off between regulatory policy objectives and financial imperatives in determining the optimal time period for the operators to reach the efficient termination levels. The regulatory objectives require a short implementation timeframe while the financial imperatives suggest a longer implementation timeframe.

93. Based on the analysis and discussion above, I have decided on the applicable mandatory termination charges for BTC fixed termination and Mascom mobile termination. These termination charges are presented in the table below, which includes their implementation schedule. The termination charges in the table are in nominal (current) terms and should be treated as ceilings (i.e. the respective terminating operator may choose to set lower termination charges).

BTC fixed termination charges and Mascom mobile termination charges			
Operator	Time-of-Day Period	Effective date of Ruling to 29 February 2004	From 1 March 2004
BTC	Peak	15.0	11.0
	Off-Peak	12.0	8.8
Mascom	Peak	85.0	75.0
	Off-Peak	68.0	60.0

Note: Peak and off-peak hours shall have the same meaning as defined in the Agreement.

CONCLUSIONS

94. Under the IUC termination approach, the originating operator has the right to set and collect the corresponding consumer tariff and the responsibility to pay a fixed termination charge to the terminating operator. With this in mind and taking into account the staged reductions in the underlying termination charges, I expect that the parties will pass on to the end consumers the benefits of the reduced termination charges in the form of lower consumer tariffs.

95. Before I conclude I wish to address specifically the prayer raised by BTC under which BTC is requesting that Mascom be ordered to pay interest at the rate of prime plus two percent on the losses amounting to thirty million Pula suffered as a result of the delay in effecting the proposed charges as purportedly agreed by Vista (Pty) Ltd. In my view, there is no merit in this prayer. The alleged delay on the part of Mascom was justified in the circumstances. Mascom was legitimately safeguarding its interests through proper negotiations, which were also done in good faith. Furthermore, Vista is not a party to the present proceedings let alone to the current Agreement between the parties herein. **There is no basis upon which Mascom may be ordered to pay costs, which may have been suffered by BTC in its dealings with a non-party. The said prayer is accordingly refused.**

96. This ruling shall remain valid and binding on both parties for a period of 24 months effective from the date of the ruling. In the event that the parties herein reach an agreement during the subsistence of this ruling, the Authority reserves the right to uphold and confirm such agreement in so far as the essence of such agreement does not substantially breach the fundamental framework or tenet as espoused by this ruling.

97. This ruling takes effect from the date hereof. Any party aggrieved by this decision may appeal to the High Court in terms of section 56 of the Act.

Delivered at Gaborone on this **Twenty Sixth** day of February 2003.

C. M. Lekaukau
Executive Chairman

ANNEX 2

EU Public Network Interconnection and Interconnection Charges and Prices for Unbundled Local Loop, from “Technical Annex of the 8th Report on the Implementation of the Telecommunications Regulatory Package” 3.12.2002.

http://europa.eu.int/information_society/topics/telecoms/implementation/annual_report/8threport/finalreport/Annex%201%20-%20Corrigendum%20March%202003.pdf

3 PUBLIC NETWORK INTERCONNECTION AND INTERCONNECTION CHARGES

3.1. FIXED-TO-FIXED INTERCONNECTION CHARGES

The following charts show the per-minute interconnection charges for call termination on the incumbent's fixed network, based on the first three-minute call at peak rate.

The charts show the absolute value of the interconnection charges (in €-cents) as of 1 August 2002, in comparison to the value as at August 2001.

The figures may have been approved by the NRA or simply agreed between operators, where the legal framework does not require NRA approval.

Interconnection charges for Spain refers to a standard single transit, but a different charge is applied in Barcelona and Madrid (1,05 eurocents/minute)

In the case of France, in order to maintain consistency across Member States, the per minute charge indicated does not include the per minute charge related to the cost of the 2 Mbit/s port, which, however, according to ART, provides a better picture of the cost borne by the interconnecting party. By taking this additional charge into account, per minute charges would be €-cent 0.62, €-cent 1.26 and €-cent 1.76 respectively at local, single transit and double transit interconnection levels.

Charges for Netherlands apply from 1 Sept. 2002.

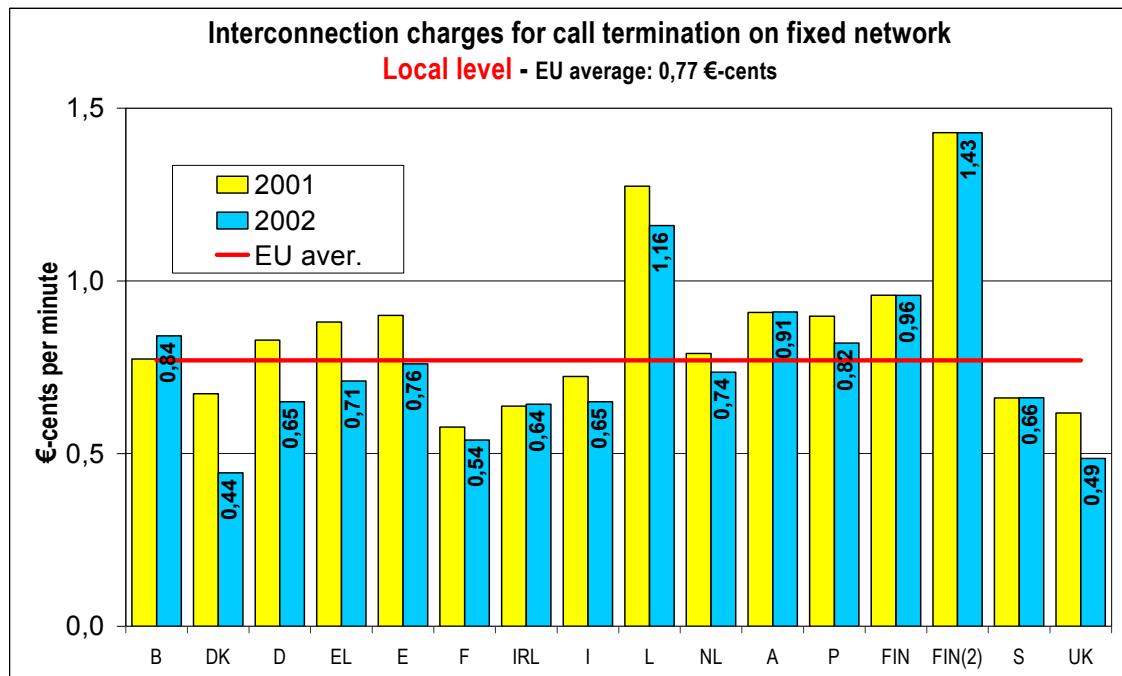
Figures for Austria are valid until 30.06.2002.

In Finland there are about 50 SMP operators who apply different interconnection charges. The charts refer to charges applied by the two major operators Elisa (FIN) and Sonera (FIN2).

Charge for Germany for single transit level is not comparable to last year, since the Regio50 and Regio200 zone rates have been unified in a unique single transit charge.

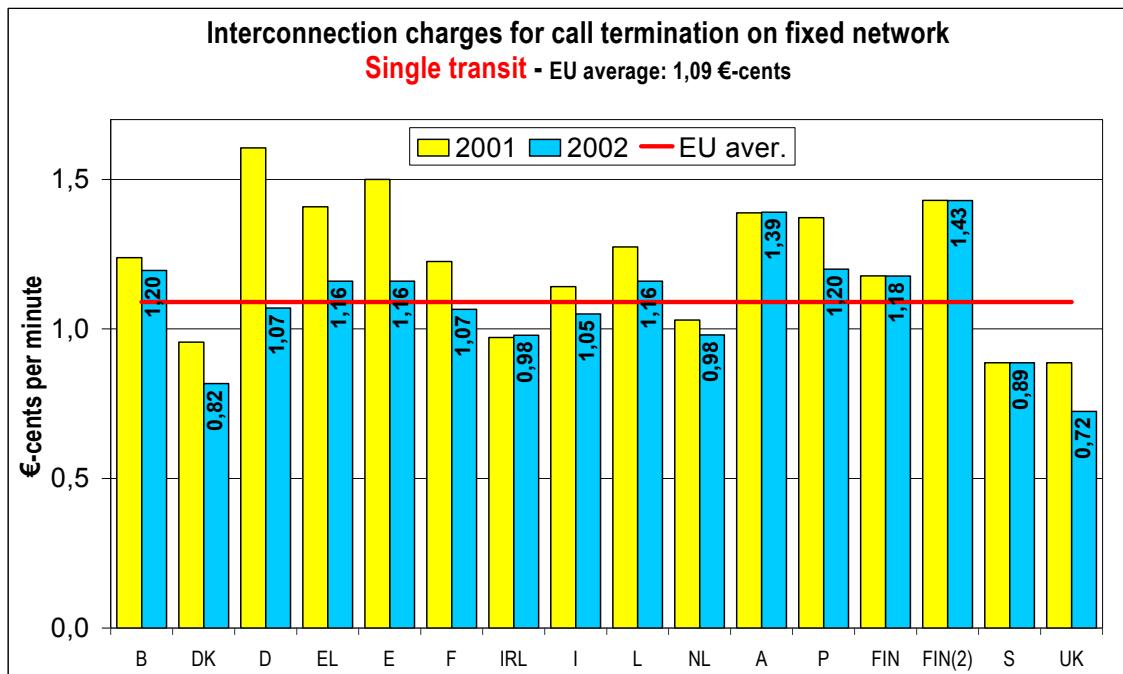
The EU average is a simple, rather than a weighted average.

Chart 25



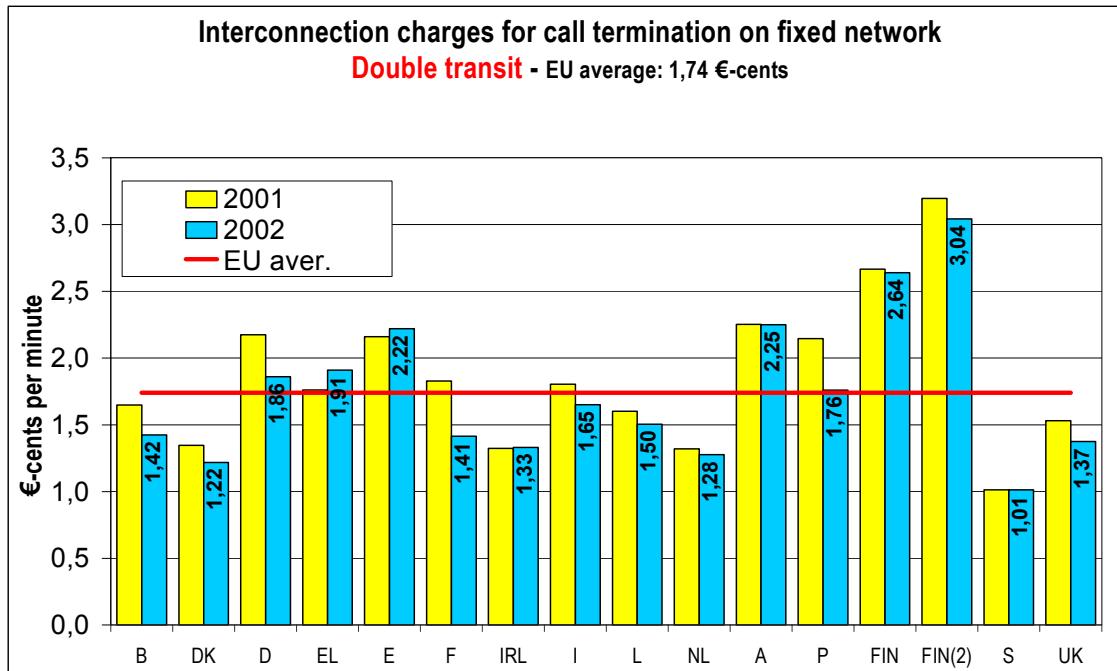
- In Luxembourg there is no distinction between local and long-distance domestic calls.

Chart 26



- Figure for Germany for the year 2001 is the simple average between the Regio50 and Regio200 zone rates.

Chart 27



- Data for the United Kingdom refers to a 100-200km connection length. For length less than 100 the interconnection charges at double level is 1,11184; and for more than 200km is 1,7832

3.2.LEASED LINE INTERCONNECTION CHARGES

This section shows the monthly rental and the one-off charges for short-distance leased lines (local ends, excluding VAT) up to 2 and 5 km provided by the incumbent operator to other interconnected operators. An estimate of the total average monthly rental cost (based on the total cost for the first year) is also presented.

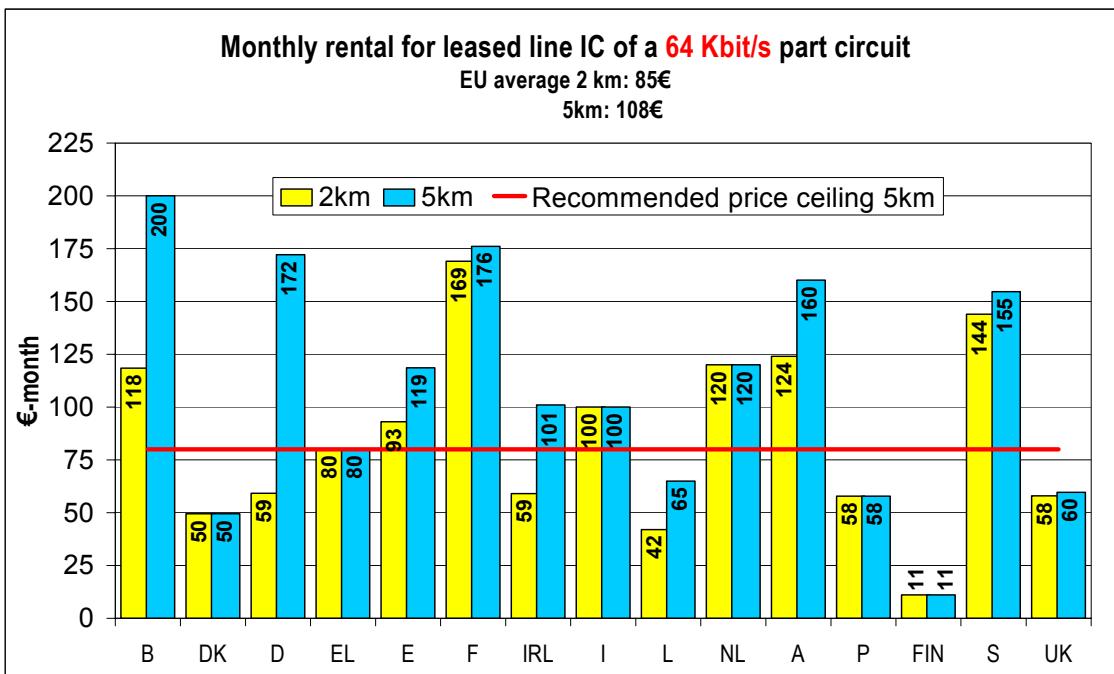
Deviations for the monthly rental from the “recommended price ceiling” set in Commission Recommendation 1999/3863 of 24 November 1999 are also shown. The recommended price ceilings are:

- € 80/month for a 64 Kbit/s leased line part circuit up to 5 km
- € 350/month for a 2 Mbit/s leased line part circuit up to 5 km;
- € 1 800/month for a 34 Mbit/s leased line part circuit up to 2 km;
- € 2 600/month for a 34 Mbit/s leased line part circuit up to 5 km.

These figures have been provided by the national regulatory authorities through the questionnaire for the 8th Implementation Report and the replies to the ONP COM02-18 Document. Figures indicate the position in August 2002.

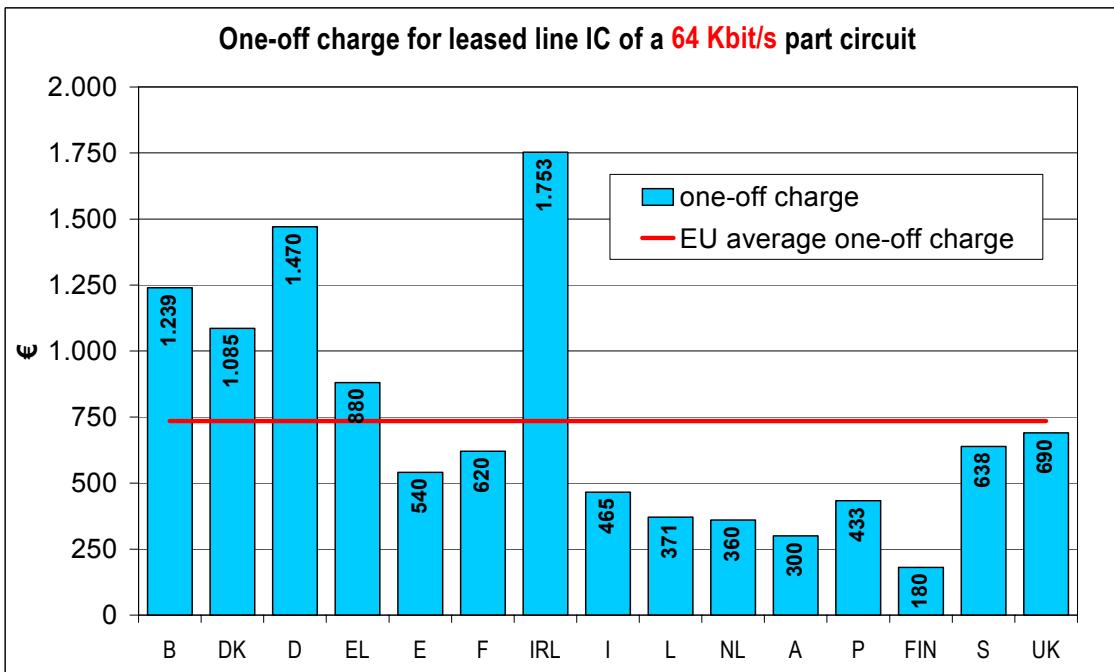
64 Kbit/s part circuit

Chart 28



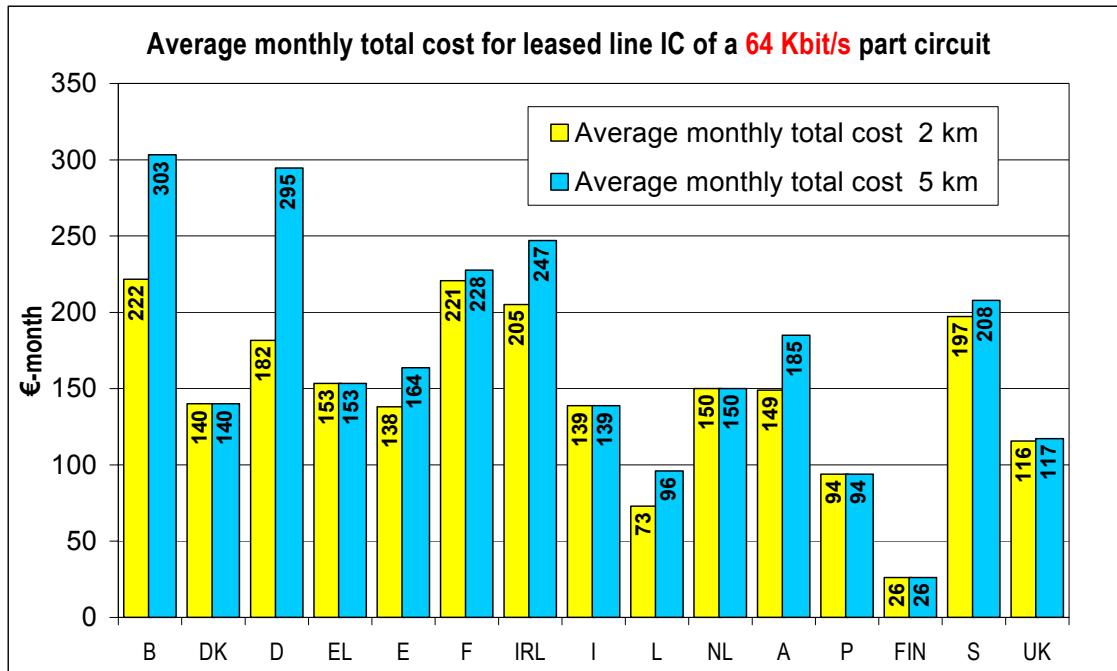
- Figure for Greece refer to August 2001.
- Figure for Denmark in force since October 2002.

Chart 29



- Figure for Denmark in force since October 2002.

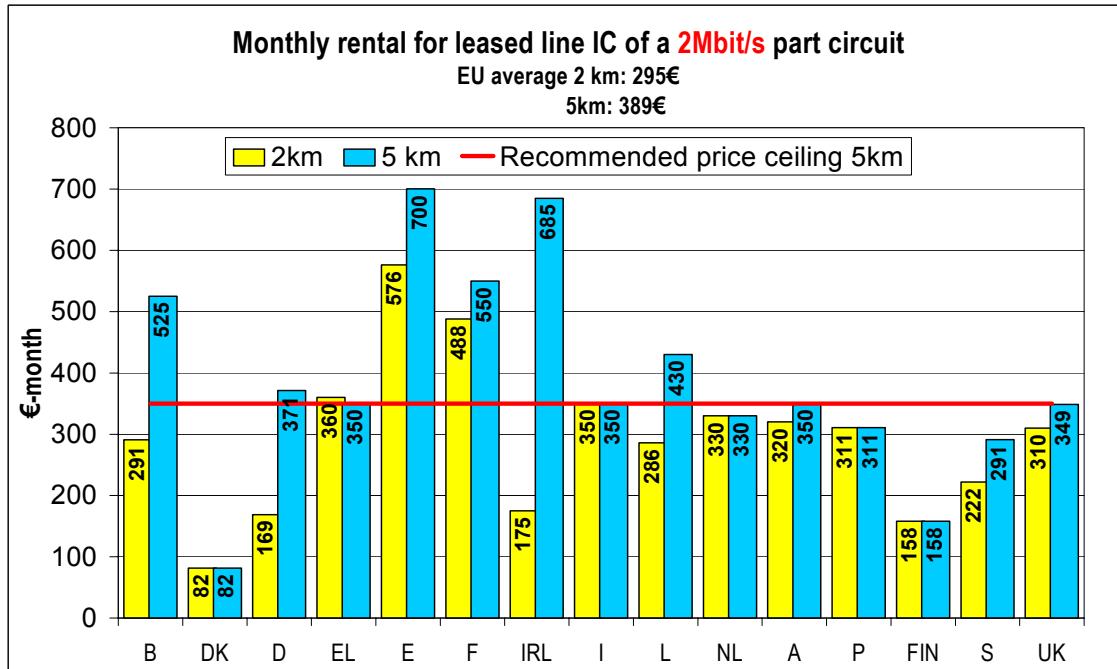
Chart 30



- Monthly rental for Greece refers to August 2001.
- Figure for Denmark in force since October 2002.

2 Mbit/s part circuit

Chart 31



- Figure for 2km for Greece refers to August 2001.
- Figure for Denmark in force since October 2002.

Chart 32

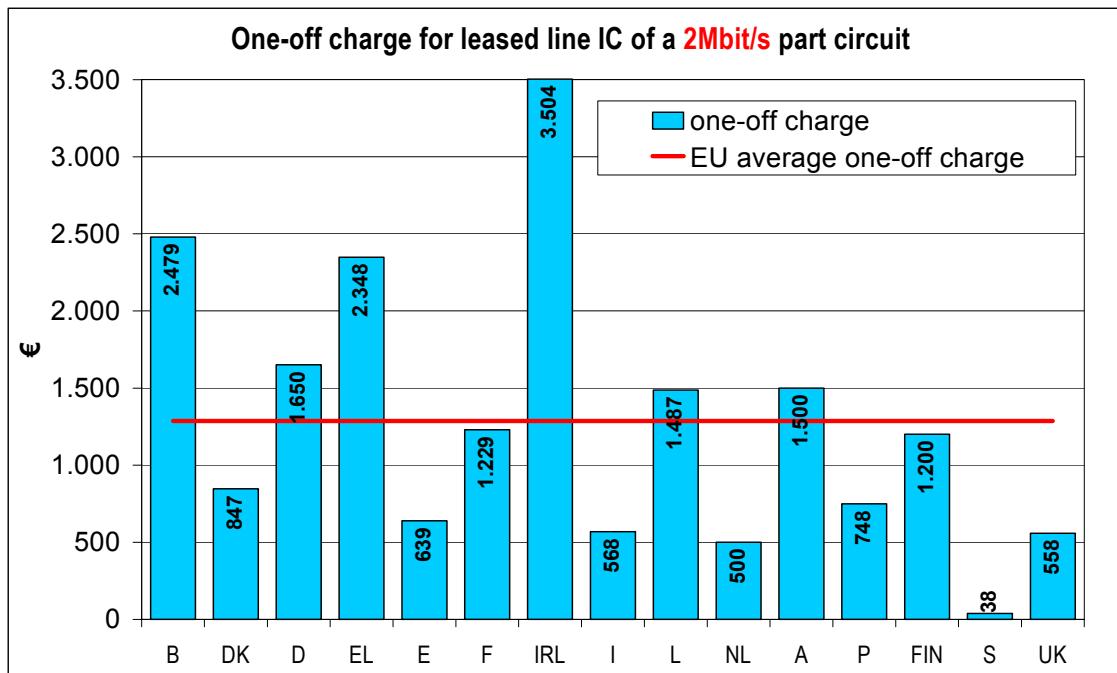
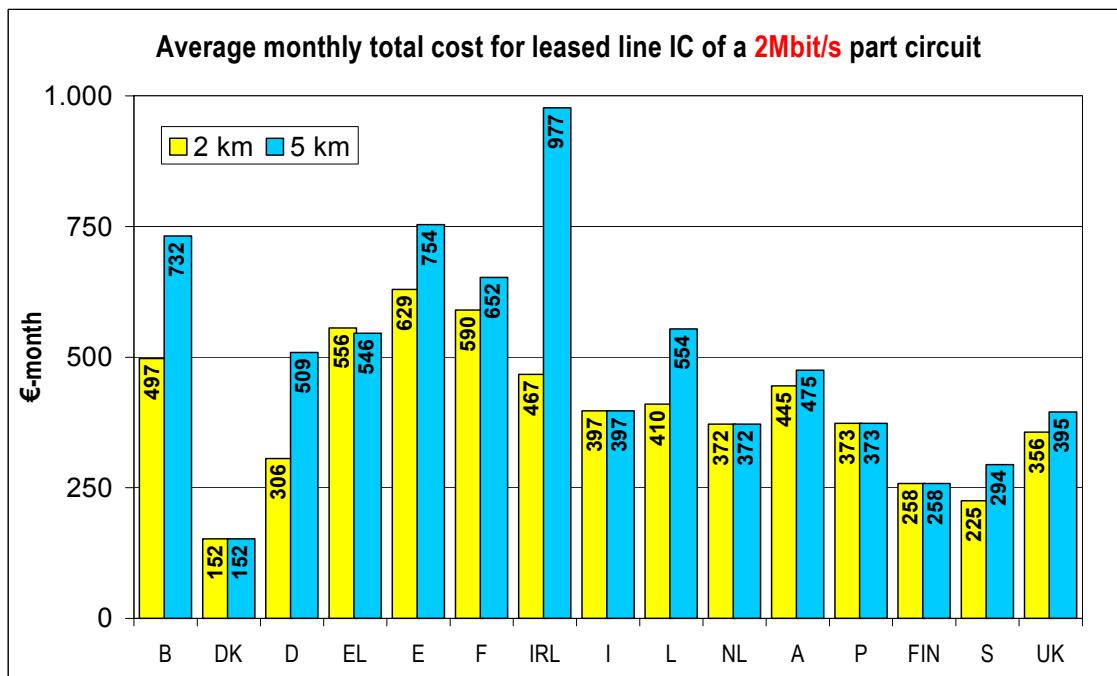


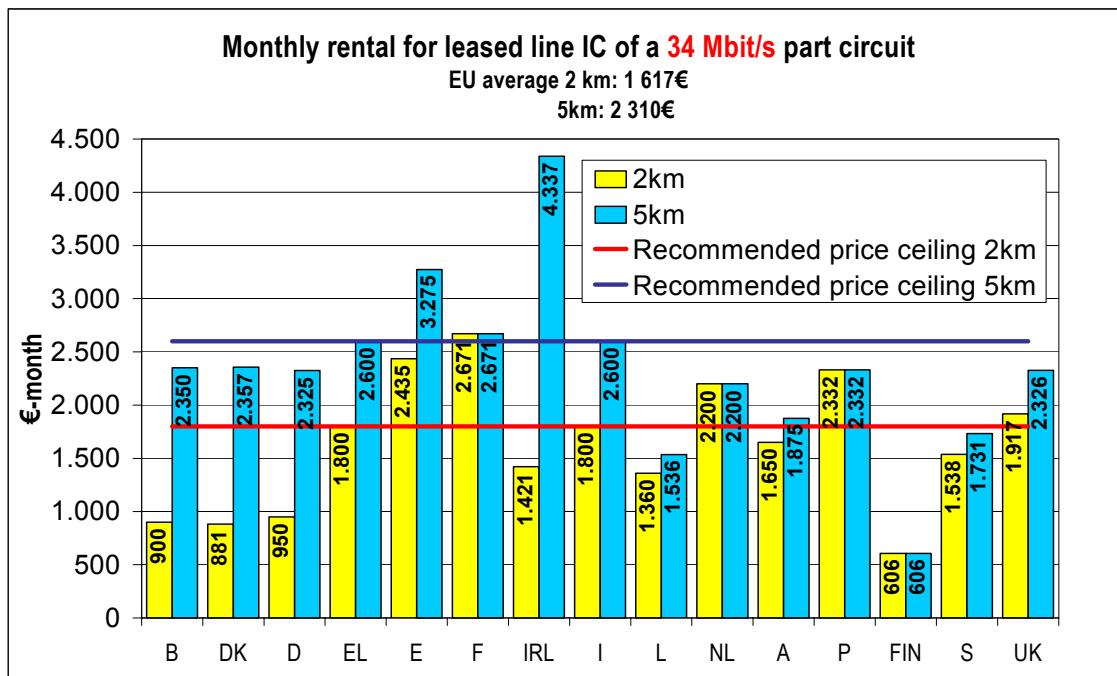
Chart 33



- Monthly rental for 2km for Greece refers to August 2001.

34 Mbit/s part circuit

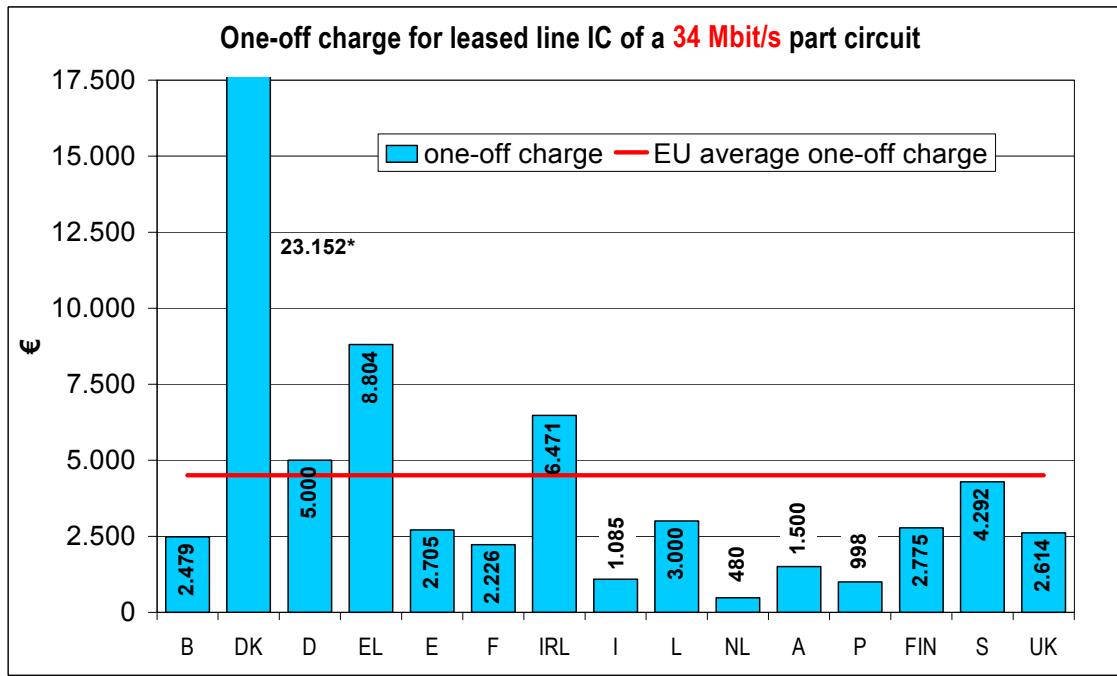
Chart 34



- Figure for Denmark in force since October 2002.

- Figure for Greece refers to 2001

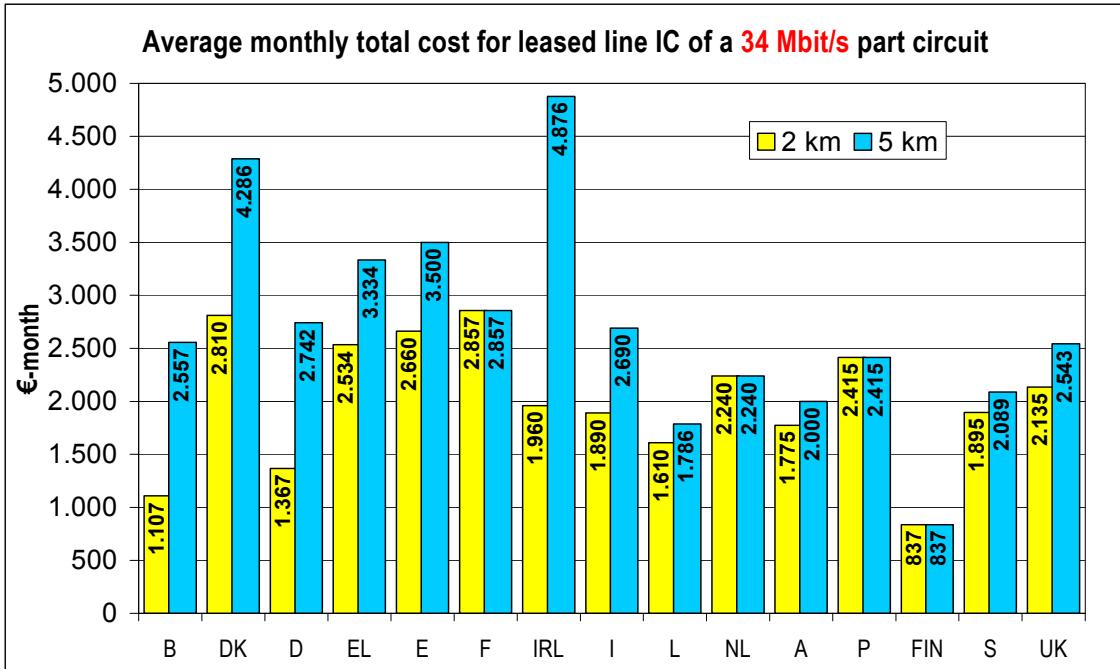
Chart 35



* Value not to scale

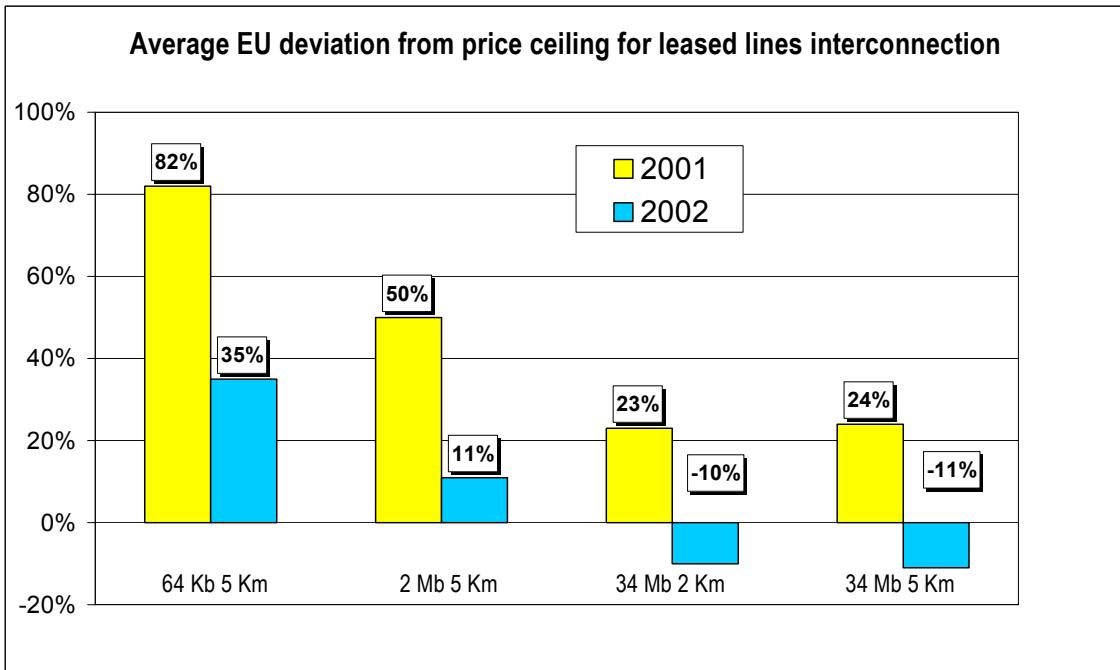
- Figure for Denmark in force since October 2002. One-off charge in the chart refers to 2km. One-off charge for 5 km is 55,458€.

Chart 36



- Figure for Denmark in force since October 2002.

Chart 37



3.3.FIXED-TO-MOBILE INTERCONNECTION CHARGES

This section shows the per-minute interconnection charges for fixed call termination on the networks of mobile operators. Charges are for calls originating in the same countries, except for Finland, where charges for mobile termination of international fixed calls are considered.

The charges are based on the first three-minute call at peak rate, except for Finland, where the average peak/off-peak rate set by the NRA has been shown. Different charges may apply for call termination on other mobile networks.

Except for Germany, the figures have been collected by the NRA, and give the position in August 2002. Data for Germany are not publicly disclosed by the NRA and the figure shown in the chart was provided by Cullen International.

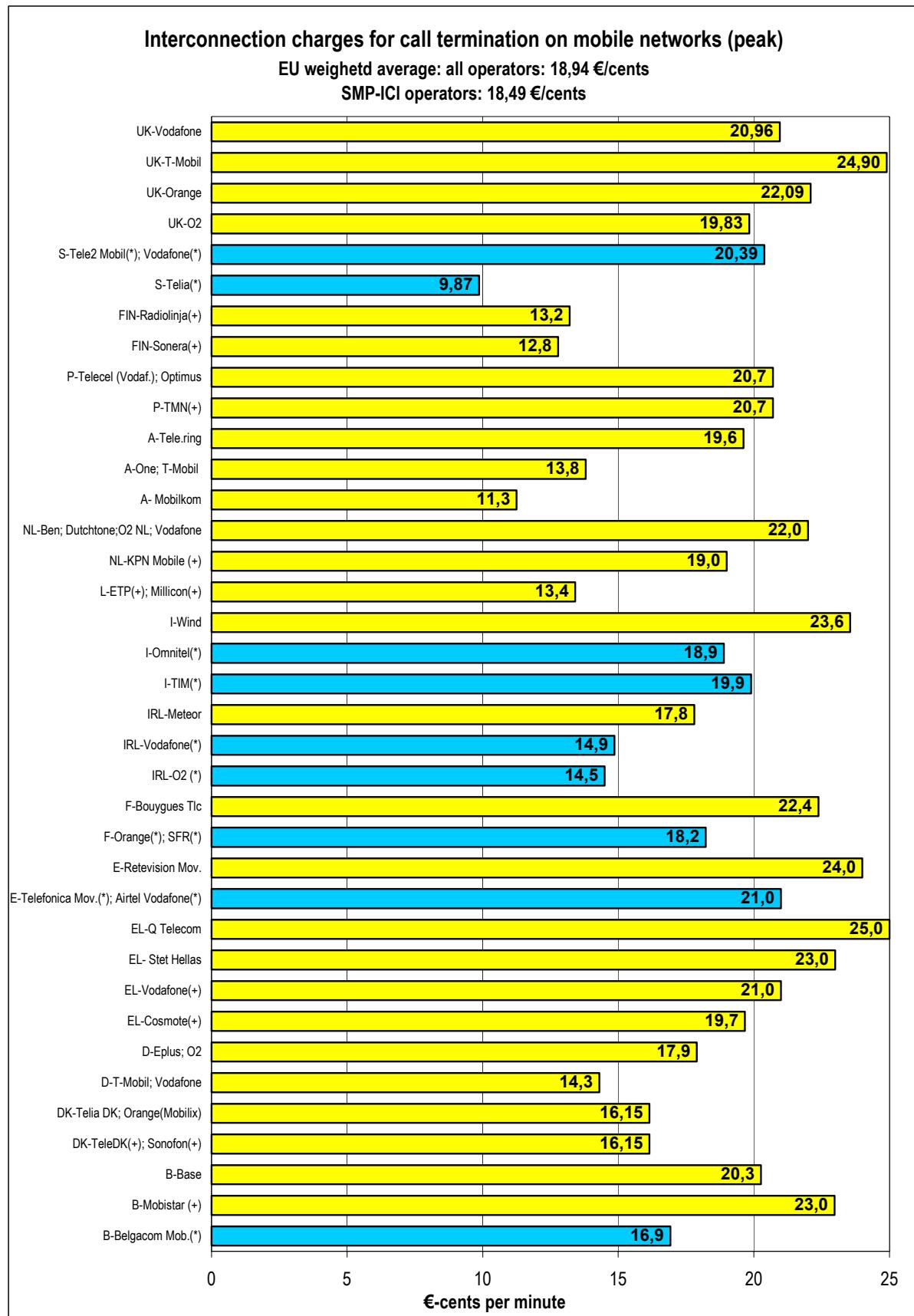
In the following chart figures are shown for a total of 12 operators with SMP in the national market for interconnection (Belgium, France, Ireland, Italy, Spain and Sweden). Figures for all the major mobile operators in each country are also shown (24 operators with SMP in the national mobile market). Denmark and Portugal applied to the non-SPM operators the same interconnection price as for the SMP operators in the mobile market.

In France, mobile-to-mobile interconnection charges are based on the "bill and keep" principle, so operators do not define termination charges.

Tariffs for Portugal are valid until 30.09.2002. Then, according to a NRA's decision they will be progressively reduced to 18.7 cents/min.

Data for Finland indicate the interconnection charges for an international fixed call to a mobile network (interconnection charges also apply to mobile-to-mobile calls). No mobile wholesale termination charges exist for call originating on national fixed network; instead, so-called "end-user" charges are levied.. The originating fixed operator charge a customer for a fixed network retail charge and for a mobile network retail charge (to be forward to the mobile operator). Both fixed and mobile operators determine the charges of their own segments. Example of fixed-to-mobile retail call charge (including VAT at peak rate) is 0,27€ for Sonera and 0,26€ for Radiolinja.

Chart 38



Legend:

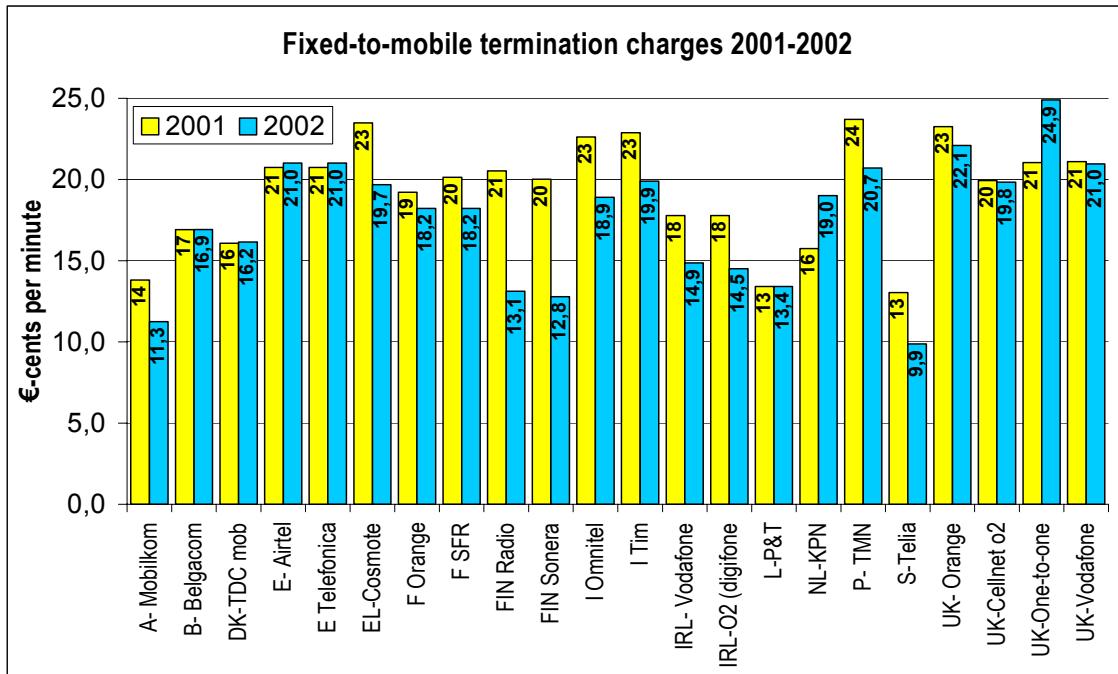
(*) SMP operators in the national interconnection market

(+) SMP operators in the national mobile market

Charge for the SMP operator Telia in Sweden refers to a weighted peak/off-peak average rate, set out by the NRA. Charges for the other operators refer to a per minute peak rate. The SMP designation for Tele2 Mobil and Vodafone has not taken effect due to pending court proceedings.

The following chart shows the mobile termination charges for the year 2001 and 2002 for the main EU operators. EU weighted average trend is also shown.

Chart 39



In the following we assume that the loop is active and will be used to provide DSL services. In fact some Member States (Belgium, Luxembourg and Portugal) charge a different price for the loop, depending on if it is used for the voice telephony services or for DSL services. Furthermore, Belgium applied a different price for non-active loop and in some Member States charges are different in case of subsequent access.

5.2.1. PRICES FOR FULL UNBUNDLED LOCAL LOOP

In Belgium a supplementary fee of 28.29 for disconnection is also charged. It should be noted that a disconnection fee is not charged to the incumbent's own retail market.

Data for the connection fee in Germany refers to a unique payment option.

The connection charge for Italy, also includes the charges for the "verification/preparation of the copper line for the provision of ADSL service", that is always paid by the OLOs, except in the case of an existing customer changing from the incumbent to the OLO.

Data for Finland refer to a weighted average of 44 SMP operators providing ULL. Prices vary between 10 - 31 € for the monthly rental and between 105 - 303 € for the connection fee.

Data for connection fee in Sweden refers to the first access. Charges for the following access is 85€.

Figure for the United Kingdom refer to an average based on determined price of 194€ per annum for the monthly rental and on a price of 140€ per annum for connection fee.

Chart 64

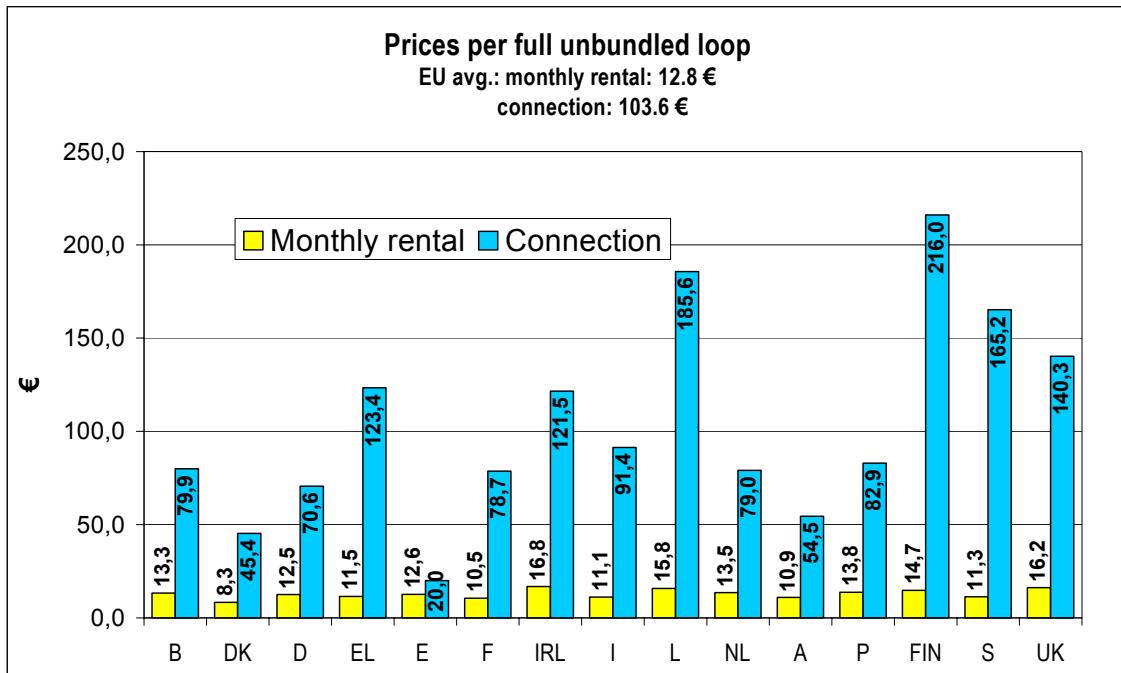
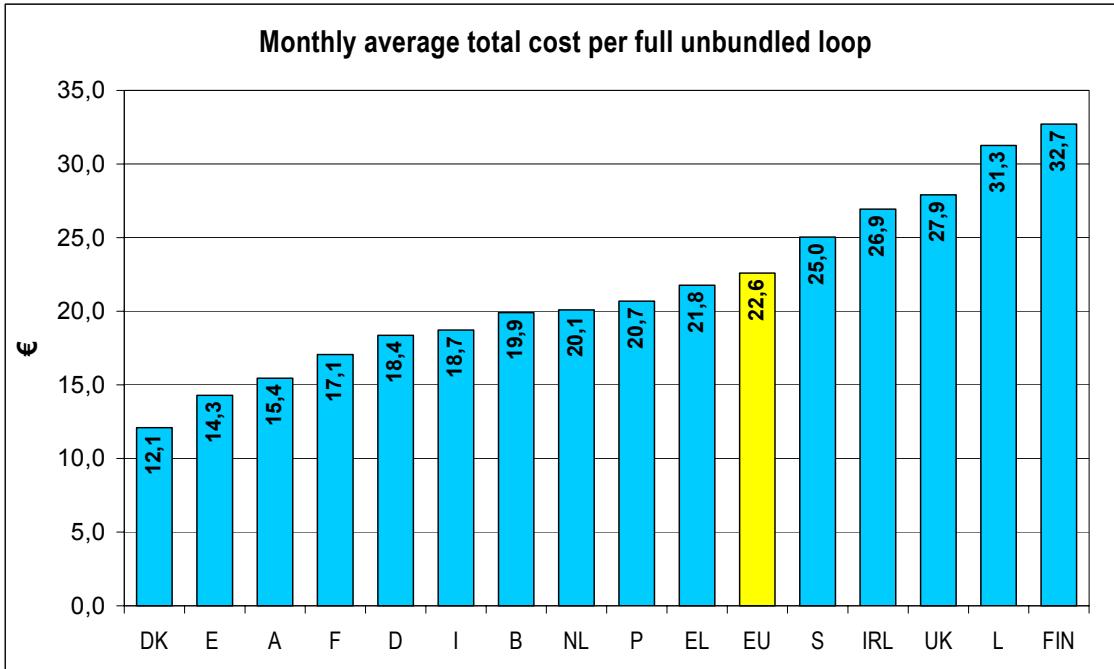


Chart 65



- Estimates are based on the total cost for the loop for the first year.

5.2.2. PRICES FOR SHARED ACCESS LOCAL LOOP

In Belgium a supplementary fee of 28.73€ for disconnection is also charged. It should be noted that a disconnection fee is not charged to the incumbent's own retail market.

Connection fee in Denmark decrease to 57€, when taking over an existing shared access connection.

Data for the connection fee in Germany refers to a unique payment option.

Data for Finland refer to a weighted average of 44 SMP operators providing shared access to local loop. According to the Telecom Market Act, monthly rental for shared access may add up to maximum half the price for full unbundling. Prices for connection fees vary between 57€ and 260€.

Data for Sweden for connection fee refers to the first access. Charges for the following access is 85€.

Data for the United Kingdom refer to an average based on determined price of 84€ per annum for the monthly rental and on a price of 186€ per annum for connection fee.

Chart 66

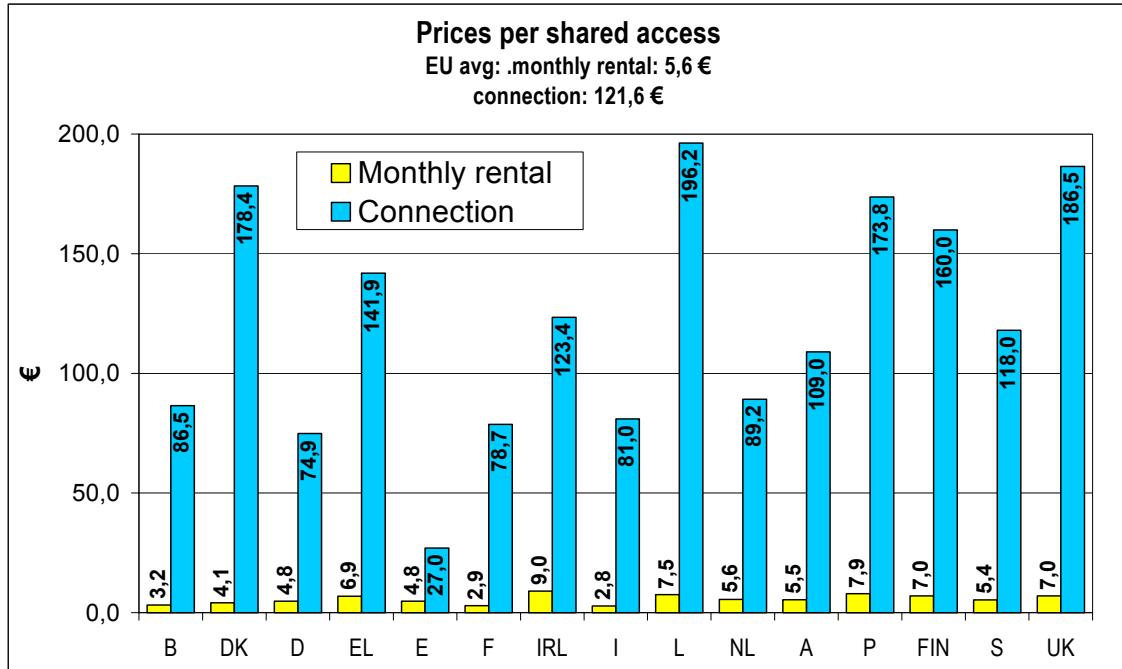
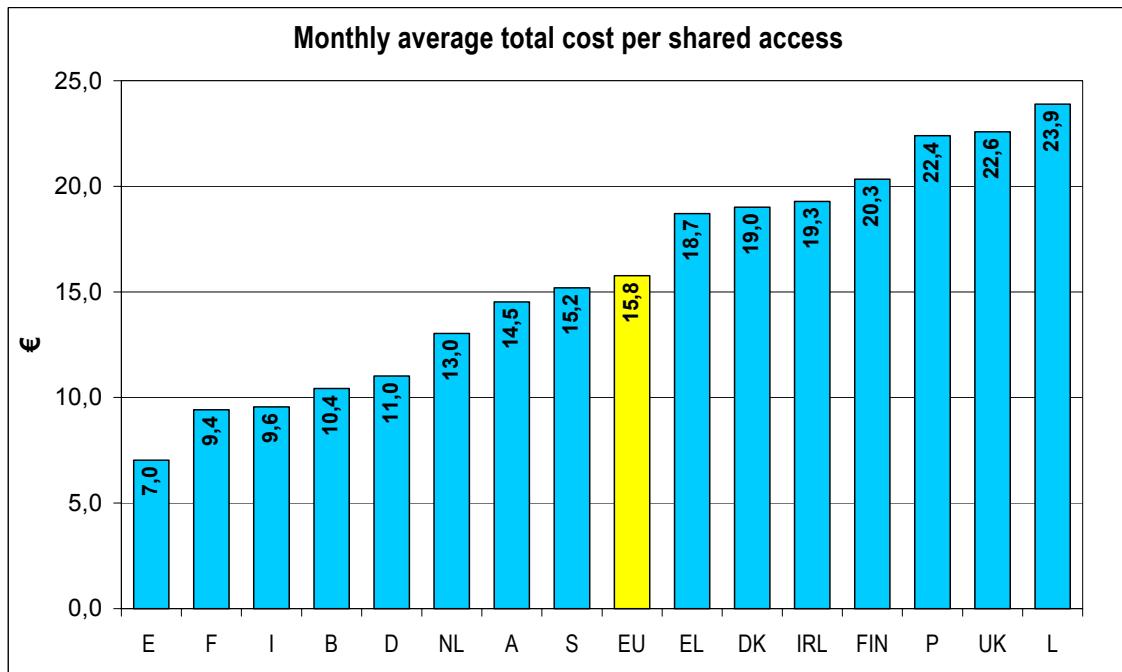


Chart 67



- Estimates are based on the total cost for the loop for the first year.

ANNEX 3

Comparison of the proposed interconnection rates and rates set by BTA, in BW Pula:

Operator	Proposed Rates		Rates set by BTA	
	Rates proposed by Mascom (in effect at time of dispute)	Rates proposed by BTC	Effective date until 29/2/04	Effective from 1/3/04
Terminated on BTC Network: - Peak - Off Peak	24.0 19.1	35.0 25.0	15.0 12.0	11.0 8.8
Terminated on Mascom Network: - Peak - Off Peak	96.0 76.9	75.0 58.0	85.0 68.0	75.0 60.0

Note: BWP 1.00 = US\$ 0.20