Office of Utilities Regulation

Interconnect Pricing

A Second Consultative Document

OFFICE OF UTILITIES REGULATION

Document No: TEL 2002/02

March 15, 2002

Abstract
This represents a follow-up to the Office's Determination Notice of February 7, 2002 (TEL 2002/01) which dealt largely with technical issues. This document deals with a number of outstanding pricing issues. Interested parties are invited to submit comments by April 12, 2002 and responses to Respondents' comments are due by April 22, 2002. Following the review of all comments, the Office intends to issue its determination on May 3, 2002 with respect to the prices set out in the latest version of Cable & Wireless Jamaica's Reference Interconnect Offer (RIO4).

Additional copies of this document may be downloaded from the OUR's Web site at www.our.org.jm.

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Comments From Interested Parties
Persons who wish to express opinions on this Consultative Document are invited to submit their comments in writing to the Office. Comments are invited on all aspects of the issues raised. Responses to this Consultative Document should be sent by post, fax or e-mail to:-

Franklin Brown
P.O.Box 593, 36 Trafalgar Road, Kingston 10
Fax: (876) 929-3635
E-mail: fknbrown@our.org.jm

Responses are requested by April 12, 2002. Any confidential information should be submitted separately and clearly identified as such. In the interests of promoting transparent debate, respondents are requested to limit as far as possible, the use of confidentiality markings. Respondents are encouraged to supply their responses in electronic form, so that they can be posted on the OUR's Website (or a link included where the respondent wishes to post its response on its own website).

Comments on responses
The OUR's intention in issuing this Consultative Document is to stimulate public debate on the important regulatory issues surrounding interconnection. The responses to this Consultative Document are a vital part of that public debate, and so as far as possible, should also be publicly available. The OUR considers that respondents should have an opportunity both to examine the evidence and views put forward in other responses, and to provide further comment. The comments may take the form of either correcting a factual error or putting forward counter arguments.

Comments on responses are requested by April 22, 2002 , ie ten (10) days after the deadline for the receipt of responses.

Arrangements for viewing responses
To allow responses to be publicly available, the OUR will keep the responses that it receives on file, which can be viewed by and copied for visitors to the OUR's Offices. Individuals who wish to view the responses should make an appointment by contacting David Geddes by one of the following means:-

Telephone: (876) 968 6053 (or 6057)
Fax: (876) 929 3635
E-mail: dgeddes@our.org.jm.

The appointment will be confirmed by a member of the OUR's staff. At the pre-arranged time the individual should visit the OUR's offices at:

3rd Floor, PCJ Resource Centre, 36 Trafalgar Road, Kingston 10

The individual will be able to request photocopies of selected responses at a price, which just reflects the cost to the OUR.

Timetable
The timetable for the consultation is summarised in the table below which includes an indicative timing for the Determination Notice.

Summary of the timetable for the consultation on interconnection

Activity	*Date*
Issue of this consultative document	March 15, 2002
Response to consultative document by interested parties	April 12, 2002
Comments on Respondents' Response	April 22, 2002
Issue of Determination Notice	May 3, 2002

CHAPTER 1: INTRODUCTION

Legislative Framework

1.0 The Telecommunications Act 2000 is the primary legislation governing Jamaica's telecoms sector. Under this Act the Office has been assigned certain regulatory duties. The broad objectives of this Act are:-

- to promote and protect the interests of the public;
- to promote universal access to telecommunications services for all persons in Jamaica, to the extent that it is reasonably practicable to provide such access;
- to facilitate competition in a manner consistent with Jamaica's international commitments in relation to the liberalization of telecommunications; and
- to encourage economically efficient investment in the sector.

1.1 The Act requires that the Office discharges its duties and responsibilities in a transparent and accountable manner. These duties and responsibilities include:-

- promoting the interests of customers while having due regard to the interests of carriers and service providers ; and
- promoting competition among carriers and service providers.

1.2 The Act also establishes general principles that must be incorporated in the provision of interconnection services. These principles include:
  - Any-to- any connectivity,
  - End to end operability, and
  - Equal responsibility.

1.3 The *any-to-any* principle of interconnection mean that each public voice carrier is obligated to permit interconnection of its public voice network with the public voice network of any other carrier for the provision of voice services.[1]

1.4 End-to-end Operability means interconnection should be across interfaces of sufficient functionality to ensure that high quality services can be

[1] Section 29(1), Telecommunications Act, 2000

provided to consumers even where the call recipient or service provider and the calling customer are on different networks.

1.5 Equal Responsibility means all public voice carriers have equal responsibility to ensure that networks are interconnected and to do so as quickly as is reasonably practicable.

1.6 Entrants have to pay a large amount of their revenues in interconnection charges, making them vulnerable to abuse of dominance by the incumbent. A dominant firm has the ability to distort competition in a relevant market. This is especially so in telecommunications, in which a dominant firm is typically both:-

- a supplier of critical inputs (interconnection and wholesale) to downstream service providers; and
- a competitor against these service providers in downstream retail markets.

1.7 For these reasons, the Act provides some other general underlying principles regarding interconnection services supplied by dominant public voice carriers. These are listed below (Section 30):-

- terms and conditions of interconnection shall be
  - on a non-discriminatory basis;
  - reasonable and transparent, including such terms and conditions as relate to technical specifications and the number of locations of points of interconnection; and
  - charges shall be cost oriented and be guided by certain cost causation principles (section 33);
- no unfair arrangements for cross-subsidies shall be made; and
- where technically and economically reasonable interconnection services shall be so diversified as to render it unnecessary for an interconnection seeker to pay unreasonably for network components or facilities it does not require.

Purpose of this Document

1.8 On December 17, 2002, the Office issued a Consultative Document asking for comments on various aspects of Cable & Wireless Jamaica's Reference Interconnect Offer (RIO4). On February 7, 2002, after receiving comments from interested parties, the Office issued a Determination Notice (TEL: 2002/01), resolving a number of issues. Certain issues connected with pricing were delayed so as to allow for another round of public consultation. The Office now issues a second Consultative Document, reflecting information gathered since the issuance of this Determination Notice.

1.9 The major tariffs in RIO4 are dependent on costing issues that are addressed in this document, however, the prices for some miscellaneous services have been supplied by C&WJ on which there was disagreement as to whether or not they are required to be cost based. Nonetheless, C&WJ has indicated that the rates supplied are cost based and have supplied in some cases the calculations to support this. The Office has not done bottom-up models to verify these and is not convinced that such exercises would justify the costs. In this regard, the Office is endeavoring to obtain comparable prices to cross-check these prices for reasonableness. Interested parties are specifically encouraged to bring to the attention of the Office rates for these services that are available elsewhere.

Reference Interconnect Offer for Direct Connection to C&WJ's Mobile

1.10 Subsequent to the issuance of the February 2002 determination notice C&WJ submitted a new RIO covering terms and conditions for calls between C&WJ Mobile and other mobile carriers. The Office is releasing the proposed mobile-to-mobile RIO and seeks comments and questions from interested parties. The proposed tariffs in the mobile to mobile RIO are dependent on cost issues that are addressed in other parts of this document. These will be reviewed by the Office, in conjunction with this consultative process, and will go into effect concurrently with the other prices addressed herein.

1.11 Comments and questions with respect to the terms and conditions of the mobile to mobile RIO filed by C&W should be provided to the Office concurrently with the responses to other matters raised in this document. In light of the comments and questions received the Office will determine the nature and process for further consultation if required.

CHAPTER 2: ASSET VALUATION

Introduction

2.0 C&WJ submitted, in confidence, an analysis of the valuation of its plant using a Modern Equivalent Asset (MEA) approach.

2.1 Understandably, many of the numerical components of the estimated asset values are confidential and cannot be subject to a public consultation process. Nevertheless, the Office seeks comments on the general principles that it proposes to apply in determining the appropriate valuation of C&WJ's capital base. These principles are set out below and the Office is inviting interested parties to submit their comments . The Office has also set out herein its preliminary findings on the MEA valuation and invites comments on these conclusions.

Switching Equipment

2.2 C&WJ commissioned Nortel, its principal supplier of switching equipment, to perform a bottom-up study of the gross MEA value (before accumulated depreciation) of its switching equipment. The Office believes that this approach is reasonable and accepts Nortel's methodology. What may be at issue, however, are the underlying assumptions. In this regard the Office is currently seeking to determine the extent to which certain assumptions underlying the Nortel study are consistent with C&WJ's actual network.

Central-Office Transmission Equipment

2.3 C&WJ performed its own bottom-up study of the gross MEA value of central-office transmission equipment. The Office believes that this approach is reasonable and accepts the methodology.

Poles and Metallic Cable Used for Loops

2.4 C&WJ used a combination of the Turner Plant Indices and a Jamaica-specific labor index to value these loop assets. The Turner Indices reflect reproduction cost, not the cost of replacement with modern equivalent assets. Nevertheless, for these particular loop assets, reproduction cost is reasonably close to the cost of replacement with modern equivalent assets.

2.5 The use of a Jamaica-specific labor index is also appropriate, but the particular index used by C&WJ appears to be based on the assumption of zero growth in labor productivity. The Office is therefore proposing that the index be adjusted to reflect actual labor productivity.

Poles, Cable, and Conduit

2.6 This category includes cables and structures not covered in the preceding category. C&WJ performed a bottom-up study of the gross MEA value of this plant. The Office believes that this approach is reasonable and accepts the methodology.

Land and Buildings

2.7 C&WJ continues to value these assets at market values. The Office agrees that that is the correct standard to be employed for MEA valuation.

Ratio of Net Plant to Gross Plant

2.8 In the calculation of MEA values, the ratio of net plant to gross plant should reflect differences in values between embedded plant and new modern equivalent assets. The differences may reflect differences in functionality and/or, in some cases, remaining life. C&WJ used the ratio of net plant to gross plant developed in their financial records. There is no guarantee, however, that this ratio reasonably approximates the ratio of net MEA to gross MEA value. The Office is conducting further analysis on the reasonableness of the ratio employed for this purpose.

Plant Under Construction

2.9 C&WJ capitalizes interest accrued while plant is under construction (interest during construction, or IDC). Accounting practices with regard to IDC vary internationally; it is capitalized in some places and expensed in others. The Office believes that capitalizing IDC is not unreasonable, because those costs would have to be incurred if the network were reconstructed using modern equivalent assets. The Office therefore proposes to accept C&WJ's capitalization of IDC. The Office is however reviewing the methodology employed by C&WJ for calculating these costs.

Network Planning

2.10 C&WJ capitalizes most of its network planning expenses. The Office finds this to be contrary to the usual international practice under which network-planning costs are treated as operating expenses. In order to determine which, if any, of C&WJ's network-planning expenditures can reasonably be considered part of the MEA value, the Office has requested and received detailed information from C&WJ about the makeup of its capitalized network-planning expenditures. Upon evaluation of this information, the Office will make a determination on this matter. Interested parties may wish to offer opinions on the approach that the Office should employ.

2.11 It should be noted, however, that on a forward-going basis, the Office will need to ensure, in setting parameters for C&WJ's price-cap plan, that C&WJ has the opportunity to recover (as expenses) whatever network planning expenditures that the Office does not admit for capitalization.

CHAPTER 3: WHOLESALE DISCOUNT RATES

3.0 In the December consultative document, the Office noted that resale of international telephone minutes is not an interconnection service under the Telecommunications Act, 2000. It would not, therefore, be appropriate to price such services at Long Run Incremental Cost (LRIC). The statutory established methodology is retail less avoidable cost – the costs the international carrier avoids by dealing with a reseller rather than an end user. These costs ordinarily comprise certain billing, marketing and finance costs. However, in situations where the reseller interconnects at the tandem office, certain network costs are also avoided. C&WJ had indicated that, for the time being and in lieu of allowing direct connections to the international gateway, it will calculate the cost savings for mobile carriers as if the connections were made directly at the international gateway. Thus, the cost savings for such calls will include the totality of domestic network costs. In instances where the reseller is not a carrier, direct connection to international gateways is not appropriate because of the absence of an interconnect agreement.

3.1 Digicel expressed disappointment that C&WJ continues to have a monopoly on international traffic until Phase III, but admitted the legislative prerogative to do so. The company went on to insist, however, that the process of establishing the avoidable cost discounts should be publicly disclosed so as to ensure that all avoidable costs are indeed included in the calculation. In particular, Digicel asserted that all network costs are avoided if pricing is based on a virtual connection at the international gateway and further argued that bad debt should be a part of avoidable costs.

3.2 Centennial Digital Jamaica (CDJ) for its part, took the view with Digicel that international outgoing traffic should be priced at LRIC. CDJ argued that section 79 of the Act applies only to resellers with whom C&WJ does not have an interconnection agreement.

Methodology

3.3 The Office reiterates its earlier position that LRIC is inappropriate and that prices should be set at retail less avoidable cost. Avoidable cost should include virtually all network costs, since direct connection to the international gateway is assumed for pricing purposes. It is also reasonable to include bad debt in this category. It is a cost that has been shifted from C&WJ to the mobile carriers, and should be part of the cost avoidance.

3.4 In the interest of transparency, the Office has sought to provide some visibility with regard to the calculation of the discount rates. Total cost of providing the service at the retail level is ascertained. Total cost is then broken down into separate categories, namely: customer service, finance, marketing & sales, network engineering, outpayments. These various costs are then grouped into categories avoidable and unavoidable.

Cost Categories	*Allocation*
Customer service	roughly 80% of this cost category is avoidable cost
Finance:	roughly 70% of this cost categories is avoidable cost
Marketing & Sales	roughly 80% is of this category is avoidable costs.
Network Engineering	less than 1% is avoidable
Depreciation/cost of capital	includes depreciation, cost of capital and network related operating costs. In computing the discount rate for resellers such as CDJ and Digicel roughly 14% of this cost is avoidable. However, for other category of resellers this is treated as unavoidable
Outpayments	all of this category is unavoidable
Facility Sustaining Costs	Roughly 70% of this category is avoidable costs

3.5 C&WJ notes that Digicel and CDJ have only one switch located in Kingston. If there is interruption in service, C&WJ would be required to route the traffic to Montego Bay. Thus, the need for resilience for this service. For this reason the cost of a T1 inter-parish leased circuits has been included. If this is removed the discount rate would increase to 16.37%. This seems to be a reasonable cost that is for the benefit of mobile carriers and should therefore be treated as unavoidable.

3.6 The Office's determination (3.5) of 7th February 2002 (TEL: 2002/01) required C&WJ to file its proposed wholesale rates for virtual connection to its international gateway . The proposed discount rate is 16.31% of the retail rates. Upon further review, the discount rate for resellers who are not carriers has been increased from the current 14.6% to 15.2% due to an adjustment in bad debt. For both sets of calculations outpayments to foreign carriers that are unavoidable constitute more than 60% of total costs.

CHAPTER 4: BAD DEBT SURCHARGE & METHODOLOGY

Bad Debt Surcharges for Fixed-to-Mobile Calls

4.0 It was previously determined that the appropriate level of bad debt was 8%, and retail rates were inflated by 8.7% to account for this. C&WJ indicated that it is currently experiencing higher bad-debt ratios on Fixed-to-Mobile calls. The Office has indicated that it would be willing to increase the bad-debt allowance if persuasive evidence could be provided that the bad-debt ratio for fixed to mobile calls was markedly increasing.

4.1 In the previous Consultative Document, the Office indicated that a bad-debt surcharge was appropriate in a CPP regime, since the fixed carrier should not have to pay the mobile carrier monies it cannot collect unless it can be shown that its billing and collection practices are faulty. To date the Office has no evidence to suggest that the latter is the case. Bad debt is a legitimate cost of doing business, and C&WJ should therefore be permitted to recover that cost in its rates.

4.2 CDJ states it does not believe a bad debt surcharge should be in the RIO. It is requesting the Office to provide precedents for bad debt surcharges in other jurisdictions. Digicel simply asserts that the 8% rate should not be increased, as it is already too high and that in any event bad debt procedures are within the control of C&WJ.

4.3 C&WJ has provided additional information since the last determination notice. It appears, however, that 8% remains a reasonable allowance, although longer than six month period may be required before a debt is determined to be uncollectable. Thus, the Office proposes to keep the bad debt provision at 8%.

Method for Calculating Bad Debt

4.4 C&WJ has provided further explanation of its methodology for determining bad debt. They now describe their procedure as determining, for each month's bills, the amount outstanding. This amount is prorated among all the services the customers have used. The billings are then reexamined six months later. The remaining outstanding amount is prorated, and a bad-debt ratio is developed for each service. This appears to be a fair and reasonable procedure.

4.5 Nevertheless, the most recent data from C&WJ suggests that the bad-debt ratio continues to decrease after six months. If the bad-debt allowance is to be increased, data must be taken until such time as repayments cease and the bad-debt ratio is stable. The interval until the bad debt stabilizes should then be used in the determination of the bad-debt ratio, rather than six months. The Office welcomes comments from interested parties on this approach.

CHAPTER 5: MOBILE TERMINATION COSTS

Summary of Consultative Document, December 2001

5.0 The December 2001 Consultative Document contained an extensive discussion of this issue. Briefly, the Office's preliminary positions were that:

- a maximum cost based retail rate should be established for mobile termination which includes a mobile termination charge, a fixed network retention charge inclusive of a bad debt surcharge.
- the results of the study provided by C&WJ were generally consistent with international benchmarks, and therefore the Office proposed to accept them subject to further analysis of the study.
- the international benchmarks prepared for Oftel could be modified to take account of market and demographic conditions in Jamaica and be used.
- Costs of spectrum, although not included in C&WJ's cost study, should be taken into account when setting the maximum fixed to mobile prices.
- the cost of network externalities, which were applied to fixed to mobile costs by Oftel are inappropriate in Jamaica, because such a large fraction of the revenue received is for incoming international calls, and diversion of these calls from the fixed to the mobile network would cause upward pressure on fixed network prices. Fixed users, then instead of benefiting by the network externalities, might actually suffer from them.

Responses of Parties

5.1 The Office also proposed in its December consultative document to apply a spectrum surcharge to the rate for domestic mobile termination costs. C&WJ objected to the cost of capital recommended for the spectrum surcharge. The proposed rate of 34.49% was obtained from a study carried out by Charles River Associates for retail data services. C&WJ asserts it cannot find this reference, and in any event believes that the 24.8% used in the RIO tariffs is more appropriate. C&WJ argues that international traffic, and in particular outgoing traffic, should contribute to the spectrum surcharge. C&WJ further believes that forecast volumes would be more appropriate than past volumes in calculating the spectrum surcharge, since they would more accurately reflect the conditions in a rapidly growing network. C&WJ supports the Office's position on network externalities.

5.2 Digicel asserts that the Office "must not accept C&WJ's costs while major doubts remain about their relevance and reliability." Digicel also rejects the international benchmark used because it is currently under review by the

Competition Commission in the UK. Digicel argues that LRIC models such as that relied upon by Oftel are a recent innovation and should be treated with care, and that conditions in the UK are very different from those in Jamaica. Digicel believes that the proper way to determine the costs of mobile termination is for the Office to sponsor an independent LRIC study, and that until such a study is developed the Office should continue to use benchmark rates developed in February 2001. Digicel also indicated its support for the inclusion of spectrum cost, but believes that spectrum increases in value over time, and an uplift should be applied to reflect this.

5.3 Digicel is also of the view that network externalities should be accounted for in the mobile termination rate. It argues that any increased charges that might need to be levied on fixed network subscribers because of call diversion are more than offset by the benefits of being able to reach more network users. Digicel also questions the extent to which incoming international calls are due to diversion from the fixed network as opposed to new traffic stimulated by the presence of the mobile carrier and its users. That is, the presence of the mobile carriers increases the volume of incoming international traffic to the benefit of C&WJ.

5.4 Centennial questions the jurisdiction of the Office over mobile termination costs.

Problems with an Independent Long Run Incremental Cost Model

5.5 The Office believes that an independent LRIC study would be expensive and time consuming, and might not yield more reliable results than can be gleaned from current information. Furthermore, as Digicel itself has acknowledged LRIC methodology is in its infancy, and it could take substantial time to make sure that any such study is itself reliable.

5.6 Oftel's experieince in the modelling of BT's fixed network costs is worthwhile commenting on in this regard. The modelling exercise involved the development of a bottom-up economic-engineering model and its reconciliation with a top-down accounting-based model developed by BT. Work on this project started in Summer 1994 and it was completed about 3 years later. In addition to the substantial commitment of time by Oftel's staff, NERA was employed to do 3 separate consultancy studies (one to assess the strengths and weaknesses of bottom-up and top-down models and the other two, to conduct detailed reconciliations of the results of the 2 models).

5.7 Oftel's modelling of mobile network costs involved the development of a bottom-up model. The work started in Summer 2000 and was completed a year later for Oftel's Statement of September 2001. Even so, further work is still being undertaken. The expenditure on the consultants, and Analysys, to develop the model so far, has been something in the order of £200,000.

5.8 It would seem therefore that the effect of the approach proposed by Digicel would be that rates would remain high for a considerable period of time, while the cost of terminations were continued to be examined. The Office is of the view that regulatory policy that maintained rates for fixed to mobile calls at artificially high rates would not be in the public interest. .

OUR's Current Position on Mobile Termination Costs and Pricing

5.9 Since the Determination Notice of February 7, 2002, C&WJ has supplied additional information that removes the earlier uncertainties concerning the cost study. Specifically, certain categories of costs that appeared to be incommensurate with others have been redefined and a clearer explanation of the meaning of some of the cost data has been provided. In addition, several errors have been corrected. The result is a reasonable analysis that leads to a slight reduction in the estimated mobile-termination costs. The Office maintains that the estimates continue to be reasonably commensurate with international benchmarks.

5.10 C&WJ's estimate of mobile-termination costs have not been found to be inaccurate and/or unreliable and, therefore, under the terms of the Act, the Office is obliged to accept the information over the use of international benchmarks. However this estimate must be adjusted for the cost of spectrum.

Spectrum Costs

5.11 The Office previously proposed that spectrum costs be added to the terminating cost for domestic calls. The Office continues to believe that a 34.5% cost of capital should be applied to what is essentially a risky service. This relatively high cost of capital can also be regarded, in part, as an inflation premium, since the Office does not plan to revalue spectrum assets in the future. The Office also continues to propose that international-to-mobile (ITM) calls not be charged for the cost of spectrum. This proposal is based strictly on the fact that there is no suitable method for recovering such costs from the originating caller, and they would therefore fall on other parties – either the mobile carriers themselves or the international carrier, which would, in turn, pass them on to domestic fixed network customers. It would appear to be more efficient to recover these costs from those who can be assessed the charge – domestic customers of either the fixed or wireless networks. According to this logic, it is appropriate to recover spectrum costs from domestic FTM traffic, insufficient to cover all costs in all time periods. The Office therefore proposes that a single cost-based mobile termination rate be established for incoming international to mobile calls. The Office also proposes that fixed retention rates not vary by time of day for international to mobile calls. The proposal is to use a weighted average rate.

Fixed Retention for International Incoming to Mobile Calls

5.18 Digicel has requested that direct connections be made between its network and C&WJ's international gateway. C&WJ, citing technical difficulties, has asked that this requirement be deferred, but that as an interim measure, it will not charge transit charges for conveyance across the fixed network. This proposal was accepted by the Office as per the Determination Notice of February 7, 2002 (TEL 2002/01). Accordingly, C&WJ's fixed retention rate for incoming international calls should be recalculated to include only the costs of the international network and C&WJ's share of the Joining Service.

5.19 If, prior to Phase III, the settlement rate should drop below the sum of the mobile termination and fixed retention charges, then C&WJ should get just its fixed retention charge, with the remaining revenues accruing to the mobile carrier. In that case, the mobile carrier would not recover its full costs on international to mobile calls. The Office therefore seeks constructive comments from the industry on the appropriate means to redress that problem.