Abstract

On November 22, 2001 the Office issued interim modifications to the existing interconnect regime. In that document the Office indicated that it will be conducting a detailed assessment of C&WJ's Reference Interconnect Offer (number 4, August 28, 2001) and where necessary further modifications of a permanent nature would be made to the regime. In addition, Jamaica has now entered Phase II of the liberalization regime and licences have been granted by the Government of Jamaica for the establishment and operation of competing fixed line facilities. These fixed line competitors need to be interconnected with C&WJ's fixed and mobile facilities. This document sets out the Office's position with regard to various interconnect issues. The Office seeks comments from interested parties and in particular holders of Phase II licences (domestic carriers)

Comments are due by January 17, 2002 and should be sent to:-

Franklin Brown
Office of Utilities Regulation
3rd Floor,
PCJ Resource Center, Kingston or
fknbrown@our.org.jm

Additional copies of this document may be obtained by contacting the OUR's library (Tel: 96806053/6057; Tax 929-3635). The document may also be downloaded from the OUR's Web site at http://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 OUR. 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
3rd Floor,
PCJ Resource Center
P.O.Box 593, 36 Trafalgar Road, Kingston 10
Fax: (876) 929-3635 or
E-mail: fknbrown@our.org.jm

Responses are requested by January 17, 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 his/her 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 of networks. The responses to this Consultative Document form a vital part of that public debate. Respondents will have an opportunity to view and comment upon the responses received from other contributors. Comments may take the form of either correcting a factual error or putting forward counter arguments.

Comments on responses are requested by January 24, 2002.

Arrangements for viewing responses

To allow responses to be publicly available, the OUR will keep the responses that it receives on files, 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, Communications Manager,** by one of the following means:-

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

Individuals will be able to request photocopies to be made of selected responses at a price reflecting the cost to the OUR of using its photocopying facilities. Copies may also be ordered by post by sending a cheque made payable to "Office of Utilities Regulation."

Timetable

The timetable for the consultation is summarised in the table below which includes an indicative date for the Office's determination notice.

Summary of the timetable

Event	*Date*
Issue of this consultative document by the OUR	December 17,2001
Response to this consultative document by interested parties	January 17,2002
Comments on respondents' response	January 24,2002
Issue of determination notice by the Office	February 7, 2002

CHAPTER 1: INTRODUCTION

Purpose of this document

1.0 The Telecommunications Act provides for the interconnection of public voice networks. The vertically integrated incumbent, Cable & Wireless Jamaica (C&WJ), operates a fixed network and a mobile network. During Phase I of the liberalization regime two new mobile licences were awarded by the Government of Jamaica (GOJ). Both companies have now commenced operation, Digicel in April 2001 and Centennial Digital Jamaica on November 28, 2001. Terms and conditions for interconnection of mobile operators to C&WJ's facilities were approved by the Office in February 2001. In November 2001 the Office made certain interim modifications to the regime which are contained in the Determination Notice of November 22, 2001 titled *"Modifications to the Existing Interconnect Regime"*.

1.1 Comments on this document are invited. Other issues considered to be related to the terms and conditions of interconnection but not specifically addressed in this document may also be brought to the attention of the Office. Comments are due by January 17, 2002.

Relevant Documents & Legislation

1.2 Below is a list of documents relevant to this consultation process on interconnection. Copies of OUR documents may be obtained from its web site at **www.our.org.jm**

(i) Telecommunications Act 2000 and in particular the provisions pertaining to the physical or logical connection of public voice networks (Part V).
(ii) Assessment of Cable & Wireless Jamaica's Reference Interconnect Offer, A Consultative Document, December 2000, OUR.
(iii) Cable & Wireless Jamaica's Reference Interconnect Offer, Determination Notice, February 200, OUR.
(iv) Proposed Modifications to the Existing Interconnect Regime, A Consultative Document, October 30, 2001, OUR.
(v) Modifications to the Existing Interconnect Regime, A Determination Notice, November 22, 2001, OUR.

Structure of this Document

1.3 The structure of the document is as follows:-

? general pricing issues (Chapter 2);
? other pricing issues (Chapter 3); and
? non-pricing (technical) interconnect (Chapter 4).

Annex B contains a glossary of terms used in the document.

CHAPTER 2: GENERAL PRICING ISSUES

Introduction

2.0 On August 28, 2001 Cable & Wireless Jamaica (C&WJ) filed a Revised Reference Interconnect Offer (referred to as RIO-4) with the Office. In this document C&WJ proposed to increase the charges for various interconnect services. The key reasons for the proposed rate changes are:-

- the revaluation of C&WJ's wireline asset values; and

- the inclusion of Access Deficit Charges (ADC) for a number of interconnect services, namely PSTN terminating access service, special access services (119 & 110 emergency services), and national freephone access service,etc.

2.1 The Office outlines below the current status of its discussions with C&WJ with regard to the revaluation of its wireline assets. Also provided is an update on recent developments regarding ADC, namely the filing of an application by C&WJ for reconsideration of certain aspects of its Determination Notice of November 22, 2001 *"Modification to the Existing Interconnect Regime*.*"* In Chapter 3 of that Document the Office outlines the case against the imposition of an ADC prior to Phase III.

2.2 In this Chapter the Office also sets out the changes it intends to make with regard to Reference Interconnect Offer (number 3) as well as the modifications to the pricing regime detailed in the November Determination Notice. Other issues covered in this document are:-

(i) uniform retail rates for fixed to mobile calls;
(ii) surcharge for bad debt for FTM calls as well as the methodology for determining the level of bad debt; and
(iii) mobile termination for domestic and incoming international calls.

Interested parties should submit comments on the various issues raised and alternate approaches should be suggested if desired.

C&WJ's Asset Revaluation

2.3 In order to support the determination of price caps and other charges, C&WJ has submitted a valuation of its capital equipment using a Modern Equivalent Asset formulation. Modern Equivalent Assets valuation is a system of evaluating the capital plant of a utility that attempts to value the plant according to the cost that would be incurred if equipment with functionality equivalent to the equipment actually in place were to be purchased today. Thus the theory accounts for all changes since the original equipment was installed, including both inflation and technological change.

2.4 C&WJ has submitted, under confidential marking, an extensive analysis (the "MEA Study") of the MEA costs of various classes of plant, specifically Central Office Transmission, Central Office Switching, Satellites and Earth Stations, and a number of classes of cable plant and supporting structures.

2.5 The Office and its consultants have performed an analysis of the MEA study, including a comparative analysis with international benchmarks. In those cases where the C&WJ MEA results differ substantially from international benchmarks, further investigations have been undertaken.

Comparison with International Benchmarks

2.6 The analysis of C&WJ's study focused on a comparison with international benchmarks for the costs of Central Office Switching and Central Office Transmission classes of plant, where the most detail has been provided. In both of these cases, the proposed MEA valuations are substantially higher than international benchmarks.

2.7 The Office has concerns regarding several aspects of the MEA study. C&WJ has been asked to provide further information regarding the MEA valuations of Switching and Transmission equipment. The Office will be obliged to continue to use international benchmarks for costing purposes until the appropriate MEA valuations are determined.

2.8 Since the MEA valuations affect the price of all services included in the RIO, any prices that are accepted are subject to possible modification after the MEA valuations have been finally established.

Access Deficit Charges

2.9 Chapter 3 of the Office's Determination Notice of November 22, 2000 detailed the case against the imposition of an Access Deficit Charge prior to Phase III. In response, C&WJ filed with the Office on December 7, 2001 an application for reconsideration under section 60 of the Act. C&WJ cite errors of facts and errors of law as the basis for its application for reconsideration. The Office is currently reviewing the application and will make known its decision by year end.

Uniform Retail Rates for Fixed to Mobile Calls (FTM)

2.10 The Office, in its Determination Notice of February 21, 2001, determined cost-oriented maximum rates for calls originating on C&WJ's Fixed network and terminating on the mobile networks of either Digicel or

Centennial. Digicel and Centennial were given the option of charging up to the maximum rate for FTM calls to their mobile subscribers. At the same time C&WJ Mobile was required to continue charging the FTM rates that were previously determined by the Office that went into effect in September 2000. In all cases, the amount to be paid to the mobile carrier for mobile termination was the retail price less the amount of retention held by C&WJ's fixed network. This retention rate was also determined by the Office on February 21, 2001.

2.11 In that Determination Notice (on page 23) the Office also indicated that it would consider a uniform cost oriented retail rate for fixed to mobile calls, when Phase II came into effect.

2.12 On November 22, 2001 the Office issued a further Determination Notice to establish interim changes in the RIO to be in effect until the Office had time to complete the evaluation of C&WJ's RIO-4.

2.13 As part of the interim changes, C&WJ was permitted to increase the retail prices for FTM calls to C&WJ Mobile up to the previously determined cost-oriented level. Like the other mobile carriers, it retained the option to charge below the maximum retail rates.

2.14 At the time that the Office had proposed having uniform FTM rates Centennial had expressed concerns about that proposal. They argued that mobile carriers should continue to be free to charge below the maximum rates determined by the Office.

2.15 Subsequently, Centennial upon entering the market has established a rate of $7.00 per minute for FTM calls to its mobile subscribers. This rate is substantially below the maximum rates determined by the Office. C&WJ Mobile, after being allowed to increase FTM rates, chose to increase their FTM rates to $7.00 – the same rate chosen by Centennial.

2.16 In light of these recent developments, the Office now proposes to retain the current non-uniform rate structure for FTM calls. The Office's rationale is as follows:

- ? FTM charges appear to have become a vehicle for mobile-service competition that benefits the public.

- ? Centennial as well as C&WJ, voluntarily established their retail rates for fixed to mobile calls below the maximum allowable, hence there is no apparent reason for concern about predation.

- ? Although the non-uniform regime requires more effort to administer and requires customers to inform themselves about multiple rates, it does appear to be working satisfactorily.

Bad Debt Surcharge for Fixed to Mobile Calls

2.17 As part of the interim changes in the RIO, C&WJ now bears the costs of bad debt. The Office now proposes to make this a permanent feature of the regime. To fund these additional costs, the interim proposal allows C&WJ to increase its retention rate by 8 percent of the retail price. The maximum retail rates for FTM calls were increased by 8.7 percent in order to cover the increased retention.[1]

2.18 C&WJ has argued that the cost of bad debt exceeds 8 percent per year. It has proposed that the allowance for bad debt be increased by 4% to 12%.The Office finds the evidence adduced by C&WJ in support of this position to be inconclusive. The Office, on the basis of the information currently before it, proposes to leave the allowance for bad debt at 8%. In that event, the maximum retail rates, as well as the retention, will be modified as appropriate.

Method for Calculating Bad Debt

2.19 Apart from the proposal to increase the bad debt for fixed to mobile calls by 4%, C&WJ has also proposed a methodology for determining the appropriate level of bad debt by type of call. The proposed methodology is reproduced in Annex A and the Office invites comments on this approach. Interested parties may also suggest an alternate approach.

Mobile Termination Costs

2.20 In order to establish a maximum retail price for fixed-to-mobile calls, C&WJ has provided an analysis of its costs of providing mobile termination service. Digicel was also invited to submit a cost analysis of mobile termination on its network, but declined to do so.

2.21 C&WJ originally submitted a document specifying the costs of terminating calls on its mobile network and the processes used to develop these costs. In response to a data request, C&WJ also provided cost estimates for the major categories of equipment in its mobile network. The Office and its consultants have examined these submissions and have a number of questions about the study that need to be resolved, and therefore, will commence communication with C&WJ with the objective of improving the cost study over the next several months.

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[1] The additional 0.7% is to allow mobile carriers to retain their margins prior to the modifications of November 22, 2001.

2.22 Although the Office continues to have reservations as to how the results were derived, nevertheless, the proposed costs for mobile termination have been compared with international benchmarks, and have been found to be in general agreement. Therefore the Office accepts C&WJ's cost study on an interim basis, but retains the possibility of reevaluation after additional information about the cost study has been provided and evaluated.

International Benchmarks for Mobile Termination Cost

2.23 The Telecommunications Act provides for the Office to use international benchmarks where it considers C&WJ's costs to be unreliable or unavailable. For this reason last February (2001) the Office used international benchmarks to estimate the cost of mobile termination in Jamaica. It should be noted that C&WJ had not developed a model for deriving the cost of mobile termination at that time. The benchmark analysis was primarily based upon the termination fee benchmark developed for operators in the United Kingdom by the UK's Competition Commission formerly the Monopolies and Mergers Commission (MMC). The Office's estimated cost for Jamaica incorporated numerous adjustments to reflect differences between the Jamaican and U.K. mobile environments.

2.24 The Office has now updated its estimate of mobile-termination costs based upon revised cost estimates for cost-oriented mobile termination rates developed for Oftel in *Review of the Charge Control on Calls to Mobiles* (26 September 2001). The cap for mobile termination in the U.K. under the previous pricing regime, as developed by the Competition Commission was 10.2 pence per minute for the year 2001/2002. The Competition Commission's pricing regime expires in March 2002. Oftel determined that there were still insufficient competitive constraints on call termination charges to keep them to a competitive level and that price controls were still required. To that end, Oftel conducted a detailed examination of the costs of termination to determine an appropriate continued pricing regime. The revised mobile termination cost for 900 MHz operators developed for Oftel was estimated to be 3.8 pence per minute (lower bound) to 4.3 pence per minute (upper bound) in 2005/2006.

2.25 The Office averaged the upper and lower bound estimates and projected that rate to 2002/2003, assuming a 9% annual productivity rate. The Office further adjusted Oftel's cost estimate to reflect differences in market size and base-station density (base stations per square mile) between the U.K. and Jamaica. The Office used confidential base station data provided by C&WJ to make this comparison. This adjustment was important to take into account scale economies that can be derived from higher density of base stations. The Office also adjusted for the fact that the U.K. model is based on an efficient operator with 20% of the market. Finally, the Office adjusted the Oftel estimate to reflect the higher cost of capital in Jamaica relative to that assumed in Oftel's model.

2.26 The revised cost estimate for mobile termination developed by the Office is $5.84 per minute. This estimate is fairly close to C&WJ's estimated cost of mobile termination. Oftel's cost estimates for the 1800 MHz operators were somewhat (0.4 -0.5 pence) higher than for the 900 MHz operators. Therefore, to the extent 1800 MHz operations exist in Jamaica, the Office's estimate may be somewhat low. On the other hand, to the extent the base station density adjustment (using March 2001 C&WJ base station counts) does not reflect economies of scale resulting from recent base station deployments, the Office's estimate may be somewhat high. These two adjustments could be expected to be largely offsetting.

Spectrum Costs

2.27 Economic costs are generally defined as opportunity costs. In particular, factors of production that are used to produce a particular output cannot (simultaneously) be used to produce alternative outputs. More generally, producing any given output involves some forfeiture of the opportunity to use factors of production for other purposes.

2.28 In the present context, electromagnetic spectrum that is dedicated to the provision of mobile services cannot (simultaneously) be used for other purposes. The cost of spectrum is therefore a genuine opportunity cost. It is a cost (to society) regardless of the mechanism by which spectrum is assigned to users.

2.29 The C&WJ study excludes spectrum costs. That exclusion is understandable. Spectrum cost does not appear in C&WJ's financial accounts because C&WJ did not explicitly pay for spectrum as the new entrants did by; e.g., in an auction.

2.30 Nevertheless, for the reasons discussed above, the cost of spectrum is part of the costs that should be included in cost-oriented rates. In order to promote efficient allocation of resources, cost-oriented rates must include *all* relevant costs including, in the present case, the cost of spectrum. It is therefore appropriate to augment the C&WJ calculations of mobile costs with an estimate of the cost of spectrum.

2.31 Spectrum is usually allocated for particular uses and assigned to particular users by agencies or departments of national governments. Spectrum has many alternative uses. For spectrum allocation to be efficient, the value (per MHz) of recently allocated spectrum in a particular use should, at the margin, approximately equal the value of the best alternative. The best alternative may be allocating the spectrum for another use or reserving it for later allocation. If the spectrum had more value in the particular use, allocating more spectrum for that use would be efficacious. If the spectrum had less value in the particular use, it would be efficacious for the government to allocate less spectrum for that use (and either allocate more for alternative uses or reserve the spectrum for later allocation).

2.32 In a sealed-bid auction, each bidder can be expected to bid less than the value of the spectrum to him/her. Indeed, he/she must do so in order to benefit in the event that he/she wins the auction. Of course, a bidder cannot bid too low, or he/she will simply lose the auction.

2.33 Spectrum for mobile applications usually has approximately equal value to several potential bidders. In the particular case of Jamaica, the potential bidders were all planning to enter the same business and were similarly well positioned to do so. The values that they placed on the spectrum were therefore probably reasonably close to one another. Under such conditions, bidders must bid fairly close to the value of the spectrum in order to have a significant chance of winning the auction. One would therefore expect the bid price to approximate the value of the spectrum in the intended use.

2.34 If government spectrum allocation is at all rational, the value in the intended use should approximate the value of the best alternative for the spectrum – either allocation to other uses or reserving for later allocation. It follows that it is reasonable to base estimates of the (opportunity) cost of spectrum on the amounts bid for spectrum in recent auctions. Such estimates must, of course, be updated to reflect changes in economic conditions since the auction was completed.

2.35 In Jamaica, spectrum for two mobile licenses was auctioned on December 17, 2000 and January 14,2001. The winning bidders were the firms that became Centennial Digital Jamaica and Digicel. The prices that they bid were US$45 million and US$47.5 million respectively. These bid amounts constitute reasonable estimates of the cost of mobile spectrum at that time.

2.36 It has been approximately 1½ years since those auctions took place. Taking account of inflation, the Office estimates that the cost of spectrum is now approximately US$50 million per mobile franchise.

2.37 To convert this amount to an annual cost, the cost of capital as estimated by Charles River Associates ("CRA") is multiplied by US450 million. CRA estimated the cost of capital for three of C&WJ's activities: network interconnection, retail telephone services, and retail data services. The Office is of the view that the risk of mobile operations approximates that of retail data services more closely than that of the other two activities. For this reason the cost of capital of retail data services is the appropriate figure. That cost of capital, pre-tax, is 34.49 percent per year.

2.38 Multiplying that cost of capital by the cost of US$50 million, we obtain an annual cost of spectrum of US$17.245 million per year per mobile franchise. Spectrum, of course, does not depreciate in physical terms, and experience shows that it does not depreciate in economic terms either. In fact, it more often increases than decreases in value over time. Therefore, no depreciation charges will be imputed to spectrum.

Recovery of Costs of Mobile Termination

2.39 As previously discussed in this Consultative Document, the Office accepts C&WJ's estimates of mobile-termination costs on an interim basis. The Office does, however, believe that those cost estimates should be augmented by the cost of spectrum. The Office has estimated that spectrum costs are US$17.245 million per year per mobile franchise.

2.40 As discussed below in this Consultative Document, foreign carriers pay the same international settlement rate, irrespective of whether the call terminates on a fixed or mobile network. This pricing policy diminishes economic efficiency, because international callers are given no incentive to save on mobile termination costs.

2.41 The Office believes that increasing the charge for mobile termination of international calls would aggravate this inefficiency. Consequently, the Office proposes that spectrum costs be recovered solely from domestic mobile traffic. The Office proposes to direct C&WJ to calculate a spectrum usage charge to be added to the costs currently included in its study of mobile termination costs. The amount of this charge should be calculated as US$17.245 million divided by total domestic mobile traffic. Domestic mobile traffic includes all FTM, mobile-to-fixed, and mobile-to-mobile that both originates and terminates in Jamaica.[2] According to this formula, FTM traffic would bear a proportionate share of the spectrum cost. The remaining part of the cost would have to be recovered from mobile subscribers.

[2] Mobile-to-mobile traffic that both originates and terminates on C&WJ Mobile should be counted twice.

2.42 The Office proposes that the cost of spectrum, as calculated above, be included in the maximum cost-oriented retail rate for FTM calls. The cost of spectrum would be added to the mobile termination charge.

Network Externalities with Respect to Mobile Subscription

2.43 Oftel, in its recent determination with respect to FTM charging, included a surcharge to account for the network externality with respect to mobile subscription**.** [3] The surcharge amounted to 2 pence per minute, one-third of the cost-oriented charge. Oftel's rationale for the surcharge can be summarized as follows:-

The revenues from the surcharge benefit mobile carriers. It is expected that the competitive mobile industry will pass the surcharge on to its customers by offering more favorable terms for mobile subscription. As a result, the number of mobile subscribers can be expected to increase. Fixed subscribers will then benefit from being able to communicate with a larger number of mobile subscribers.

2.44 Although this rationale is economically sound for the U.K., the Office proposes *not* to apply such a surcharge in Jamaica. The reason for the Office's proposal is as follows:-

As previously stated, foreign carriers pay the same international settlement rate, irrespective of whether the call terminates on the fixed network or a mobile network. This pricing policy considerably reduces the benefit that fixed subscribers enjoy as a result of an increase in the number of mobile subscribers. To be sure, fixed subscribers do benefit from being able to communicate with the additional mobile subscribers. At the same time, however, the mobile subscribers are likely to receive international calls. Some of those calls would otherwise have been received on the fixed network. For those calls, C&WJ's fixed network loses considerable revenue. Given this revenue loss, C&WJ must charge more for its basic telecommunications services in order to cover its total costs. Fixed subscribers bear the brunt of these higher charges. The loss of consumer surplus associated with these higher charges largely, perhaps entirely, offsets the gains from being able to communicate with more mobile subscribers.

2.45 This issue has especially large importance in Jamaica, because international settlements comprise such a large portion of C&WJ's revenues.

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[3] Oftel, "Review of the Charge Control on Calls to Mobiles," 26 September 2001 at www.oftel.gov.uk.

2.46 The Office solicits comments on this proposal *not* to add a surcharge for network externalities to mobile termination charges.

Mobile Termination for Incoming International Calls

2.47 As previously discussed, C&WJ has submitted a study of its costs of mobile termination. The Office has some concerns about the methodology and inputs used in that study. In response to a request from the Office, C&WJ submitted some network cost information in confidence. An examination of this submission raises further questions. For example, the costs submitted for the switching network, which contained just two switches, was only about 12% less than the reported cost for the radio network, which consisted of almost 100 base stations. Switches are indeed more expensive than base stations, but it seems unlikely that they cost 50 times as much. Similarly, the inter-Mobile Switch Transmission links, which appear to comprise but a single trunk group interconnecting the two mobile switches, is reported to cost almost 20% as much as the switches. This seems high. These surprising submissions (and other of lesser apparent significance) have led the Office to request more information to help it understand exactly how C&WJ is developing the costs of its mobile network and how they are being used in the costing model.

2.48 Notwithstanding the above the resulting cost estimates are consistent with international benchmarks. The Office therefore proposes to accept the cost estimates on an interim basis and to work with C&WJ over the next several months to improve the methodology and other aspects of the model.

2.49 In the meantime, the Office proposes to set mobile termination rates for international traffic equal to the minimum of the following:

(i) The cost-oriented mobile termination rates estimated by C&WJ in its study of mobile-termination costs in Table 2.0 below (In this case, the retention of C&WJ's fixed will be the international settlement rate less the mobile termination rate); or

(ii) The U.S. settlement rate less C&WJ's cost oriented retention for international to mobile calls (See Table 2.0 below).

Table 2.0: Retention and Mobile Termination Rates for incoming International Calls

	Mobile Termination J$	*Retention for incoming International Calls to Mobile Networks J$*	*Settlement Rate (US$0.19 $45.68)*
Peak	5.332	3.347	8.679
Off-Peak	6.281	2.398	8.679
Weekend	6.900	1.779	8.679

2.49 At present, the cost-oriented rates are lower and would apply. The rates in (ii) could apply if the U.S. settlement rate were reduced. They could also apply if the Office increases its estimates of cost-oriented rates for mobile termination.

2.50 The Office believes that it is appropriate for mobile-termination charges on international traffic to cover the costs of the mobile carriers. Otherwise, mobile carriers would be called upon, unjustifiably in the Office's view, to subsidize C&WJ's fixed network.

2.51 If the pricing in (ii) comes to pass, mobile carriers will, indeed, be called upon to provide a subsidy. In that case, the Office will immediately undertake to develop a new pricing plan that is more equitable for mobile carriers and also equitable for C&WJ.

2.52 As previously discussed, mobile termination charges for international calls will *not* include any additional amount to cover spectrum costs. Spectrum costs are to be recovered entirely from domestic mobile calls. Also, for reasons previously discussed, mobile termination charges for international calls will *not* include a surcharge to account for network externalities with respect to mobile subscription.

CHAPTER 3: OTHER PRICING ISSUES

Introduction

3.0 The proposals set out in this section pertain to domestic and international freephone services as well as 1-800 Calls. Separate regimes are developed for calls originating on a fixed network and mobile networks

Freephone and 1-800 Calls

- *Calls Originating on Fixed Network*

3.1 On Freephone and 1-800 calls from a C&WJ customer, C&WJ's retail charges are intended to cover all the costs of switching and wireline transmission. If another carrier originates the call, C&WJ may save some of these costs. In particular, if the other carrier connects with C&WJ at a tandem office, C&WJ saves the cost of local switching and the costs of transmission between the local office and the tandem office.

3.2 The Office proposes that C&WJ compensate the originating carrier for the costs that C&WJ saves. The level of compensation to be received by fixed operators should be developed by C&WJ and specified in the revised version of RIO-4.

3.3 In the event that the originating carrier connects with C&WJ at a local office, the Office proposes that the originating carrier not receive any compensation, because it does not save C&WJ any costs. The originating carrier would not, however, be charged for the call, because C&WJ does not incur any additional costs – compared to the alternative of the call being originated by a C&WJ customer.

- *Calls Originating on Mobile Network*

3.4 In the event that the originating carrier is a mobile carrier, the Office proposes that C&WJ not be required to compensate the mobile carrier for the costs of mobile origination, other than for the cost savings of C&WJ fixed, as specified above. Mobile carriers would, however, be permitted to charge their subscribers for airtime on Freephone and 1-800 calls.

3.5 The regime outlined above has been designed to encourage efficient use of the network. In particular:-

(i) If the originating carrier had lower unit costs than C&WJ, it would profit from carriage of Freephone and 1-800 calls. It could therefore profitably offer its customers a better deal and be better able to attract customers.

(ii) If the originating carrier had the same unit costs as C&WJ, it would break even on Freephone and 1-800 calls. Its competitive success would then depend entirely on other considerations.

(iii) If the originating carrier had higher unit costs than C&WJ, it would lose money on Freephone and 1-800 calls. It would therefore need to charge higher prices to its customers, but customers might be willing to pay the higher prices if the carrier offered superior features and/or service quality. This point applies, in particular, to the case of mobile origination. The mobile carrier must charge for airtime to cover its costs, but the customer benefits from portability and mobility.

3.6 In all cases, the proposed pricing system affords incentives for efficiency in the provision of telecommunications services. It encourages efficient entry and does not offer arbitrage opportunities that invite inefficient entry.

Discount Rate for Outgoing International Calls

3.7 The Telecommunications Act provides for the wholesaling of C&WJ's international switched telephone minutes for resale by service providers (eg to be used in the provision of international pre-paid calling cards). The distinguishing characteristic of wholesale markets is that services are sold by one service provider to another, who in turn uses them as inputs in the supply of its retail services to end-users. In addition, wholesaling of international switched minutes does not qualify as interconnection services under the Telecommunications Act. The term "interconnection" is used in this document, as it is in the Act, to refer to the physical or logical connection of public voice networks of different carriers.

3.8 For this reason the suggestion made by Digicel that the price paid by resellers of C&WJ's international switched minutes should be based on Long Run Incremental Cost (LRIC) has been rejected by the Office. The methodology for determining the price paid by resellers is clearly defined at section 79 of the Act. It is the retail price minus the net cost avoided by C&WJ for not providing the service on a retail basis. The economic logic underpinning this methodology is that resellers of switched minutes are basically purchasing a normal retail service. For this reason resellers should face price levels similar to those C&WJ charges its end-users for similar services. The cost to C&WJ of providing these services to its own end-users is made up of relevant network costs, an equitable share of common cost, retail costs and a reasonable return on investment. However, the retail costs to C&WJ for providing these services to its end-users will be higher than the cost incurred to provide the same services to resellers, who will have lower associated billing, marketing and other costs on a per minute basis. Resellers should therefore be charged a lower price than C&WJ's end-users to reflect these cost savings.

3.9 The view is often expressed that the level of discount is low relative to other jurisdictions in which the retail minus avoidable cost methodology is applied. The current discount rate was determined by the Office to be 14.5% of the retail rates. In light of the concerns raised by operators and given the Office's obligation under the Act to promote competition among carriers and service providers futher investigation of the discount rate is now being carried out by the OUR.

3.10 Additionally, the Office proposes two changes to the treatment of avoidable costs. The first proposal pertains to where the reseller connects at the end office or at the tandem switch. When the reseller is an interconnecting carrier (such as a mobile service provider) then an additional factor must be considered in the calculation of avoidable cost. Specifically, if the reseller connects at the tandem, then C&WJ no longer incurs the costs associated with end-office switching and the trunk connecting the end office to the tandem switch. It is therefore appropriate to subtract these costs from the retail rate.

3.11 Furthermore, as discussed in Chapter 4, C&WJ has stated that for the time being its rates for access to international services by carriers interconnecting under the terms of the RIO (i.e. connecting at points other than the end office) will be set as if they were connected directly to the international gateway. Thus, the increase on the discount for such calls should include the costs of all domestic carriage, including, in addition to the end office switching and associated trunking discussed above, tandem switching and trunks between the tandem switches and the international gateway. This is the second proposal that must be considered in the calculation of the avoidable cost.

3.12 In addition, the Office has commenced a re-examination of the data underpinning the existing discount rate including the level of bad debt and billing. One mobile carrier has suggested that volume discount be allowed in addition to the normal discount on retail minus net avoidable cost. With regard to volume discounts the Office is seeking proposals from interested parties as to the rationale for such a discount and how this regime would apply.

Other RIO Tariffs

3.13 Charges for the following services in RIO-3 were not approved by the Office. Instead carriers were requested to negotiate the charges for these services. However, it is the intention of the Office to carry out a full examination of these charges:-

- Fault Report Service;
- Speaking Clock;
- International DQ Service
- National and International Freephone Services
- 56 Kbit/s Messaging Bearer Service;
- International Signalling Service; and
- Directory Number Inclusion and Publication Service

3.14 In keeping with the Office's determination notice of February 2001 C&WJ has provided in RIO of August 28, 2001 proposed tariffs and service description for local office interconnection. The Office invites comments on these and other proposals in the RIO.

CHAPTER 4: TECHNICAL INTERCONNECT ISSUES

Introduction

4.0 In this Chapter various non-pricing issues relating to RIO-4 are discussed. Comments on non-pricing issues not specifically addressed in this section should be brought to the attention of the Office.

Joining Services

4.1 In the descriptions of the Joining Services in both the Service Descriptions and the Joint Working Manual, the following statement appears:-

> *provided always that in each case the Telco ISL(s) and the C&WJ ISL pair must be within the same Interconnect Access Area*

It should be made clear that this restriction applies only where C&WJ provides the Joining Service. Where the Telco provides the Joining Service, this restriction should not apply. Alternatively, the Telco can provide a Point of Presence (POP) in an Interconnect Access Area even if it does not have a switch there. The above statement would then read:-

> *the Telco POP and C&WJ ISL…..*

4.2 It should also be made clear in the descriptions of the Joining Services that:-

(i) The service taker can provide the interconnecting transmission link(s)

(ii) Under these circumstances the service taker can use any technology it chooses, so long as it meets the interface standards.

Direct Connection to C&WJ's Mobile Network

4.3 Section 1.1.2 of the PLMN Terminating Access Service states:-

> *The PLMN Terminating Access Service will provide conveyance of Calls addressed to valid number ranges associated with the Service Supplier Mobile Subscriber Connections from Service Taker Subscriber Connections or from Subscriber Connections of a Third Party Fixed Telecoms Provider or a Third Party Mobile Telecoms Provider conveyed pursuant to the PSTN Transit Service from the Point of Connection defined by the Joining Service to the Service Supplier Mobile Subscriber Connections, via the Service Supplier PLMN.*

4.4 This provision appears to prohibit direct connections to mobile switches, which had previously been agreed to, effective 1 March 2002. C&WJ has stated that it intends to file a separate RIO for direct mobile-mobile connections. The Office seeks to enable mobile carriers to have direct connection to mobile switches and therefore directs C&WJ to file by

January 15, 2001 the necessary terms and conditions for mobile-to-mobile interconnection. Carriers are invited to submit information pertaining to the necessary terms and conditions for mobile-to-mobile interconnection and whether this arrangement can be incorporated in the RIO-4 process or whether a separate RIO document is required.

PLMN Terminating Access Service

4.5 In its response to questions dated 19 November, 2001, C&WJ has identified an omission in Section 1.2 of PLMN Terminating Access Service. The omitted sentence:-

Service Taker will be responsible for the metering and billing necessary to charge Service Supplier for the retention component of all Calls passed by Service Taker to the Service Supplier PLMN using the PLMN Terminating Access Service in accordance with the Joint Working Manual.

Direct Connection to C&WJ's International Gateways

4.6 C&WJ, in its response to questions concerning RIO-4 dated 19 September 2001, has stated that upon further review, provision of direct connection to international gateways, as had previously been agreed, would be extremely costly. C&WJ offers instead to subtract from the retention charge, the cost of the additional tandem and trunk that are required if connection is to be made via the PSTN. This is put forth as an interim position pending replacement of the international switches, which will be done at such time as C&WJ's entire network architecture is reviewed. This is acceptable to the Office at this time, and C&WJ is directed to file revised fixed-to-mobile retention rates, as well as revised discounts for outgoing international calls to reflect this change. It should be noted that this approach is acceptable only if service quality is not diminished. If there is service degradation because of the need to traverse the PSTN, then direct connections to international gateways will be required.

64Khz Terminating Access Service

4.7 One of the services offered by C&WJ is referred to as 64kHz terminating access service. A reading of the service description indicates that this service is a part of, or closely related to ISDN service, which is of course digital. Presumably the description should read 64Kbps. Also, the RIO states that the service will not support supplementary services. Although the Office will not require the provision of any particular such service, it does not accept the blanket prohibition. The statement should say that no supplementary ISDN retail services are supported at this time but will be considered on a case-by-case basis if requested.

Joint Working Manual Schedule

4.8 The specification of Availability in Section 1.8.5.2 states:-

The Call Availability is > 99%. The apportionment for the Call Availability budget for Service Supplier and Service Taker is as follows:

Originating party	*transit party*	*terminating party*
≥99.0 %	*≥99.2 %*	*≥99.0 %*

This is inconsistent. If the overall availability is to be 99%, then each party will need to have availability of about 99.7%.

4.9 Section 2.4.4.6 of the Joint Working Manual states:-

For the purposes of Paragraphs 2.4.4.1 - 2.4.4.5, the Service Supplier, in each case, shall be responsible for the measurement of the Relevant Traffic and Operator Services Traffic for each Quarter. In the absence of manifest error, any statement produced by the Services Supplier of the Relevant Traffic and Operator Services Traffic shall be considered definitive and not called into question.

If the Service Taker has made its own measurements, and these disagree with those made by the Service Supplier, then it is appropriate for the latter to be called in to question, and arbitration should be specified if agreement cannot be reached.

4.10 Almost all services have a fault restoration objective of 80% in six hours and 95% in 31 hours. There should be some differentiation here, with the more important network services having tighter limits, while longer times may be acceptable for some of the ancillary services.

4.11 Digicel has requested and the Office has agreed that:-

a. Paragraph 3.3.1.2 of the JWM – the final sentence should read "Failing this, CDRs for the period and the actual rating for these CDRs will be…."
b. Paragraph 3.5.1.1. of the JWM, first sentence, change the phrase "as late usage" to "as priors."

ANNEX A: CALCULATION BAD DEBT FOR A CALL TYPE[4]

To calculate the debt outstanding on a specified call type (such as PSTN to Digicel) for a billing period the following approach is taken:-

The calls for the call type are filtered from the total itemized call records billed in the period (month).

The value of the calls is summed per customer account. This provides the total value of calls billed for the call type and the value per customer.

The value of the calls is then matched with the outstanding balance for the customer for the billing period. (The C&WJ retail billing system records outstanding balances on a per bill basis rather than an overall total).

If the outstanding balance on the bill is greater than the value for the call type then the value of the calls is added to the bad debt figure. If the balance is less than the call value then the remaining balance is added to the bad debt figure.

The bad debt ratio is then the sum value of the bad debt calculated for the call type divided by the total value of calls for the call type.

[4] Appendix A of C&WJ's letter of November 7, 2001 "Cable & Wireless Jamaica Limited ("C&WJ") response to the OUR's Consultative Document on Interim Modifications to RIO-3 (the "Consultative Document"). Note that Appendix A was supplied to the Office under confidential marking. C&WJ has consented to the Office's request to make Appendix A public.

ANNEX B: GLOSSARY OF TERMS

ADC
Access Deficit Charge is the shortfall of revenues from line rentals and installation charges below the costs of the access network (including a reasonable return on capital).

C&WJ
Cable & Wireless Jamaica (formerly known as Telecommunications of Jamaica, TOJ) is the incumbent provider of telecommunications services in Jamaica. It operates a fixed and a (Time Division Multi Access) mobile network and is a subsidiary of C&W Plc of the United Kingdom.

CDJ
Centennial Digital Jamaica is Jamaica's third mobile carrier. It commenced services on November 28, 2001 and employed a Code Division Multi Access (CDMA) technology.

DQ
Directory Enquiry service

FTM
Fixed to Mobile calls. Examples include calls from C&WJ's fixed network to its mobile network or the mobile networks of either Digicel or Centennial Digital Jamaica.

GSM
European standards of mobile communications

Modern Equivalent Asset (MEA)
Valuation of a firm's existing assets at the cost of replacing them with assets, which serve the same function but incorporates the latest available technology, which a new entrant might be expected to deploy.

Mobile Termination
Fee received by mobile carriers for calls terminating on their network. For the regime in Jamaica, separate mobile termination rates are established for domestic calls and incoming international calls.

Oftel
Office of Telecommunications, telecoms regulator in the UK

Opportunity cost
Return foregone by employing resources in their current use rather than the most valuable alternative use.

PSTN
Public Switched Telephone Network

PLMN
Public Land Mobile Network

RIO
Reference Interconnect Offer

Spectrum
A radio frequency of hertzian waves used as a transmission medium for cellular radio, radiopaging, satellite communication, over-the-air broadcasting and other services.