Office of Utilities Regulation

Update of Cost Model for Fixed Termination Rates – Principles and Methodology

Determination Notice



DOCUMENT TITLE AND APPROVAL PAGE

- 1. DOCUMENT NUMBER: 2020/TEL/010/DET.003
- DOCUMENT TITLE: Update of Cost Model for Fixed Termination Rates Principles and Methodology – Determination Notice

3. PURPOSE OF DOCUMENT

This document contains the main decisions of the Office of Utilities Regulation regarding the the changes to the methodological framework which will be used in the update of the cost model used to set wholesale fixed interconnection rates.

4. ANTECEDENT PUBLICATIONS

Publication Number	Publication Title	Publication Date
2020/TEL/001/CON.001	Update of the Fixed Cost Model and Assessment of Fixed Infrastructure Sharing Costs - Principles and Methodology - Consultation Document	2020 January 8
2015/TEL/006/DET.002	Determination Notice - "Cost Model for Fixed Termination Rates – Principles and Methodology"	2015 July 1
2015/TEL001/CON.001	Cost Model for Fixed Termination Rates – Principles and Methodology Consultation	2015 January 19

5. Approval

This document is approved by the Office of Utilities Regulation and the decisions therein become effective on 2020 June 30.

On behalf of the Office:

Ansord E. Hewitt Director-General

Date

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Abstract

The Telecommunications Act (the "Act"), requires that all dominant public telecommunications carriers permit interconnection of their public network with the public network of other carriers for the purpose of the provision of telecommunications services. It further requires that the charges at which this interconnection is provided shall be guided by the principles set out in Section 33 of the Act. The Act also provides that the Office of Utilities Regulation ("OUR" or "the Office") shall have regard to the principle of cost orientation when making a determination of an operator's interconnection charges.

The methodology for the existing cost model used to calculate fixed interconnection rates was determined in the 2015 July 1 document "Cost Model for Fixed Termination Rates -Principles and Methodology – Determination Notice" (Document No: 2015/TEL/006/DET.002). This Determination Notice sets out the approach that the Office will take in relation to the update of the existing cost model (which includes changes to the 2015 methodology).

This Determination Notice also sets out the OUR's response to comments provided by stakeholders who responded to the Consultation Document dated 2020 January 8 and entitled "Update of the Fixed Cost Model and Assessment of Fixed Infrastructure Sharing Costs - Principles and Methodology – Consultation Document" (Document No: 2020/TEL/001/CON.001) ("the Consultation Document")1.

¹ The assessment of the fixed infrastructure sharing costs component of the Consultation Document will be addressed in a separate Determination Notice.

Chapter 1: Introduction

Background

- 1.1. The Consultation Document, "Update of the Fixed Cost Model and Assessment of Fixed Infrastructure Sharing Costs Principles and Methodology Consultation Document" (Document No: 2020/TEL/001/CON.001) was published on 2020 January 8 (the "Consultation Document"). Responses to the Consultation Document were requested from industry stakeholders by the deadline of 2020 February 19.
- 1.2. The Office of Utilities Regulation (the "OUR" of the "Office") received one response to the Consultation Document from Cable & Wireless Jamaica Limited ("C&WJ") and Columbus Communications Limited ("Columbus"). Together, C&WJ and Columbus are referred to as "Flow". Stakeholders were then given until 2020 March 5 to comment on the response received from Flow. The OUR received one comment on Flow's response from Digicel Jamaica Limited ("Digicel").

Purpose of the Document

- 1.3. This Determination Notice details the Office's comments on the response to the Consultation Document and the stakeholder comment on the submitted response. The Office's comments in this Determination Notice will be specific to the comments pertaining to the update of the fixed cost model. The comments relating to Infrastructure Sharing will be addressed in a separate Determination Notice.
- 1.4. This Determination Notice also sets out the approach of the OUR regarding the update of the fixed termination BULRIC model that calculates the cost of wholesale fixed interconnection services.

Structure of Document

- 1.5. The remainder of this document is structured as follows:
 - Chapter 2 outlines the Legal Framework that describes the remit of the OUR in regard to the setting of interconnection rates.
 - Chapter 3 presents the methodological framework used in the current fixed model.
 - Chapter 4 presents a summary of the comments from stakeholders
 to the OUR's proposals in the consultation document, and provides
 the OUR's response. Chapter 4 also presents the determinations
 regarding the changes to the methodological framework which will
 be used in the update of the cost model used to set wholesale fixed
 interconnection rates.
 - Annex A summarises the determinations made in this document.
 - Annex B sets out the principles and methodologies that will be applicable to the update of the current fixed cost model.
 - Annex B includes a glossary of terms and abbreviations used throughout this document to assist in its reading.

Chapter 2: Legal and Regulatory Framework

2.1. As part of its overall functions to regulate specified services and facilities under section 4(1) of the Telecommunications Act (the "Act"), and in keeping with its express power to determine the rates which may be charged in respect of the provision of a prescribed utility service under section 4(4) of the Office of Utilities Regulation Act ("the OUR Act"), the OUR is authorised to determine the prices charged by telecommunications operators for the provision of services.

Section 4(1)(a) of the Act states:

- "(1) The Office shall regulate telecommunications in accordance with this Act and for that purpose the Office shall -
 - (a) regulate specified services and facilities"

Section 4(4) of the OUR Act states:

- "(4) The Office shall have power to determine, in accordance with the provisions of this Act, the rates or fares which may be charged in respect of the provisions of a prescribed utility service."
- 2.2. A "specified service" is defined in section 2 of the Act to mean, inter alia, a telecommunications service, while a "prescribed utility service" is defined in section 2 and the First Schedule of the OUR Act to include the provision of telecommunications services.
- 2.3. The legal framework governing interconnection, which is a type of telecommunications service, can be found in Part V (sections 27-37A) of the Act.
- 2.4. The Act at Section 29 (1) states:

"Each carrier shall, upon request in accordance with this Part, permit interconnection of its public network with the public network of any other carrier for the provision of telecommunications services".

- 2.5. The Act grants the OUR specific powers with regard to the determination of tariffs charged for interconnection services. Sections 29 (4)(a) and (5) state:
 - "(4) The Office may -
 - (a) on its own initiative, in assessing an interconnection agreement, make a determination of the terms and conditions, including charges;

...

- "(5) When making a determination of an operator's interconnection charges, the Office shall have regard to -
- (a) the principles of cost orientation or reciprocity;
- (b) local or international benchmarks; or
- (c) any other approach that is relevant to the determination of interconnection charges."
- 2.6. The Act at section 30 requires that dominant public telecommunications carriers provide interconnection in accordance with various principles. In particular section 30 (1)(a)(iii) requires that charges for interconnection services "... shall be cost oriented and guided by the principles specified in section 33".
- 2.7. These principles of cost orientation are stated in Section 33 as follows:
 - "(1) Where the Office is required to determine the charges for the provision of interconnection by a dominant carrier, it shall, in making that determination, be guided by the following principles -
 - (a) costs shall be borne by the carrier whose activities cause those costs to be incurred;

- (b) non-recurring costs shall be recovered through non-recurring charges and recurring costs shall be recovered through recurring charges;
- (c) costs that do not vary with usage shall be recovered through flat charges and costs that vary with usage shall be recovered through charges that are based on usage;
- (d) costs shall include attributable operating expenditure and depreciation and an amount estimated to achieve a reasonable rate of return;
- (e) with the exception of interconnection charges for wholesale termination services, interconnection charges shall be established between the total long run incremental cost of providing the service and the stand alone cost of providing the service, so, however, that the prices shall be so calculated as to avoid placing a disproportionate burden of recovery of common costs on interconnection services;
- (f) where appropriate, interconnection costs shall include provision for a supplementary charge, being a contribution towards the access deficit of the interconnection provider; and
- (g) in the case of charges for wholesale termination services, charges shall be calculated on the basis of forward looking long run incremental cost, whereby the relevant increment is the wholesale termination service and which includes only avoidable costs.
- (2) Where the Office has been unable to obtain cost information that it is reasonably satisfied is relevant and reliable it may take into account local and international benchmarks, reciprocity and any other approach that in the opinion of the Office is relevant."

Chapter 3: Methodological Framework for the Existing Fixed Model

- 3.1. The main objective of this Determination Notice is the update of the methodological framework used in the development of the fixed cost model in 2016.
- 3.2. The methodological framework used to set these principles is presented in the "Cost Model for Fixed Termination Rates - Principles and Methodology Determination Notice" (Document "2015/TEL/006/DET.002"), dated 2015 July 1 (the "2015 Determination Notice").
- 3.3. The methodological aspects followed in the 2015 Determination are as follows:

Determination 1: The Office will model the period 2013-2020 and set interconnection rates for 2016-2020.

Determination 2: The Office will use the information provided by operators as the primary source of data, and international benchmark information, deemed appropriate for the Jamaican reality, as the preferred alternative source of data.

Determination 3: The Office will capture the three proposed costs standards - Pure LRIC, TLRIC and SAC - in the model, without including the access network in these calculations. Network joint and common costs will be allocated using the Shapley-Shubik approach and the non-network common costs will be allocated using the EPMU.

Determination 4: The Office will include all planning, installation and operationalisation costs associated with CapEx investments in the network. Additional information regarding spectrum and way fees will be sought from operators to evaluate relevance for the

model. Alternative methods for calculating retail costs will be further investigated².

Determination 5: The Office will ask for available cost accounting information from the operators to provide reasonable visibility of the Network OpEx and support calculations in the model. Alternative methods for calculating G&A costs will be further investigated.²

Determination 6: The Office will implement asset valuation using the static CCA approach.

Determination 7. The Office will implement the MEA in the model using a transition modelling approach.

Determination 8: The following tilted annuity formula will be used in the model to be developed: $\frac{WACC - \Delta p}{\left(1 - \frac{1 + \Delta p}{1 + WACC}\right)^{Asset \ life}} X \ Asset \ value$

Determination 9: The Office will include network OpEx working capital as a percentage of network OpEx, independently of its sign.

Determination 10: The Office will consider retail Working Capital calculated as a percentage of retail OpEx, applied as a mark-up of retail OpEx, independently of its sign.

Determination 11: The Office will model a reference operator with similar characteristics to the incumbent.

Determination 12: The Office will use a yearly approach for network dimensioning and optimisation.

Determination 13: The Office will consider the list of services outlined in Annex I of the Methodological Document:

Retail voice services

Update of the Cost Model for Fixed Termination Rates – Principles and Methodology Determination Notice 2020/TEL/010/DET.003

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² The OpEx is included in the cost model as the absolute yearly unit OpEx associated to each network element

Voice Outgoing On-net

Voice Outgoing Off-net to fixed

Voice Outgoing Off-net to mobile

Voice Outgoing Off-net to international

Voice Outgoing Calls ending in voicemail

Voice Outgoing Calls to voicemail retrieval

Voice Outgoing Calls to emergency services

Voice Outgoing Calls to weather warning service

Voice Outgoing Calls to home country direct collect service

Voice Outgoing Calls to national DQ service

Voice Outgoing Calls to international DQ service

Voice Outgoing Calls to national on-net freephone access service

Voice Outgoing Calls to national off-net freephone access service

Voice Outgoing Calls to own freephone access service

Voice Outgoing Calls to international freephone access service

Wholesale voice services

Voice Transit Domestic transit

Voice Transit International transit

Voice Outgoing Originating to on-net

Voice Outgoing Originating to off-net

Voice Incoming Terminating to fixed local

Voice Incoming Terminating to fixed national

Voice Incoming Terminating from international direct to fixed

Voice Incoming Terminating to emergency services

Voice Incoming Terminating to weather warning service

Voice Incoming Terminating to national DQ

Voice Incoming Terminating to international DQ

Voice Incoming Terminating to national freephone access service

Voice Incoming Terminating to own freephone access service

Voice Incoming Terminating to international freephone access service

Voice Incoming Terminating to home country direct collect service

Non-voice services

Retail broadband traffic

Retail Leased lines intra-parish

Retail Leased lines inter-parish

Retail Leased lines core node to international

Voice Call Centre Both Call centre service

Determination 14: The Office will use a modified scorched node approach to model the fixed network, without including the assets associated to the access (below line card).

Determination 15: The Office will consider a progressive increase of access nodes, for the implementation of the modified scorched node approach.

Determination 16: The Office will use a modified scorched node approach to model the fixed network, without including the access network. In addition, migration profiles will be used to model the core and transmission technologies of the network.

Determination 17: The Office may resort to glide paths for adjusting termination rates, the exact length of which will only be defined after reviewing the rates from the modelling exercise.

Determination 18: The Office will not allow peak/off-peak price gradients for fixed interconnection rates.

Determination 19: The Office will implement fixed interconnection charges using only duration per minute billed on a per second basis.

Determination 20: The Office will define two charges which depend on the interconnection level (1 - local and 2 - National/regional).

3.4. The determinations presented in Chapter 4 of this document, supersede any related determinations made in the 2015 Determination Notice. All other determinations stated in the 2015 Determination Notice not affected by this Determination Notice as set out in Chapter 4, remain unchanged for the purpose of the development of a fixed cost model. The complete set of principles and methodology applicable to the current update of the cost model for fixed termination rates, and as determined in this Determination Notice, is set out in Annex B.

Chapter 4: Stakeholders' Comments, the OUR's Responses and Determinations

Introduction

- 4.1. Chapter 3 of the Consultation Document presented the methodology proposed to be followed in the update of the existing fixed cost model.
- 4.2. Specifically, the following methodological aspects were described:
 - Main Modelling Approach
 - o Period of Time Modelled
 - Data Sources
 - Cost Standard
 - Costs Elements Considered
 - Treatment of OpEx
 - Asset Valuation Method
 - Consideration of Modern Equivalent Assets
 - Annualisation Method
 - Treatment of Working Capital
 - Definition of the Reference Operator
 - Network Details
 - Fixed Services and Increments
 - Fixed Network Design Boundary Between Access and Core Networks
 - Fixed Network Design Network Topology Design
 - Fixed Network Design Technologies to be Modelled
 - Use of Gradients
 - Charging Basis
 - Charges Structure

4.3. The OUR has considered the comments made by stakeholders and now provides a summary of the stakeholder comments, its responses, and subsequent determinations below.

Stakeholders' Comments & OUR's Responses

- 4.4. Flow is of the view that the methodological approach used for the update of the fixed cost model should remain largely the same as the existing cost model.
- 4.5. Digicel concurs with Flow's general agreement regarding the methodological approach for the update of the model. The company states that given the model's relatively recent development, "a continuation of the previous approach is broadly appropriate at this time".

Data Sources

- 4.6. Flow is in agreement with the OUR's position that information provided by operators will be used as the primary source of data and that information from international benchmarks deemed appropriate for the Jamaican reality will be used as the preferred alternative source of data. Flow is also of the view that stakeholders must be able to vet any inputs and international benchmarks proposed.
- 4.7. The Office acknowledges Flow's comments.
- 4.8. As Flow is well aware, the OUR has an obligation under the Telecommunications Act to consult in good faith with those who are or are likely to be affected by its decisions. Also, it is an established practice of the Office to consult on the cost models it develops. During the consultation process stakeholders will have the opportunity to provide comments on the algorithms, and the input values in the draft model as well as provide relevant arguments, data and other information to support their comments. It should be noted however, that while the OUR will indicate the data source for each model input, aspects of the model which contain proprietary information and other information deemed confidential in accordance with the Act, will not be shared with the wider telecommunications industry.

Fixed Services and Increments

- 4.9. With regard to the services and increments to be included in the termination model, Flow requested that the OUR clarifies what is meant by "Voice Call Centre Both Call Centre Service".
- 4.10. The OUR now clarifies that the "Voice Call Centre Both Call Centre Service", is included in the model in order to collect the costs of the call centre dedicated to handling retail and wholesale calls to DQ and Emergency services. This service is included in the existing version of the model.

Period of Time Modelled

- 4.11. The OUR considers that the period of time to be modelled will be 2018-2025 and the interconnection rates will be calculated for the 2021-2025 period.
- 4.12. Flow has indicated that it does not object to the modelling period covering 2018-2025, with the understanding that the period of applicability of the model results for rate-setting pertains only to 2021-2025.
- 4.13. The Office acknowledges Flow's agreement.

Determination 1: The Office will model the period 2018-2025 and set interconnection rates for 2021 to 2025.

Definition of the Reference Operator

- 4.14. Regarding the particular operator to use as a reference, the OUR proposed that the reference operator should be a fixed operator with demand and network characteristics similar to the "combined" C&WJ and Columbus.
- 4.15. Flow does not object to the OUR's proposed definition of the reference operator. Flow however, indicated that "due to separate reporting systems, consistent data is often difficult to produce, which can make it difficult to identify potential inefficiencies associated with the overlapping networks".
- 4.16. The Office acknowledges Flow's response.

4.17. The OUR is aware of the difficulty of the identification of potential inefficiencies associated with overlapping networks. Special attention will be given to this concern in the update of the fixed model to see how best this risk can be addressed and mitigated.

Determination 2: The Office will consider a reference operator with demand and network characteristics based on the combination of C&WJ and Columbus.

Charges Structure

- 4.18. The current model employs a two-tier charges structure (i.e. 1 local and 2 national/regional).
- 4.19. While Flow does not oppose the current structure, it asked that the OUR consider a further simplification of the structure to eliminate the national vs local distinction.
- 4.20. The Office acknowledges Flow's suggestion related to the simplification of the charges structure. Nevertheless, the OUR's view is that maintaining this disaggregation is appropriate to provide the OUR with more detailed information on the cost of providing voice services in Jamaica. Based on this, the Office will maintain the charges structure in the model with two (2) levels (1 - local and 2 - national/regional).

Determination 3: The Office will retain the two types of charges, which depend on the interconnection level (1 - local and 2 - National/regional).

Annex A: Summary of Determinations

Determination 1: The Office will model the period 2018-2025 and set interconnection rates for 2021 to 2025.

Determination 2: The Office will consider a reference operator with demand and network characteristics based on the combination of C&WJ and Columbus.

Determination 3: The Office will retain the two types of charges, which depend on the interconnection level (1 - local and 2 - National/regional).

Annex B: Principles and Methodology Applicable to the Update of the Cost Model for Fixed Termination Rates

Determinations from the 2020 Determination Notice Applicable to the Update of the Cost Model

Determination 1: The Office will model the period 2018-2025 and set interconnection rates for 2021 to 2025.

Determination 2: The Office will consider a reference operator with demand and network characteristics based on the combination of C&WJ and Columbus.

Determination 3: The Office will retain the two types of charges, which depend on the interconnection level (1 - local and 2 - National/regional).

Determinations from the 2015 Determination Notice Applicable to the Update of the Fixed Model

Determination 2: The Office will use the information provided by operators as the primary source of data, and international benchmark information, deemed appropriate for the Jamaican reality, as the preferred alternative source of data.

Determination 3: The Office will capture the three proposed costs standards - Pure LRIC, TLRIC and SAC - in the model, without including the access network in these calculations. Network joint and common costs will be allocated using the Shapley-Shubik approach and the non-network common costs will be allocated using the EPMU.

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Retail voice services

Voice Outgoing On-net

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³ The OpEx is included in the cost model as the absolute yearly unit OpEx associated to each network element

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Voice Outgoing Calls to emergency services

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Voice Outgoing Calls to international DQ service

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Voice Outgoing Calls to national off-net freephone access service

Voice Outgoing Calls to own freephone access service

Voice Outgoing Calls to international freephone access service

Wholesale voice services

Voice Transit Domestic transit

Voice Transit International transit

Voice Outgoing Originating to on-net

Voice Outgoing Originating to off-net

Voice Incoming Terminating to fixed local

Voice Incoming Terminating to fixed national

Voice Incoming Terminating from international direct to fixed

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Determination 17: The Office may resort to glide paths for adjusting termination rates, the exact length of which will only be defined after reviewing the rates from the modelling exercise.

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Determination 19: The Office will implement fixed interconnection charges using only duration per minute billed on a per second basis.

Determination 20: The Office will define two charges which depend on the interconnection level (1 - local and 2 - National/regional).

Annex C: Glossary

2015

Determination

Notice

Cost Model for Fixed Termination Rates - Principles and

Methodology Determination Notice (Document "2015/TEL/006/DET.002"), dated 2015 July 1

Act

The Telecommunications Act

BULRIC

Bottom-up Long Run Incremental Costs

CapEx

Capital Expenditure

CCA

Current Cost Accounting

C&WJ

Cable & Wireless Jamaica Limited

Columbus

Columbus Communications Jamaica Limited

Consultation Document

Update of the Fixed Cost Model and Assessment of Fixed Infrastructure Sharing Costs - Principles and Methodology -Consultation Document" (Document No:

2020/TEL/001/CON.001) dated 2020 January 8

Digicel

Digicel Jamaica Limited

DQ

Directory Enquiry

EPMU

Equal Proportionate Mark-up

Flow

Combined trading name of Cable & Wireless Jamaica Limited and Columbus Communications Jamaica Limited after the acquisition of Columbus Communications Jamaica Limited by the parent company of Cable & Wireless Jamaica Limited in

2015 January.

Office or OUR The Office of Utilities Regulation

OpEx Operating Expenditure

OUR Act The Office of Utilities Regulation Act

LRIC Long Run Incremental Costs

MEA Modern Equivalent Asset

SAC Stand Alone Cost

TLRIC Total Long Run Incremental Costs

WACC Weighted Average Cost of Capital