



BERMUDA  
**REGULATORY  
AUTHORITY**

## **Consultation:**

# **Obligations for Operators with Significant Market Power**

Consultation Document

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# 1 EXECUTIVE SUMMARY<sup>1</sup>

## 1.1 Purpose

1. The purpose of this consultation document is to assess regulatory options for markets where one or more operators have been designated as having significant market power ("SMP") and propose a set of obligations (hereafter: "remedies") that the Regulatory Authority ("RA" or "Authority") considers to be consistent with the objectives set out in Section 24 of the Electronic Communications Act 2011 ("ECA").

## 1.2 Proposed Remedies

2. Table 1 summarises the remedies that the Regulatory Authority proposes to apply in each market.

**Table 1: Proposed remedies by market**

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
<b>RETAIL MARKET REMEDIES</b>			
A national market (excluding Southside) for the supply of Retail fixed narrowband access lines and local calls to residential customers.	BTC	<ul style="list-style-type: none"><li>• Retail prices shall be capped such that, in any given year, prices may increase by no more than the change in the prior year's Consumer Price Index (CPI)<sup>3</sup>, plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs.<ul style="list-style-type: none"><li>○ Price increases in any given calendar must satisfy the conditions laid out in paragraph 21.</li></ul></li><li>• Annual reporting requirements</li></ul>	<ul style="list-style-type: none"><li>• Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li><li>• On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and</li><li>• On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li><li>• On an on-going basis,</li></ul>

<sup>1</sup> The Regulatory Authority notes that the amalgamation of Logic and North Rock occurred during the late stages of preparation for this consultation document and not all references have been updated to reflect this change. Thus, any references in this document to either Logic or North Rock are understood to refer to the amalgamated Logic-North Rock.

<sup>2</sup> SMP Operators meeting the compliance triggers appearing here will be considered in compliance for the purposes of ECA Section 73(5)(a) only, as noted in this table they will have continuing compliance obligations after that as well.

<sup>3</sup> The CPI to be used shall be that published by the Bermuda Department of Statistics based on the most recent full calendar year (Jan-Dec).

<b>Relevant Product Markets</b>	<b>SMP Operator(s)</b>	<b>Remedies Imposed</b>	<b>Compliance Triggers<sup>2</sup></b>
		demonstrating that the terms of the price cap have been abided by	comply with the annual reporting requirements.
A market for the supply of Retail fixed narrowband access lines and local calls to business customers outside of Southside and the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A national market (excluding Southside) for the supply of Retail fixed Broadband Access Services and ISP Services to residential customers.	BTC, BCV	<ul style="list-style-type: none"> <li>• Price per Mb/s may not increase (unless an affirmative showing that prices are not recovering cost).</li> <li>• Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul>	<ul style="list-style-type: none"> <li>• Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>• On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and</li> <li>• On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>• On an on-going basis, comply with the annual reporting requirements.</li> </ul>
A market for the supply of Retail fixed Broadband Access Services and ISP Services to business customers outside of Southside and the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A national market for the supply of Retail mobile services, including voice and data.	BDC and Digicel	<ul style="list-style-type: none"> <li>• Quarterly reporting requirements for the monitoring of on-net/off-net traffic flows</li> <li>• Tariff filing obligations</li> </ul>	<ul style="list-style-type: none"> <li>• Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>• On an on-going basis,</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		(notification only)	<p>comply with the tariff filing notice requirements per paragraph 27(b); and</p> <ul style="list-style-type: none"> <li>On an on-going basis, comply with the quarterly reporting requirements per paragraph 28</li> </ul>
A market for the Retail supply of low-speed Retail Leased Lines in the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>Retail prices shall be capped such that, in any given year, prices may increase by no more than the change in the prior year's Consumer Price Index (CPI), plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs. <ul style="list-style-type: none"> <li>Price increases in any given calendar must satisfy the conditions laid out in paragraph 21.</li> </ul> </li> <li>Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and</li> <li>On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>
A market for the Retail supply of low-speed Retail Leased Lines outside of the City of Hamilton and contiguous suburbs (excluding Southside).	BTC	<ul style="list-style-type: none"> <li>Same as above</li> </ul>	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
A market for the Retail supply of high-speed Retail Leased Lines outside of Southside and the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>The price of high speed-retail Leased Lines outside of Southside and the City of Hamilton and contiguous suburbs may increase by no more than the change</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>On an on-going basis, comply with the tariff filing notice</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		<p>in the prior year's Consumer Price Index (CPI), plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs.</p> <ul style="list-style-type: none"> <li>Price increases in any given calendar must satisfy the conditions laid out in paragraph 21.</li> <li>Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul>	<p>requirements per paragraph 27(b); and</p> <ul style="list-style-type: none"> <li>On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>
A national market for the supply of Retail Subscription Television Services (excluding Southside)	BCV	<ul style="list-style-type: none"> <li>Tariff filing obligations (notification only)</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a); and</li> <li>On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b);</li> </ul>
<b>WHOLESALE MARKET REMEDIES</b>			
A Wholesale market for the supply of fixed narrowband access and local calls in the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>Obligation to provide Wholesale line rental and local calls (WLRLC) service priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%</li> <li>Terms of supply of Wholesale service to be defined in a RAIO</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority; and,</li> <li>made commercially available<sup>4</sup> a WLRLC service that: <ul style="list-style-type: none"> <li>is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> </ul> </li> </ul>

<sup>4</sup> Commercial availability certified by the SMP Operator.

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		<p>that has been consulted upon and approved by the Authority.</p> <ul style="list-style-type: none"> <li>• Obligation to file <i>ex ante</i> price squeeze tests for tariffs on any bundled retail offerings to demonstrate replicability</li> </ul>	<ul style="list-style-type: none"> <li>○ complies with the terms and conditions established in the RAIO referenced at paragraph 32(a); and</li> <li>○ has been approved by the Authority</li> <li>• On-going compliance requires revision of the WLRLC price when tariffs on any associated retail products or services change.</li> </ul>
A Wholesale market for the supply of fixed narrowband access and local calls in areas outside of Southside and the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A Wholesale market for the supply of fixed Broadband Access Services <sup>5</sup> in the City of Hamilton and contiguous suburbs.	BTC, BCV	<ul style="list-style-type: none"> <li>• Obligation to provide Wholesale Broadband Access Services priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%. Wholesale service specifications must allow for replicability of retail service offerings.</li> <li>• Obligation to file <i>ex ante</i> price squeeze tests for tariffs on any bundled retail offerings</li> </ul>	<ul style="list-style-type: none"> <li>• A RAIO in place that has been approved by the Authority; and,</li> <li>• made commercially available<sup>6</sup> a Wholesale Broadband Access Service that: <ul style="list-style-type: none"> <li>○ is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> <li>○ complies with the terms and conditions</li> </ul> </li> </ul>

<sup>5</sup> Broadband Access Service comprises: local access, backhaul, and data stream aggregation, terminating at a Wholesale Operators premises.

<sup>6</sup> Commercial availability certified by the SMP Operator



Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		<p>to demonstrate replicability</p> <ul style="list-style-type: none"> <li>• Terms of supply of Wholesale service to be defined in a RAIO that has been consulted upon and approved by the Authority.</li> </ul>	<p>established in the RAIO referenced at paragraph 32(a); and</p> <ul style="list-style-type: none"> <li>○ has been approved by the Authority</li> <li>• On-going compliance requires revision of the Wholesale Broadband Access Service price when tariffs on any associated retail products or services change.</li> <li>• For BCV, have completed at least 100 Wholesale order for residential service, which orders must be for a type of service not provided prior to January 28 (e.g. residential broadband access provided to Link or TBI )</li> </ul>
A Wholesale market for the supply of fixed Broadband Access Services in areas outside of Southside and the City of Hamilton and contiguous suburbs	BTC, BCV	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A national market for the supply of Wholesale access and local call origination on mobile networks.	BDC, Digicel	<ul style="list-style-type: none"> <li>• None, initially</li> <li>• However, if either BDC or Digicel (or an affiliate of either company) sells wholesale mobile service to another licensee, the Authority determines that the SMP mobile Operator must provide a non-discriminatory Wholesale access service to any third</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		<p>party Operator seeking to obtain such access.</p> <ul style="list-style-type: none"> <li>An SMP operator is obligated to notify the Authority within five business days of any MVNO negotiations that it has entered into with other licensees.</li> </ul>	
A national market for the supply of Wholesale origination of international calls on mobile networks <sup>7</sup>	BDC, Digicel	<ul style="list-style-type: none"> <li>Maintain policy of zero rate unless carriers make an affirmative showing that the current price is not recovering historical costs.</li> <li>Terms of supply of Wholesale service to be defined in a RAIO that has been consulted upon and approved by the Authority.</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority</li> </ul>
A Wholesale market for the origination of international calls on fixed networks in the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>International calls. Price ceiling is the charge established by the LAC (local access charge) decision, unless subsequently revised by the Authority.</li> <li>Terms of supply of origination service to be defined in a RAIO that has been consulted upon and approved by the Authority</li> <li>Annual reporting requirements demonstrating that the</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>

<sup>7</sup> Pre-selection of international carriers. ECA Section 73(8)(a) requires carrier pre-selection for international calls for all ICOL holders (that participate in the numbering plan) until the advent of number portability.

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		terms of the price ceiling have been abided by	
A Wholesale market for the origination of international calls on fixed networks in areas outside of Southside and the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A market for the Wholesale supply of low speed Leased Lines in the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>• Obligation to provide Wholesale Leased Lines ("WLL") on a non-discriminatory basis, priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%</li> <li>• Terms of supply of Wholesale service to be defined in a RAIO that has been consulted upon and approved by the Authority.</li> </ul>	<ul style="list-style-type: none"> <li>• A RAIO in place that has been approved by the Authority; and,</li> <li>• made commercially available<sup>8</sup> a WLL service that: <ul style="list-style-type: none"> <li>○ is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> <li>○ complies with the terms and conditions established in the RAIO referenced at paragraph 32(a); and</li> <li>○ has been approved by the Authority</li> </ul> </li> <li>• On-going compliance requires revision of the WLL price when tariffs on any associated retail products or services change.</li> </ul>
A market for the Wholesale supply of low speed Leased Lines outside of Southside and	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

<sup>8</sup> Commercial availability certified by the SMP Operator

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
the City of Hamilton and contiguous suburbs			
A market for the Wholesale supply of high speed Leased Lines in the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A market for the Wholesale supply of access to facilities used to construct fixed local access networks	BLDC, BELCO, BCV, and BTC	<p><u>Pole access:</u></p> <ul style="list-style-type: none"> <li>• Price capped at the current rate charged to each customer, with the ability for access seekers to petition and request a rate investigation.</li> <li>• Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul> <p><u>Ducts:</u></p> <ul style="list-style-type: none"> <li>• Prices capped at the current rates charged to each customer, unless it can be established to RA's satisfaction through a cost study that this does not reflect cost</li> <li>• Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul> <p><u>Other services:</u></p> <ul style="list-style-type: none"> <li>• Price capped at the current rate charged to each customer, with the ability for access seekers to petition and request a rate investigation</li> </ul>	<ul style="list-style-type: none"> <li>• The filing of all existing price sheets for services provided to current customers with the Authority within 30 calendar days of the effective date of the General Determination on remedies.</li> <li>• On an on-going basis, comply with the annual reporting requirements.</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>2</sup>
		<u>Filing Obligations:</u> <ul style="list-style-type: none"> <li>All existing price sheets for services provided to current customers shall be filed with the Authority within 30 calendar days of the effective date of the General Determination on remedies.</li> </ul>	
A market for the supply of access to facilities used to construct wireless radio access networks.	None	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>
A Wholesale market for the transmission facilities used to deliver Subscription Television Services to end users in addition to the Subscription Television Services themselves	BCV	<ul style="list-style-type: none"> <li>Obligation to provide resale service on non-discriminatory terms at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%</li> <li>Terms of supply of Wholesale service to be defined in Reference Offer. Terms to be approved by the Authority.</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority; and,</li> <li>made commercially available<sup>9</sup> a resale service that: <ul style="list-style-type: none"> <li>is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> <li>complies with the terms and conditions established in the RAIO referenced at paragraph 32(a); and</li> <li>has been approved by the Authority</li> </ul> </li> <li>On-going compliance requires revision of the resale service price when tariffs on any associated retail products or services</li> </ul>

<sup>9</sup> Commercial availability certified by the SMP Operator.

<b>Relevant Product Markets</b>	<b>SMP Operator(s)</b>	<b>Remedies Imposed</b>	<b>Compliance Triggers<sup>2</sup></b>
			change.

### 1.3 Document Structure

3. The following sections of this consultation document are structured as follows:
  - (a) Section 2 sets out the consultation procedure and explains the process for submitting responses.
  - (b) Section 3 provides the legislative context for this consultation, the assessment methodology that was employed, a brief procedural history of the relevant consultations which preceded this effort, and the scope of this consultation (including likely follow-up consultations).
  - (c) Section 4 discusses excessive pricing and discrimination issues that are common across numerous markets. This section also discusses:
    - (i) retail price regulation (Section 4.1); and
    - (ii) price and non-price discrimination and commonly applied regulatory remedies (Section 4.2).
  - (d) Section 5 assesses specific remedies to apply in each individual market in which SMP is held by one or more firm.
  - (e) Section 6 considers whether additional regulatory remedies are required to address cross-market ownership – that is, whether specific measures are required to address ownership by KeyTech of numerous operators across a range of markets.
  - (f) Section 7 discusses reference access and interconnection offers (“RAIO”)<sup>10</sup> and proposes guidelines for its contents.
  - (g) The Appendices provide the following:
    - AAPPENDIX A – ACCOUNTING SEPARATION AND COST ACCOUNTING SYSTEMS
    - APPENDIX B – LIST OF CONSULTATION QUESTIONS
    - APPENDIX C – DRAFT RAIO TEMPLATE
    - APPENDIX D – DRAFT GENERAL DETERMINATION

<sup>10</sup> In this document the acronym RAIO is used generically to describe reference access and/or interconnection offers.

## 2 CONSULTATION PROCEDURE

4. This consultation is being undertaken in accordance with Sections 69 to 73 of the Regulatory Authority Act 2011 (“RAA”) and ECA Sections 23, 24 and 74.
5. Written comments should be submitted before 5:00 pm (Bermuda time) on 21 June 2013
6. The Authority invites comments from members of the public, operators of electronic communications networks and providers of electronic communications services, and other interested parties. The Authority requests that commenting parties, in their responses, reference the numbers of the relevant questions, as set forth in this consultation document, to which they are responding. A complete list of questions presented by this consultation document appears in APPENDIX B – LIST OF CONSULTATION QUESTIONS.
7. Responses to this consultation document should be filed electronically in MS Word or Adobe Acrobat format. Parties filing comments should go to the Authority’s website, [www.rab.bm](http://www.rab.bm), following the link to the “Consultations & Responses” page, and click the “Click here to submit a response” icon which appears at the top of the page. All comments should be clearly marked: “Response to Consultation Document RM01/13-900: Comments on Obligations for Operators with Significant Market Power” and should otherwise comply with Rules 18 and 30 of the Authority’s Interim Administrative Rules.
8. The Authority intends to make responses to this consultation available on its website. If a commenting party’s response contains any information that is confidential in nature, a clearly marked “Non-Confidential Version,” redacted to delete the confidential information, should be provided together with a complete version that is clearly marked as the “Confidential Version.” Redactions should be strictly limited to “confidential information,” meaning a trade secret, information whose commercial value would be diminished or destroyed by public disclosure, information whose disclosure would have an adverse effect on the commercial interests of the commenting party, or information that is legally subject to confidential treatment. The “Confidential Version” should highlight the information that has been redacted. Any person claiming confidentiality in respect to the information submitted must provide a full justification for the claim. Requests for confidentiality will be treated in the manner provided for in Rule 30 of the Authority’s Interim Administrative Rules.
9. The Chief Executive is the principal point of contact at the Regulatory Authority for interested persons during this consultation. He may be contacted by email at [pmicallef@rab.bm](mailto:pmicallef@rab.bm) or by mail at:

Philip Micallef  
Chief Executive  
Regulatory Authority  
Cumberland House – Third Floor South  
1 Victoria Street,  
Hamilton, Bermuda

10. In this document, except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them by the RAA, the ECA, and the Interpretation Act 1951.
11. This consultation document is not a binding legal document and does not contain legal, commercial, financial, technical or other advice. The Authority is not bound by the consultation document, nor does it necessarily set out the Authority's final or definitive position on particular matters. To the extent that there might be any inconsistency between the contents of this document and the due exercise by the Authority of its functions and powers, and the carrying out of its duties and the achievement of relevant objectives under law, such contents are without prejudice to the legal position of the Authority.



### 3 INTRODUCTION

#### 3.1 Legislative Context

12. Under ECA Section 23(4) the Regulatory Authority is required to:

*...conduct a public consultation to review those markets identified in accordance with section 22 that in its view are susceptible to ex ante regulation, if any, or pursuant to subsection (6), for the purposes of—*

- (a) evaluating whether these relevant markets are, or continue to be, correctly defined based on an economic assessment of supply and demand;*
- (b) analysing whether a communications provider, individually or with others, in fact possesses, or continues to hold, significant market power in one or more of these relevant markets based on the applicable facts and circumstances; and*
- (c) deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power in order to promote or preserve effective competition, in accordance with section 24.*

13. ECA Section 21 sets out the principles and objectives that the RA must seek to satisfy when determining whether to impose remedies on one or more SMP providers in a market. Those principles and objectives are as follows:

- (a) develop or maintain effective and sustainable competition for the benefit of consumers with regard to price, innovation and choice;*
- (b) promote investment in the electronic communications sector;*
- (c) establish ex ante remedies that are effective but proportionate, taking into account the costs of compliance and the ultimate benefits to consumers;*
- (d) establish ex ante remedies that apply on a technology-neutral and service neutral basis whenever feasible; and*
- (e) rely on market forces and withdraw, reduce or limit ex ante remedies in circumstances where the Authority concludes that markets are effectively competitive or likely to become so within a reasonable period of time, taking into account actual and expected market circumstances.*

14. For ease of reference, the remainder of this document refers to these objectives, respectively, as:

- (a) the competition objective;
- (b) the investment objective;
- (c) the proportionality objective;
- (d) the neutrality objective; and

- (e) the market forces objective.
15. ECA Section 24(4) also requires that in respect of any access obligations, the RA shall take account of:
- (a) the technical and economic feasibility of using or installing competing facilities, taking into account the type of interconnection or access involved;*
  - (b) the feasibility of providing access in relation to available capacity;*
  - (c) relevant investment risks incurred by an operator designated as having significant market power; and*
  - (d) the ability of the communications provider with significant market power to impede the development of effective competition through its subsidiaries, partners and affiliates.*
16. ECA Section 24(1)(a)-(n) provides a list of remedies that the RA may choose to apply to designated SMP operators. ECA Section 24(1)(o) gives the RA the ability to select other remedies necessary to promote or preserve effective competition in a relevant market or markets.
17. The ECA requires that the burden of proof for demonstrating that a remedy should not be imposed lies with the carrier that has been identified as having SMP. In particular ECA Section 24(6) states:
- For the purposes of assessing the costs and benefits of imposing, modifying or withdrawing a proposed ex ante remedy and evaluating the relevant evidence, including cost data and factors relating to technical or commercial feasibility, the burden of proof for demonstrating that a remedy should not be imposed, or should be modified or withdrawn, shall rest with the communications provider that is designated as having significant market power in the relevant market.*

### **3.2 Assessment Methodology**

18. The general methodology that the RA proposes to adopt in determining remedies is as follows:
- (a) identify the key competition issues in the relevant market in which one or more supplier has been identified as having SMP;
  - (b) determine the key regulatory options for addressing those competition issues;
  - (c) evaluate each of those regulatory options; and
  - (d) identify the remedy, or set of remedies, that best addresses the competition problem(s) and which best meets the principles and objectives set out in ECA Section 21.
  - (e) in the case of access obligations, assess the proposed remedy against the factors set out in ECA Section 24(4).
19. A remedy applied in one market may have implications for other markets. This is particularly the case in respect of linkages between retail and wholesale markets. Therefore, in each grouping of markets (Section 5.1 through Section 5.7), wholesale

remedies are discussed first so that proposed wholesale regulation can be taken into account when assessing the need for retail remedies. In general, reliance on wholesale remedies rather than price controls at the retail level is considered to be a more efficient and effective method of regulation.

### 3.3 Procedural History

20. This consultation document reflects a series of consultations with stakeholders initiated by the then Ministry of Energy, Telecommunications, and E-Commerce ("METEC"). METEC issued three consultation papers relevant to this document:
  - (a) "A Dominance Framework for Bermuda"<sup>11</sup> released 20 August 2008;
  - (b) "Retail Price Control"<sup>12</sup> released 8 May 2009; and
  - (c) "Access and Interconnection in Bermuda"<sup>13</sup> released 6 October 2009.
21. METEC also published the following document just prior to the passage of the ECA and RAA:
  - (a) "Pre-Consultation: Market Review Process (Part A) -- Market Definition"<sup>14</sup> released 10 October 2012.
22. On 28 January 2012 the Regulatory Authority officially came into existence as the first meeting of the Board of Commissioners was held.<sup>15</sup> At this point the Regulatory Authority gained jurisdiction of the process and subsequently issued the following consultation documents:
  - (a) "Market Review Process (Part A) - Market Definition"<sup>16</sup> released 8 February 2012; and
  - (b) "Market Review Process (Part B) - Significant Market Power"<sup>17</sup> released 8 February 2012

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<sup>11</sup>

[http://www.gov.bm/portal/server.pt/gateway/PTARGS\\_0\\_2\\_7286\\_330\\_1813\\_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min\\_telecom\\_and\\_e\\_commerce/telecommunications/telecommunication\\_regulatory\\_reform/dominance\\_framework\\_for\\_bermuda\\_consultation\\_document\\_aug\\_2008\\_0.pdf](http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_2_7286_330_1813_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min_telecom_and_e_commerce/telecommunications/telecommunication_regulatory_reform/dominance_framework_for_bermuda_consultation_document_aug_2008_0.pdf)

<sup>12</sup>

[http://www.gov.bm/portal/server.pt/gateway/PTARGS\\_0\\_2\\_7286\\_330\\_1813\\_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min\\_telecom\\_and\\_e\\_commerce/telecommunications/telecommunication\\_regulatory\\_reform/retail\\_price\\_control\\_consultation\\_document\\_may\\_2009\\_0.pdf](http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_2_7286_330_1813_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min_telecom_and_e_commerce/telecommunications/telecommunication_regulatory_reform/retail_price_control_consultation_document_may_2009_0.pdf)

<sup>13</sup>

[http://www.gov.bm/portal/server.pt/gateway/PTARGS\\_0\\_2\\_7286\\_330\\_1813\\_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min\\_telecom\\_and\\_e\\_commerce/telecommunications/telecommunication\\_regulatory\\_reform/access\\_and\\_interconnection\\_in\\_bermuda\\_consultation\\_october\\_6\\_2009\\_0.pdf](http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_2_7286_330_1813_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min_telecom_and_e_commerce/telecommunications/telecommunication_regulatory_reform/access_and_interconnection_in_bermuda_consultation_october_6_2009_0.pdf)

<sup>14</sup> See <http://rab.bm/consultations-responses>

<sup>15</sup> See <http://rab.bm/images/PDF/First%20Board%20Meeting%20RA113.pdf>

<sup>16</sup> See <http://rab.bm/images/PDF/Market%20Review--Part%20A%20Market%20Definition%20130208%20.pdf>

<sup>17</sup> See <http://rab.bm/images/PDF/Market%20Review%20-%20Part%20B%20SMP%20130208.pdf>

23. Most recently the Regulatory Authority issued the following Consultation Summary, Final Decision, Order and General Determination:
- (a) “Market Review Process (Part A) – Market Definitions”<sup>18</sup> released 29 April 2013; and
  - (b) “Market Review Process (Part B) – Significant Market Power”<sup>19</sup> released 29 April 2013.
24. Thus, with the publication of the aforementioned Consultation Summary, Final Decision, Order and General Determination the necessary public consultations regarding the definition of the relevant markets and the identification of whether any firms hold SMP in those markets have been completed.

### 3.4 Scope and Next Steps

25. This consultation is the culmination of an omnibus market review covering the relevant markets which the Authority has determined are susceptible to *ex ante* regulation, as required by the transitional provisions of Part 12 of the ECA. In light of the breadth of this initial market review and the number and complexity of the SMP obligations that may be required, it would not be feasible for the Authority to attempt to elaborate in this consultation a definitive set of remedies covering every relevant market.
26. The Authority considers that there is a need for careful and deliberate consideration of how each remedy should be structured and implemented, but the specification of definitive obligations may not be possible for all of the markets under consideration within the time frame established by the ECA, which requires the Authority “to issue decisions and orders specifying any applicable *ex ante* remedies . . . no later than 240 days” following the ECA commencement date of 28 January 2013 (i.e., before 25 September 2013).
27. Furthermore, the Authority considers it to be of utmost importance to achieve full liberalization under the ICOLs as soon as possible by making clear to SMP operators what they need to do in order to obtain a Satisfactory Compliance Notice as set out in ECA Section 73(5)(a), and thus enable them to move into new markets. This means that we must identify in our final General Determination on Remedies not only the obligations but also the specific compliance milestones which SMP operators must meet in order to enter new markets.
28. To achieve the objectives of the ECA and comply with our statutory obligations, we have therefore concluded that the outcome of this Remedies Consultation will be a combination of definitive obligations, where possible, and provisional remedies that will be evaluated further in separate, more focused consultations over the coming months. At this stage, and subject to the results of this consultation, we propose to proceed as follows:
- (a) The final General Determination on Remedies will specify in as much detail as possible each obligation that the Authority concludes is required in line with the objectives and requirements of the ECA. Where the final remedy is provisional in

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<sup>18</sup> See <http://rab.bm/images/PDF/861.pdf>

<sup>19</sup> See <http://rab.bm/images/PDF/862.pdf>

nature, it will be identified as such and an indicative timetable for a separate, follow-up consultation will be provided.

- (b) For wholesale markets for which a Reference Access and Interconnection Offer is specified, the final General Determination will set out Guidelines that must be followed by SMP operators in preparing their draft RAIOS. For example, the Authority is considering requiring SMP operators to produce their proposed RAIO drafts within six weeks of the date of the final General Determination. The drafts will be reviewed by the Authority and each SMP Operator will be required to publish the draft on its website and hold a consultation on the draft RAIO with interested parties under the Authority's supervision over a one month period), with copies of any written comments and responses to be provided to the Authority. The Authority will then decide whether any modifications are justified, within one month unless unforeseen complications arise, and will issue an administrative decision approving the terms of the approved RAIO.
  - (c) Compliance milestones will be specified in the final General Determination for each type of SMP obligation, including provisional remedies. With respect to any wholesale obligations requiring a RAIO, the compliance milestone will be a certification of acceptance by the SMP operator of the terms of the RAIO as approved by the Authority.
29. The Authority currently envisages that provisional remedies will be adopted and follow-up consultations will be required in respect of the following markets and issues:
- (a) review of KeyTech Group organization, cross-shareholdings, overlapping directors and the potential for the extension of SMP across multiple relevant markets and KeyTech affiliates through leveraging of SMP;
  - (b) establish the criteria to be used to determine whether a person has contravened any of the prohibitions specified in RAA Section 85(5);
  - (c) cost accounting and accounting separation; and
  - (d) examination of the Local Access Charge.

<p><b>Consultation Question 1:</b> Do you have any comments concerning the proposed process? Please explain.</p>
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## **4 EXCESSIVE PRICING AND DISCRIMINATION**

30. This section examines issues associated with determining appropriate regulatory remedies that are common to numerous markets. Examining these issues in the current section rather than on a market-by-market basis minimizes the need for duplicating the analysis for each market.
31. The issues discussed are as follows:
  - (a) Retail price regulation is addressed in Section 4.1; and
  - (b) Measures for addressing discrimination on price and non-price terms are discussed in Section 4.2.

### **4.1 Retail Price Regulation**

32. The purpose of this section of the consultation document is to discuss potential retail pricing remedies. With that end in mind, this section will begin by discussing the reasons the Regulatory Authority might choose to regulate retail prices. We then discuss the different types of retail price regulatory interventions that have been, and are being, used in other jurisdictions.

#### **4.1.1 Why Regulate Retail Prices**

33. In competitive markets, consumers can choose between goods and services based on price and/or quality of service. Economic theory states that a competitive market, assuming informed buyers and no externalities, will deliver a quantity of goods and services of optimum quality at optimum prices. However, markets are subject to failure—especially in those instances where a firm has SMP.
34. A provider with market power is able to limit supply and impose high prices. When the firm in question is viewed as providing an essential service, such as electronic communications, power, or water, high prices and denial of service can have negative social and equity effects. Price regulation at the retail level is one way of addressing these concerns. When done correctly, it can result in socially and economically efficient outcomes while also meeting a diverse range of other objectives, such as encouraging the development of competitive entry into a market so as to diminish the market power of the dominant firm.
35. Retail price regulation of electronic communications ought to be considered in situations where:
  - (a) It is believed that a dominant firm(s) could utilize its market power to increase prices above what is normally seen in more competitive markets, thereby suppressing demand for a service, and leading to a loss of social welfare;<sup>20</sup> or
  - (b) It is believed that a dominant firm(s) could utilize its market power to engage in anti-competitive pricing practices such as price squeezes, and predatory pricing.

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<sup>20</sup> We note that the prices charge by operators who are designated as, or elect to become, providers of universal services or that receive subsidies to build out the network to high-cost areas may also be subject to pricing constraints. However, these requirements are not necessarily linked to SMP and are subject to the principles and objectives set out in Part 6 of the ECA.

36. The respondents to the May 2009 retail price consultation were in general agreement with the list of where retail regulation may be appropriate, but offered some minor caveats.
37. There are several methods of retail price regulation available to the authority. These are discussed in the following section.

#### **4.1.2 Methods of Regulatory Intervention on Retail Prices**

38. In the event that regulatory intervention in the retail pricing arena is called for, the Regulatory Authority has several options to choose from, including:
  - (a) Rate-of-Return regulation, or ROR;
  - (b) Price Cap Regulation; and,
  - (c) International benchmarking of prices.

##### **4.1.2.1 Rate-of-Return Regulation (ROR)<sup>21</sup>**

39. Under rate-of-return regulation, a firm is permitted the opportunity to recover its reasonably incurred expenses and to earn a fair return on its investment. The sum of the expenses and the return on investment is known as the firm's revenue requirement. The revenue requirement formula can be represented as:

$$\text{Revenue Requirement} = \text{Total Cost} = \\ \text{Variable Costs} + \text{Rate of Return} \times \text{Rate Base}$$

40. The allowable return is a "reasonable" rate (an estimate of the cost of capital of the firm) multiplied by a rate base, which includes the un-depreciated portion of investments relevant to regulated operations, valued on a historical or current expenditure basis. Once the revenue requirement is decided, the regulator determines a tariff structure designed to recover aggregate costs. These tariffs are subject to periodic review.
41. Under traditional profit regulation, such as ROR regulation, prices could be set at any level, so long as aggregate revenues equalled the revenue requirement. Because the supplier typically was a monopolist, prices could be set with little consideration to the strategic decisions of rivals.
42. The ROR regulatory regime promoted investment and expansion of telephone networks in the United States and many other developed countries. Companies knew that they could invest in network expansion because ROR regulation allowed the recovery of expenses, investments, and a reasonable return on investments.
43. However, ROR regulation has some significant infirmities. One of the foremost is that under this form of regulation a firm's potential profits increased as its level of investment expanded. As pointed out by Averch and Johnson this direct link between investment and profits biases firms' investment decisions in favor of excess

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<sup>21</sup> For a more complete discussion of rate-of-return regulation see, for example, Jamison, Mark A., Rate Of Return: Regulation, available at [http://www.cba.ufl.edu/purc/purcdocs/papers/0528\\_Jamison\\_Rate\\_of\\_Return.pdf](http://www.cba.ufl.edu/purc/purcdocs/papers/0528_Jamison_Rate_of_Return.pdf)

capital, relative to other inputs. This investment bias, they went on to argue, is not likely to lead to cost minimizing outcomes in the provision of service.<sup>22</sup>

44. Partially as a response to this concern, in 1984 the United Kingdom began to experiment with a new form of economic regulation of retail telecommunications services called price cap regulation. Price caps were introduced to improve the efficiency of telecommunications pricing policies. Price cap regulation is designed, in principle, to reward overall productivity rather than just capital investment. Since all that is being regulated is the price of the services provided, in theory, it will create incentives for firms to allocate resources optimally between capital, labor, and materials. Rather than relying on regulators to undertake a periodic review of the existing rates, price cap regulation provided a systematic method for adjusting rates to reflect productivity gains. Under price caps, retail rates are adjusted on an annual basis to reflect the higher rate of productivity growth achieved in the telecommunications industry relative to the rest of the economy. The regulatory price adjustment mechanism is designed to emulate the behavior of competitive markets, where changes in a sector's total factor productivity<sup>23</sup> growth are typically reflected in the final price of that sector's retail products.
45. Subsequent to its introduction in the United Kingdom, price-cap regulation has been widely adopted by regulatory agencies around the world.<sup>24</sup> This widespread adoption is attributable to the perceived shortcomings in ROR regulation and a belief that the administrative costs of price cap regulation are lower than those of traditional rate base regulation.

#### 4.1.2.2 Price Cap Regulation<sup>25</sup>

46. Under price cap regulation, sometimes also referred to as RPI-X<sup>26</sup> regulation, a regulator sets ceilings on prices, the "caps," below which the regulated firm has pricing freedom (subject to the anti-trust constraint that prices exceed the incremental cost of production). Price caps can either be applied to individual prices or baskets of prices or services. A general example of a price cap index formula is:

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<sup>22</sup> The essence of the case against rate-base regulation is contained in the famous H. Averch and L.L. Johnson article, "Behavior of the Firm Under Regulatory Constraint," *American Economic Review* 52 (1962): 1052-69. Since this article appeared other economists have tested Averch and Johnson's hypothesis that rate base regulation distorted the inputs that were used to provide service. A summary of these studies can be found in Berg, Sanford V. and John Tschirhart, *Natural Monopoly Regulation: Principles and Practice*, Cambridge University Press, 1988, at pages 332-381.

<sup>23</sup> Total factor productivity is a variable which accounts for effects in total output not caused by traditionally measured inputs. If all inputs are accounted for, then total factor productivity (TFP) can be taken as a measure of an economy's long-term technological change or technological dynamism. See [http://en.wikipedia.org/wiki/Total\\_factor\\_productivity](http://en.wikipedia.org/wiki/Total_factor_productivity)

<sup>24</sup> Organization for Economic Co-Operation and Development, *Price Cap Regulations for Telecommunications: A review of Policies and Experiences*, DSTI/ICCP/TISP (94) 3, 24 May 1994; and Ray Lawton, NRRI report to Idaho Commission, *ALTERNATIVE FORMS OF REGULATION: A STATUS REPORT*, May 23, 1994.

<sup>25</sup> For a more thorough discussion of price cap regulation see, for example, Intven, Hank, *Telecommunications Regulation Handbook*, World Bank, Washington, D.C.: 2000, Module 4. Available at [http://rru.worldbank.org/Documents/Toolkits/telecom\\_mod4.pdf](http://rru.worldbank.org/Documents/Toolkits/telecom_mod4.pdf)

<sup>26</sup> RPI stands for Retail Price Inflation.



$$PCI_t = PCI_{t-1} * (1 + RPI - X)$$

47. In the above formula,  $PCI_t$  and  $PCI_{t-1}$  are the price cap index in the current year and the previous year, respectively. RPI is a measure of the retail price inflation of the previous year, such as the Consumer Price Index (or an alternative index of inflation).<sup>27</sup> X is the productivity offset factor, more commonly called the X-factor.<sup>28</sup>
48. Of critical importance to the viability of any price cap plan is the determination of the X-factor to be utilized. If the regulator imposes an X-factor that is too small the firm will earn excessive profits, thereby running the risk of undermining political support for the regulatory regime. If the X-factor is set too high, the financial integrity of the regulated firm may be put at risk. The essence of price cap regulation, therefore, is to select an X factor that poses a significant, but not insurmountable, efficiency challenge to the regulated firm while delivering gains for consumers.<sup>29</sup>
49. In response to the May 2009 consultation document, the industry was in general agreement regarding the establishment of an X-Factor to ensure that retail prices of firms regulated by price caps are in line with technological cost reductions and improved efficiencies.
50. However, BTC asserted that an X-Factor is theoretically compelling but offers caveats regarding its use. The heart of BTC's concern was that productivity gains measured in other jurisdictions might not be reflective of what can be achieved in Bermuda.<sup>30</sup>
51. CableVision asserted that because establishing an X-factor is an extraordinarily complex task, any attempt to establish it would amount to little more than an arbitrary guess, particularly in a dynamic market with changing technologies. Further, CableVision recommends that the X-Factor not be included in the price cap formula for an initial period of 5 to 10 years or that its absolute value be no greater than inflation.<sup>31</sup>
52. The RA proposes to use a different variation of price cap regulation in Bermuda for leased lines and fixed access lines and local calls. As part of the transition to increased reliance on competitive markets, we propose the following formula:

$$PCI_t = PCI_{t-1} * (1 + CPI + Y)$$

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<sup>27</sup> The inflation factor is adjusted yearly during the course of the price cap plan's agreed upon operational time period.

<sup>28</sup> In the early Retail Price Consultation, METEC raised the possibility of an adjustment for exogenous costs (the Z-factor). We have not proposed a Z-factor in this consultation due to our tentative conclusion that exogenous price adjustments should be considered, when necessary, in other proceedings. For example, it may be appropriate to adjust rates to reflect the cost of introducing number portability. The more appropriate place to consider a number portability price adjustment would be a number portability consultation.

<sup>29</sup> Sappington, David E. M. and J. Bernstein, *How to Determine the X in RPI - X Regulation: A User's Guide*, *Telecommunications Policy*, No. 24, February 2000, pages 63-68. Available at <http://www.regulationbodyofknowledge.org/documents/005.pdf>

<sup>30</sup> BTC page 6.

<sup>31</sup> CableVision page 10.

In this formula we have substituted the term (CPI + Y) in place of the term (RPI – X). The term (CPI + Y) will allow for annual increase in prices, at (CPI + Y) percent.<sup>32</sup> This term, Y, is designed to reflect the change in the number of customers served by BTC. To the extent that the scale of their operations has been significantly decreasing, we propose to allow for an upward adjustment in prices. The upward price adjustment also takes into account that the nominal prices of some services have remained unchanged for a number of years, despite an increase in overall prices in the economy.<sup>33</sup>

53. The price cap system seeks to eliminate scrutiny of particular rates by permitting service providers to charge whatever they want to – within a particular range of a specified cap so long as the aggregate price for the basket of services subject to the particular price cap does not exceed a specified percentage above or below the cap.
54. METEC proposed in the Retail Price consultation that there may be different baskets subject to various price constraints. In the context of current law, this means that where appropriate, a basket may be established for a market in which one or more operators have SMP. For example, there could be one basket for Retail fixed narrowband access lines and local calls, and a second basket for retail leased lines.
55. A potential problem with price cap regulation that stems from the price flexibility it is designed to promote is that it can allow for cross-subsidisation, which is allocatively inefficient, and may be used in an anti-competitive manner. This may arise where firms are permitted to bundle competitive services with non-competitive services. British Telecom, for example, aggressively countered entry into its long-distance market by lowering prices in that market while raising prices in its uncontested markets even though it was operating under price caps. We propose that SMP operators supplying bundles that include one or more SMP service must provide information demonstrating that a bundled service offering is replicable and will not impose a Price Squeeze. An Operator must provide this information within two days of receiving a request to do so from the Authority. This would allow competitors to replicate the bundles supplied by SMP operators which should have the effect of eliminating anti-competitive cross-subsidisation.
56. We propose that retail price caps be applied to individual bundled packages, where the bundle is comprised solely of SMP services. The relevant price cap would be the weighted average of the two price caps. It could be argued that with price caps on standalone services, and in presence of the wholesale services (as proposed in later sections of this consultation report), price caps on bundles are unnecessary. In particular, it may be hypothesised that excessive pricing could not be exercised by the SMP operator on the price of a bundle because customers could either revert to price capped standalone services or switch to a competitors bundle, in which case the rents earned by the SMP operator on the bundle would be competed away.

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<sup>32</sup> For this calculation the Regulatory Authority will require use of the Consumer Price Index published by the Government of Bermuda Department of Statistics based on the year over year calculation from December of the most recent full calendar year.

<sup>33</sup> For example, we note that BTC's standard residential access line rental rate has been \$26 since at least July, 1999.

**Consultation Question 2:** In the event that price cap regulation is adopted, do you agree that there should be one basket for each market? Please elaborate in your response and provide evidence in support of your position.

**Consultation Question 3:** The Authority proposes to apply separate price caps for services bundles that contain SMP services. Do you consider that this is necessary? Please explain your answer.

57. One widely recognized concern with price caps is that they provide incentives to reduce both costs and the quality of service (QoS). Accordingly, well designed price cap regulations usually include specific QoS standards accompanied by the threat of regulatory penalties if these standards are not met or maintained. Alternatively, price cap regulations can have more formal performance-based rate making mechanisms built into them that establish specific performance standards to be met along with specified penalties and rewards if performance is above or below these standards.<sup>34</sup>
58. We have not proposed to apply retail QoS standards in this consultation. This is an issue that may be addressed indirectly through wholesale regulation. The RAIO may require that wholesale services be provided at defined standards. In addition, condition 14.9 of the Integrated Communications Operating License ("ICOL") states that licensees "shall, as determined by the Authority, publish up-to-date information regarding the quality of its Electronic Communications Services in a format that may be used by Residential Subscribers and Small Business Subscribers to make industry comparisons."<sup>35</sup>
59. Another caveat concerning price caps has to do with the rise of intermodal competition and the convergence taking place in the Information and Communications Technology ("ICT") sector. Operators are likely to bundle products that, by themselves, stand in different regulated markets and/or include unregulated products and services (such as IPTV). For example, subscription television service and local calls are in different markets, but prospectively may be bundled together. A bundle might include a triple play of data, fixed voice, and entertainment products, or be a quadruple play that adds mobile services to the triple play.
60. Absent retail price regulation an SMP operator could raise the price of a component of a bundle, in order to make its bundle more attractive to customers, and to reduce the profitability of competitors. To the extent that a competitor of an SMP operator must purchase a component of the bundle from the SMP operator, a high wholesale price will reduce the ability of the non-SMP operator to profitably market products. Due to these concerns, in the 2009 Retail Price Control Consultation METEC asked:

Under the proposed standard communications license licensees will be better positioned to offer triple and quadruple play bundled offerings. How do stakeholders believe these types of offerings ought to be treated under price cap regulation, in the event this type of regulation is adopted?<sup>36</sup>

<sup>34</sup> Joskow, Paul L, *Incentive Regulation In Theory And Practice: Electricity Distribution And Transmission Networks* (Joskow 2007), MIT and NBER, August 15, 2007, at page 35. Available at <http://www.electricitypolicy.org.uk/pubs/wp/eprg0511.pdf>

<sup>35</sup> RAA sec. 13(p) states that the Authority may "establish and enforce quality of service standards applicable to covered services."

<sup>36</sup> METEC Retail Price Control Consultation; Question 7.

61. BTC submitted that bundled services should not be subject to price cap regulations provided that the individual service components are sold separately (and, where applicable, at regulated rates). BTC asserts that as long as services that are not fully competitive are offered at regulated rates, and fully competitive services can be purchased separately at market rates, no firm would have an incentive to sell the bundle at a higher price.<sup>37</sup>
62. If non-competitive services are subject to retail regulation, an SMP operator will be constrained in its ability to raise the price of a service for which it has market power, in order to gain advantage in another market, including the market for bundles. Therefore we propose to require SMP operators to continue to offer existing retail access products<sup>38</sup> in relevant markets on a component basis, as well as existing bundles (e.g., the voice + ADSL bundles marketed by BTC) at prices that do not increase at a rate greater than  $PCI_t$ , as defined in paragraph 52.
63. Digicel, in its 2010 response to the METEC consultation document, expressed its concern that an SMP operator might engage in predatory pricing when selling bundles.<sup>39</sup>
64. We tentatively conclude that, at this time, predatory pricing, and other abuses of dominance referenced in at RAA Section 83(5), are best addressed on an *ex-post* basis. At this time we tentatively conclude that the cost of administering and complying with such *ex-ante* rules would exceeds the benefits. However, we will closely monitor market developments and if any repeated patterns of margin squeeze become manifest, we would not hesitate to revisit our cost-benefit analysis on this point.
65. In the event a price cap regime is adopted, the mechanisms for its employment would require, at a minimum, the following:
- (a) If an SMP operator is subject to price cap regulation it would have to make an annual filing demonstrating that it has abided by the terms of the price cap for that year. In making this filing, the dominant firm would have to show that the weighted average (weighted by quantity of price capped goods and/or services sold) of the prices for price capped goods and/or services comports with the price cap terms.<sup>40</sup>
  - (b) The quantities used in the weighting would be those from the year prior to the price cap filing year. For example, a filing demonstrating that a dominant firm's prices for the 2013 reporting year were in line with the price cap formula would be based on the 2012 quantities of the price capped goods and/or services. The rationale for following this procedure is to speed up the compliance filing process.
  - (c) Carry over effects would not be permitted. For example, suppose that a dominant firm could have raised its prices by 4% in 2013, but decided to lower them by 5% instead. Now further suppose that in 2014 market conditions have

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<sup>37</sup> BTC page 7.

<sup>38</sup> We use the term retail access to denote retail products that provide access to services, such as local residential service and broadband access.

<sup>39</sup> Digicel page 2.

<sup>40</sup> The percentage change in prices would be calculated using logarithms. For example, if the price for a service changed from \$26 to \$28, this would be reported as a 7.4108% =  $\ln(\$28 / \$26)$  change in price.

changed and the firm would like to raise its prices by 9% to make up for 2013. The firm would not be permitted to carry over the price increase that it chose to forgo in 2013. The firm would be permitted to raise their prices in 2014 by the annual (CPI + Y) adjustment factor.

66. Another methodology that is commonly employed in retail price regulation is benchmarking prices based on what is observed in other, similar jurisdictions. This option, which is expressly provided for under the new regulatory framework, will be discussed in the next section.

#### **4.1.2.3 International Benchmarking of Prices**

67. International benchmarking is the process of establishing the price of a service based on prices in other jurisdictions. Benchmarking has been used to provide a reality check on cost model results, and to directly set prices.
68. For example, the price SingTel of Singapore can charge for its telephone service offerings is based on the prices observed in neighboring Asian countries, New York, and London—jurisdictions it perceives as economic rivals.<sup>41</sup>
69. Performing a benchmark study involves:
  - (a) Selecting a sample of countries or operators. Countries used in the benchmark should be at similar stages of socio-economic and industrial development as the country whose rates are being considered;
  - (b) Gathering price data for the service(s) under consideration in each of the sample countries; and
  - (c) Adjusting benchmarked rates to account for differences between the country being regulated and the benchmark countries where this is considered necessary. Adjustments may be made to account for differences in population density, degree of urbanization, exchange rates, and so on.<sup>42</sup>
70. Benchmarking can be particularly useful, if done carefully, when the information required for other forms of regulation is not immediately available. It is also useful in that it obviates the need for tariff element cost studies, which are relatively costly and time consuming. The use of international benchmarks from countries relevant to Bermuda is specifically permitted by RAA Section 61(5) in cases where there is sufficient data available to the Authority.

#### **4.1.2.4 Concluding Comments on the Types of Retail Price Interventions**

71. When considering what type of retail price intervention might be most appropriate it must be kept in mind that there is rarely a stark choice between competing options. Regulators typically utilize a combination of the basic forms of regulation discussed here when putting together a regulatory intervention. For example, U.K. regulators

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<sup>41</sup> ICT Regulation Tool Kit, § 5.7 *International Benchmarking of Prices*, available at <http://www.ictregulationtoolkit.org/en/Section.2149.html>

<sup>42</sup> *ICT Regulation Tool Kit*, § 5.7 *International Benchmarking of Prices*.

combined elements of rate of return regulation and price cap regulation to create their own particular form of RPI-X regulation.<sup>43</sup>

72. Another point to consider is the role of wholesale regulation in curbing a dominant firm's activity in the market place, in enhancing consumer welfare, and in meeting the regulatory objectives discussed above. The imposition of access to unbundled network elements (UNEs) in the United States,<sup>44</sup> and access to local loop unbundling (LLU) in the European Union,<sup>45</sup> were done to diminish the market power of incumbent network operators by allowing competitors access to network services at cost-based prices. In areas where these types of regimes have become well established, the need for retail price controls to counteract the market power of incumbents may well decline. For example, Ofcom's decision in 2006 to allow retail price controls on BT to lapse as of their expiration date on July 31, 2006 was attributed to the increased level of competition in the retail markets based on increasingly effective regulation in the wholesale telephony markets.<sup>46</sup>
73. In point of fact, as noted by the European Regulator's Group (now "BEREC"), the current view in the European Union regarding retail price regulation is that interventions in the wholesale market are preferred to interventions in the retail market.<sup>47</sup> The latter are only to be undertaken as a last resort in those instances where relevant wholesale or related measures would fail to ensure effective competition.<sup>48</sup>
74. We note that overall we have not mirrored the forms of remedies that exist in Europe and the United States. We believe that this outcome reflects our effort, when proposing remedy obligations on SMP Operators, to not just copy what has been done in other jurisdictions. Rather, the Authority, after careful consideration of the

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<sup>43</sup> *Basic Forms of Regulation* at <http://www.regulationbodyofknowledge.org/04/narrative/2/> This site was developed by the Public Utility Research Center (PURC) at the University of Florida, in collaboration with the University of Toulouse, the Pontificia Universidad Catolica, the World Bank.

<sup>44</sup> As a requirement of the *Telecommunications Act of 1996*.

<sup>45</sup> By action of the European Parliament and Council in 2000; See *Regulation (EC) No 2887/2000 of the European Parliament and of the Council of December 18th 2000 on unbundled access to the local loop*, Official Journal of the European Communities L 336, 30.12.2000, 4-8. These requirements were expanded upon with the adoption of the *New Regulatory Framework in 2002*; See *Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)*, Official Journal of the European Communities L 108, 24.4.2002, 7-17. However, it should be noted that prior to the involvement of the EU legislative body on this issue the decision as to whether or not to impose unbundling was left to the individual member states. Unbundling has been required in Germany since 1996, in Denmark since 1998, and in the Netherlands since 1999 (See, for example de Bijl, Paul W.J. and Martin Peitz, *Local loop unbundling in Europe: experience, prospects and policy challenges*, Communications & Strategies, Jan, 2005. Available at [http://findarticles.com/p/articles/mi\\_hb5864/is\\_57/ai\\_n29238029?tag=rel.res3](http://findarticles.com/p/articles/mi_hb5864/is_57/ai_n29238029?tag=rel.res3)

<sup>46</sup> *Retail Price Controls: Explanatory Statement*, Ofcom, July 19, 2006, at ¶1.3. Available at <http://www.ofcom.org.uk/consult/condocs/retail/statement/rpcstatement.pdf>

<sup>47</sup> *Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework: Final Version Mar 2006*, ERG (06) 33, at page 48. Document available at [http://www.erg.eu.int/doc/meeting/erg\\_06\\_33\\_remedies\\_common\\_position\\_june\\_06.pdf](http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf)

<sup>48</sup> *Id.* and also at page 85 referencing Directive 2002/21/EC, recital 26.

range of approaches and best practices adopted elsewhere, has, to the best of its abilities, worked to develop remedies tailored to Bermudian conditions.

**Consultation Question 4:** Please describe the type of retail price regulation that you believe would be best suited to conditions in Bermuda, in the event any such regulation may be deemed necessary. For example, would ROR regulation of retail prices be preferable to price cap regulation? Or, would a blended approach such as was followed by the UK be more suited to Bermuda?

**Consultation Question 5:** Under the ICOL, licensees will be better positioned to offer triple and quadruple play bundled offerings. How do stakeholders believe these types of offering ought to be treated under price cap regulation, in the event this type of regulation is adopted? Please explain your response and provide evidence in support of your position.

#### 4.1.3 Proposed Price Cap Formula and Mechanism

75. As noted above at paragraph 52, as part of the transition to increased reliance on competitive markets we propose to use a different variation of price cap formula where the term (CPI + Y) is substituted in place of the usual term (RPI – X). The term (CPI + Y) will allow for annual prices increases, at (CPI + Y) percent, to reflect that the scale of BTC's operations has been significantly decreasing and the nominal prices of some services have remained unchanged for a number of years.

76. We propose that Y be set equal to 2% for leased lines and fixed access lines and local calls. Thus, the price cap formula becomes:

$$PCI_t = PCI_{t-1} * (1 + CPI + Y)$$

where Y = 0.02

$$PCI_t = PCI_{t-1} * (1 + CPI + 0.02)$$

77. Concerning the application of the retail price cap to bundles containing SMP Products, the Authority determines that there shall be a price cap imposed on any bundle comprised solely of SMP Products (e.g. BTC's voice and broadband access bundle). Concerning bundles such as these the price cap to be imposed shall be a weighted average of the price caps applicable to each SMP product calculated as follows:

Assume:

A=standalone price of SMP Product A

B= standalone price of SMP Product B

C=Bundle price

$Y_A$ = the permitted increase in the standalone price of SMP Product A

$Y_B$  = the permitted increase in the standalone price of SMP Product B

78. Applying the price cap formula from paragraph 76, and utilizing the pricing information given above, the bundled price shall go up by no more than:

$$[(A / (A + B)) * Y_A] + [(B / (A + B)) * Y_B].^{49}$$

<sup>49</sup> For example,

79. Consistent with paragraph 65 above, we also propose that an SMP operator subject to price cap regulation shall be required to do all of the following:
- (a) Make an annual filing demonstrating that it has abided by the terms of the price cap for that year. In making this filing, the firm would have to show that the weighted average (weighted by quantity of price capped goods and/or services sold) of the prices for price capped goods and/or services comports with the price cap terms.
  - (b) Show that the quantities used in the weighting are those from the year prior to the price cap filing year. For example, a filing demonstrating that a dominant firm's prices for the 2013 reporting year were in line with the price cap formula would be based on the 2012 calendar quantities of the price capped goods and/or services.
  - (c) Show that carry over effects were not included. Regardless of prior years' adjustments, a firm shall only be permitted to raise their prices in any one year by the annual  $(CPI + 2\%)$  adjustment factor.
80. Where we use the term annual price increase, we are referring to the price changes that may occur in the calendar year, January to December. In a calendar year, the price of the basket of goods may not increase by more than  $(CPI + Y)$ . An SMP operator can file for rate changes only after they have obtained a Satisfactory Compliance Notice as set out in ECA Section 73(5)(a).
81. The Authority is concerned about possible rate shock. We tentatively propose that if a carrier does not implement a price change at the start of the year, its composite rate may go up by more than  $(CPI + Y)$ , as long as two conditions are satisfied:
- (a) the annualized rate increase for the basket must be no greater than  $(CPI + Y)$ ; and
  - (b) the price increase for the shorter period of time may be no greater than 25% of the increase permitted on an annual basis. For example, if  $(CPI + Y)$  is 4%, and if an increase in prices is not implemented until July 1st, the rate of increase is limited to 5%  $(4\% + .25 * 4\%)$ .

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- a bundle of retail voice access plus unlimited local calling and broadband access is priced at \$89;
  - The total standalone cost of voice access plus unlimited local calling plus broadband access is \$98;
  - The standalone cost of voice access plus unlimited local calling is \$59; and
  - The standalone cost of broadband access is \$39.

Applying the relevant price caps to the voice access plus unlimited local calling and the broadband access products would mean that the bundled price could go up by no more than  $[\$59 / (\$98) * (\text{inflation rate} + 2\%)] + [\$39 / 98 * 0\%]$ . (The 0% in the last formula is due to the fact that the price cap on broadband access of no increase in the price per Mb/s allows for no annual price increase.



**Consultation Question 6:** Do you agree with our tentative conclusion that the price cap formula should be  $PCI_t = PCI_{t-1} * (1 + CPI + Y)$ ? Please explain why or why not.

**Consultation Question 7:** Do you agree with our tentative conclusion regarding the price cap imposed on retail bundles subject to price caps? Please explain why or why not.

**Consultation Question 8:** Do you agree our tentative conclusion that a reasonable value for Y in the price cap formula is 2%? Please explain why or why not.

**Consultation Question 9:** Do you agree with our tentative conclusion that an SMP operator subject to price cap regulation should make an annual filing (described above) demonstrating that it has complied with the retail remedy? Please explain why or why not.

**Consultation Question 10:** Do you agree with the Authority's tentative conclusion that it should provide SMP customers subject to price caps with protection from rate shock? Please explain why or why not.

**Consultation Question 11:** Do you agree with the proposed method for limiting rate shock? Explain why or why not?

#### **4.1.4 Retail Tariff Notice Filing Requirements**

82. The Regulatory Authority proposes to apply retail tariff notice filing requirements which require any entity designated as having SMP in a relevant market to submit proposed changes to tariffs/prices to the Regulatory Authority in advance of offering those tariffs commercially. This proposed requirement applies to all services supplied in the relevant markets in which the entity has been designated as holding SMP, including any bundles that include these and other services in respect of which it does not have SMP.
83. The purpose of imposing this proposed requirement is for the Regulatory Authority to be able to monitor tariffs, including their terms and conditions, with the ability to further investigate if it holds concerns about adverse effects on competition or consumers.
84. We propose that the SMP operator will have an obligation to file with the Regulatory Authority all existing tariffs within 30 calendar days of the effective date of the General Determination on remedies.
85. We propose that the SMP operator must inform the Regulatory Authority for all new tariffs, tariff changes and extensions to special promotions at least 10 working days before the proposed effective date of the tariff, with the exception of bundled offers including an SMP service, which will require at least 20 working days' notice prior to the effective date of the bundled tariff. The tariff notification should include:
  - (a) A description of the service or services to which the tariff relates;
  - (b) The proposed pricing, including discounting arrangements – this includes volume discount schedules (where applicable), bundled discounts and any other type of discount off the tariffed price that will be offered to customers;
  - (c) A description of whether the tariff is a new tariff or replaces an existing tariff;
  - (d) Information on whether the tariff is a limited availability special promotion, or a permanent tariff change. If it is a special promotion, the period of duration of the special should be specified;
  - (e) A description of the terms and conditions of provision of the tariff;

- (f) The commercial rationale for making the proposed change;
  - (g) The number of existing customers that would be affected by the change; and
  - (h) The expected demand for the service.
86. We propose that non-standard pricing must also be submitted to the Regulatory Authority at least 10 working days before the effective date. Non-standard pricing includes any pricing offered to one or more customers that differs from standard tariffs. The tariff notification should include:
- (a) A description of the service or services to be offered;
  - (b) A description of the terms and conditions under which the service will be offered;
  - (c) The proposed pricing, including discounting arrangements – this includes volume discount schedules (where applicable), bundled discounts and any other type of discount off the tariffed price that will be offered to customers;
  - (d) The commercial rationale for offering the new service or services;
  - (e) The projected impact of the new service(s) offering on existing customers; and
  - (f) The expected demand for the service.
87. Where the SMP operator plans to offer a new service, the above notice must be made 30 calendar days in advance of commercial offer of the service.
88. Where the SMP operator plans to withdraw a service, we propose that the SMP operator be required to submit to the Regulatory Authority the following information no less than 60 calendar days in advance of service termination:
- (a) The commercial rationale for withdrawing the service;
  - (b) The number of current customers;
  - (c) The process that the operator intends to use to notify affected customers; and
  - (d) Alternative services that customers can transition to.
89. The Regulatory Authority does not propose to require tariff filings to be accompanied by cost studies. However, in respect of bundled offers, we propose to require an SMP operator to provide, upon our request, information demonstrating that the bundle will not impose a price squeeze. We propose that this information be required within two business days of receiving the Regulatory Authority's request for information. This means that SMP operators are expected to undertake their own competitive assessment of a new bundle prior to notification, and to make such information available to the RA if the pricing of the proposed bundle appears to raise any margin squeeze concerns. We note that RAA Section 85(5) prohibits price squeezes and predation. The proposal to not require the filing of cost studies as part of the tariff notification process does not in any way absolve an operator from its RAA Section 85(5)(a) responsibility to not set rates below cost.
90. Pursuant to RAA Section 85(6), the RA will conduct a consultation on the specific criteria that will apply in determining whether abuses of dominance have occurred. In the meantime, the Authority will consider the pricing of any bundles that appear to raise margin squeeze concern on a case by case basis, with reference to well established principles that have been adopted in the context of regulated telecommunications markets. In general, the Authority will examine whether a competing operator is able to replicate the bundle proposed by an SMP operator,

taking into account the retail costs of an efficient operator along with the impact of any scale advantages that the SMP operator may enjoy.

91. Pursuant to RAA Section 85(6), the RA proposes that a price squeeze may occur when a vertically integrated SMP operator in the upstream market charges a price for the product from the upstream market which, compared with the price it charges on the downstream market, would prevent an equally efficient competitor from trading profitably in that downstream market on a lasting basis. Thus there would not be a price squeeze as long as the difference between the retail and wholesale price is no less than the retail price times the avoided cost discount factor. For example, if the retail price of a service is \$100, and if the avoided cost discount factor is 15%, the wholesale rate could be no higher than \$85.
92. We propose to allow an SMP operator to bundle a product in the SMP market with products outside the SMP market, as long as each product from the SMP market included in such a bundle, is also available on a standalone basis on reasonable terms and conditions.<sup>50</sup> However, we propose to prohibit an SMP operator from tying an SMP product to a product outside the SMP market.<sup>51</sup> Tying is prohibited because it would allow an SMP operator to leverage its power in the SMP market in a manner that may allow it to dominate a second market.

**Consultation Question 12:** Do you agree with the retail tariff notice filing requirements proposed by the Regulatory? If not, please explain why and whether there are additional or alternative filing requirements that should be applied to SMP operators?

## 4.2 Discrimination

93. A firm that is vertically integrated operates in both a downstream market and an upstream market and effectively self-supplies the wholesale service(s) required for downstream operations. For example, a vertically integrated fixed operator provides retail access lines and calls but also owns the underlying network infrastructure required to supply retail services. Regardless of whether the firm explicitly supplies a wholesale service to third parties, it implicitly supplies wholesale access to its retail operations.
94. Where there are high barriers to entry into the supply of the wholesale services so that one or more firms hold SMP in the wholesale market and one or more of those firms also operates in the retail market, the potential for discriminatory practices become a concern for regulators.
95. In this context, discriminatory conduct involves the vertically integrated firm supplying the wholesale service to its own retail unit on terms that are superior to those available to third party access seekers. Discrimination can occur either in relation to the pricing or non-pricing terms of wholesale provision.
96. We note that ICOL Condition 11.2(a) defines the non-discrimination obligation to constitute an equivalency and that this obligation applies to all SMP operators that are subject to wholesale access obligations, absent the grant of a waiver issued by the Authority.

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<sup>50</sup> Bundling is the practice of selling two or more products as a package.

<sup>51</sup> Tying is the practice of requiring a customer to purchase one good in order to purchase another.

#### 4.2.1 Price Discrimination

97. Discrimination on price terms occurs if the vertically integrated firm charges itself less for the wholesale service than it charges to other firms. It is not a simple process to observe price discrimination unless the vertically integrated firm has an explicit transfer pricing system in place. A transfer pricing system would allow for a direct comparison between the transfer charge within the firm and the external wholesale price. Absent the transfer price, the price terms of internal provision of a wholesale service cannot be readily compared with the price terms of external supply.
98. Price discrimination by a vertically integrated firm can result in a margin squeeze<sup>52</sup> on non-integrated competitors. For example, if a vertically integrated firm sets its retail price at \$100 per unit and its wholesale price at \$80 per unit and the efficient costs of transforming the wholesale service into a retail service are \$30 per unit then the non-integrated firms faces a margin squeeze (facing a margin of -\$10 per unit) and are prevented from competing in the retail market. This situation implies that the integrated firm is implicitly charging its retail operations \$10 per unit less than the \$80 it charges external wholesale customers.
99. In the case where wholesale prices are set at retail minus avoidable cost, there may be less cause for concern that margin squeezes could occur. This is because the wholesale price is set relative to the retail price such that there is sufficient margin for a wholesale customer to recover retail costs. However, margin squeeze issues could still potentially arise if the wholesale price is set only periodically and not updated when retail prices fall.
100. There are a number of options through which concerns regarding price discrimination can be addressed, including:
  - (a) the use of transfer pricing;
  - (b) the implementation of accounting separation with transfer prices;
  - (c) a requirement to submit margin squeeze tests to gain tariff approval;
  - (d) *ex-post* margin squeeze tests submitted to the regulator on a regular basis;
  - (e) a reliance on *ex-post* rules; and
  - (f) structural separation.
101. The aforementioned options are discussed in greater detail below.

##### 4.2.1.1 Transfer Pricing

102. Transfer pricing involves the implementation of explicit contracts between the retail and wholesale business units of a vertically integrated firm which set out the price that is charged (in some notional manner) by the wholesale business unit to the retail business unit. Transfer pricing is used commercially by some firms as a means to increase accountability through allowing for scrutiny of the separate performance of the firm's business units. However it can be also be mandated for regulatory purposes so that the vertically integrated firm's retail business faces the same costs when making its retail price decisions that its non-integrated competitors face.

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<sup>52</sup> In this document the terms price squeeze and margin squeeze are used interchangeably.

103. One drawback of using transfer pricing rules to address discriminatory pricing are that there are administrative costs associated with implementing and maintaining a transfer pricing regime.

#### **4.2.1.2 Accounting Separation**

104. Accounting separation (AS), as discussed in more detail below at Appendix A, is a common tool used to detect and address potential anti-competitive concerns such as, excessive charges for interconnect services, discrimination in pricing, unfair cross-subsidies, and predatory pricing. Accounting separation does not impose on an operator a set of rules about how its business should be organized, but simply how accounting information is to be collected and reported for regulatory purposes. Thus, what AS requires an operator to do is to allocate its various business activities into separate main business or service areas, for accounting purposes. It does not affect the form or content of accounts that an operator has to produce to meet other obligations e.g. annual statutory company accounts.
105. Accounting separation typically involves the establishment of a transparent and well defined transfer charging system to enable the explicit tracking of charges between an operator's separate main business areas (as established under an accounting separation obligation) and between the main business areas of affiliated operators. This, in turn, provides a regulatory authority greater ability to ensure that non-discrimination is enforced, that the profitability of particular markets or services can be monitored, that anti-competitive cross-subsidies are identified, and that there is a systematic division of costs between retail and wholesale thus ensuring that market players are allocating costs in an appropriate manner and that the cost base for interconnection and access charges includes only relevant costs.
106. Accounting separation has a proven track record and is the most common tool used worldwide to address regulators' concerns about potential abuses of dominant positions. However, there are significant costs to implementing and maintaining accounting separation due to the need to implement activity based costing and to determine appropriate allocation of shared costs. Further, because the separated accounts may not be used as the basis for making business decisions they do not necessarily alter a vertically integrated firm's conduct.
107. The RA tentatively concludes that it would not be in the best interests of the newly begun market reform process to impose full accounting separation and cost accounting requirements at the present time. The time that would be required to develop the understanding of the accounting systems of Bermuda's SMP operators so as to create a well-designed accounting separation and cost accounting system for each of them, along with the complexity of such an undertaking, would cause considerable delay in the ability ICOL holders having SMP to reap the full benefits of their ICOLs in a timely fashion. Furthermore, the delay involved would cause needless uncertainty in the market, which could dampen investment in new infrastructures and products and services as providers wait until the issue of prices is resolved. We believe that the remedies discussed and tentatively imposed elsewhere in this Consultation will be sufficient for the establishment of competitive wholesale prices.
108. However, the RA will conduct a more in depth consultation on these issues in the future, when we turn our attention to a consideration of how best to address the ex-post assessments we are obligated to undertake under RAA Section 85(5)

concerning whether or not an SMP operator has abused its dominant position. In order to jump start that process, we have decided to include a discussion concerning accounting separation and cost accounting requirements (and the Authority's current thinking regarding these) as an Appendix to this Consultation. Parties are respectfully requested to respond to the questions contained therein.

109. Additionally, parties are reminded (see, for example, paragraph 89) that if the RA, or any other party, has reason to believe that an SMP operator's pricing behaviour is causing a price squeeze, that SMP operator will be obligated to provide proof that this is not the case within five days of receiving a request by the RA to do so. For this reason, while we are postponing recommending a cost accounting or modelling system at this time, it would behave SMP operators to begin the process of thinking about how these might be developed sooner rather than later so as to be able to verify internally that a proposed price does result in a price squeeze.

**Consultation Question 13:** Do you agree with the RA's tentative conclusion that the imposition of full accounting separation and cost accounting requirements on SMP operators is not necessary at the present time? If you disagree, please explain why?

**Consultation Question 14:** Do you agree with the RA's tentative conclusion that the question of whether or not full accounting separation and cost accounting obligations ought to be imposed on SMP operators is best left to a fuller examination in a separate consultation on issue of price squeeze determination? If you disagree, please explain why?

**Consultation Question 15:** Do you agree with the RA's tentative conclusion that the remedies discussed and tentatively imposed elsewhere in this Consultation will be sufficient for the establishment of competitive wholesale prices at the present time? If you disagree, please:

- a) explain why you believe the remedies proposed are not sufficient for this purpose;
- b) provide a full description and explanation of any alternative methods for establishing competitive wholesale prices you would like to propose.

#### 4.2.1.3 Tariff Approval

110. Under this option, the vertically integrated firm must submit margin squeeze tests to seek tariff approval for new retail prices. A method for determining the costs of the retail operations must be decided upon. Retail costs could either be determined through a cost study or by using separated accounts (if these are in place).
111. This approach gives some protection to access seekers by allowing the regulator to disallow a tariff that does not pass a margin squeeze test before it is launched commercially.

#### 4.2.1.4 Periodic *Ex-Post* Price Squeeze Tests

112. Due to the potential for tariff approval requirements to slow down the competitive process, a further option is for price squeeze tests to be submitted periodically using data on the firm's costs and revenue for each service. A possible difference between this approach and the tariff approval option is that the *ex-post* tests would typically be

carried out in aggregate for all price points and service options in a given product line.<sup>53</sup>

#### **4.2.1.5 Reliance on *Ex-Post* Rules**

113. RAA Section 85(5) prohibits price squeezes and “unreasonable discrimination” by a dominant firm. Breaches of Section 85 are punishable with fines of up to 10% of the firm’s total annual turnover. As a result, firms holding SMP have a strong incentive to ensure that they do not engage in price squeezes through their own internal assessment of whether the margin between wholesale and retail prices provides sufficient margin to cover retail costs.

#### **4.2.1.6 Structural Separation**

114. Functional or structural separation may also be used to address price discrimination by increasing transparency, though this remedy is typically implemented primarily to also address non-price discrimination.

### **4.2.2 Non-Price Discrimination**

115. Discrimination on non-price terms covers a range of conduct whereby the vertically integrated firm in some manner favors its downstream operations over external wholesale customers. Examples of how non-price discrimination may manifest itself include:
- (a) the specification of the wholesale service;
  - (b) the range of wholesale services provided;
  - (c) the quality and timeliness of service (for example, the number of faults and time take to resolve faults);
  - (d) preferential capacity allocation;
  - (e) access to information – for example, forward-planning information regarding new wholesale services, but potentially also access to customer information; and
  - (f) flexibility in catering to retail customers requirements.
116. Non-price discrimination can have the effect of preventing wholesale customers from replicating the vertically integrated firm’s retail offers, which could restrict their ability to effectively contest the retail market. It may also have the effect of raising the costs of wholesale customers relative to the integrated firm’s retail unit (i.e., raising rivals costs) or negatively affecting the brand and reputation of the integrated firm’s rivals if the service levels provided to retail customers are inferior because of discriminatory wholesale practices.
117. As mentioned above at paragraph 113, unreasonable discrimination by dominant firms is prohibited under RAA Section 85(5), and is punishable by financial penalties up to 10% of the firm’s total annual turnover. Specific discriminatory practices may also be forbidden, and subject to financial penalty, as specified in the terms of the RAIO.

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<sup>53</sup> Using this approach the prices for the product line as a whole could pass the test even if some individual tariffs in that product line would not pass if tested individually.

118. While some types of non-price discrimination are relatively easy to detect, others are not. As a result, some regulators require vertically integrated firms that are found to hold SMP to submit regular reports comparing the service levels for internal provision with those for external provision. Such reports may, for example, contain statistics on the number of faults, the time taken to remedy faults, and the time taken to activate customer connections. These reports allow the regulatory body to monitor whether the integrated firm is adhering to the non-discrimination principle for the measured indicators.
119. Given the difficulties in monitoring and detecting all types of discriminatory conduct a form of separation (such as functional separation or structural separation) has been implemented in some jurisdictions to ensure arm's length trading between upstream and downstream operations. While this approach substantially reduces the likelihood of discriminatory conduct it is a heavy handed form of regulation which brings with it high implementation costs and losses in vertical integration efficiencies.
120. The optimal remedy for addressing discriminatory practices will depend the specific circumstances in a given market such as the severity of observed or expected discrimination, the cost of implementing remedies, and the effectiveness of *ex post* competition rules.

## **5 ASSESSMENT OF REMEDIES FOR INDIVIDUAL MARKETS**

### **5.1 Fixed Narrow Band Access and Voice Markets**

121. The Market Review General Determination found BTC to hold SMP in:
  - (a) The market for the supply of retail fixed narrowband access lines and local calls to residential customers (excluding Southside);
  - (b) The market for the supply of retail fixed narrowband access lines and local calls to business customers outside of Southside and the City of Hamilton and contiguous suburbs;
  - (c) The wholesale market for the supply of fixed narrowband access and local calls in the City of Hamilton and contiguous suburbs;
  - (d) The wholesale market for the supply of fixed narrowband access and local calls outside of Southside and the City of Hamilton and contiguous suburbs;
  - (e) The wholesale market for the origination of calls on fixed networks in the City of Hamilton and contiguous suburbs; and
  - (f) The wholesale market for the origination of calls on fixed networks outside of Southside and the City of Hamilton and contiguous suburbs.
122. These markets are discussed below as follows:
  - (a) Wholesale access and local calls (Section 5.1.1);
  - (b) Retail access and local calls (Section 5.1.2); and
  - (c) Call origination (Section 5.2).



## 5.1.1 Wholesale Access and Local Calls

### 5.1.1.1 Competition Issues and Potential Remedies

123. High sunk costs in deploying fixed access networks limit the extent of competition in the wholesale access and local call markets. In respect of residential services, there are currently only two networks that are capable of supplying access and local calls, BTC and NRC, both of which are 100% owned by KeyTech. A third network, BCV is potentially capable of supplying access and local calls. BCV is partially owned by KeyTech, which means that all three networks that currently supply services to residential customers, or could do so in future, have common ownership with the result that competition is unlikely to be effective.
124. In respect of business services, an additional competitor, Quantum, owns an access network which is primarily located in the City of Hamilton.
125. Both inside and outside of the City of Hamilton the supply of wholesale access and local calls is only carried out implicitly within vertically integrated firms – that is, there is not currently explicit wholesaling to third parties. Vertical integration of the SMP operator, BTC, as well as by most other network owners, means that there is little incentive to offer a non-discriminatory wholesale service. Potential competition problems include:
  - (a) a lack of access to a bottleneck facility;
  - (b) vertical price squeezes; and
  - (c) discrimination on non-price terms (e.g., quality differentials in the supply of wholesale services to external wholesale customers as compared with the supply to the vertically integrated firm's own retail operations).
126. Key options for regulatory remedies to address these competition problems in each of the two wholesale markets are variations on an obligation to offer non-discriminatory wholesale line rentals. The two options that the RA proposes to examine are:
  - (a) a requirement to supply a wholesale line rental and local call (WLRLC) service on a non-discriminatory basis and priced at Retail Minus Avoidable cost; and
  - (b) a requirement to supply WLRLC on a non-discriminatory basis and priced at cost.

**Consultation Question 16:** Do you agree that the key regulatory options to be assessed in the wholesale access and local call markets are: (1) no regulation; (2) retail-minus avoidable cost non-discriminatory wholesale access; and (3) cost-based non-discriminatory wholesale access? If not, what options do you consider most relevant?

### 5.1.1.2 Option A: No Regulation

127. Under this option it is not obvious that a non-discriminatory wholesale service would be made available. International experience suggests that wholesale line rental is not commonly made available on a commercial basis and is most often imposed as a regulatory requirement. Given this, the RA considers that the option of regulatory forbearance would be inconsistent with at least the competition objective. This option may well limit investment because it would not foster competition.

### 5.1.1.3 Option B: Retail Minus Avoidable Cost Non-Discriminatory Wholesale Service

128. Introduction of a WLRLC service would enable bundling of retail access and local calls with other services such as: international calling; ISP services and, subject to the availability of the necessary additional wholesale services, broadband access and pay TV services.
129. To date, supply of telecommunications services in Bermuda has been very fragmented. The introduction of a WLRLC service in the presence of the recently issued ICOLs brings two important benefits:
- (a) retail customers would have the convenience of being able to purchase a bundle of electronic communications services from a single supplier; and
  - (b) suppliers would be able to achieve cost savings as a result of the economies of scope that derive from selling services jointly. The small scale of the Bermudian telecommunications markets likely increases the importance of these cost savings.
130. Against these benefits are the costs of introducing a WLRLC service. Recently estimated costs from Guernsey provide benchmarks of costs in markets of a similar size to Bermuda. As part of the Channel Islands Wholesale Access project, the Channel Islands Competition and Regulatory Authorities examined the costs of implementing and maintaining a wholesale line rental (WLR) product. The Guernsey Competition and Regulatory Authority (GCRA) issued a Draft Decision in November 2012 which proposes that WLR be introduced by Cable & Wireless Guernsey Limited by 3 June 2013.<sup>54</sup> Using information provided by Cable & Wireless Guernsey, the GCRA found that the annual costs associated with WLR, including set-up costs, were £30,000 to £40,000. This was equivalent to £1 to £1.40 (USD1.56 to 2.18) per household per year. Given that the population of Guernsey of 63,085 in March 2012<sup>55</sup> is very similar to that of Bermuda (64,685 in 2011<sup>56</sup>) it is likely that the cost per household of offering a WLR (or WLRLC) service would also be similar. Given this, the RA considers that the benefits of a WLRLC service would likely outweigh the costs particularly as WLRLC enables:
- (a) cost efficiencies to be achieved in customer acquisition, customer service and billing, which themselves would presumably outweigh the cost cited above;
  - (b) benefits to consumers in being able to purchase bundles – this in itself could well outweigh the 13c to 18c cost per household per month associated with WLR/WLRLC; and
  - (c) strengthened competition.
131. The RA tentatively concludes from the above discussion that WLRLC would be an economically viable wholesale remedy and that it would be proportionate to the competition issues that arise in the wholesale access and local calls markets.
132. The RA also tentatively concludes that introduction of WLRLC would pursue the competition objective. With regard to the investment objective, it seems most likely

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<sup>54</sup> Channel Islands Competition & Regulatory Authorities (November 2012), *Initial Notice of Modification of license of JT (Jersey Telecom) Limited*, Document No. CICRA 12/52, p.7.

<sup>55</sup> Policy Council The States of Guernsey (22 March 2013), *Guernsey Annual Population Bulletin*.

<sup>56</sup> Department of Statistics (March 2013), *Bermuda Digest of Statistics 2012*, p.2.

that future network entry would be primarily driven by ability to offer ultrafast broadband – for example over fibre networks – rather than by a need to enter the supply of access and local services alone. As long as the wholesale price allows for a reasonable return it seems unlikely that the introduction of a WLRLC service priced at retail minus avoidable cost would negatively impact on investment. In fact, the ability of an entrant network to first build up a customer base using WLRLC before deploying its own network could lessen investment risk and thereby encourage investment by providing a stepping stone to network competition.

#### **5.1.1.4 Option C: Cost-Based Non-Discriminatory Wholesale Service**

133. The option of introducing a cost-based non-discriminatory wholesale service is similar to Option B above. One difference is that Option C introduces the need to produce and consult on a cost study to determine the WLRLC price, which increases implementation costs. Option C has the potential to provide clearer signals on efficient build vs. buy decisions. However, given the broad economic benefits and customer benefits of new fibre networks, use of a retail-minus pricing mechanism is less likely to discourage fibre roll-out than a cost based<sup>57</sup> approach.

#### **5.1.1.5 Conclusion on Wholesale Remedy**

134. The RA tentatively concludes that the implementation of a non-discriminatory wholesale line rental and local call service best satisfies the objectives of ECA Section 21. The reasons for this can be summarised as follows:
- (a) Competition objective: As described above, it is considered that introduction of WLRLC will strengthen competition by allowing BTC and its rivals alike to provide bundled services to end customers and achieve associated economies of scale.
  - (b) Investment objective: As described above, the RA considers that implementation of a retail-minus WLRLC service will not have a negative impact on investment and could well encourage further investment by providing a stepping stone to full network investment.
  - (c) Proportionality objective: Given the cost estimates cited, the RA does not consider that implementation of a WLRLC service imposes an undue burden on BTC.
  - (d) Neutrality objective: The RA does not consider the Neutrality Objective to be relevant in the evaluation of this remedy.
  - (e) Market forces objective: The limited deployment of competing networks, driven by high sunk costs and other barriers to entry, and vertical integration of the SMP operator (and most other network operators) implies that the market is not effectively, or even workably competitive. Without regulatory intervention it is highly unlikely that a non-discriminatory WLRLC service would be provided.
135. With regard to the factors relevant to imposing an access obligations, the RA holds the following tentative views:
- (a) Technical and economic feasibility: Given the widespread use internationally of WLR and WLRLC services, the RA considers it reasonable to conclude that a

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<sup>57</sup> In this document the term 'cost based' refers to economic cost, which includes a reasonable rate of return.

similar wholesale service in Bermuda would be technically feasible. The cost estimates cited above strongly indicate that the introduction of a WLRLC service would satisfy the economic feasibility factor.

- (b) Available capacity: The Regulatory Authority does not envisage capacity constraints arising from the introduction of WLRLC.
- (c) Investment risk of SMP operator: Pricing of WLRLC at retail minus avoidable cost should result in the SMP operator earning the same contribution to network costs from wholesale access and local call services as it does from its own retail customers. As a result the Regulatory Authority does not consider that the implementation of WLRLC imposes a significant investment risk.
- (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: Introduction of WLRLC is an important means for addressing this factor and reducing the risk of leveraging market power from one market to another by KeyTech-owned companies.

**Consultation Question 17:** Do you agree with the RA's finding that the regulatory option for the wholesale access and local call markets that best achieves the objective and principles of the ECA is resale in areas outside of Hamilton and Southside, priced at retail minus avoidable cost?

**Consultation Question 18:** Do you agree that implementation of WLRLC would be feasible from both an economic and technical perspective? Please explain your reasoning.

#### **5.1.1.6 Compliance with Wholesale Market Remedies**

- 136. Compliance with the proposed wholesale market remedies for purposes of ECA Section 73(5)(a) requires:
  - (a) Certification by the SMP Operator of the commercial availability of a WLRLC service throughout Bermuda; and
  - (b) The approval by the Regulatory Authority of a RAIO that follows the guidelines established as a result of this consultation. The monthly rental charge and local calling charges must be priced at retail minus avoidable cost. The methodology for calculation of that price is discussed in more detail below. Connection charges and any other applicable charges must be specified in the RAIO and must be cost-justified.
- 137. On-going compliance requires revision of the WLRLC price when retail tariffs change.
- 138. The following discussion addresses the pricing methodology.

##### **5.1.1.6.1 Choice of retail price**

- 139. There is generally not a single retail price but a range of pricing options which vary, for example, according to the customers call usage and whether the service is part of a bundle. There is therefore a question of which price point should be used in the retail minus calculation. The Regulatory Authority's initial views are as follows:
  - (a) A separate wholesale price should be available for each usage package. For example, BTC currently offers its residential customers the option of pricing plan that includes 50 local calls or one that includes unlimited calls. Accordingly BTC should be required to offer a WLRLC service that includes 50 local calls and is

calculated by subtracting the avoidable cost percentage (as proposed below) from the retail price of that packages. Similarly BTC would need to offer a WLRLC option that includes unlimited local calls.

- (b) Where volume discounts or loyalty (term) discounts are available, the retail minus avoidable cost calculation should apply to the discounted price as long as the wholesale customer can satisfy the conditions of the discount. For example, if BTC provides a discount if a retail customer signs a long-term contract then the wholesale service should be available at the discounted retail rate minus the avoidable costs if the wholesale customer is willing to commit to the long-term contract.
- (c) With regard to bundling, the Regulatory Authority proposes that an SMP Operator will:
  - (i) for any bundle containing an SMP Product or Service, make the SMP Product or Service contained in that bundle available on a standalone basis according to the terms and conditions established in the SMP Operator's RAIO.
  - (ii) for any bundle comprised solely of SMP Products or Services, make available a corresponding Wholesale bundle whose price shall be set at the retail price of the bundle minus the avoidable cost percentage of 15% established at paragraph 147.<sup>58</sup>
  - (iii) provide information demonstrating that a bundled service offering will not impose a Price Squeeze if requested to do so by the Authority. An Operator must provide this information within two business days of receiving a request to do so from the Authority. The information provided must demonstrate that:
    - (1) for any bundle comprised solely of SMP Products or Services, the difference between the retail and Wholesale price of the bundle is not less than the retail price times the avoided cost discount factor of 15%.
    - (2) the difference between the retail price of the bundle and the sum of the Wholesale prices of any SMP Products or Services contained in the bundle is such that it recovers the cost of providing the non-SMP Products or Services contained in the bundle, as well as the associated retail costs of the bundle.

#### **5.1.1.6.2 Avoidable cost percentage**

140. Set out below are the 'retail-minus' percentages used in a number of countries that apply retail minus avoidable cost methodologies for WLR or WLRLC.

#### **5.1.1.6.3 Greece**

141. The Greek regulator used cost accounting data to determine a retail minus margin of 13.3%.<sup>59</sup>

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<sup>58</sup> Bundled offerings comprising SMP Products or Services and non-SMP Products or Services do not have to be made available on a Wholesale basis.

<sup>59</sup> [http://www.otewholesale.gr/Portals/0/FEK988\\_28\\_05\\_2008.pdf](http://www.otewholesale.gr/Portals/0/FEK988_28_05_2008.pdf)

#### 5.1.1.6.4 Ireland

142. In a 2008 decision, the Irish regulator directed eircom to utilise a 14% margin in calculating single-bill wholesale line rental retail minus pricing.<sup>60</sup>

#### 5.1.1.6.5 Malta

143. In Malta in a 2007 decision, the Malta Communications Authority (MCA) calculated the avoidable costs of supplying the PSTN WLR services.<sup>61</sup> Those costs as a percentage of retail costs were approximately 13%. The MCA found that this was similar to the avoidable cost percentages used in a sample of EU countries (Belgium, Ireland, Italy, France, Netherlands, Sweden and Denmark) for which the average WLR margin was 13.8%.
144. Other WLR charges included: a one-time service access charge per wholesale customer; and an activation charge per wholesale line.

#### 5.1.1.6.6 Netherlands

145. From 1 January 2012, the retail minus percentage used in KPN's WLR pricing has been 15.3%.<sup>62</sup>

#### 5.1.1.6.7 New Zealand

146. The avoided cost percentage adopted by the New Zealand Commerce Commission (NZCC) for the pricing of resale services was determined in 2003 through an analysis of avoided cost percentages for 47 states in the US.<sup>63</sup> The NZCC used regression analysis to consider how the avoidable cost percentage varied with the following factors: labour cost, population density, GSP (Gross State Product), teledensity and urbanisation. It was found that there was "no systematic link between individual variables and the discounts offered in each respective state."<sup>64</sup> As a result, no states were excluded from the benchmark sample. The NZCC found that the avoidable cost percentage varied from 8.46% to 29.47%. It selected an avoidable cost percentage of 16%, which was the 25th percentile. The NZCC's reason for taking that approach, rather than using the median of 18.2%, was to reduce the risk of adversely affecting incentives for investment in access networks.

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<sup>60</sup> Commission for Communications Regulation (22 February, 2008), Information Notice, Single Billing Wholesale Line Rental.

<sup>61</sup> Malta Communications Authority (July 2007, Updated March 2008), *Report on Consultation and Decision on Wholesale Line Rental*.

<sup>62</sup> KPN Wholesale (18 November 2011), "Announcement of new WLR rate from 1 January 2012", available in dutch at: <http://www.kpn-wholesale.com/nl/over-kpn-wholesale/nieuws/aankondiging-nieuwe-wlr-tarieven-per-1-januari-2012.aspx>

<sup>63</sup> New Zealand Commerce Commission (2003), *Determination on the TelstraClear Application for Determination for "Wholesale" Designated Access Services – Decision 497*.

<sup>64</sup> *Ibid*, para 683.

#### 5.1.1.6.8 Conclusion on Avoidable Cost Percentage

147. Based on the above international benchmarks cited above and summarised in the table below, and in the absence of any data on actual costs avoided, the Regulatory Authority considers that a reasonable avoidable cost percentage estimate is 15%.

**Table 2: Avoidable Cost Benchmarks**

Country	Avoidable cost percentage
Greece	13.3%
Ireland	14%
Malta	13%
Netherlands	15.3%
New Zealand	16% (based on US range of 8.46% to 29.47%)

**Consultation Question 19:** Do you agree that 15% is a reasonable estimate of the avoidable cost margin to use in the calculation of WLRLC pricing? If not, please provide evidence supporting an alternative margin.

#### 5.1.2 Retail Access and Local Calls

148. Our Market Review General Determination concluded that BTC holds SMP in the following retail access and local call markets:
- (a) The market for the supply of retail fixed access lines and local calls to residential customers, covering all areas of Bermuda excluding Southside;
  - (b) The market for the supply of retail fixed access lines and local calls to business customers in the City of Hamilton and contiguous suburbs; and
  - (c) The market for the supply of retail fixed access lines and local calls to business customers outside of Southside and the City of Hamilton and contiguous suburbs and Southside.

##### 5.1.2.1 Competition Issues and Potential Remedies

149. Access to infrastructure and the sunk costs associated with deploying an access network were important factors in the SMP determinations relating to the retail fixed access and local call markets. These barriers to entry in the three retail markets listed above have resulted in limited competition. If the WLRLC service is introduced as a wholesale market remedy then retail entry will be facilitated by eliminating the need to own an access network. However, because the WLRLC service is essentially a resale service and is priced at retail prices minus avoidable cost, retail competition from firms that utilise the WLRLC service will not constrain the ability of BTC to price excessively.
150. Potential regulatory remedies to address excessive pricing in the retail markets include (a) tariff approval; and (b) tariff filing with price cap regulation.

#### **5.1.2.2 Option A: No Regulation**

151. The Authority considers that there is insufficient competition to constrain pricing of the SMP operator, BTC. As mentioned above, competitors using the WLRLC would not place a significant constraint on BTC's retail market pricing. Constraint on BTC's pricing in this market would primarily come from other access networks. However, in the residential markets and in the business market outside Hamilton the alternative network based suppliers, being NRC and potentially BCV, both have ownership linkages with BTC via KeyTech. This common ownership may dampen the effect of competitive constraint that they place on BTC. Moreover, even prior to KeyTech's ownership of NRC, NRC's presence in the retail markets did not appear to place a substantial competitive discipline on BTC – for example, very few consumers switched their retail access and local calling services to NRC's fixed wireless network.
152. Give the lack of network based competition, the RA does not consider that regulatory forbearance would be in the best interests of consumers.

#### **5.1.2.3 Option B: Tariff Approval**

153. Under this option BTC would be required to seek approval in advance to alter tariffs or introduce new tariffs. Applications would need to be accompanied by cost studies which justify the proposed tariffs.
154. This approach would address concerns associated with excessive pricing, but would impose:
  - (a) Significant administrative costs on both BTC and the RA in preparing and assessing the cost studies; and
  - (b) Constraints on the timing of the introduction of new or revised pricing because of the extra time delays in prepare tariff approval applications and assessment by the RA of those applications.

#### **5.1.2.4 Option C: Tariff Filing Plus Price Cap Regulation**

155. BTC would be required to filing new and revised tariffs but those filings would not need to be accompanied by cost studies. Instead the concern of excessive pricing would be addressed through retail price cap regulation. The RA would determine an annual factor for the price cap governing the annual change in the unbundled retail access and local call prices. At the end of each year, BTC's average retail price for each standard access and local package (excluding bundles) must be within the cap.
156. The RA considers that it would be sufficient to subject standalone access and local call pricing to price caps, rather than extending the obligation to bundles because competition for bundles introduced through WLRLC availability would compete away rents earned on bundle pricing.
157. Option C would address the concern of excessive pricing while not imposing the administrative costs and delays associated with Option B.

#### **5.1.2.5 Conclusion on Retail Market Remedies**

158. The RA considers that of the three options considered, the optimal remedy choice is tariff filing with a retail price cap.



159. As is described in more detail in section 4.1.3, the Regulatory Authority proposes to apply a cap which allows for annual price increases of up to inflation plus 2% per annum until the next market review is completed, unless petitioned to demonstrate that this does not result in cost recovery. This allowance for a price increase is on the basis that the Regulatory Authority is cognizant that some current prices have been frozen at current levels since at least July 1999.<sup>65</sup>
160. The price cap of CPI plus 2% increase in price per annum would apply for residential services and for services supplied to business customers outside of Southside and the City of Hamilton and contiguous suburbs.
161. The specific details of the way in which the price cap is to be applied are set out in APPENDIX D – DRAFT GENERAL DETERMINATION.
162. The option of tariff filing and a price cap best achieves the objectives of the ECA for the following reasons:
  - (a) Competition objective: Assuming that the proposed WLRLC remedy priced at retail minus avoidable cost is adopted in the wholesale market, the key remaining competition issue in the retail markets is the potential for excessive pricing. A price cap along with light-handed monitoring via tariff filing will address this competition concern, and therefore is consistent with the competitive objective.
  - (b) Investment objective: The Regulatory Authority considers that the proposed price cap allowing an annual uplift in prices for inflation plus 2% will allow for cost-recovery.
  - (c) Proportionality objective: Tariff filing and retail price caps are commonly adopted internationally and considered by the RA to be in proportion to the competition problem of excessive pricing by a firm holding SMP.
  - (d) Neutrality objective: Allowing for cost recovering through permitting an increase in price of inflation plus 2% is consistent with technological neutrality. Maintaining the prices at the levels established more than ten years ago runs the risk of biasing demand toward that service.
  - (e) Market forces objective: Competition is not sufficiently strong, nor is it expected to be in the foreseeable future, to constrain pricing of retail access and local call services in the relevant markets in which BTC has been identified as having SMP.

**Consultation Question 20:** The RA proposes to introduce tariff filing and price cap regulation on BTC in the residential retail access and local market and the business retail access and local market outside of Hamilton. Do you agree that this approach best satisfies the objectives of the ECA in addressing BTC's SMP in the retail access and local call markets?

#### 5.1.2.6 Compliance with Retail Market Remedies

163. Compliance with the retail market remedies for purposes of ECA Section 73(5)(a) requires filing of all existing tariffs with the Regulatory Authority as per Section 4.1.4.
164. On-going compliance requires:
  - (a) tariff filing notice requirements as per section 4.1.4; and

<sup>65</sup> See "Bermuda Telephone Company Rates & Regulations Manual – Effective 1st March, 04" at Section 3.1.1.

- (b) at the end of each 12 month period BTC must submit a report to the RA showing the change in its retail access and local call prices and how they compare to the price cap per Section 4.1.3.

## **5.2 Call Origination on Fixed Networks**

- 165. BTC was identified as holding SMP in each of the following markets in the SMP consultation:
  - (a) a wholesale market for the origination of calls on fixed networks in the City of Hamilton and contiguous suburbs
  - (b) a wholesale market for the origination of calls on fixed networks outside of Southside and the City of Hamilton and contiguous suburbs

### **5.2.1 Competition Issues and Potential Remedies**

- 166. Under ICOL Transitional Condition A2.3, BTC is required to provide an international call origination service due to the obligation to provide pre-selection for international calling until such time as the Authority makes a General Determination to the contrary. The Authority is minded to retain this obligation until a review is conducted after the marketplace has had a reasonable period of time to adjust to the new regulatory framework. Given the requirement to provide an origination service, the key competition issues are excessive or discriminatory pricing of international call origination and discrimination on non-price terms.
- 167. To address these concerns one option is to maintain a price ceiling for origination at the charge established by the LAC (local access charge) proceeding, unless subsequently revised by the Authority.

#### **5.2.1.1 Option A: No Regulatory Intervention**

- 168. As described above, the requirement to provide pre-selection implies that call origination will be provided in some form, even without the imposition of a regulatory remedy as part of the market review process. However BTC may still have the incentive to, in some way, disadvantage competing international carriers by favouring its own downstream operations – for example, by effectively charging competitors more than its own retail operations are charged – or to simply use its market power to charge excessive wholesale prices to all wholesale customers. As a result, the RA is of the view that regulatory forbearance would be inconsistent with the objective of maintaining and sustaining effective competition for the benefit of consumers.

##### **5.2.1.1.1 Option B: Requirement that LAC Price Ceiling Be Maintained**

- 169. Under this option the wholesale origination charge would continue to be capped at the charge established in the LAC proceeding, unless the price ceiling is in the future revised following a public consultation and the issuance of a general determination by the Authority pursuant to ECA Section 24(5). Until an investigation is completed, maintaining the current price ceiling could contribute to maintaining effective competition (subject to the need to address non-discrimination, as discussed below).
- 170. Given the above, the RA considers this option to be proportionate. The RA will be investigating the current charge in a future regulatory proceeding.

171. To the extent that future market entry significantly reduces the level of market power held by BTC, the adoption of this measure would be reviewed and removed if it was considered that market forces could be relied on.

#### **5.2.1.1.2 Conclusion on Optimal Remedies**

172. The RA's proposed conclusion on remedies in the wholesale market for the origination of international calls on fixed networks is that BTC be required to:
- (a) continue to provide origination at or below the charge established in the LAC proceeding. The rate will be investigated, and may be modified, in a forthcoming proceeding; and
  - (b) provide the origination service on a non-discriminatory basis.
173. The RA considers that the imposition of these remedies is consistent with the objectives in ECA Section 21.
174. We note that access to the wholesale service is effectively mandated through the requirement in the ICOL (Transitional Condition A2.3) that pre-selection of international calls be provided absent a determination by the Authority to the contrary. The RA considers that because the requirement to provide call origination at the current wholesale rate is already in place, there are no significant concerns regarding the technical and economic feasibility of using the wholesale origination service, and that there are unlikely to be capacity issues on the part of the access provider
175. There is no evidence to suggest that the pre-selection of international calls and the provision of an origination service has had a negative effect on investment by BTC. It is possible that the maximum charge may be set too high and may therefore be harmful to the licensees who are obtaining call origination. The Authority intends to initiate a consultation before the end of 2013 to consider this issue in detail. However, for purposes of our initial remedies determination and with respect to the demonstration of compliance required by ECA Section 73(5)(a), compliance will constitute a certification by the SMP operator that it will retain the existing arrangements for providing wholesale call origination until the conclusion of a full consultation on call origination.

**Consultation Question 21:** The RA has identified 2 regulatory options for the wholesale call origination market: (a) regulatory forbearance; (b) maintain the current rate established in the LAC proceeding until a separate investigation is completed. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 22:** The RA has come to the preliminary conclusion that the remedies for the wholesale market for origination of international calls that are most consistent with the objectives of the ECA are that BTC be required to: (a) provide origination at the rate equal to, or below the level established in the LAC proceeding until a separate investigation is completed; and (b) provide the origination service on a non-discriminatory basis. Do you agree with this conclusion?

#### **5.2.2 Compliance with Call Origination Market Remedies**

176. Compliance with call origination remedies for purposes of ECA Section 73(5)(a) requires the approval of a RAIO for the call origination service that follows the

guidelines established as a result of this consultation and sets prices consistent with the charge established by the LAC proceeding.

### **5.3 Fixed Broadband Markets**

177. The RA concluded following the SMP consultation that BTC and BCV hold joint dominance in each of the following two markets:
- a. a wholesale market for the supply of fixed broadband access in the City of Hamilton and contiguous suburbs; and
  - b. a wholesale market for the supply of fixed broadband access outside of Southside and the City of Hamilton and contiguous suburbs
178. The RA also concluded that BTC and BCV hold joint SMP in the national market for the supply of retail fixed broadband access and Internet services to residential customers (excluding Southside), and that BTC alone has a position of SMP in the market for the supply of retail fixed broadband access and Internet to business customers outside of Southside and the City of Hamilton and contiguous suburbs.
179. These markets are discussed below as follows:
- (a) wholesale broadband access (Section 5.3.1); and
  - (b) retail broadband and Internet access (Section 5.3.2).

#### **5.3.1 Wholesale Broadband**

##### **5.3.1.1 Competition Issues and Potential Remedies**

180. The two largest networks, in terms of subscriber connections, that are capable of supplying wholesale broadband access are BTC and BCV. The RA found BTC and BCV to hold collective SMP for wholesale broadband access outside of Southside and the City of Hamilton and contiguous suburbs, with key reasons for this conclusion being:
- (a) there are very high barriers to entry, including high sunk costs of deploying a customer access network;
  - (b) technological advantages of fixed networks over fixed wireless mean that fixed wireless services do not appear to effectively competitively constrain the provision of fixed broadband services;
  - (c) vertical integration of networks means that there is little incentive to supply non-discriminatory wholesale services to third parties; and
  - (d) ownership links between BCV and BTC.
181. The RA notes that KeyTech has further consolidated the broadband access markets with amalgamation of Logic and North Rock in April 2013. As a result, KeyTech now has holdings in all three of the largest broadband access networks.
182. Wholesale broadband is currently only supplied internally within vertically integrated firms – that is, there is not currently explicit wholesaling to third parties. As noted above, vertical integration of the SMP operators, BTC and BCV, as well as by other network owners such as NRC, means that there is little incentive to offer a non-discriminatory wholesale service. Potential competition problems include:
- (a) a lack of access to a bottleneck facility;

- (b) vertical price squeezes; and
  - (c) discrimination on non-price terms (e.g., quality differentials in the supply of wholesale services to external wholesale customers as compared with the supply to the vertically integrated firm's own retail operations).
183. Key options for regulatory remedies to address these competition problems in each of the two wholesale markets are variations on an obligation to offer non-discriminatory wholesale broadband. The two options that the Regulatory Authority proposes to examine are:
- (a) a requirement to supply a wholesale broadband access service on a non-discriminatory basis and priced at Retail Minus Avoidable cost; and
  - (b) a requirement to supply wholesale broadband access on a non-discriminatory basis and priced at cost.

**Consultation Question 23:** Do you agree that the key regulatory options to be assessed in the wholesale broadband access markets are: (1) no regulation; (2) retail-minus avoidable cost non-discriminatory resale; and (3) cost-based non-discriminatory wholesale bitstream? If not, what options do you consider most relevant?

#### **5.3.1.2 Option A: No Regulation**

184. As discussed above, absent regulatory intervention it is not clear that a non-discriminatory wholesale service would be made available.

#### **5.3.1.3 Option B: Retail Minus Avoidable Cost Non-Discriminatory Resale Service**

185. Introduction of a resale broadband access service would enable bundling of retail broadband access with ISP services and potentially also other services such as: retail access and local calls (given the proposed WLRLC services), international calling and, subject to the availability of the necessary additional wholesale service, pay TV services.
186. It is typical internationally for the complementary services of broadband access and ISP service to be sold together as a bundle. The introduction of a wholesale broadband service in the presence of the recently issued ICOLs would allow this to occur in Bermuda meaning that:
- (a) retail customers would have the convenience of being able to purchase broadband and ISP services together (and potentially as part of a broader bundle of electronic communications services) from a single supplier; and
  - (b) suppliers would be able to achieve cost savings as a result of the economies of scope that derive from selling services jointly.
187. Wholesale broadband access is commonly supplied internationally including in small jurisdictions, such as: The Bahamas, Jersey, Guernsey and the Isle of Man. This indicates that even with a small population base, the costs of implementing a wholesale broadband service (at least in the form of resale) are not prohibitive.
188. The RA tentatively concludes that the introduction of a resale broadband access service would enhance competition and would be proportionate to the competition problems identified. As discussed above in the context of WLRLC, with regard to the investment objective, it seems most likely that future network entry would be primarily driven by ability to offer ultrafast broadband – for example over fibre

networks. While the availability of a below cost wholesale broadband service may have a negative impact on fibre network investment incentives, as long as the wholesale price allows for a reasonable return, it seems unlikely that it would negatively impact on investment. In fact, the ability of an entrant network to first build up a customer base using wholesale broadband before deploying its own network could lessen investment risk and thereby encourage investment by providing a stepping stone to network competition.

#### **5.3.1.4 Option C: Cost-Based Non-Discriminatory Wholesale Bitstream Access Service**

189. The option of introducing a cost-based non-discriminatory wholesale bitstream service would most likely have higher implementation costs than Option B above but could potentially provide wholesale customers with more flexibility to supply differentiated service. The RA seeks feedback from interested parties on what type of wholesale bitstream access service would be most appropriate and the feasibility of proposed service definitions.
190. Option C introduces the need to produce and consult on a cost study to determine the wholesale broadband access price, which increases implementation costs. Option C has the potential to provide clearer signals on efficient build vs. buy decisions. However, given the broad economic benefits and customer benefits of new fibre networks, use of a retail-minus pricing mechanism is less likely to discourage fibre roll-out than a cost based approach.

#### **5.3.1.5 Conclusion on Wholesale Remedy**

191. The RA tentatively concludes that the implementation of a non-discriminatory broadband access resale service best satisfies the objectives of ECA Section 21. The reasons for this as summarised as follows:
  - (a) Competition objective: As described above, it is considered that introduction of wholesale broadband access resale will strengthen competition by enabling ISPs that do not own broadband access networks to bundle broadband access with ISP services. This will provide benefits to consumers and will allow economies of scope to be achieved.
  - (b) Investment objective: As described above, the RA considers that implementation of a retail-minus resale broadband access service will not have a negative impact on investment and could well encourage further investment by providing a stepping stone to fibre network investment.
  - (c) Proportionality objective: Given the prevalence of wholesale broadband access services, including in other small jurisdictions, the RA does not consider that implementation of a resale broadband access service on BTC and BCV imposes an undue burden.
  - (d) Neutrality objective: The Regulatory Authority considers that the application of the wholesale remedy for both copper-based services and cable-based services is consistent with the neutrality objective,
  - (e) Market forces objective: The limited deployment of competing networks with independent ownership, driven by high sunk costs and other barriers to entry, and vertical integration of the SMP operators implies that the market is not effectively, or even workably competitive. Without regulatory intervention it is highly unlikely that a non-discriminatory wholesale service would be provided.

192. With regard to the factors relevant to imposing an access obligations, the RA considers that:

- (a) Technical and economic feasibility: Given the widespread supply internationally of wholesale broadband services, the RA considers it reasonable to conclude that a similar wholesale service would be technically feasible. Similarly, the supply of wholesale broadband services in other small jurisdictions indicates that supply in Bermuda would be economically feasible.
- (b) Available capacity: The Regulatory Authority does not envisage capacity constraints arising from the introduction of wholesale broadband access as compared with the scenario where network owners only provide internal wholesale services to their downstream arms.
- (c) Investment risk of SMP operators: Pricing of wholesale broadband at retail minus avoidable cost should result in the SMP operator earning the same contribution to network costs from wholesale broadband access services as it does from its own retail customers. As a result the Regulatory Authority does not consider that the implementation of wholesale broadband imposes a significant investment risk.
- (d) Ability of SMP operators to hinder competition through subsidiaries, partners and affiliates: Given that the three largest potential suppliers of wholesale broadband access all have either part or full ownership by KeyTech the RA considers that the introduction of a regulated wholesale broadband service to be supplied on a non-discriminatory basis is important to address this factor.

**Consultation Question 24:** Do you agree with the RA's tentative finding that the regulatory option for the wholesale broadband access markets that best achieves the objectives of the ECA is the implementation of non-discriminatory resale of broadband access services in areas outside of Hamilton and Southside, priced at retail minus avoidable cost?

**Consultation Question 25:** Do you agree that implementation of resale broadband access would be feasible from both an economic and technical perspective? Please explain your reasoning.

**Consultation Question 26:** Aside from resale, what specific type of wholesale broadband access could feasibly be offered and used in Bermuda and what are the minimum features required? Are these alternatively more consistent with the objectives of the ECA than resale?

#### 5.3.1.6 Compliance with Wholesale Market Remedies

193. Compliance with the proposed wholesale market remedies for purposes of ECA Section 73(5)(a) requires:

- (a) certification by the SMP Operator as to the commercial availability of a wholesale broadband access service throughout Bermuda that allows technical replicability of the SMP operator's retail broadband services; and
- (b) the approval by the Regulatory Authority of a RAIO that follows the guidelines established as a result of this consultation. The monthly rental charge must be priced at retail minus avoidable cost. The methodology for calculation of that price is discussed in more detail below. Connection charges and any other applicable charges must be specified in the RAIO and must be cost-justified.

194. On-going compliance requires revision of the wholesale broadband access prices when retail tariffs change.
195. The RA tentatively proposes that BCV must have 100 residential wholesale orders completed before the ICOL can be used. The 100 would have to be for a type of service not provided prior to Jan. 28 (e.g. residential broadband access provided to Link or TBI).
196. The following discussion addresses the pricing methodology.

#### **5.3.1.6.1 Choice of Retail Price**

197. The RA considers that a separate resale price should be available for each broadband line speed offered by the SMP operator in the retail market. The relevant retail prices for the retail minus calculation are the prices for broadband access alone - that is, as opposed to the retail price for the bundle of broadband access and ISP services. This requirement implies that the operator must continue to offer a broadband access-only retail product.
198. As was discussed in the context of the WLRLC service, where volume discounts or loyalty (term) discounts are available, the retail minus avoidable cost calculation should apply to the discounted price as long as the wholesale customer can satisfy the conditions of the discount.
199. With regard to bundling, the Regulatory Authority proposes that an SMP Operator will:
  - (a) for any bundle containing an SMP Product or Service, make the SMP Product or Service contained in that bundle available on a standalone basis according to the terms and conditions established in the SMP Operator's RAIO.
  - (b) for any bundle comprised solely of SMP Products or Services, make available a corresponding Wholesale bundle whose price shall be set at the retail price of the bundle minus the avoidable cost percentage of 15% established at paragraph 147.<sup>66</sup>
  - (c) provide information demonstrating that a bundled service offering will not impose a Price Squeeze if requested to do so by the Authority. An Operator must provide this information within two business days of receiving a request to do so from the Authority. The information provided must demonstrate that:
    - (1) for any bundle comprised solely of SMP Products or Services, the difference between the retail and Wholesale price of the bundle is not less than the retail price times the avoided cost discount factor of 15%.
    - (2) the difference between the retail price of the bundle and the sum of the Wholesale prices of any SMP Products or Services contained in the bundle is such that it recovers the cost of providing the non-SMP Products or Services contained in the bundle, as well as the associated retail costs of the bundle.

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<sup>66</sup> Bundled offerings comprising SMP Products or Services and non-SMP Products or Services do not have to be made available on a Wholesale basis.



#### **5.3.1.6.2 Avoidable Cost Percentage**

200. The RA proposes to adopt the same retail minus percentage for wholesale broadband as was proposed for WLRLC - that is, 15%. The RA considers that in respect of both WLRLC and broadband resale similar costs are relevant to the retail minus percentage including, for example, billing, customer service and marketing costs. This is the case given that the retail price proposed to be used in the calculation is that of the unbundled retail broadband access-only service.

**Consultation Question 27:** Do you agree that 15% is a reasonable estimate of the avoidable cost margin to use in the calculation of wholesale broadband pricing? If not, please provide evidence supporting an alternative margin.

### **5.3.2 Retail Broadband**

201. The RA concluded following the SMP consultation that BTC and BCV hold joint SMP in the national market for the supply of retail fixed broadband access and Internet services to residential customers (excluding Southside), and that BTC alone has a position of SMP in the market for the supply of retail fixed broadband access and Internet to business customers outside of Southside and the City of Hamilton and contiguous suburbs.

#### **5.3.2.1 Competition Issues and Potential Remedies**

202. Access to infrastructure and the sunk costs associated with deploying a customer access network were important factors in the SMP determinations relating to the retail broadband markets. If the broadband resale service is introduced as a wholesale market remedy then retail entry will be facilitated by eliminating the need to own an access network. However, because the proposed wholesale broadband service is a resale service and is priced at retail prices minus avoidable cost, retail competition from firms that utilise the wholesale broadband service will not constrain the ability of BTC and BCV to price excessively in the retail markets.
203. Potential regulatory remedies to address excessive pricing in the retail markets include (a) tariff approval; and (b) tariff filing with price cap regulation.

#### **5.3.2.2 Option A: No Regulation**

204. The Authority considers that there is insufficient competition to constrain the retail pricing of the SMP operator, BTC (in the business and residential markets) and BCV (in the residential market). As mentioned above, competitors using the wholesale broadband access service would not place a significant constraint on the retail market pricing of BTC and BCV. Constraint on BTC and BCV's pricing in this market would primarily come from other access networks. However, in the residential markets and in the business market outside Hamilton the alternative network based supplier, being NRC, has ownership linkages with BTC and BCV via KeyTech. This common ownership may dampen the effect of competitive constraint that they place on BTC.
205. Give the lack of network based competition, the Authority does not consider that regulatory forbearance would be in the best interests of consumers.

#### **5.3.2.3 Option B: Tariff Approval**

206. Under this option BTC and BCV would be required to seek approval in advance to alter tariffs or introduced new tariffs. Applications would need to be accompanied by cost studies which justify the proposed tariffs.
207. This approach would address concerns associated with excessive pricing, but would impose:
  - (a) Significant administrative costs on BCV, BTC and the Regulatory Authority in preparing and assessing the cost studies; and
  - (b) Constraints on the timing of the introduction of new or revised pricing because of the extra time delays in prepare tariff approval applications and assessment by the Regulatory Authority of those applications.

#### **5.3.2.4 Option C: Tariff Filing Plus Price Cap Regulation**

208. BTC and BCV would be required to file new and revised tariffs but those filings would not need to be accompanied by cost studies. Instead the concern of excessive pricing would be addressed through retail price cap regulation. The Authority would determine an annual factor for the price cap governing the annual change in the unbundled retail access and local call prices. At the end of each year, BTC's and BCV's average retail price for each standard access and local package (excluding bundles) must be within the cap.
209. The Authority considers that it would be sufficient to subject standalone broadband to price caps, rather than extending the obligation to bundles that include the ISP functions previously provided by Class C carriers, because competition for bundles introduced through wholesale broadband availability would compete away rents earned on bundle pricing.
210. Option C would address the concern of excessive pricing while not imposing the administrative costs and delays associated with Option B.

#### **5.3.2.5 Conclusion on Retail Market Remedies**

211. The RA considers that of the three options considered, the optimal remedy choice is tariff filing with a retail price cap. The RA proposes that the price cap apply to the price per Mb/s for each broadband access speed offered. The RA proposes that the price per Mb/s must remain at current levels, unless the SMP operator can demonstrate that this result in prices not recovering historical costs. The cap would apply to new speed offerings as well as existing speeds.
212. The RA also proposes that price squeeze tests be provided for bundled tariffs that include a non-SMP service in order to demonstrate replicability.
213. The RA tentatively concludes that the option of tariff filing and a price cap best achieves the objectives of the ECA for the following reasons:
  - (a) Competition objective: The key remaining competition issue, assuming that the proposed wholesale broadband access remedy priced at retail minus avoidable cost is adopted in the wholesale market, is the potential for excessive pricing. A price cap along with light-handed monitoring via tariff filing will address this competition concern, and therefore address the competitive objective.

- (b) Investment objective: The RA does not consider that the proposed cap will adversely affect investment incentives because SMP operators will have an opportunity to demonstrate that the price is not recovering historical cost in which case the cap would not apply.
- (c) Proportionality objective: Tariff filing and retail price caps are commonly adopted internationally and considered a proportionate remedy to the competition problem of excessive pricing by a firm holding SMP.
- (d) Neutrality objective: The RA considers that applying the same remedies to copper-based services and cable-based services is consistent with the neutrality objective.
- (e) Market forces objective: Competition is not sufficiently strong, nor is it expected to be in the foreseeable future, to constrain pricing of retail broadband services in the relevant markets in which BTC and BCV have been identified as having SMP.

**Consultation Question 28:** The Regulatory Authority proposes to introduce tariff filing and price cap regulation on BTC and BCV in the residential retail broadband market and on BTC in the business retail broadband market outside of Hamilton. Do you agree that this approach best satisfies the objectives of the Act in addressing SMP in the retail broadband call markets?

#### **5.3.2.6 Compliance with Retail Market Remedies**

- 214. Compliance with the retail market remedies for purposes of ECA Section 73(5)(a) requires filing of all existing tariffs with the Regulatory Authority as per section 4.1.4.
- 215. On-going compliance requires:
  - (a) tariff filing notice requirements as per section 4.1.4.; and
  - (b) at the end of each 12 month period BTC and BCV must submit a report to the RA showing the changes in its retail broadband prices and how they compare to the price cap.

#### **5.4 Mobile Service Markets**

- 216. Our Market Review General Determination determined that BDC and Digicel hold joint SMP in the national market for the supply of wholesale access and local call origination on mobile networks. Joint SMP was also found in the retail market for mobile services.
- 217. Due to the obvious linkages between these two markets and the need for a consistent regulatory approach the RA has assessed the two markets jointly in Section 5.4.1 below.
- 218. The RA also found SMP in the wholesale market for the origination on mobile networks of international calls. The relevant remedies for this market are examined in Section 5.4.2.

## **5.4.1 Wholesale and Retail Mobile Access and Calling Services**

### **5.4.1.1 Competition Problems**

219. The RA's starting point for assessing remedies is to identify the key competition issues to be addressed. The RA has identified four key competition issues that relate to both the wholesale and retail markets:
- (a) the potential for excessive pricing and inferior quality of service and innovation as a result of the joint SMP and lack of competitive pressure;
  - (b) the ability of the incumbent duopolists to erect strategic barriers to entry and expansion;
  - (c) discriminatory conduct; and
  - (d) the potential for BDC and Digicel, to leverage market power from the mobile markets into the fixed markets – for example, through bundling of fixed and mobile services.
220. We now discuss each of these competition issues in turn in more detail.

#### **5.4.1.1.1 Excessive Pricing**

221. The SMP consultation found the wholesale and retail mobile markets to be duopolies with roughly balanced market shares and substantial barriers to entry. Barriers to entry to these markets identified by the RA include: minimum efficient scale being difficult to achieve in a small market; high sunk costs; difficulties associated with building towers; spectrum availability and network effects from on-net/off-net pricing differentials. The RA found that despite these barriers there may still be potential for further entry – for example, with Quantum being a potential entrant.
222. The RA also found that although voice prices had been stagnant for six years, the past two years had seen the revision of some plans which provide improvements in the value available to consumers.
223. Although excessive pricing/inferior quality is a potential concern given the current duopolistic market structure, because entry remains a real possibility it does not seem necessary to implement a regulatory remedy at this stage to address this competition concern. Instead it would be sufficient to monitor the market as it would be preferable for competitive forces to place constraints on prices rather than regulatory intervention. Intrusive regulatory intervention on retail and/or wholesale pricing at this point in time could significantly affect the business case for a new entrant contemplating network deployment and could therefore deter entry.

#### **5.4.1.1.2 Strategic Barriers to Entry**

224. In addition to legal, technical and economic barriers to entry, strategic barriers can occur as a result of the conduct of firms already in a market. One such strategic entry barrier that has been recognised by many regulators internationally is the use of on-net/off-net price discrimination by large networks. This occurs where firms set a differential between the price of calls that travel between callers belonging to the same mobile network, as compared with the price of calls to other networks.
225. In a bill-and-keep (“BAK”) environment such as Bermuda, where no termination rates are charged between networks for the termination of off-net calls, there is no apparent cost-based justification for setting retail prices of off-net calls higher than for

on-net calls.<sup>67</sup> This suggests that the rationale behind on-net/off-net price differentials in the presence of BAK is a strategic means of winning and maintaining market share.

226. Such practices are not necessarily anti-competitive, nor are they always employed with the intention of creating barriers to new entry. Where networks are of similar size as measured by subscriber connections then both networks can be on a relatively equal footing in terms of their capacity to attract and retain customers through network effects.
227. However if a new network attempts to enter the market, the network effects created by on-net/off-net price discrimination can have the effect of creating a formidable barrier to entry and expansion. Customers value the ability to both place and receive calls. When large networks charge their customers a higher rate for off-net calls than on-net calls the expected demand response is a low propensity to make off-net calls. As a result, if a subscriber of one of the incumbent networks switches to a new network that subscriber will likely face a reduction in the number of inbound calls it receives. This will deter customers from switching to the smaller network. In the presence of these network effects created by price discrimination, the larger the network (as measured by subscriber numbers), the more valuable it is to be subscribed to that network.
228. Concerns over the effect of on-net/off-net price discrimination on competition have been expressed by many regulatory internationally. For example:
- (a) The New Zealand Commerce Commission, when examining the effect on new entry of on-net price discrimination by incumbent duopolists came to the conclusion that:

*in some circumstances price discrimination can have an anti-competitive effect if it hinders entry and/or expansion. In the early stages, when a new entrant tries to get a foothold in the market, the degree of on-net off-net price differentiation may prevent effective competition from evolving.*<sup>68</sup>

- (b) The ERG (now BEREC) recognised the way in which on-net/off-net price discrimination by large networks impacts the ability of small networks to expand their customer base:

*These offers can induce a market situation where small operators have difficulties in attracting customers towards their networks, in particular in saturated markets (which is currently the case in European markets)*<sup>69</sup>

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<sup>67</sup> While off-net calls involve the cost of interconnection links and possibly extra signalling, these costs would likely be very small. This cost differential exists for wire-line services and, nevertheless, carriers do not generally charge less for on-net calls

<sup>68</sup> New Zealand Commerce Commission (5 May 2011) *Standard Terms Determination for the designated services of the mobile termination access services (MTAS) fixed-to-mobile voice (FTM), mobile-to-mobile voice (MTM) and short messaging services (SMS)* – Decision 724, Para 513.

<sup>69</sup> European Regulator's Group (February 2008), *ERG's Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates*, p. 98.

229. The anti-competitive effect of on-net/off-net price discrimination has been recognised in *ex post* investigations by regulatory authorities. For example: In 2012, the French Competition Authority (FCA) fined Orange SFR and Bouygues Telecom a total of €183 million for offering unlimited on-net calling, which had the effect of charging less for on-net calls than off-net calls without a cost or efficiency justification. It was found that this conduct effectively locked customers in, and increased switching costs with the effect of weakening the smaller network Bouygues Telecom creating a significant danger that these practices would drive Bouygues Telecom out of the market.<sup>70</sup>
230. Looking to actual pricing practices in Bermuda it can be seen that both CellOne and Digicel differentiate between the allocation of on-net (“In-Network”) and off-net (“Anytime”) minutes in postpaid plans. For example, in the CellOne Voice Plans the allocation of In-Network minutes is twice the number of ‘Anytime Minutes’ (see Table 3). CellOne’s SharePlans offer unlimited In-Network minutes whereas off-net minutes are charged at 10c-25c per minute once the allocated shared minutes have been exceeded, except for the highest usage plan which provides unlimited minutes to any network (see Table 4). The monthly fee that must be paid to obtain unlimited off-net minutes on the SharePlans is \$349 whereas unlimited on-net minutes can be achieved for the same number of lines (5) for only \$109. This implies that the off-net minutes are effectively priced higher than on-net minutes.

**Table 3: CellOne Voice Plans**

<b>Price</b>	<b>Anytime Minutes</b>	<b>In-Network Minutes</b>	<b>Included Text Messages</b>	<b>Additional Minutes</b>
<b>\$37.00</b>	100	200	100	\$0.25
<b>\$57.00</b>	300	600	300	\$0.20
<b>\$77.00</b>	500	1000	500	\$0.15
<b>\$117.00</b>	1000	2000	1000	\$0.10
<b>\$137.00</b>	Unlimited	Unlimited	Unlimited	N/A

Source: [http://www.cellone.bm/plans/plans\\_voice.html](http://www.cellone.bm/plans/plans_voice.html)

<sup>70</sup> Autorite de la Concurrence, Press Release – 13 December 2012, “Mobile Telephony.” Available at: [http://www.autoritedelaconcurrence.fr/user/standard.php?id\\_rub=418&id\\_article=2014](http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=418&id_article=2014)

**Table 4: CellOne SharePlans**

Price for 2 People	Anytime Minutes (Shared)	In-Network Minutes	SMS (Shared)	Additional Minutes (Peak)	Additional Lines
<b>\$69.00 (Max. 3 lines)</b>	250	Unlimited	250	\$0.25	\$9.00 per line
<b>\$109.00 (Max. 5 lines)</b>	750	Unlimited	750	\$0.20	\$9.00 per line
<b>\$149.00 (Max 5 lines)</b>	1250	Unlimited	1250	\$0.15	\$9.00 per line
<b>\$249.00 (Max 5 lines)</b>	2500	Unlimited	2500	\$0.10	\$9.00 per line
<b>\$349.00 (Max 5 lines)</b>	Unlimited	Unlimited	Unlimited	Unlimited	\$49.00 per line

Source: [http://www.cellone.bm/plans/plans\\_share.html](http://www.cellone.bm/plans/plans_share.html)

231. Digicel differentiates between allocated on-net and off-net/anytime minutes in a similar manner on its VoicePlans and Smartphone Plans (see Table 5 and Table 6).

**Table 5: Digicel Voice Plans**

Plan	Monthly Rate	Local Anytime Minutes	Local Digicel Minutes	Outgoing Local Texts	Overage Rate (per minute or text)
<b>Digicel Gold</b>	\$25	100	100	-	\$0.25
<b>Postpaid 300</b>	\$35	100	200	100	\$0.25
<b>Postpaid 900</b>	\$55	300	600	300	\$0.20
<b>Postpaid 1500</b>	\$75	500	1000	500	\$0.15
<b>Postpaid 3000</b>	\$115	1000	2000	1000	\$0.10
<b>Unlimited</b>	\$165	Unlimited	Unlimited	Unlimited	N/A

Source: <http://www.digicelbermuda.com/en/postpaid/voice-plans>

**Table 6: Digicel Smartphone Plans**

Plan	Monthly Rate	Included Data	Local Anytime Minutes	Local Digicel Minutes	Outgoing Local Texts	Overage Rate (per minute or text)	Data Overage Rate (per MB)
<b>Chatty Charlie</b>	\$100	100 MB	500	Unlimited	500	\$0.10	\$3.00
<b>Balanced Bobby</b>	\$100	1 GB	300	Unlimited	300	\$0.15	\$0.05
<b>Social Sam</b>	\$100	3 GB	100	Unlimited	100	\$0.20	\$0.04
<b>Data Dana</b>	\$100	7 GB	50	Unlimited	50	\$0.15	\$0.03
<b>Ultimate Unlimited</b>	\$199	Unlimited	Unlimited	Unlimited	Unlimited	N/A	N/A

Source: <http://www.digicelbermuda.com/en/postpaid/smartphone-plans>

232. The offerings above, as they stand, seem unlikely to form a significant barrier to entry for new networks because they do provide at least some allocation of off-network minutes. Plans that only included allocations of on-net minutes but which applied a per minute charge to off-net minutes would likely be more problematic.
233. Perhaps of more concern, in regard to the impact on competition, is the structure of Digicel's prepaid tariff. Digicel offers its prepaid customers free incoming calls from other Digicel mobiles, but charges 25cpm peak/35cpm off-peak for incoming calls from other networks.<sup>71</sup> This strategy is unique to the Receiving Party Pays (RPP) regime because it is on-net/off-net price discrimination on the price paid to receive calls rather than on the price of placing calls. This type of strategy could effectively choke off, or at least substantially reduce the amount calls placed by subscribers of new networks because in its extreme, subscribers of large networks would not accept incoming calls from those smaller networks and when a new network first launches almost all calls are off-net. The result would be that entry and expansion by new networks could be particularly difficult because customers would not want to connect to a network if their calls to other networks would not be accepted. More generally, this type of pricing deters connectivity between subscribers on different networks and strengthens the network effects discussed above.

**Consultation Question 29:** Do you agree that there is no apparent cost justification for setting the price of off-net outbound or inbound calls significantly above the on-net price? If you disagree, please explain and provide supporting cost studies.

#### 5.4.1.1.3 Wholesale price discrimination

234. There is the potential for SMP operators to favour one wholesale customer over another. For example, an SMP operator may have the ability and incentive to favour

<sup>71</sup> <http://www.digicelbermuda.com/en/prepaid/voice-rates>



wholesale customers that are affiliate companies over non-affiliates. Discrimination may occur on price terms and/or on non-price terms (e.g., by applying quality differentials between wholesale customers).

#### **5.4.1.1.4 Leveraging of Market Power from Mobile to Fixed Markets**

235. Once the SMP operators are authorized to provide services that they were not authorized to provide under their old licenses, it is possible that one or both of the mobile networks could seek to leverage their market power from the retail mobile market into the retail fixed markets by bundling mobile services with fixed services.
236. It was tentatively concluded above that wholesale access and local calls should be made available by BTC (in Section 5.1.1) as well as wholesale broadband by BTC and BCV (in Section 5.3.1). This means that a number of firms will be able to provide a bundle of access lines, local calls, international calls, broadband access and Internet connectivity. In the absence of a wholesale mobile product it is possible that only BTC could offer a package of voice, broadband and mobile services by coordinating with BDC with which it shares common ownership by parent company, KeyTech. But if BDC were to provide a wholesale mobile product to BTC, BDC's ICOL<sup>72</sup> mandates that it must provide the same access to other licensees.
237. A firm that wished to provide a fixed and mobile bundle could approach either BDC or Digicel to obtain a wholesale service or enter into some type of commercial agreement in order to jointly provide the bundle.
238. A competition concern is that neither party may choose to provide access on non-discriminatory terms, if not compelled to through a regulatory remedy. Instead in the absence of competitive constraint in the wholesale market, BDC and Digicel would have the incentive to take advantage of the fact that competitors would be unable to replicate the bundle of fixed and mobile services. In particular both parties could use the proposed WLRLC and wholesale broadband services to provide fixed-mobile bundles that competitors could not replicate. As a result there would effectively be a duopoly in the supply of bundled fixed and mobile services.

**Consultation Question 30:** Do you agree that the four key competition problems in the retail mobile market and the wholesale mobile access and local call origination markets are: (1) excessive pricing; (2) the barrier to entry that on-net/off-net price discrimination can create; (3) wholesale price discrimination and (3) the ability of BDC and Digicel to leverage market power from the mobile market into the fixed markets through bundling?

#### **5.4.1.2 Identification of Relevant Regulatory Remedies**

##### **5.4.1.2.1 Wholesale Remedy Options**

239. The key alternative to regulatory forbearance in the wholesale market for mobile access and call origination would appear to be the introduction of a non-discriminatory wholesale service.
240. There are a range of wholesale options that could be adopted from simple resale services to access services which allow a MVNO (Mobile Virtual Network Operator) greater control over pricing, customer service and customer activation functions, and could potentially also enable an MVNO to utilise their own facilities to route traffic.

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<sup>72</sup> ICOL 11.2.

241. In the current context, as discussed above, the primary aim of requiring a non-discriminatory resale or MVNO service would be to address concerns regarding bundling of fixed and access services and the ability to leverage market power. In this context, a simple resale service is one option to enable fixed service providers to offer their customers fixed and mobile service bundles. Because the access seeker would primarily be rebilling the retail services of one of the two mobile networks, it would have little control over pricing. Therefore while it could offer customers the convenience of purchasing fixed and mobile services jointly and potentially reward customers for the cost savings associated with joint service provision it would be limited in its ability to offer innovative bundled pricing. A rebilling service of this type would likely best be priced at the retail price of the mobile network minus avoidable cost.
242. A second wholesale option is an MVNO model under which the access seeker would be provided with call origination, SMS and data usage at set unit rates and would determine its own retail pricing, distribute its own SIM cards, handle customer activation and customer service as well as sales and marketing. Options for pricing this type of service would include cost-based pricing, international benchmarking or a retail minus methodology which used the mobile networks aggregate revenue per unit as a starting point for the retail minus calculation. The RA has found that there is little publicly available information on MVNO rates in other countries, which limits the use of an international benchmarking pricing methodology. A "Retail Minus Avoided Cost" (RMAC) approach could take as its starting point high-level average revenue per unit information. Avoidable costs could be estimated through either a cost study, the use of separated accounts or by utilising available international information on typical levels of fixed network avoidable costs (adjusted for handset subsidies). A cost based approach would require either a cost study or separated accounts. The RA considers that RMAC to be the optimal pricing methodology for an MVNO service at the current time given that the primarily competition issue to be addressed by requiring a wholesale service is to enable bundling of fixed and mobile services while still encouraging mobile network entry.
243. A further regulatory option is to refrain from mandating and specifying a particular wholesale product at the current time, but to instead require that if BTC or another carrier provides fixed and mobile service bundles by using BDC's facilities, then BDC must provide a non-discriminatory access service which allows other access seekers to replicate the bundled service offering. In other words, if an SMP mobile operator provides wholesale services to one party it must provide wholesale services to other parties that request the service on equivalent terms. ICOL Condition 11.2 states that a licensee that has been determined to possess Significant Market Power may not unduly discriminate in relation to the provision of Interconnection or Access, unless granted a waiver by the Authority. Hence, unless a waiver is granted, the ICOL would require BDC to offer equivalent access to its mobile network to all access seekers, including its affiliates. Based on its preliminary assessment, the Authority sees no basis for the grant of such a waiver in these circumstances.
244. The same obligation applies to Digicel. If it provides wholesale mobile minutes to another licensee, ICOL Condition 11.2 mandates that it provide a non-discriminatory access service which allows access seekers to replicate the bundled service offering.
245. Under this option, commercial negotiation would be relied upon in the first instance so that the access seeker and wholesale service provider would determine among themselves the optimal service definition (whether simple resale or a form of MVNO

access) and terms of service provision. If commercial negotiation failed then the RA would consider in more detail the optimal service definition and pricing methodology. Because BDC and Digicel (and all affiliates)) would effectively be forbidden from offering a wholesale mobile services until a non-discriminatory wholesale service was available they would likely have an incentive to come to a commercial agreement with access seekers without regulatory intervention.<sup>73</sup>

**Consultation Question 31:** The RA has identified 4 regulatory options for the wholesale mobile access and local call origination market: (a) regulatory forbearance; (b) resale of retail packages at retail minus pricing; (c) a form of MVNO access which gives the access seeker greater control over the pricing of its retail package pricing; and (d) a requirement that the SMP operator offer a non-discriminatory mobile access product only if it provides wholesale mobile access to another carrier. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

#### 5.4.1.2.2 Retail Remedy Options

246. A first retail option to consider is regulatory forbearance, relying on competitive forces to deliver effective competition. Given the concern expressed above regarding the potential for on-net/off-net price discrimination to create a barrier to entry, the RA has identified a number of other options ranging from monitoring of tariffs and/or traffic flows to a ban on this type of price discrimination.
247. An outright ban on on-net/off-net price discrimination is one regulatory option. Alternatively, a lighter form of regulatory oversight such monitoring of tariffs being offered in the market and/or the effect that prices are having on traffic flows may be sufficient at this point in time.
248. Monitoring of traffic data to assess the percentage of traffic that is flowing between networks as compared with on-net traffic, and the way that this ratio is changing over time could be carried out by the RA by periodically collecting traffic from each mobile network.
249. Given the above, the RA proposes to consider the following regulatory options:
  - (a) Regulatory forbearance;
  - (b) Tariff filing requirements
  - (c) Monitoring of on-net/off-net traffic flows; and
  - (d) A ban on on-net/off-net price discrimination.

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<sup>73</sup> The RA has decided not to include mobile number portability as a potential remedy in this consultation because this issue is being addressed in another public consultation. See: "1st March 2013 - Number Portability Consultation" at <http://rab.bm/images/PDF/Number%20Portability%20Consultation%20NP0113.pdf>. However, if number portability is not implemented by March 2014 the RA will reevaluate this decision.

**Consultation Question 32:** The RA has identified 4 regulatory options for the retail mobile services market: (a) regulatory forbearance; (b) tariff filing requirements; (c) tariff-filing plus monitoring of on-net/off-net traffic flows; (d) ban on on-net/off-net price differentials. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

#### **5.4.1.3 Assessment of Wholesale Remedy Options**

250. The following discussion evaluates each of the four identified wholesale market remedies identified above, which are:

- (a) Option A: No regulatory intervention
- (b) Option B: Resale of retail packages with the wholesale price set at retail minus avoidable cost on a non-discriminatory basis regarding non-price terms
- (c) Option C: Non-discriminatory MVNO access
- (d) Option D: No resale or MVNO access mandate unless BTC or BDC offer wholesale mobile access, in which case the carrier must offer a wholesale service on a non-discriminatory basis.

##### **5.4.1.3.1 Option A: No Regulatory Intervention**

251. Under this option no regulatory remedy would be applied in the wholesale market for access and origination on mobile networks. It is possible that under this scenario commercial wholesaling would occur. MVNO services are provided on a commercial basis in many countries including the UK, United States, Australia, and New Zealand.
252. In some cases this reflects that there are commercial benefits to the mobile network operator (MNO) from offering MVNO services. For example, MVNOs can sometimes be better at targeting niche markets than the MNO, which means that providing access to MVNOs can increase the MNO's wholesale market share. In other cases, the existence of commercial wholesale MVNO access agreements reflects a desire on the part of the mobile network to avoid regulated MVNO access.
253. Digicel has indicated in its submission that it is in the process of discussing MVNO models with at least one interested party. Therefore it may be the case that even without a regulatory mandate it may offer an MVNO service, although this is uncertain.

##### **5.4.1.3.2 Option B: Resale at Retail Minus Avoidable Costs with Non-Discriminatory Non-Price Terms**

254. Under this option the access seeker would essentially be a reseller of the mobile network's retail pricing plans with the wholesale price set at the level of the retail price minus avoidable costs. While this option could be thought of as providing a straight-forward means for enabling fixed service providers to provide a single bill for fixed and mobile services, in reality this may not be simplest regulatory option for addressing bundling and leveraging concerns given the complexities of mobile pricing plans. The wide range of pricing plans could complicate wholesale ordering systems, for example.
255. While this option would go some way to developing and maintaining competition it would not provide the same ability to innovate and compete on price as the MVNO

option. It is not clear to the RA whether this option would be technically and economically feasible due to the mobile pricing plan complexities. The RA seeks feedback from interested parties on this matter.

#### **5.4.1.3.3 Option C: Non-Discriminatory MVNO Access**

- 256. Provision of non-discriminatory MVNO access addresses potential competition issues that could arise if bundling of mobile and fixed services occurs. As a result, the RA is of the view this option is consistent with the competition objective.
- 257. The extent to which a requirement to provide MVNO access impacts on investment would depend on the pricing of the MVNO service. As was discussed above, a retail minus avoidable cost methodology would likely have less impact than a cost-based pricing methodology as it would best preserve potential entrants' incentives to invest.
- 258. Establishing whether a remedy is proportionate involves consideration of the compliance costs. The RA requests parties to provide an estimate of the costs involved in supplying an MVNO service.

#### **5.4.1.3.4 Option D: Non-Discriminatory Wholesale Access Required Only If BDC or Digicel Provide a Wholesale Mobile Access Product**

- 259. A key competition issue identified above in Section 5.4.1.1.3 was the concern that market power could be leveraged from the mobile market into the fixed market through bundling of fixed and mobile services by BDC or Digicel or an affiliate of either company. Given that those parties have not yet engaged in bundling activity it may be premature to require a resale or MVNO service offering. Requiring the provision of resale or an MVNO service only if the mobile operator voluntarily provides wholesale mobile service to another carrier would seem to be a more proportionate remedy than an immediate requirement to provide access, while still satisfying the competition objective.
- 260. We have not proposed that mobile carriers provide MVNO access if they bundle a fixed service with their own retail mobile product. As we state below, we are reluctant to impose an MVNO remedy at this time.

#### **5.4.1.3.5 Conclusion on Wholesale Remedy**

- 261. Given the above discussion the RA's tentative view is that it would not be proportionate at this point to require mobile resale or MVNO access. There is at least some prospect of a deployment of one or more additional mobile networks and therefore the key potential competition issue to be addressed is that of bundling. The RA considers that Option D which ties a requirement to provide a wholesale service to a mobile operator's introduction of a mobile wholesale product to at least one wholesale customer (an affiliate or otherwise), to be proportionate, and consistent with the competition and investment objectives.
- 262. We propose that an SMP operator is obligated to notify the Authority within five business days of any MVNO negotiations that it has entered into with other licensees.
- 263. The RA tentatively concludes that Option D which ties a requirement to provide a non-discriminatory wholesale service to the introduction by the mobile SMP operator of a wholesale mobile product best satisfies the objectives of ECA Section 21. The reasons for this can be summarised as follows:

- (a) Competition objective: It is considered that ensuring that there is no discrimination between wholesale customers is important for maintaining and developing competition. Mandating resale or MVNO could potentially distort competition by reducing incentive for further network entry.
  - (b) Investment objective: The RA considers that implementation of a wholesale service only if initiated by a mobile SMP operator through the provision of wholesale service to another carrier and on commercially negotiated terms is unlikely to negatively impact on investment. Even if regulatory intervention is required retail-minus pricing could be used to minimise negative investment impacts.
  - (c) Proportionality objective: Given the risks of fixed service suppliers effectively being excluded from competing, the RA considers that the relatively light-handed measure of requiring wholesale service provision only if the carrier provides wholesale service to another carrier to be proportionate.
  - (d) Neutrality objective: The RA does not consider the Neutrality Objective to be relevant in the evaluation of this remedy.
  - (e) Market forces objective: The option tentatively proposed by the RA relies primarily on market forces.
264. With regard to the factors relevant to imposing an access obligation, the RA makes the following tentative observations:
- (a) Technical and economic feasibility: The RA invites views from the parties as to the technical and economic feasibility of either a resale or MVNO service. The RA considers that the costs of resale are likely to be similar to the costs of WLRLC and therefore would not be prohibitive. Moreover, because the RA proposes to link any access obligation to the provision of wholesale mobile service, the RA's proposal does not in itself require access to be necessarily provided.
  - (b) Available capacity: The RA does not envisage capacity constraints arising from the introduction of an access service.
  - (c) Investment risk of SMP operator: Pricing of an access service at retail minus avoidable cost should result in the SMP operator earning the same contribution to network costs from wholesale mobile services as it does from its own retail customers. As a result the RA does not consider that the implementation of a wholesale mobile access service imposes a significant investment risk. Moreover, if it did impose a significant investment risk the SMP operator could simply chose not to wholesale at all (in which case it is proposed that no wholesale remedy would be triggered).
  - (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: The proposed remedy is consistent with addressing this factor.

**Consultation Question 33:** For mobile networks: please provide estimates of (1) the cost of implementing resale access; and (2) implementing MVNO access.

**Consultation Question 34:** Is resale technically feasible as a remedy?

**Consultation Question 35:** The RA has come to the tentative conclusion that a requirement to supply a non-discriminatory wholesale mobile access and call origination service should apply to SMP operators but should only be mandated if BDC or Digicel offer wholesale mobile services to at least one wholesale customer (an affiliate or otherwise). Regulatory intervention on the terms and conditions of wholesale supply will only occur if commercial negotiation fails. Do you agree with this conclusion? Please explain why or why not.

#### **5.4.1.4 Assessment of Retail Remedies**

265. The following sections assess the four identified regulatory remedy options for the retail mobile services market:

- (a) regulatory forbearance
- (b) tariff filing requirements;
- (c) tariff-filing plus monitoring of on-net/off-net traffic flows;
- (d) banning on-net/off-net price differentials.

##### **5.4.1.4.1 Option A: No Regulatory Intervention**

266. In the discussion above in section 5.4.1.1.2, the RA expressed concern regarding the potential of on-net/off-net price discrimination to form a barrier to entry. The RA is of the view that there is a significant risk that without any regulatory intervention that this type of discriminatory pricing conduct would affect the prospects of entry by a new network into the retail mobile market. As a result, the option of no regulatory intervention would not be consistent with the competition objective in the Act. Nor would it be consistent with the investment objective, because: (a) investment by new entrants would be deterred; and (b) the absence of entry may reduce the incentives of incumbents to invest further in their networks.
267. While it may be appropriate at this point in time to rely on market forces to address possible concerns of excessive pricing, the RA is of the view that some form of regulatory oversight is necessary to foster competition by ensuring that on-net/off-net price discrimination does not create a barrier to entry.

##### **5.4.1.4.2 Option B: Tariff Filing**

268. Tariff filing would provide a means for the regulator to monitor the extent of on-net/off-net price discrimination that occurs in the retail mobile services market. It is not an onerous or costly process and would assist with pursuing the competition objective because the RA would be aware of the extent of price discrimination. However a drawback with this measure is that the RA would not have visibility of what effect the pricing is having on customer usage and subscription.

##### **5.4.1.4.3 Option C: Tariff Filing Plus Monitoring Of On-Net/Off-Net Pricing and Traffic Flows**

269. This option would provide the RA with the means to both be aware of the pricing practices of BDC and Digicel while also being able to assess the impact that this

pricing has on traffic flows and customer connections. Under this option, the RA proposes that BDC and Digicel would supply the information contained in Table 7 and Table 8.

**Table 7: Quarterly traffic monitoring information required**

Outbound on-net mobile-to-mobile minutes		Outbound on-net mobile-to-mobile minutes	
Prepaid	Postpaid	Prepaid	Postpaid

**Table 8: Quarterly subscriber number information required**

	Prepaid	Postpaid
Number of subscribers active within the last 30 days subscribers, as at end of quarter		

270. The RA could further investigate remedies aimed at restricting price discrimination in the event that the RA observes: (a) high levels of on-net/off-net price discrimination; and (b) that the price discrimination is leading to strong network effects with under-consumption of cross-network traffic.

271. This approach is similar to that taken in New Zealand where the Commerce Commission implemented a monitoring process in May 2011.<sup>74</sup>

#### **5.4.1.4.4 Option D: Banning On-Net/Off-Net Price Differentials**

272. To address the RA's concerns with on-net/off-net price discrimination, this type of conduct could be banned or restricted to some extent. Restrictions on-net/off-net pricing have been implemented in a number of jurisdictions. Recent examples include the following:

- (a) In Papua New Guinea in 2012, the National ICT Authority (NICTA) made a recommendation to the Minister the dominant mobile operator, Digicel be restricted from engaging in price differentials that exceeded 40% for prepaid services.<sup>75</sup>
- (b) In Namibia in 2011, the Namibian Communications Commission set a price cap for off-net calls and calls to fixed networks at the level of on-net call pricing.<sup>76</sup>
- (c) In Qatar in 2011, ictQatar issued an order prohibiting on-net/off-net price discrimination by QTel.<sup>77</sup>

<sup>74</sup> New Zealand Commerce Commission (5 May 2011), Para 564-571.

<sup>75</sup> NICTA (24 September 2012), *Recommendation Report – A report to the Minister recommending the introduction of a retail service determination*.

<sup>76</sup> Namibian Communications Commission (March 2011), *Price Cap on Off-net Retail Prices*, pp. 3-5.



- (d) In Kenya in 2010, the Communications Commission of Kenya capped off-net prices at the level of on-net prices.<sup>78</sup>
273. Other countries where restrictions on on-net/off-net price discrimination have been in place include: Singapore, New Zealand, Turkey and Colombia.
274. A ban on on-net/off-net price discrimination would address the competition concerns that the RA holds. However it is not clear that this option would be proportionate at this stage. A less interventionist option such as monitoring seems more proportionate at the current time.

#### **5.4.1.4.5 Conclusion on Retail Remedy**

275. The RA considers that the set of remedies for the retail mobile market that are most consistent with the objectives of the Act are retail market monitoring and tariff filing. for the following reasons:
- (a) Competition objective: Monitoring of tariffs and traffic flows will allow the RA to assess whether on-net pricing is likely to cause an entry barrier. These remedies assist in the RA in developing effective competition in the market, by alerting it to a potential entry barrier which it can then address through further regulatory intervention if necessary.
  - (b) Investment objective: The RA considers that tariff filing and traffic monitoring will not have any adverse effect on investment, and instead will help foster investment in new networks by aiding the process of addressing a potential entry barrier.
  - (c) Proportionality objective: Tariff filing and traffic monitoring is a light handed measure which would not impose a significant burden on mobile operators. The RA considers that this approach is proportionate.
  - (d) Neutrality objective: The RA does not consider the Neutrality Objective to be relevant in the evaluation of this remedy.
  - (e) Market forces objective: The proposed remedy relies on market forces but provides the ability for the RA to detect whether market forces on their own are not sufficient for competitive entry to occur.

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<sup>77</sup> ictQatar (15 May 2011), *Order of the Supreme Council for Information and Communications Technology (ictQatar) setting forth the rules and instructions for on-net/off-net price differentiation for Dominant Service Providers in Qatar*.

<sup>78</sup> Communications Commission of Kenya (2010), *Determination on Interconnection Rates for Fixed and Mobile Telecommunications Networks, Infrastructure Sharing and Co-Location; and Broadband Interconnection Services in Kenya – Interconnection Determination No. 2 of 2010*.

**Consultation Question 36:** The RA has come to the tentative conclusion that tariff filing obligations apply to BDC and Digicel and that the two parties must supply information on on-net/off-net traffic on a quarterly basis in order for the RA to monitor the extent to which on-net/off-net price discrimination forms a barrier to entry or expansion to new entry. Do you agree with this conclusion? Please explain why or why not.

#### **5.4.2 International Call Origination**

276. The RA concluded in the SMP consultation that BDC and Digicel hold joint SMP in the national market for the supply of wholesale origination of international calls on mobile networks.

##### **5.4.2.1 Competition Issues and Potential Remedies**

277. Currently mobile networks provide a pre-selection service enabling retail customers to choose which international carrier to purchase international calls from. No origination rate is charged by the mobile network to the international carrier to whom the origination service is provided. Instead the cost of originating the call is recovered through a retail airtime charge.
278. The ICOLs (Transitional Condition A2.3(b)) require that pre-selection will continue to be provided absent a general determination by the Authority to the contrary. In particular, ICOL Transitional Condition A2.3(b) requires that until the RA determines otherwise, “if the Licensee has been assigned Numbers under the Numbering Plan, [it must] provide End-Users with Carrier Pre-section for international calls.” The Authority is minded to retain this obligation until a review is conducted after the marketplace has had a reasonable period of time to adjust to the new regulatory framework. The obligation to provide the pre-selection service implies a requirement to supply call origination in some manner. Therefore competition issues centre on the terms and conditions on which the call origination service is provided.
279. Potential competition problems relate to: (1) excessive pricing of the origination service; and (2) discriminatory practices.
280. In relation to this first of these matters, the lack of competition in the wholesale market (given that the market is a duopoly with high barrier to entry), implies little competitive constraint on the pricing of the origination service.
281. The second issue, discriminatory practices, arises from the vertical integration of mobile networks, in that they provide the wholesale origination service as well as competing in the relevant retail market for the supply of international calls. Therefore it is possible that the mobile networks could favour their own downstream operations in some way when providing the origination service – for example, they may recover less from retail customers for international call origination than the charge levied on third party international carriers. Even if the wholesale charge is set to zero another means for discrimination is if the mobile network charges retail customers less for the origination of international calls that are carried entirely by the mobile network as compared with international calls that are carried by third party international carriers.
282. With regard to remedies to address these competition issues, a first option is no regulatory intervention. A second option is to require that the price of the wholesale origination charge remain at zero on the basis that costs can continue to be recovered through the retail airtime charge. A third option is that a non-zero call origination charge is levied. Non-discrimination requirements, which could be

imposed either on its own or in conjunction with Options 2 and 3 are another alternative remedy.

#### **5.4.2.2 Assessment of Regulatory Remedy Options**

##### **5.4.2.2.1 Option A: No Regulatory Intervention**

283. As described above, the requirement to provide pre-selection implies that call origination will be provided in some form, even without the imposition of a regulatory remedy as part of the market review. However BDC and Digicel may still have the incentive to in some way disadvantage competing international carriers by favouring their own downstream operations – for example, by effectively charging competitors more than their own retail operations are charged. As a result, the RA is of the view that regulatory forbearance would be inconsistent with the objective of maintaining and sustaining effective competition for the benefit of consumers.

##### **5.4.2.2.2 Option B: Requirement That Current Arrangements Be Maintained**

284. Under this option the wholesale origination charge would continue to be set at zero on the basis that costs can be recovered through retail airtime charges. There seems no reason why this would result in an arrangement whereby costs would be under-recovered and therefore it is highly unlikely that there would be any negative effect on investment. No cap is put on the airtime charge and the mobile carriers would set it in such a way so as to recover costs.

285. Maintaining the current arrangements would contribute to maintaining effective competition (subject to the need to address non-discrimination, as discussed below). It imposes little cost because the approach is already in place so its continuation will not impose any set-up costs and the on-going costs are low.

286. Given the above, the RA considers this option to be proportionate. To the extent that future market entry significantly reduces the level of market power held by BDC and Digicel, the adoption of this measure would be reviewed and removed if it was considered that market forces could be relied on.

##### **5.4.2.2.3 Option C: Non-Zero Origination Charge with No Retail Charge**

287. Under this option the existing approach would be altered so that retail customers would no longer be charged airtime by the mobile network for outbound international calls that are provided by other carriers. Instead the mobile network would recover its origination costs by levying an origination charge for the supply of the wholesale origination service to international call providers.

288. This regulatory option would be consistent with the objective of maintaining effective and sustainable competition. It is possible, however that it carries a somewhat higher risk that investment would be negatively impacted. This is because the ability of the mobile network operators to recover costs would depend on the level of the origination charge that would be determined by the RA. This risk could be mitigated by providing the mobile networks with the opportunity to submit their own cost studies to the RA if they considered that the price set by the RA was below cost. However, this would result in administrative costs of conducting and consulting on cost studies as well as the costs involved in implementing new systems for billing of mobile call origination. Given the small size of Bermuda and the option to continue

with the less costly Option B which is already in place, it is the RA's initial view that Option C would not be proportionate or optimal.

#### **5.4.2.2.4 Option D: Non-Discrimination Obligations**

289. As described above, where an access provider is vertically integrated concerns of discriminatory practices can arise in which the access provider favours its own downstream operations relative to external access seekers, whether in respect of price or non-price terms. The remedies used to address this competition problem vary widely and can include measures such as: accounting separation, operational separation rules, other forms of functional or physical separation, or the requirement to submit margin squeeze tests.
290. In the current case, the RA considers that the requirement that BDC and Digicel not discriminate is proportionate and sufficient to address competition concerns. However, should the RA find at some point in the future that such a remedy on its own is not sufficient it may consider other specific non-discrimination requirements such as margin squeeze tests and accounting separation.

#### **5.4.2.2.5 Conclusion on Optimal Remedies**

291. The RA's proposed conclusion on remedies in the wholesale market for the origination of international calls on mobile networks is that BDC and Digicel be required to:
- (a) Continue to provide origination at a zero wholesale charge for international calls origination on their mobile networks on the basis that they can continue to levy an airtime charge; and
  - (b) Provide the origination service on a non-discriminatory basis.
292. The RA considers that the imposition of these remedies is consistent with the objectives in ECA Section 21 for the reasons discussed above in the context of Options B and D.
293. Access to the wholesale service is effectively mandated through the requirement in the ICOL that pre-selection of international calls be provided. Therefore it is not clear that an analysis of the factors set out in ECA Section 24(4) is required. In any case, the RA considers that the proposed remedies do satisfy the criteria listed in that section and in respect of ECA Section 21.
294. In particular, the RA tentatively concludes that the continued provision of wholesale origination of international calls at a zero charge and on a non-discriminatory basis satisfies the objectives of ECA Section 21 for the following reasons:
- (a) Competition objective: The continued availability of international call origination on mobile networks at a zero charge will allow for competition in the supply of international calls from mobile networks to be maintained.
  - (b) Investment objective: The RA considers the maintaining the current arrangements for wholesale origination of international calls on mobile networks will not impact on investment. The RA expects that the SMP mobile operators will continue to recover costs through the airtime charge that is levied on outbound international calls.

- (c) Proportionality objective: The RA is of the view that continuing the existing regulatory requirement and requiring non-discrimination does not impose a substantial burden on SMP operators.
  - (d) Neutrality objective: The RA does not consider the Neutrality Objective to be relevant in the evaluation of this remedy.
  - (e) Market forces objective: The proposed remedy allows mobile operators to recover costs of origination through the airtime charge which is set through market forces.
295. With regard to the factors relevant to imposing an access obligations, the RA makes the following tentative observations:
- (a) Technical and economic feasibility: The RA considers that because the requirement to provide call origination at a zero price with costs being recovered from retail airtime charges is already in place, there will be no significant concerns regarding the technical and economic feasibility of using the wholesale origination service, and that there are unlikely to be capacity issues on the part of the access provider.
  - (b) Available capacity: The RA does not envisage capacity constraints arising from the introduction of an access service.
  - (c) Investment risk of SMP operator: The remedies do not impose significant investment risks on SMP operators. There is no evidence to suggest that the pre-selection of international calls and the provision of an origination service has had a negative effect on investment by mobile operators.
  - (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: This factor is relevant to some extent in the sense that continued availability of pre-selection and call origination will allow international carriers to continue to compete with BDC and Digicel even in the presence of their affiliation with international carriers.

**Consultation Question 37:** The RA has identified 4 regulatory options for the wholesale mobile call origination market: (a) regulatory forbearance; (b) maintain the current arrangements; (c) a non-zero origination charge with no airtime charges for the origination of international calls carried by third parties; (d) a non-discrimination requirement. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 38:** The RA has come to the preliminary conclusion that the remedies for the wholesale market for origination of international calls that are most consistent with the objectives of the ECA are that BDC and Digicel be required to: (a) continue to provide origination at a zero wholesale charge for international calls origination on their mobile networks on the basis that they can continue to levy an airtime charge; and (b) provide the origination service on a non-discriminatory basis. Do you agree with this conclusion?

## 5.5 Leased Line Markets

296. Our Market Review General Determination concluded that BTC holds SMP in each of the following six retail and wholesale markets:
- (a) A market for the wholesale supply of low speed leased lines in the City of Hamilton and contiguous suburbs

- (b) A market for the wholesale supply of low speed leased lines outside of Southside and the City of Hamilton and contiguous suburbs
  - (c) A market for the wholesale supply of high speed leased lines outside of Southside and the City of Hamilton and contiguous suburbs
  - (d) A market for the retail supply of low-speed retail leased lines in the City of Hamilton and contiguous suburbs
  - (e) A market for the retail supply of low-speed retail leased lines outside of Southside and the City of Hamilton and contiguous suburbs
  - (f) A market for the retail supply of high-speed retail leased lines outside of Southside and the City of Hamilton and contiguous suburbs
297. These markets are discussed below as follows:
- (a) Wholesale leased lines (Section 5.5.1); and
  - (b) Retail access and local calls (Section 5.5.2).

## **5.5.1 Wholesale Leased Lines**

### **5.5.1.1 Competition Issues and Potential Remedies**

298. Our Market Review General Determination concluded that high sunk costs associated with deploying leased line connections to customers was a key barrier to entry that contributes to BTC holding SMP in the three leased line markets identified above. As a result of high barriers to entry and expansion, there is a limited number of independently owned networks capable of supplying leased line services in these three wholesale markets. This, along with the fact that BTC is a vertically integrated supplier of retail leased lines, implies that market forces are most likely insufficient to deliver non-discriminatory wholesale access.
299. Wholesale leased lines are an input into the supply of retail domestic leased lines and retail end-to-end international leased lines. Currently the domestic tail of international leased lines is purchased by retail customers separately from the international component. The introduction of the ICOLs means that end-to-end international leased lines are likely to be supplied. That is, the domestic tail will be bundled with the international transmission, as is common in other jurisdictions. To enable this it will be necessary for parties that do not own a domestic leased line access network to acquire a wholesale domestic leased lines product.
300. In respect of operators who wish to supply retail domestic leased lines, wholesale leased lines are necessary as an input where a supplier has domestic transmission capacity (wireless or fixed) but not a ubiquitous customer access network. The operator would use its own domestic transmission capacity in conjunction with a wholesale leased line to supply an end-to-end retail domestic leased line solution to its business and government customers.
301. To address the need for non-discriminatory wholesale leased lines, regulatory options for the wholesale market include: (a) wholesale leased lines price on a retail minus basis; and (b) wholesale leased lines priced at cost.

#### **5.5.1.2 Option A: No Regulation**

302. Given the limited amount of networks capable of supplying leased line services in the markets for low-speed leased lines nationwide and high-speed leased lines outside of Hamilton, the Authority considers it unlikely that non-discriminatory wholesale leased line access would be provided without regulatory intervention. The absence of a non-discriminatory wholesale product would harm competition in the markets for provision of retail domestic leased lines and international leased lines.

#### **5.5.1.3 Option B: Non-Discriminatory Provision of Wholesale Leased Lines Priced at Retail Minus Avoidable cost**

303. This option would allow for suppliers of retail domestic and international leased lines services to provide end-to-end services, addressing the competition issues discussed above. Therefore the Authority considers that this it would promote the competition objective. The use of a retail minus pricing mechanism would generally be less likely to adversely affect incentives for network investment and appears to the Authority to be more proportionate to the competition issue rather than a cost-based approach.

#### **5.5.1.4 Option C: Non-Discriminatory Provision of Wholesale Leased Lines Priced At Cost**

304. This option would address the identified competition problems but would have greater administrative costs associated with creating and consulting on a cost study. Requiring a cost study would also result in delays in implementation of a wholesale service as compared with the use of the retail minus avoidable cost methodology.

#### **5.5.1.5 Conclusion on Wholesale Remedies**

305. The Regulatory Authority proposes to adopt Option B - non-discriminatory provision of wholesale leased lines priced at retail minus avoidable costs for all three wholesale leased lines markets in which BTC has been found to hold SMP. Of the three options considered, this option is considered to be the most consistent with the objectives set out in ECA Section 21 for the following reasons:
- (a) Competition objective: As described above, it is considered that introduction of a non-discriminatory wholesale leased line service will strengthen competition by allowing BTC and its rivals alike to be able to provide end-to-end domestic and international leased lines to business and government customers.
  - (b) Investment objective: The Authority considers that implementation of a wholesale leased line service is unlikely to have a negative impact on investment when priced at retail minus avoidable cost and could well encourage further investment by providing a stepping stone to full network investment.
  - (c) Proportionality objective: Given that provision of wholesale leased lines is common internationally and occurs not only in large countries but also in smaller jurisdictions such as Guernsey, Jersey and the Isle of Man, the Regulatory Authority does not consider that implementation of a wholesale leased line service on BTC imposes an undue burden.
  - (d) Neutrality objective: The Regulatory Authority does not consider the Neutrality Objective to be relevant.
  - (e) Market forces objective: The limited deployment of competing networks, driven by high sunk costs and other barriers to entry, and vertical integration of the SMP

operator implies that the market is not effectively, or even workably competitive. Without regulatory intervention it seems unlikely that a non-discriminatory wholesale leased lines service would be provided.

306. With regard to the factors relevant to imposing an access obligations, the Authority holds the following tentative views:

- (a) Technical and economic feasibility: Given the widespread use internationally of wholesale leased line services including in small jurisdictions, the Regulatory Authority considers it reasonable to conclude that such a service would also be technically and economically feasible in Bermuda.
- (b) Available capacity: The Regulatory Authority does not envisage capacity constraints arising from the introduction of wholesale leased lines.
- (c) Investment risk of SMP operator: Pricing of wholesale leased line services at retail minus avoidable cost should result in the SMP operator approximately earning the same contribution to network costs from wholesale leased line services as it does from retail leased line services. As a result the Regulatory Authority does not consider that the implementation of wholesale leased line services imposes a significant investment risk.
- (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: Introduction of wholesale leased lines is an important means for addressing this factor and reducing the risk of leveraging market power from one market to another (such as from domestic leased lines markets into international leased lines markets) by KeyTech-owned companies.

#### 5.5.1.6 Compliance

307. Compliance with the proposed wholesale market remedies for purposes of ECA Section 73(5)(a) requires:

- (a) The availability of a wholesale leased lines service; and
- (b) The approval by the Regulatory Authority of a RAIO that follows the guidelines established as a result of this consultation. The monthly rental charge must be priced at retail minus avoidable cost. The methodology for calculation of that price is discussed in more detail below. Connection charges and any other applicable charges must be specified in the RAIO and must be cost-justified.

308. On-going compliance requires revision of the wholesale leased lines price when retail tariffs change.

309. The following discussion addresses the pricing methodology.

310. There are few benchmarks available for the wholesale leased line markets. For example, according to the reporting of Body of European Regulators for Electronic Communications (BEREC) in the 17 EU countries where price regulation of wholesale terminating segments of leased lines is imposed, there are no remaining countries that utilise retail minus pricing.<sup>79</sup>

311. Two instances that the Regulatory Authority is aware of where wholesale leased lines services are priced at retail minus avoidable costs are Jersey where 20%<sup>80</sup> is

<sup>79</sup> BEREC (27 September 2012), *BEREC Report – Regulatory Accounting in Practice*, p. 32

<sup>80</sup> CICRA (9 October 2012), *Determination in respect of Wholesale Leased Lines - Final Notice*, p. 9.



used as the 'minus' factor and the Isle of Man where 15%<sup>81</sup> has been adopted. In addition, in the United States, the minus factor that applies to all resold services, including leased lines, is approximately 18.2%.

312. The Regulatory Authority proposes to use the same retail minus percentage as is proposed for retail access given that the types of avoidable would be similar for both access lines and leased lines: 15%.

**Consultation Question 39:** Do you agree with the Regulatory Authority's proposal to mandate non-discriminatory provision of wholesale domestic leased lines by BTC priced at retail minus?

**Consultation Question 40:** Do you agree with the proposal for monthly fees for the wholesale domestic leased line service to be set at the retail price minus 15%? If not please evidence what retail minus percentage you consider to be appropriate.

### 5.5.2 Retail Leased Lines

313. Our Market Review General Determination found BTC to have SMP in the retail provision of low-speed domestic leased lines in all geographic locations in Bermuda. It also found BTC to have SMP in the retail provision of high-speed domestic leased lines outside of the City of Hamilton and its contiguous suburbs.

#### 5.5.2.1 Competition Issues and Potential Remedies

314. Control over infrastructure that is not easily duplicable and the sunk costs associated with deploying an access network were important factors in the SMP determinations relating to the retail leased lines markets. These barriers to entry in the three retail markets listed above have resulted in limited competition. If the wholesale leased line service is introduced as a wholesale market remedy then retail entry will be facilitated by eliminating the need to own a customer access network. However, because it is proposed that the wholesale leased lines service be priced at retail prices minus avoidable cost, retail competition from firms that utilise the wholesale leased lines service will not constrain the ability of BTC to price excessively.
315. Potential regulatory remedies to address excessive pricing in the retail markets include: (a) tariff approval; and (b) tariff filing with price cap regulation.

#### 5.5.2.2 Option A: No Regulation

316. The Authority considers that there is insufficient competition to constrain pricing of the SMP operator, BTC. As mentioned above, competitors using the proposed wholesale leased lines service would not place a significant constraint on BTC's retail market pricing. Constraint on BTC's pricing in this market would primarily come from other access networks. However competition for low-speed leased lines is very limited as is obvious from BTC's very high market share. For high-speed leased lines outside of Hamilton, the major access networks that supply or could potentially supply leased lines are NRC and BCV, both of which have partial or complete ownership by KeyTech. This common ownership may dampen the effect of competitive constraint that they place on BTC.

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<sup>81</sup> CICRA (9 October 2012), Determination in respect of Wholesale Leased Lines - Final Notice, p. 9

317. Give the lack of network based competition, the Regulatory Authority does not consider that regulatory forbearance would be in the best interests of consumers in the retail leased lines market.

#### **5.5.2.3 Option B: Tariff Approval**

318. Under this option, BTC would be required to seek approval in advance to alter tariffs (that is to either increase or decreased prices) or introduce new tariffs. Applications would need to be accompanied by cost studies which justify the proposed tariffs.
319. This approach would address concerns associated with excessive pricing, but would impose:
- (a) Significant administrative costs on both BTC and the Regulatory Authority in preparing and assessing the cost studies; and
  - (b) Constraints on the timing of the introduction of new or revised pricing because of the extra time delays in prepare tariff approval applications and assessment by the RA of those applications.

#### **5.5.2.4 Option C: Tariff Filing Plus Price Cap Regulation**

320. BTC would be required to file new and revised tariffs but those filings would not need to be accompanied by cost studies. Instead the concern of excessive pricing would be addressed through retail price cap regulation. The Regulatory Authority would determine an annual factor for the price cap governing the annual change in the retail leased line prices. At the end of each year, BTC's average retail price for each type of leased line service must be within the cap.
321. Option C would address the concern of excessive pricing while not imposing the administrative costs and delays associated with Option B.

#### **5.5.2.5 Conclusion on Retail Market Remedies**

322. The Regulatory Authority considers that of the three options considered, the optimal remedy choice is tariff filing with a retail price cap.
323. As is described in more detail in Section 4.1.3, the Regulatory Authority proposes to apply a cap which allows for annual price increases of up to CPI plus 2% per annum until the next market review is completed, unless petitioned to demonstrate that this does not result in cost recovery. This allowance for a price increase is on the basis that the Regulatory Authority is cognizant that some current prices have not been changed for some time and have been frozen at current levels since at least July 1999.<sup>82</sup>
324. The price cap of allowing for inflation plus a 2% increase in price per annum would applied for low-speed leased line service nationwide and high-speed leased line services outside of Southside and the City of Hamilton and contiguous suburbs.
325. The option of tariff filing and a price cap best achieves the objectives of the ECA for the following reasons:

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<sup>82</sup> For example, see "Bermuda Telephone Company Rates & Regulations Manual – Effective 1st March, 04" at Section 3.1.1. Similarly, BTC's leased line rates have not been increased in some time.

- (a) Competition objective: The key remaining competition issue, assuming that the proposed wholesale leased lines remedy priced at retail minus avoidable cost is adopted in the wholesale market, is the potential for excessive pricing. A price cap along with light-handed monitoring via tariff filing will address this competition concern, and therefore address the competitive objective.
- (b) Investment objective: The Regulatory Authority considers that the proposed price cap allowing an annual uplift in prices of inflation plus 2% will allow for cost-recovery.
- (c) Proportionality objective: Tariff filing and retail price caps are commonly adopted internationally and considered in proportion to the competition problem of excessive pricing by a firm holding SMP.
- (d) Neutrality objective: Allowing for cost recovery through permitting an increase in price of inflation plus 2% is consistent with technological neutrality. Maintaining the prices at the levels established more than ten years ago runs the risk of biasing demand toward that service.
- (e) Market forces objective: Competition is not sufficiently strong, nor is it expected to be in the foreseeable future, to constrain pricing of retail access and local call services in the relevant markets in which BTC has been identified as having SMP.

**Consultation Question 41:** The Authority proposes to introduce tariff filing and price cap regulation on BTC to retail prices for low-speed leased line services nationwide and high-speed leased line services outside of the City of Hamilton and contiguous suburbs. Do you agree that this approach best satisfies the objectives of the Act in addressing BTC's SMP in the retail leased line markets?

#### **5.5.2.6 Compliance with Retail Market Remedies**

- 326. Compliance with the retail market remedies for purposes of ECA Section 73(5)(a) requires filing of all existing tariffs with the Regulatory Authority as per section 4.1.4.
- 327. On-going compliance requires:
  - (a) tariff filing notice requirements as per section 4.1.4; and
  - (b) at the end of each 12 month period BTC must submit a report to the RA showing the change in its retail leased line prices and how they compare to the price cap.

#### **5.6 Infrastructure Access Markets**

- 328. The RA concluded that BLDC, BELCO, BCV, and BTC hold SMP in the market for the wholesale supply of access to facilities used to construct fixed local access networks
- 329. The market for the wholesale supply of access to facilities used to construct fixed local access networks includes:
  - (a) Poles;
  - (b) Ducts; and
  - (c) For BLDC's network in Southside, access to copper and fibre optic network in the form of leased access to spare ducts, copper pairs, fibre pairs, cross-connects and collocation.

### 5.6.1 Competition Issues and Regulatory Remedy Options

330. The construction of a fixed local access network entails high sunk costs, especially associated with the necessary trenching and ducting. The deployment of new and extended fibre networks has the potential to bring very significant benefits to both residential and business consumers. Access to existing local access network infrastructure would have a significant impact on the business case for fibre networks, thereby increasing the likelihood of deployment.
331. The European Commission's recent proposal on measures to reduce the costs of fibre deployment noted that civil engineering works involved in rolling out fibre networks account for up to 80% of overall deployment costs.<sup>83</sup> An analysis conducted for the European Commission by consultants Analysis Mason found that improving access to bottleneck facilities and other measures aimed at increasing efficiencies could reduce capital expenditure costs of fibre deployment by 20-30%.<sup>84</sup>
332. In the Bermudian context, the SMP suppliers of fixed access network infrastructure identified by the Authority in the SMP Consultation include two firms whose presence in the electronic communications markets is primarily as a wholesaler (BLDC and BELCO) and two firms that are vertically integrated in that they supply retail electronic communications services (BTC and BCV). Competition issues in relation to the former two firms primarily relate to the risk of excessive pricing while non-discrimination is an additional issue to address in relation to the vertically integrated firms, BTC and BCV.
333. The Authority has identified the following three regulatory options for the market for fixed access network infrastructure:
- (a) No regulation;
  - (b) Non-discriminatory access at cost-based prices; and
  - (c) Non-discrimination access at existing market prices, unless petitioned.

#### 5.6.1.1 Option A: No Regulation

334. To date the market for fixed local access network infrastructure has not been subject to regulation. While access to some services has been supplied on commercial terms (for example, by BLDC in Southside) the Authority holds the concerns that, given the significant benefits consumers of fibre networks and the importance of duct and pole access to the deployment of those networks, it would be in the interests of consumer and competition for there to be some form of regulatory oversight of this market. BTC and BCV, in particular, would have significant incentives to avoid or delay provision of access to underlying infrastructure due to the impact that fibre network deployment would have on the strength of their position in the retail market.

#### 5.6.1.2 Option B: Non-Discriminatory Access at Cost-Based Rates

335. Under this option, all suppliers in this market designated as holding SMP would be required to supply non-discriminatory access at cost-based rates, with terms of

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<sup>83</sup> European Commission (26 March, 2013) *Proposal for a Regulation of the European Parliament and of the Council on measures to reduce the cost of deploying high-speed electronic communications networks COM(2013) 147 final*, p. 2.

<sup>84</sup> See discussion at *ibid.*, p. 2.

provision specified in a Reference Offer to be reviewed by the Authority. This option would enhance competition in a number of retail markets (i.e., broadband, subscription TV and access and local calls) by providing access to a key input required for deployment of fibre networks. For the same reason, this would also facilitate investment, thereby supporting both the competition and investment objectives.

#### **5.6.1.3 Option C: Non-Discriminatory Access with Price Ceiling at Market Benchmark Rates**

336. Under this option the ceiling for wholesale prices would be set at a ceiling that is based on current market rates. In particular:
- (a) For pole access the price ceiling would be set at the current rate charged by BELCO to each customer;
  - (b) For access to ducts the price ceiling would be set at the current rate charged by the duct owner to each customer;
  - (c) For access to other access services supplied the price ceiling would be set at the current rate charged to each customer.
337. Infrastructure providers should be obligated to file with the Regulatory Authority all existing price sheets for services provided to current customers within 30 calendar days of the effective date of the General Determination on remedies.
338. Access seekers or suppliers would have the ability to petition and request a rate investigation if they considered that the current market rates do not reflect cost.
339. This option would pursue the objectives of competition and investment in a similar manner to Option B but potentially with lower implementation costs because cost studies would only be required if either an access seeker or supplier petitioned the Authority for an investigation.

#### **5.6.1.4 Option D: separate proceeding for BELCO**

340. Under this option BELCO and its infrastructure holdings would be removed from consideration under this consultation. Instead, the Authority would initiate a separate mini-consultation whose purpose would be to:
- (a) resolve BELCO's status and treatment under the ECA;
  - (b) conduct an SMP assessment of BELCO's infrastructure holdings; and
  - (c) determine what obligations, if any, should be imposed on BELCO concerning access to any network infrastructure under its control.

#### **5.6.1.5 Conclusion**

341. The Authority proposes to adopt Option C. The Authority tentatively concludes that this option satisfies the objectives in the Act by:
- (a) Further developing competition for a range of retail services by facilitating fixed network entry, for example through fibre deployment, which would likely lead to improved outcomes for consumers in relation to value, innovation and choice;

- (b) Enabling investment by a new fixed access network operator. The increased competition for fixed retail services could also stimulate further investment by existing fixed network operators, for example, through network upgrades.
  - (c) The Authority does not consider the Neutrality objective to be relevant in the context of fixed network infrastructure.
  - (d) The absence of non-discriminatory access to ducts and poles would be a significant impediment to entry. As a result, the Authority considers that the requirement to provide access where feasible is proportionate.
  - (e) Vertical integration and its effect on incentives of incumbents implies that market forces cannot be relied on to provide access on reasonable terms and therefore regulatory intervention is justified.
342. In regard to the access considerations contained in ECA Section 24(4), the Authority tentatively concludes that:
- (a) The proposed access requirement will assist the development of competing fixed access networks;
  - (b) The proposed access requirement should only be imposed where there is spare capacity.
  - (c) There is little investment risk for operators designated as holding SMP as the obligation primarily involves utilising spare capacity in existing ducts and poles.
  - (d) Given that outside Hamilton the two primary owners of ducts are BTC and BCV the ownership links between these two firms further implies that competition in this market is unlikely to be effective and regulatory intervention is justified.

**Consultation Question 42:** The Authority proposes in the fixed infrastructure access market a price ceiling by set at the existing rates charged by BELCO for pole access and for duct access a price ceiling set at the existing rate charged by BLDC. Terms of access would need to be submitted to the Authority for approval in a Reference Offer. Access seekers and suppliers would have the right to petition and seek a rate investigation if they considered that prices did not reflect cost. Do you agree with this approach? If not, what remedy do you consider to be optimal and why?

## 5.7 Subscription Television Markets

343. There are three key competition issues that relate to both the wholesale and resale markets:
- (a) The market power held by Cablevision
  - (b) The inability of rivals to constrain Cablevision
  - (c) The ability to leverage its market power from the subscription television market into other markets and discriminate in the provision of wholesale services.
344. We now discuss each of these competition issues in turn in more detail.

## **5.7.1 Key Competition Problems**

### **5.7.1.1 Significant Market Power**

345. In the Market Analysis consultation we found that Cablevision had Significant Market Power in the retail and wholesale markets for subscription television services. The firm serves a large, and increasing, share of the market, earns a high rate-of-return on its investment, and entrants to the market face substantial barriers.

### **5.7.1.2 Entry Barriers**

346. WOW is Cablevision's primary competitor. WOW, unlike Cablevision, does not serve the entire Island. Furthermore, WOW, unlike Cablevision, has a one-way network. Consequently, WOW's network is not configured to provide customers with broadband access and fixed voice service. Both of these products require a two-way network. Based on experience elsewhere, the bundling of subscription television with fixed voice and broadband access is likely to be increasingly common in Bermuda. Consequently WOW will have a limited ability to compete with Cablevision.
347. The Market Analysis report noted that BTC is a possible entrant into the subscription TV market. BTC has indicated that it is interested in providing IPTV. BTC fixed line network is capable of two-way transmissions and therefore it could offer a triple-play of IPTV, fixed voice, and broadband access. In the Market Analysis report we also expressed our concern that BTC's ability to constrain Cablevision's market power had technical limitations.
348. IPTV is a bandwidth intensive product. In order to provide the high-speed connection, BTC must move its electronics close to the household. Long runs of copper wire are incompatible with providing a high-speed service. BTC, over the years, has been reducing the length of the copper wire that reaches into the customer's home. Replacing copper with fibre cable allows BTC to reduce the length of the serving copper cable. For example, while twenty years ago, a copper cable may have run a two-mile distance between BTC's central office and a customer's home, today fibre cable may carry the signal for the first 1.5 miles, and the remaining transport will still be done with copper. It is our understanding that currently BTC is unable to provide IPTV throughout Bermuda.
349. As was also highlighted in the market analysis, the common ownership of BTC and Cablevision reduces the incentive for BTC to compete with Cablevision.
350. In the Market Analysis report, we also noted that entry by a new player is challenging due to the substantial fixed and sunk costs associated with constructing a wireline network. Furthermore, while LinkBermuda did announce its intention to build a fibre-to-the-home network, we are unaware of any current construction projects by LinkBermuda that would allow it to provide subscription television service in the near future.

### **5.7.1.3 Leveraging**

351. Once Cablevision is authorized to provide new services, it is possible that Cablevision would attempt to leverage its market power from the subscription television market into other markets by bundling subscription television with these other products.

352. For example, Cablevision could attempt to tie the provision of subscription television with the purchase of other services. This would allow it to use its market power in the subscription market to gain a dominant position in a new market.

**Consultation Question 43:** Do you agree that the three key competition problems in the retail subscription television and the wholesale subscription television markets that may require ex ante regulatory remedies are: (1) Cablevision's market power; (2) high entry barriers; and (3) the ability to leverage market power from the subscription television market into other electronic communications markets?

## 5.7.2 Identification of Relevant Regulatory Remedies

### 5.7.2.1 Wholesale Remedy Options

353. The key alternative to regulatory forbearance in the wholesale market for subscription television would appear to be the introduction of a non-discriminatory wholesale service.
354. There are two options identified here. First, in the current context, as discussed above, a primary aim of introducing a wholesale service through regulatory mandate would be to address concerns regarding bundling of subscription television with other services. In this context, a simple rebilling service is one option to enable other service providers to offer their customers bundles that include subscription television. However, because the access seeker would simply be rebilling the retail service, it would have little control over pricing. Therefore while it could offer customers the convenience of purchasing subscription and other services jointly and potentially reward customers for the cost savings associated with joint service provision it would be limited in its ability to offer innovative bundled pricing. A rebilling service of this type would likely best be priced at the retail price of the subscription television service minus avoidable cost. The RA notes that it is possible that there are legal limitations on resale of a service that includes content, and requests feedback from interested parties on this matter. The RA also notes, however, that resale does occur at least on a commercial basis in other jurisdictions so it is not obvious that there would necessarily be legal limitations on a resale service.<sup>85</sup>
355. Alternatively, Cablevision could be required to provide a wholesale access service that allows a wholesale customer control over pricing, customer service and customer activation functions, and could potentially also enable a wholesale customer to provide their own content. Options for pricing this type of service would include cost-based pricing. The RA seeks feedback from parties as to what wholesale options would be most appropriate and whether there would be both technically and economically feasible.
356. The RA has found that there is little publicly available information on wholesale subscription television rates in other countries. This limits the use of an international benchmarking pricing methodology.
357. A "Retail Minus Avoided Cost" (RMAC) approach could take as its starting point high-level average revenue per unit information. Avoidable costs could be estimated through either a cost study, the use of separated accounts or by utilising available

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<sup>85</sup> For example in Australia Optus resells Foxtel subscription TV packages and in New Zealand Telecom New Zealand resells Sky Television services.



international information on typical levels of fixed network avoidable costs. A cost based approach would require either a cost study or separated accounts. The RA considers that RMAC to be, conceptually, the optimal pricing methodology at the current time given that the primary competition issue to be addressed by requiring a wholesale service is to enable bundling of subscription and other services while still encouraging entry.

358. Unfortunately, undertaking a RMAC study will be time consuming. It is not clear that the necessary data is easily in-hand.
359. If a range of access products is mandated, rather than simple resale, there will be a need to undertake cost studies. Cost studies would be needed in order to determine the cost of providing the access facilities. For example, the cost of providing access, without content, is likely to be less expensive than the cost of providing access and content. A cost study would be required to establish the cost of providing access.
360. If cost based access rates are established, they may discourage an entrant from investing in infrastructure. The cost study for access could reflect the economies of scale being achieved by the incumbent, and could result in lower unit costs than self-provision by entrant.

**Consultation Question 44:** The RA has identified 3 regulatory options for the wholesale subscription television market: (a) regulatory forbearance; (b) resale of retail packages at retail minus pricing; and (c) a form of access which gives the access seeker greater control over the pricing of its retail package pricing and the provision of content. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 45:** Are there legal restrictions on the ability to resell a subscription TV service that includes content?

**Consultation Question 46:** Aside from rebilling are there other wholesale options that should be considered by the RA? If so, please identify those options and explain whether they would be technically and economically feasible.

#### 5.7.2.2 Retail Remedy Options

361. A first retail option to consider is regulatory forbearance, relying on competitive forces to deliver effective competition.
362. BCV could be required to file tariff information. The information would provide the RA, and the industry, valuable information that would help the monitoring of BCV's conduct.
363. Alternatively, a form of price-cap regulation could be adopted. Annually, BCV would be permitted to adjust its prices in a manner that reflects the rate-of-inflation, productivity gains and losses, as well as changes in input prices.
364. Given the above, the RA proposes to consider the following regulatory options:
- (a) regulatory forbearance;
  - (b) tariff filing requirements; and
  - (c) price cap regulation.

**Consultation Question 47:** The RA has identified 3 regulatory options for the retail subscription TV market: (a) regulatory forbearance; (b) tariff filing requirements; (c) price cap regulation. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

### **5.7.3 Assessment of Wholesale Remedy Options**

365. The following discussion evaluates each of the 3 identified wholesale market remedies identified above, which are:

- (a) Option A: No regulatory intervention.
- (b) Option B: Resale of retail packages at with the wholesale price set at retail minus avoidable cost on a non-discriminatory basis regarding non-price terms.
- (c) Option C: Non-discriminatory provision of an alternate wholesale service which potentially provides wholesale customers with the ability to provide their own content.

#### **5.7.3.1 Option A: No Regulatory Intervention**

366. Under this option no regulatory remedy would be applied in the wholesale market for subscription television.
367. It is possible that under this scenario commercial wholesaling would occur. If it did not, BCV would be at a considerable advantage in being able to provide a bundle of television, voice, and data products. Furthermore, given the substantial barriers-to-entry into this market, it is unlikely that BCV's market power would be significantly constrained.

#### **5.7.3.2 Option B: Resale at Retail Minus Avoidable Costs With Non-Discriminatory Non-Price Terms**

368. Under this option the access seeker would essentially be a reseller of the BCV's retail pricing plans with the wholesale price set at the level of the retail price minus avoidable costs.
369. While this option would go some way to developing and maintaining competition it would not provide the same ability to innovate and compete on price as the third, access option. On the other hand, it is likely to be significantly less costly to implement than option three, the access option and would address the key competition concern of leveraging market power through bundling.

#### **5.7.3.3 Option C: Non-Discriminatory Unbundled Access**

370. Provision of non-discriminatory access addresses potential competition issues that could arise if bundling of subscription television and other services occurs. The ability of an access provider to deliver its own content would give it the opportunity to be more than a "me too" supplier of television services. As a result, the RA is of the view this option is consistent with the competition objective.
371. The extent to which a requirement to provide subscription television access impacts on investment would depend on the pricing of the access service. As was discussed above, a retail minus avoidable cost methodology would likely have less impact than a cost-based pricing methodology as it would best preserve potential entrants' incentives to invest.

372. Establishing whether a remedy is proportionate involves consideration of the compliance costs. The RA requests parties to provide an estimate of the costs involved in supplying an access service.

#### **5.7.3.4 Conclusion on Wholesale Remedy**

373. Given the above discussion, the RA's view is that it would not be proportionate at this point to require option C, unbundled access. We are concerned that this option will be expensive and may discourage investment. The RA considers that option B, a resale requirement, to be proportionate, and consistent with the competition and investment objectives.
374. We note that the structure of the subscription television market is different than the mobile market, for example, and therefore different remedies appear to be justified. One of the more likely entrants, BTC, shares a common, substantial stockholder with BCV, KeyTech. BCV's market share is substantially larger than its largest rival, WOW. The market shares of the mobile SMP operators, Digicel and BDC, are roughly equal. Furthermore, ubiquitous entry into the wireline subscription television market requires substantially more capital than entry into the mobile market, and the capital is largely sunk. This makes entry into the subscription television market more risky than entry into the mobile market.
375. We tentatively conclude that retail minus does not require BCV to incur any new, substantial network costs. The RA considers it likely that costs of implementing resale of subscription TV would be similar to the costs of implementing wholesale line rental. As was discussed in section 5.1.1, cost estimates from Guernsey indicate that the monthly cost of wholesale line rental is approximately 13c to 18c. Whereas BCV will only be reselling its existing product line, the remedy will not impose any major risks on BCV.
376. As described above, the remedy will constrain BCV's ability to leverage its power in the subscription television market into other markets. This will help sustain a more competitive environment in these other markets.
377. The Authority tentatively concludes that the implementation of a non-discriminatory resale service best satisfies the objectives of ECA Section 21. The reasons for this as summarised as follows:
- (a) Competition objective: As described above, it is considered that introduction of resale on non-discriminatory terms will strengthen competition by allowing access seekers to provide bundled services to end customers and achieve associated economies of scope.
  - (b) Investment objective: The RA considers the requirement to provide wholesale subscription television service on a retail minus basis will not impair the investment in competing facilities. The wholesale price will allow access seekers to construct their own retail offerings, but at the same time not set such a low wholesale price so as to discourage the construction of competing facilities.
  - (c) Proportionality objective: Given the cost estimates cited in the context of wholesale line rental and that the costs of implementing a subscription TV service would likely be similar, the Regulatory Authority does not consider that implementation of a subscription TV resale service on BCV imposes an undue burden.

- (d) Neutrality objective: The Regulatory Authority does not consider the Neutrality Objective to be relevant.
  - (e) Market forces objective: The limited deployment of high speed networks, driven by high sunk costs and other barriers to entry, and vertical integration of the SMP operator implies that the market is not effectively, or even workably competitive. Without regulatory intervention it is highly unlikely that a non-discriminatory resale service would be provided.
378. With regard to the factors relevant to imposing an access obligations, the Authority holds the following tentative views:
- (a) Technical and economic feasibility: Given that the proposed remedy is a resale remedy the RA considers it reasonable to conclude that such a service would likely be technically feasible. As discussed above with reference to wholesale line rental cost estimates, the RA considers that the introduction of resale would be economically feasible.
  - (b) Available capacity: Resale should not impair BCV's network capacity. The access seeker will only be reselling BCV's existing product, and not offering its own content.
  - (c) Investment risk of SMP operator: Pricing of resale at retail minus avoidable cost should result in the SMP operator earning the same contribution to network costs from wholesale subscription TV services as it does from its own retail customers. As a result the Authority does not consider that the implementation of resale imposes a significant investment risk.
  - (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: Introduction of resale is an important means for addressing this factor and reducing the risk of leveraging market power from one market to another by KeyTech-owned companies.
379. However, as discussed above, the RA is cognisant that there could be legal limitations on the resale of subscription TV services that include content. The RA has requested feedback from interested parties on this matter. The RA's tentative view that resale should be provided is contingent on whether there are legal limitations and, if so, whether they can be overcome.

**Consultation Question 48:** For subscription television networks: please provide estimates of (1) the cost of implementing resale access; and (2) implementing access that would allow the access seeker to provide its own content.

**Consultation Question 49:** Is resale technically feasible as a remedy?

**Consultation Question 50:** Is access technically feasible as a remedy?

**Consultation Question 51:** The RA has come to the tentative conclusion that a requirement to supply a non-discriminatory wholesale subscription television service is the appropriate remedy. Do you agree with this conclusion? Please explain why or why not.

#### 5.7.4 Assessment of Retail Remedies

380. The following sections assess the four identified regulatory remedy options for the retail mobile services market:

- (a) regulatory forbearance

- (b) tariff filing requirements;
- (c) retail price regulation

#### **5.7.4.1 Option A: No Regulatory Intervention**

381. It may be appropriate at this point in time to rely only on the wholesale remedy, along with market forces to address possible concerns of excessive pricing. The wholesale remedy will reduce or eliminate BCV's ability to use its position in the subscription television market to gain control of other markets. Furthermore, the combination of WOW, IPTV, and satellite TV may constrain BCV's retail prices.

#### **5.7.4.2 Option B: Tariff Filing**

382. Tariff filing requirements would provide a means for the regulator to monitor existing products, and the introduction of new services, including the bundling of products.

#### **5.7.4.3 Option C: Retail Price Regulation**

383. Price regulation would place a cap on BCV's retail prices. The RA is inclined to rely on wholesale remedies, and market forces, to constrain BCV's retail prices. We are concerned that retail regulation of cable television would be challenging because of the rapid change in content, and the associated variation in prices and underlying costs. While the nature of traditional telephone service is fairly stable, content is regularly added and removed from a subscription television packages. This variation in the composition of the inputs makes it more challenging to determine the rate of change in the retail price. It is challenging to compare one year's bundle to another because the stations included in a package often vary. Therefore it is possible that implementing price cap regulation for subscription television would be considerably more challenging than for telephone services.

#### **5.7.4.4 Conclusion on Retail Remedy**

384. The RA considers that, if the proposed wholesale remedy of resale is adopted, then tariff filing requirements are sufficient as a retail remedy. The RA considers that adopting tariff filing requirements this will aid in promoting effective competition while still being proportionate and relying on market forces.
385. The retail remedy is proportionate, does not entail any significant costs, and will provide information that will help the market operate more effectively.
386. If, however, the proposed wholesale remedy of resale is not adopted, the RA considers that a stronger form of retail regulation than tariff filing is appropriate. In particular, the RA proposes that absent a resale requirement BCV's subscription TV services should be subject to a price cap (Option C).
387. The option of tariff filing (assuming a resale remedy is implemented in the wholesale market) satisfies achieves the objectives of the ECA for the following reasons:
- (a) Competition objective: The light-handed measure of tariff-filing relies primarily on competitive forces but will allow the RA to monitor prices.
  - (b) Investment objective: The proposed tariff monitoring will not impact on investment incentives.

- (c) Proportionality objective: Tariff filing is commonly adopted internationally and considered by the RA to be in proportion to the competition problem of potential excessive pricing by a firm holding SMP.
- (d) Neutrality objective: The RA does not consider the Neutrality Objective to be relevant to the assessment of this remedy.
- (e) Market forces objective: The proposed remedy relies primarily on market forces.

**Consultation Question 52:** The RA has come to the tentative conclusion that if resale is implemented in the wholesale market as a regulatory remedy then in the retail market tariff filing obligations should apply to BCV, but not retail price regulation. If, alternatively, resale is not mandated, the RA proposes that a retail price cap be implemented. Do you agree with these conclusions? Please explain why or why not

### **5.7.4.5 Implementation of the Remedies**

388. In this section we address the implementation of wholesale and retail remedies in the subscription television markets.

#### **5.7.4.5.1 Wholesale Remedies**

- 389. In order to accelerate the provision of wholesale services, BCV must produce a RAIO for approval by the RA.
- 390. We have tentatively concluded that wholesale services should be provided on a retail minus basis. The minus is designed to reflect the retail costs that are avoidable when an integrated firm provides wholesale services.
- 391. A number of nations have established a wholesale pricing regime for the sale of premium content, such as sporting events and first-run movies, by a firm that both produces and distributes content.<sup>86</sup>
- 392. Unfortunately, we have not been able to locate a wholesale discount factor for the provision of access and content along the lines proposed in this remedies document.
- 393. Therefore, we propose to set the initial avoidable cost discount factor at the same level of 15% as identified in section 5.1.1.6.2 in the context of WLRLC.

#### **5.7.4.5.2 Retail Remedies**

- 394. We have proposed that BCV make tariff filings. The filing of its tariff information must be made in accordance with the requirements set out in 4.1.4.

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<sup>86</sup> See, for example, Ofcom, *Wholesale must-offer remedies: international examples*, Annex 11 to pay TV phase three document, 26 June 2009; and Ofcom, *Pricing Annex 7 to Pay TV Statement*, 31 March 2010, par. 1,238.

**Consultation Question 53:** The RA has come to the tentative conclusion that the retail tariff remedies should be the remedy for retail subscription television market. Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 54:** Do you agree that BCV should be required to produce a RAIO for its wholesale subscription television product? Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 55:** The RA has come to the tentative conclusion that the wholesale discount for subscription television should be 15%. Do you agree with this conclusion? Please explain why or why not.

#### **5.7.4.6 Compliance**

395. Compliance with the proposed wholesale market remedies for purposes of ECA Section 73(5)(a) requires:
- (a) Certification by the SMP Operator of the commercial availability of a resale subscription television service throughout Bermuda; and
  - (b) The approval by the Regulatory Authority of a RAIO that follows the guidelines established as a result of this consultation. The monthly rental charges must be priced at retail minus avoidable cost. Connection charges and any other applicable charges must be specified in the RAIO and must be cost-justified.
396. The RA tentatively proposes that BCV must have 100 wholesale orders completed before the ICOL can be used.
397. On-going compliance requires revision of the resale price when retail tariffs change.
398. Compliance with the proposed retail market remedies for purposes of ECA Section 73(5)(a) requires filing of all existing tariffs with the RA as per section 4.1.4. On-going compliance requires tariff filing as per section 4.1.4.

## **6 CROSS-MARKET OWNERSHIP BY KEYTECH**

399. In submissions on the Market Review consultation, as well as at public forums, a number of respondents expressed concerns about KeyTech's cross-market ownership and the implications for competition. The question was raised as to whether the possible remedies identified in the Market Review consultation report would be sufficient to effectively address competition issues arising from KeyTech's multi-market holdings.
400. The KeyTech holdings include CableCo, Logic, North Rock, BTC, CableVision, and BDC. KeyTech owns a majority of the shares in CableCo, Logic, North Rock, and BTC. KeyTech does not have majority shareholding of BDC or BCV. Despite not owning 50% of the BCV shares, we understand that KeyTech nominated the majority of BCV's directors. Also 50% of the directors on the BDC board are affiliated with KeyTech.
401. KeyTech's holdings include service providers across a wide range of services and can be summarised as follows:
- (a) 100% control of one of Bermuda's largest fixed wireline providers - BTC;

- (b) Board control, and so control over corporate investments, of the country's largest cable TV network - BCV;
  - (c) A significant shareholding of one of the two mobile networks-BDC;
  - (d) 100% control of the two largest ISPs - Logic and North Rock. These firms are also suppliers of business managed voice, data solutions and international services; and
  - (e) 100% control of an international cable providing service between Bermuda and other jurisdictions.
402. Of these companies, BTC, BCV and BDC have been identified as holding SMP in one or more markets.
403. The Authority is of the view that the concerns raised about potential horizontal and vertical leveraging by members of the KeyTech Group require in-depth review and analysis that is beyond the scope of this consultation. The RA proposes to conduct a separate consultation of the KeyTech Group. The Authority therefore proposes to maintain the status quo pending the conclusion of a separate consultation which will evaluate the degree of market power enjoyed by the various KeyTech affiliates by virtue of their being part of the KeyTech Group, including potentially one or more affiliates that have not been designated as having SMP in a relevant market.
404. As part of this process, we propose that BCV, BTC, Logic, BDC, CableCo, and North Rock must obtain the Authority's approval before introducing new bundles of services. This requirement would no longer be binding when all KeyTech SMP operators, BCV, BTC, and BDC, have obtained a Satisfactory Compliance Notice as set out in ECA Section 73(5)(a).
405. We note that under the terms of their ICOLs (Conditions 19 and 20), no KeyTech affiliate may transfer its ICOL to another party (including another affiliate), nor may an ICOL holder allow a change of control to be completed without the prior consent of the Authority, acting with the written consent of the Minister.
406. In addition, as a provisional remedy pending completion of a separate consultation on SMP within the KeyTech Group, the Authority proposes to impose the obligation on any KeyTech affiliate (as defined in ECA Section 2) to seek prior written approval from the Authority before effectuating:
- (a) any increase in the ownership of the shares, stocks or other securities or voting rights of another KeyTech affiliate, or
  - (b) any transfer of assets or significant groups of personnel or functions relating to the provision of electronic communications services to another KeyTech affiliate.
407. We note that an equivalency of access obligation applies to three of KeyTech's affiliates (BTC, BCV and BDC) pursuant to ICOL Condition 11.2(a), and that this includes an obligation not to discriminate in the provision of both services and information. We are concerned that the affiliates of KeyTech have the opportunity to gain access to information about each others' customers and network operations that unaffiliated third party ICOL holders do not have. We are also concerned that KeyTech affiliates have the opportunity to inappropriately access (and share between themselves) data about their wholesale customers' customers and networks that will have a discriminatory impact on such wholesale customers and their ability to compete in the market. As a provisional obligation and remedy, we therefore propose to obligate BTC, BCV and BDC to:



- (a) submit a detailed schematic that maps the organizational, functional and personnel relationships between and among them (including at the Board, Management and staff levels), as well as with the Group level organization and with their other affiliates; and
- (b) prepare for our approval a draft Code of Conduct establishing explicit internal rules that clearly prohibit, facilitate the detection of, and penalize the preferential, anticompetitive exchange of information about customers, networks or services within each company and as between and among affiliates of the KeyTech Group.

**Consultation Question 56:** Do you agree with our proposal that BCV, BTC, Logic, BDC, CableCo, and North Rock should obtain approval from the Authority for bundled offerings until BCV, BTC, and BDC, have obtained a Satisfactory Compliance Notice as set out in ECA Section 73(5)(a)? Explain, why or why not.

**Consultation Question 57:** Do you agree with the Authority's proposal to impose the obligation on any KeyTech affiliate (as defined in ECA Section 2) to seek prior written approval from the Authority before effectuating:

- a. any increase in the ownership of the shares, stocks or other securities or voting rights of another KeyTech affiliate, or
- b. any transfer of assets or significant groups of personnel or functions relating to the provision of electronic communications services to another KeyTech affiliate. Explain why or why not.

**Consultation Question 58:** Do you agree with our proposed provisional obligation and remedy, to obligate BTC, BCV and BDC to:

- a. submit a detailed schematic that maps the organizational, functional and personnel relationships between and among them (including at the Board, Management and staff levels), as well as with the Group level organization and with their other affiliates; and
- b. prepare for our approval a draft Code of Conduct establishing explicit internal rules that clearly prohibit, facilitate the detection of, and penalize the preferential, anticompetitive exchange of information about customers, networks or services within each company and as between and among affiliates of the KeyTech Group. Please explain why or why not.

## 7 REFERENCE ACCESS AND INTERCONNECTION OFFER (RAIO)<sup>87</sup>

408. A remedy often imposed on communications providers found to have SMP is the obligation to develop and publish an RAIO.<sup>88</sup> ECA Section 24(1)(e) provides that the

<sup>87</sup> In this section of the consultation the acronym RAIO is used generically to describe reference access and/or interconnection offers.

<sup>88</sup> METEC discussed RAIOs in its 6 October 2009, Access and Interconnection in Bermuda Consultation Paper. This consultation is available for download at:

[http://www.gov.bm/portal/server.pt/gateway/PTARGS\\_0\\_2\\_7286\\_330\\_1813\\_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min\\_telecom\\_and\\_e\\_commerce/telecommunications/telecomm](http://www.gov.bm/portal/server.pt/gateway/PTARGS_0_2_7286_330_1813_43/http%3B/ptpublisher.gov.bm%3B7087/publishedcontent/publish/min_telecom_and_e_commerce/telecommunications/telecomm)

RA may make an administrative determination imposing “the obligation to provide access and interconnection subject to terms and conditions that are transparent, including the publication of reference interconnection and access offers, pursuant to a framework approved by the Authority”.<sup>89</sup>

409. Generally, the RAIO should provide other licensees with sufficient information about the SMP licensee’s network to allow for informed decision-making and to provide a baseline for negotiating an access and interconnection agreement. An RAIO obligation is also helpful for the SMP licensee because it requires them to contemplate access and interconnection in advance of when they are expected to receive requests for access and/or interconnection. The work done in developing an RAIO is expected to both expedite the access and interconnection process and ensure that the SMP licensee has internal mechanisms in place to effectively manage access and interconnection arrangements with other licensees.
410. In this section of the consultation we discuss the reasons a regulator would impose a RAIO obligation, the typical RAIO process, the proposed principles with which the RAIO must comply, and the set of issues that typically must be addressed for the RAIO to achieve its goals.
411. We note that this consultation is intended to addresses the broad parameters of the RAIO process and its requirements. After considering the comments it receives the RA will establish the specific guidelines for parties with an RAIO obligation to follow. In a future consultation each party with a RAIO obligation will be required to provide a draft RAIO so the scope, terms, and conditions of each RAIO can be consulted on, and ultimately approved.

## **7.1 Reasons and Requirements**

412. Reasons for instituting RAIO obligations include:
- (a) Providing a standardized contractual framework for interconnection and/or access;
  - (b) Establishing regulated terms and conditions for access and interconnection - including prices, forecasting, ordering, provisioning timescales, maintenance and fault handling;
  - (c) Establishing standard access and interconnection products available under regulated terms and conditions;
  - (d) Providing recourse to the regulator for dispute resolution;
  - (e) Reducing the time and cost of negotiating access and interconnection between licensees; and
  - (f) Ensuring non-discriminatory treatment for all licensees seeking access and interconnection from a firm that has SMP.
413. In general, an effective RAIO should:

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<sup>89</sup> ECA 24(1)(e).

- (a) Provide contractual conditions and products that reflect access and interconnection legislation and regulations;
- (b) Promote predictability, transparency, and certainty in the market;
- (c) Enable SMP and non-SMP licensees to plan their businesses and networks based on transparent principles;
- (d) Encourage investment in sustainable competition.

## 7.2 Process Overview

414. Although an RAIO is typically drafted by the party for whom the obligation has been established, the scope, terms, and conditions of the RAIO are ultimately determined by the regulator as part of a public consultation.<sup>90</sup> A party's obligation to develop and publish an RAIO shall only be satisfied when a regulator approved RAIO has been published and offered to other licensees. For an RAIO to be approved the RA must ensure that it is consistent with the applicable legislation, licence conditions, regulations, and decisions of the Regulatory Authority.
415. Although the RA has found BDC and Digicel to have joint SMP in various mobile markets no wholesale remedies have been proposed for either party at this time. For this reason we tentatively conclude that neither BDC nor Digicel should be required to offer an RAIO at this time. However, as noted above in Section 5.4.1.3.5 if there is any bundling of fixed and mobile services by BDC or Digicel or an affiliate of either company a resale or MVNO service will be required. In the event that resale or MVNO service is required we tentatively conclude that the mobile operator will be required to publish an approved RAIO before the resale or MVNO arrangement can begin.

**Consultation Question 59:** Do you agree that BDC and Digicel should not have an RAIO obligation? Please explain why you agree or disagree.

**Consultation Question 60:** Do you agree that BDC should have an RAIO obligation if it enters into an MVNO or other wholesale arrangement with a Key Tech affiliated licensee?

416. The RA has found that BCV, BTC, and BLDC<sup>91</sup> have SMP in the market for the wholesale supply of access to facilities used to construct fixed local access networks and that wholesale remedies are necessary. As such, we tentatively conclude that these parties must develop and publish an approved RAIO so that other licensees can access these necessary facilities.

<sup>90</sup> This consultation is intended to address the broad parameters of any RAIO obligation. As noted in paragraph 411 the specific scope, terms, and conditions of each RAIO will be addressed in a subsequent consultation.

<sup>91</sup> We note that although BELCO is not currently licensed by the Regulatory Authority BELCO is a communications provider as defined under the ECA. The Authority is of the view that BELCO should be subject to a licence exemption in respect of its provision of passive communications network elements, and intends to consult on the issue whether such an exemption should be granted in the coming weeks. At the same time, the Authority will consult on the issue whether BELCO has SMP and should similarly be subject to a RAIO obligation in respect of its provision of access to ducts and poles for purposes of electronic communications networks.

**Consultation Question 61:** Do you agree that BTC, BCV, and BLDC should each have an RAIO obligation? Please explain why you agree or disagree.

**Consultation Question 62:** Do you believe that any other party should have an RAIO obligation? Please explain why, or why not?

417. In METEC's 2009 Access and Interconnection Consultation respondents were asked how long each party should be given to file a comprehensive RAIO once instructed to do so. Respondents recommended as little as four weeks or as much as one year should be allowed.<sup>92</sup>
418. Based on the scope of the issues to be addressed we propose that parties with an RAIO obligation be given no more than six weeks after the RA publishes the 'Remedies General Determination and Order' to provide the RA with a draft RAIO document suitable for public consultation. However, we propose that parties should be permitted to provide the RA with its draft RAIO at any time prior to six weeks so that the form and contents of the draft RAIO can be put out for consultation as soon as possible.
419. To facilitate the completion of the draft RAIOs at the earliest possible date the RA has already encouraged the SMP operators to meet with the other ICOL holders immediately to develop the terms and conditions for access and interconnection. With this in mind the RA is of the opinion that those with RAIO obligations will be well placed to provide a draft RAIO to the RA for consultation in advance of the six week deadline.

**Consultation Question 63:** For each party required to provide an RAIO, do you agree that 6 weeks is a sufficient amount of time to develop a comprehensive RAIO once ordered to do so by the RA? Please explain.

### 7.3 Principles

420. The Regulatory Authority proposes that the RAIO must comply with the following basic principles:
- (a) Access and/or interconnection must be provided on request in a timely manner by SMP licensees to all other licensees at any technically feasible point of interconnection<sup>93</sup> unless the requested location is, in the view of the Regulatory Authority:
    - (i) Not economically feasible;
    - (ii) Not technically feasible; or

<sup>92</sup> For example, Quantum asserted that a licensee should be able to deliver a suitable document within four weeks due to the existence of draft templates while Digicel suggested that a period of one financial year would be appropriate to prepare for filing.

<sup>93</sup> A point of interconnection is the physical location where two networks interconnect and exchange traffic.

ECA Section 2 defines interconnection as "the physical and logical linking of public electronic communications networks and any other networks specified by the Authority that are used by the same or a different communications provider in order to allow the users of one communications provider to communicate with users of the same or another communications provider, or to access services provided by another communications provider within the meaning of section 24(8);"

- (iii) Likely to compromise the integrity or interoperability of in interconnected network.
- (b) The terms and conditions of providing access and/or interconnection shall be reasonable, transparent, and non-discriminatory;
- (c) Charges and quality of service shall be no less favourable than those provided by an SMP licensee to its own retail operations, and shall contain no cross subsidy of any part of the SMP licensee's business operation;
- (d) Access and interconnection fees shall be cost-oriented;<sup>94</sup>
- (e) Each access or interconnection service must be sufficiently disaggregated so that other licensees need only order and pay for the item they require; and
- (f) End-users of public communications services shall be able to communicate with other users of like services regardless of which carrier they have elected to use and without any loss in functionality of the service.<sup>95</sup>

421. In METEC's 2009 Access and Interconnection Consultation most respondents agreed that the aforementioned principles were comprehensive and suitable to guide formulation of the required RAIOS.

**Consultation Question 64:** Do you agree that the RAIO must comply with the aforementioned basic principles? Please explain why or why not.

**Consultation Question 65:** Do you believe that the list provided above represents a comprehensive set of principles that should guide RAIO development? Please explain why you agree or disagree.

## 7.4 Issues to Address

422. The Regulatory Authority proposes to require that following general issues must be addressed in an RAIO for the agreement to be effective.

### 7.4.1 Facility Ordering and Provisioning Procedures

423. It is necessary to specify the rights and obligations of each party with respect to ordering and provisioning the required interconnection and access products and services. Transparent procedures and objective timelines must be specified for both ordering and provisioning. The procedures should specify all necessary steps from how to initiate contact and place an order with the SMP operator through notification by the SMP operator that the order has been successfully completed.

<sup>94</sup> That is, each individual fee should be based on a reasonable and objective estimate of the associated economic cost.

<sup>95</sup> This is intended to require any-to-any connectivity without compromising the quality or functionality of the service in question.

**Consultation Question 66:** Considering the firms for which the Regulatory Authority has tentatively proposed an RAIO obligation, please list and briefly describe (by operator and market) the types of interconnection and access services your firm would like to have included in each RAIO.

**Consultation Question 67:** Given the types of interconnection and access services that your firm would like to have included in the RAIO, what associated facility ordering procedures and timelines should be required by the RA? In your response for each necessary step please indicate your proposed maximum or minimum timeline for completion of the step. Time proposals should be given relative to the day the order is placed (e.g. Order Date + two days maximum or minimum five days before Delivery Date.)

424. For effective competition to develop it is imperative that the SMP operators meet the ordering and provisioning timelines that are ultimately established. Otherwise, ICOL holders who require essential wholesale inputs from an SMP operator will have difficulty meeting the needs of their retail customers in a timely manner. This in turn could lead to difficulty in attracting retail customers and gaining the confidence of consumers. As such, the Regulatory Authority proposes that when an SMP operator is negligent in meeting, ordering, or provisioning timelines, a financial penalty be paid by the SMP operator to the harmed ICOL holder. We propose that the financial penalty be calculated as 500% of the daily rate for the service in question, for each day of delay the SMP operator's lack of compliance causes another ICOL holder.

**Consultation Question 68:** Do you agree that financial penalties should be paid by the SMP operator to other ICOL holders when the SMP operator has caused ordering and provisioning timelines to be missed?

**Consultation Question 69:** Do you agree the proposed 'daily rate' penalty is an appropriate and efficient mechanism? Please explain why or why not.

**Consultation Question 70:** Do you agree that 500% of the daily rate is an appropriate level for this penalty? Please explain why or why not.

425. Relative to inputs used for resale, the Regulatory Authority anticipates that the ordering and provisioning of interconnection services will be more complicated. Thus, the RA seeks comment on the efficiency of the financial penalty proposed in paragraph 424 with respect to the ordering and provisioning of interconnection services.

**Consultation Question 71:** Do you agree that the penalty mechanism and rate proposed above (i.e. 500% of daily interconnection service rate for each day of delay caused by SMP operator) is reasonable and proportionate with respect to interconnection orders? If you agree, please explain why. If you disagree, please explain why and recommend an alternative mechanism.

426. Instead of establishing explicit timelines the RA is also considering an alternative penalty mechanism where relative performance measures are used to encourage parity. For example, under this methodology the Regulatory Authority would collect data for all necessary ordering and provisioning steps associated with each service included in the RAIO. On a monthly basis the RA would then compare the performance of the SMP operator when providing interconnection and access services for its own retail arm versus other ICOL holders. Penalties would be assessed on the SMP operator if the data showed a statistically significant difference

in the level of service provided to the SMP operator's retail arm versus other ICOL holders.<sup>96</sup>

427. The benefit of this type of mechanism is that it encourages non-discriminatory treatment and penalizes the SMP operator discriminating between its own, and other ICOL holders' facilities orders. This methodology is potentially superior to the timeline methodology proposed above because the timeline methodology could still allow the SMP operator to provide its own retail arm superior service, so long as the other ICOL holders' orders were met by the required deadlines. We note, however, that the relative performance measure mechanism is more difficult to implement as it requires more significant data collection and statistical analysis to be performed.<sup>97</sup>

**Consultation Question 72:** Do you believe that the alternative relative performance methodology described above should be implemented in place of the recommended timeline approach? Please explain.

428. Financial penalties are typically paid by the SMP operator to the licensee that was harmed by the infraction. However, in some jurisdictions, a two-tiered approach has been adopted where infractions also require penalties to be paid by the SMP operator to the regulator or the government.

**Consultation Question 73:** If financial penalties are imposed should the RA establish a one or two tiered approach? Please explain.

429. Facility ordering and provisioning procedures should also include confidentiality requirements and ensure that information is not used in an anti-competitive manner. In its response to the Market Analysis Consultation LinkBermuda contended that one of its customers had received a sales pitch from a BTC Business Development Manager when the customer was attempting to resolve service quality issues through technical support. Specifically, LinkBermuda's customer was allegedly told that "BTC are the most experienced service provider in Bermuda and we have ownership of the entire network, Link Bermuda simply resell our services and charge a clients a premium."<sup>98</sup> The customer was then allegedly invited to consider BTC when his/her contract expired because BTC was in a position to provide an end-to-end solution at a lower rate.

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<sup>96</sup> Obviously, penalties would only be assessed when the data showed the SMP operator to be providing its own retail arm superior service.

<sup>97</sup> The RA would also have to establish other parameters, including the level of financial penalty that would apply to a given transgression.

<sup>98</sup> LinkBermuda Consultation Comments For Market Review Process (Part A) – Market Definition & (Part B) – Significant Market Power; page 7 and 8.

**Consultation Question 74:** What type of safeguards should be implemented to ensure confidentiality and prevent an SMP operator from marketing to another licensee's customers using information the SMP operator gained in its role as a wholesale provider? Please explain.

**Consultation Question 75:** What, if any, remedy should apply to an SMP operator who is found to be marketing to another licensee's customers using information the SMP operator gained in its role as a wholesale provider? Please explain.

#### **7.4.2 Prices and Price Adjustments**

430. This includes the initial level of interconnection charges and how prices will adjust over the term of the agreement to account for inflation. As noted in paragraph 139(b) above, the agreement must also address how to price for volume discounts, term discounts, and/or special retail promotions offered by the SMP operator, if applicable.

**Consultation Question 76:** Should an RAIO adjust wholesale prices to reflect volume discounts, term discounts, and/or special retail promotions offered by the SMP operator? Please explain why, or why not.

- a) How should the wholesale price be adjusted relative to volume discounts, term discounts, and/or special retail promotions? Please explain.

431. In competitive markets firms often offer volume discounts to reward loyal customers, encourage higher purchase volumes, and/or reflect the cost efficiencies associated with high volume sales. However, in markets that are not subject to effective competition volume discounts can be anti-competitive, particularly if the discount rate and the volume at which a discount is applied does not accurately reflect the cost efficiencies achieved by higher volumes. For example, if the volume at which a discount applies is too high it could place lower volume firms at a competitive disadvantage even if the lower volume firms are equally or more efficient than the high volume firm. In the extreme case the firm required to offer wholesale services could disadvantage all competitors relative to its own retail operations if it can establish minimum volume discount levels that are so high that only its own retail operations will qualify.

**Consultation Question 77:** Should SMP licensees be permitted to offer volume discounts in an RAIO? Please explain why, or why not.

- b) What should be the basis for determining if and when a volume discount should apply?
- c) How should volume discounts be calculated?

#### **7.4.3 Points of Interconnection**

432. The physical locations where interconnection is offered and the technical standards to be employed in the interconnection are defined. A process for requesting and obtaining additional points of interconnection should be established.

#### **7.4.4 Infrastructure Sharing and Co-Location**

433. There should be a clear understanding on the provisions that will be made available by the SMP licensee to accommodate equipment belonging to another licensee, the arrangements for accessing the equipment, and the associated charges that will apply.



### 7.4.5 Transport Charges and Traffic Routing

434. Some definition must be established for call routing. For example, where multiple interconnection points have been defined, the RAIO must establish the proper and efficient routing and hand-off point for each type of call. Otherwise, higher charges may apply to misrouted calls. The applicability of transport charges in the receiving network for calls that must be carried beyond the area local to the point of interconnection must be defined. If one licensee has requested interconnection in a particular area so as to avoid paying the receiving network for transport charges, and the interconnection point is not made available, sometimes a virtual point of interconnection is defined for that location whereby transport charges are not collected to bring calls to that area.

### 7.4.6 Quality of Service Standards

435. Quality of service standards are defined, particularly for network availability, fault repair times, and for call blocking levels. Remedies, often in the form of financial penalties, are defined for when those standards are not met on a consistent basis. The SMP licensee is typically required to provide at least as high a level of service quality to interconnecting licensees, and those being provided access, as it provides to its own retail customers.<sup>99</sup> Testing opportunities should be provided each party.

**Consultation Question 78:** What specific quality of service standards should be established to ensure that the SMP operator provides at least as high a level of service quality to interconnecting licensees, and those being provided access, as it provides to its own retail customers. Please define each proposed standard and explain why it is necessary.

- d) For the standards you propose how should compliance be determined? Please describe.

### 7.4.7 Billing and Collection

436. When and how to collect traffic data, when and how to exchange bills, and when and how to make payment should be specified. A process for reconciling traffic data and for making inquiries to the other party and for handling claims also should be incorporated. A procedure for resolving discrepancies is useful, which often involves seeking recourse to arbitration, the regulator, or to the courts.

### 7.4.8 Traffic Measurement and Settlement

437. Sometimes specific trunk groups are identified to carry different types of traffic so that each type of traffic can be billed for separately. However, these arrangements can be defeated and traffic will thus end up disguised as the cheapest type of traffic. The responsibilities of each interconnecting operator to measure traffic are defined, as are settlement procedures for when there are discrepancies over the amount of traffic measured. Obligations to cooperate in fraud detection and enforcement activities should be specified.

<sup>99</sup> A firm like BELCO, which has SMP but does not provide any retail communications products or services, quality of service must be non-discriminatory for all licensees.

#### **7.4.9 Forecasting Network Needs**

438. Part of providing interconnection is having the available capacity to deliver and receive the traffic that flows between the interconnecting networks. To do so, a planning process must be followed between the interconnecting operators so that investment for additional capacity can be agreed, budgeted, and installed in time to meet the forecasted demand. Procedures to resolve differences over forecasts also must be defined as well as what constitutes a bona fide request for additional interconnection capacity. At a minimum, a mutual obligation to notify the other party of network changes and upgrades well in advance is needed to avoid disadvantaging one competitor over another.

#### **7.4.10 Access to Customer Information**

439. By necessity, when completing calls and billing for them, interconnecting operators pass back and forth considerable information about each other's clients. Limits on the permitted uses of this information should be defined, particularly regarding the temptation to engage in marketing activities in approaching another operator's clients based on information obtained through interconnection or access activities. Safeguards are also necessary to protect customers' privacy.

#### **7.4.11 Dispute Resolution Procedures**

440. There should be a clear understanding of the process for escalating disputed issues through company management, to external arbitrators, and to the Regulatory Authority, if necessary.

**Consultation Question 79:** Do you agree that the issues presented in Section 7.4 represent a reasonable set of issues to be addressed by the RAIO? If not, what issues should be included or omitted, and why?

## **APPENDIX A – ACCOUNTING SEPARATION AND COST ACCOUNTING SYSTEMS**

## **Discussion and Questions Concerning the Implementation of Accounting Separations and Cost Accounting Systems**

441. RAA Section 85(5) prohibits firms identified as having significant market power (SMP) from engaging in, among other things, predatory pricing, price squeezes and unreasonable discrimination. As was discussed previously at Section 4.2.1, price discrimination, which may result in a price squeeze, occurs when a vertically integrated SMP operator in the upstream market charges a price for the product on the upstream market which, compared with the price it charges on the downstream market, would prevent an equally efficient competitor from trading profitably in that downstream market on a lasting basis. Behaviour such as this, along with other activities such as excessive charges for interconnect services and unfair cross-subsidies among goods and services, all result in market distortion that can stifle competition and prevent market entry.
442. The imposition of the obligation to establish and maintain a cost accounting system in accordance with cost allocation and separation rules, is one of the tools commonly employed to detect and address potential anti-competitive behaviours such as these.<sup>100</sup> This section provides a general discussion of the regulatory purposes served by the imposition of accounting separation and cost accounting, an overview of the typical best practices utilized in implementing these obligations, and concludes.
443. Given the complexity of the issues involved with the implementation of accounting separation and cost accounting, the discussion to follow will, of necessity, be at a high level, merely asking for comments on the general direction the RA is thinking of pursuing as it considers the possibility of implementing these measures. A more in depth consultation on the issues involved will take place in the future, when the RA turns its attention to consideration of how best to address the *ex-post* assessments under RAA Section 85(5) concerning whether or not an SMP operator has abused its dominant position.

### **7.5 General Overview**

444. The imposition of the regulatory financial reporting requirements, manifested in such remedies as accounting separation (AS) and cost accounting, or service cost modelling (CA) obligations, is a requirement on SMP operators commonly employed to enable a regulatory authority to develop and establish a financial reporting regime that can be used to detect and address potential anti-competitive concerns.
445. Accounting separation has a proven track record and is the most common tool used worldwide to address regulators' concerns about potential abuses of dominant positions. Under this approach the operator's activities are split for accounting purposes into separate, main business areas. Accounting separation does not impose on the operator a set of rules about how its activities should be organised, but rather how financial accounting information should be collected and reported. This allows, for example, the transfer charges from one business unit to another within the organisation to be explicitly identified, allowing non-discrimination to be enforced, the profitability of particular businesses or services to be monitored, and cross subsidies to be identified.

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<sup>100</sup> It is also one of the many obligations ECA Section 24(1) allows the Regulatory Authority to impose on firms found to have SMP in a relevant market, or markets.

446. Accounting separation can also ensure a systematic division of costs between retail and network, and ensure that the cost base for interconnection and access charges includes only relevant costs. It also provides a sound basis for the production of robust cost information on the main retail services to inform future decisions on retail price controls, should the regulator feel those are necessary. The objectives of the accounting separation requirements are:
- (a) To support retail price regulation where applied;
  - (b) To promote transparency and non-discrimination, especially between an SMP operator's retail business and its downstream competitors, or between the affiliated entities of a parent holding company such as KeyTech;
  - (c) To support any setting or assessing of wholesale charges, such as those required by a RAIO; In particular, the determination of Bermudian specific costs to be used in the calculation of the avoidable cost component of the retail-minus remedies that have been discussed elsewhere in this consultation;
  - (d) To overcome the information asymmetry between the regulator and regulated entities;
  - (e) To provide for audit independence and objectivity; and
  - (f) To support any ex-post assessment under RAA Section 85(5) concerning whether or not an SMP operator has abused its dominant position by engaging in, for example, predatory pricing, or a price squeeze.
447. Accounting separation is typically a prerequisite for service cost modelling obligations, since these cannot be implemented without some form of separate accounts, to break out the profitability and/or costs of products or services which have a cost accounting obligation associated with them.
448. Accounting separation and service cost modelling can be mutually reinforcing. Accounting separation can help ensure that costs used for pricing purposes reconcile to the business as a whole and that costs are neither double counted nor omitted. While cost accounting, or cost modelling, can help ensure that the costs allocated to activities within the separated accounts are accurate and reliable.
449. Accounting separation is necessary to divide the overall business into certain areas, as well as ensure non-discrimination across certain boundaries. Cost accounting systems are needed to break down these area product or service costs so that their appropriate constituent costs can be seen. And transparency is necessary to understand how these service costs are calculated.
450. Finally, the RA considers that the cost and revenue information that may be obtained from the imposition of accounting separation and cost accounting requirements is necessary for it to be able to discharge those functions and duties it is obligated to perform and carry out under the RAA, the ECA, and other relevant documents.

## **7.6 Accounting Separation**

### **7.6.1 Level of Accounting Separation**

451. This section discusses the level of disaggregation that is required for the published separated accounts ("Accounts") of SMP operators. The RA believes that the publication of sufficiently detailed financial information will increase transparency and aid future discussions of cross subsidisation. Balanced against the requirement to

promote increased transparency and a competitive environment is the need to consider concerns over the commercial confidentiality of the information. This matter is considered later in Section 7.6.2.3.

452. Based on its review of the level of separated account disaggregation adopted in other jurisdictions,<sup>101</sup> the RA tentatively recommends the publication of separate accounting information for the following main business areas:

(a) Core Network:

- (i) The Core Network business area can provide a range of interconnection services internally and externally in order to allow customers of one operator to communicate with customers of the same or another operator, or to access services provided by another operator. These services may include, the switching and conveyance of calls, the distribution of subscription TV content, and the provisioning of Internet access services, to name a few.
- (ii) In addition, the Core Network business area may provide other services to operators such as engineering services related to the development and maintenance of private networks.
- (iii) The Accounts for the Core Network business area should include the costs, revenues and capital employed associated with the provisioning of all services provided by the Core Network. The revenues of the Core Network business area derive from transfer charges to the Retail business area and the sale of interconnection services to other operators. With respect to the wholesale provision of transmission circuits, the associated revenues should be allocated to the Core Network business area.

(b) Local Access Network:

- (i) The Local Access Network business area provides connections to the Core Network. The Accounts for the Local Access Network business area should include the costs and capital employed associated with providing and maintaining these connections.
- (ii) For accounting separation, the Local Access Network business area should include all customer-dedicated network components (such as, for example, all types of access lines and wires, as well as line cards and ports located at concentrators and/or exchanges).
- (iii) All other network components should be included in the Core Network business area accounts. Services provided to customers, such as access line services, are services provided by the Retail business area. The revenue from services provided to end users will therefore be recorded in the Retail accounts. The cost of providing the customer-dedicated components of the network will be recorded against the Local Access Network business area and there will be a transfer charge of these costs to the Retail business area

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<sup>101</sup> See, for example, *Draft Guidelines, Accounting Separation and Cost Accounting Issued to Bahamas Telecommunications Company LTD. (BTC)*, Utilities Regulation and Competition Authority (URCA), ECS 20/2009, 30 September 2009; *Accounting Separation and Publication of Financial Information for Telecommunications Operators*, Consultative Paper, Malta Communications Authority (MCA), February 2002; and, *Accounting Separation and Publication of Financial Information for Telecommunications Operators*, Consultation Paper, Office of the Director of Telecommunications (ODTR), ODTR 99/10, March 1999.

in order to match revenues with their associated costs. The costs transferred to the Retail business area should be net of any possible local access revenue such as access line rental revenue from other market players.

- (iv) In the case of bundled services, for the purposes of accounting separation, revenues from the bundle's components will have to be disaggregated based on the principle of causation. For example, in the case of a bundle involving a local access line (delivering both voice and broadband services) coupled with a subscription TV package, a first approach to this disaggregation could be a proportionate split, based on the service cost. The resulting net revenue stream for the local access line would then be allocated to the Local Access Network business area, the resulting net revenue streams for content access would be allocated to Content Sources business area, and the resulting net revenue stream for Internet access would be allocated to the Core Network business area.

(c) Retail:

- (i) The Retail business area includes all those activities involved in the selling of electronic communications services to end-users.
- (ii) The Accounts for the Retail business area will include the costs, revenues and capital employed associated with the provision of these services to end-users. The costs allocated to the Retail business area will include transfer charges related to the use of network resources and/or services provided by the Local Access Network and the Core Network business areas for the provisioning of end user services, along with any associated marketing and billing costs.

(d) Content Sources:

- (i) BCV provides a large variety of content types – ranging from basic local and international TV channels, to add-on packages of additional programmes, up to premium-level seasonal sports packages. All content has to be bought, aggregated, transmitted and distributed throughout BCV's network. The Accounts for the Content Sources business area are to include the costs, revenues and capital employed associated with the acquisition of TV content and channel rights as well as the systems necessary to aggregate and manage the different content sources. The revenues of the Content business area derive from transfer charges to the Retail business area and the sale of content to other distributors.

(e) Other Activities:

- (i) Operators typically provide a wide range of other services including the rental, repair and maintenance of customer equipment. In addition, they may have interests in non-telecommunications activities (e.g. TV broadcasting). For the purposes of accounting separation, the costs, revenues and capital employed associated with these activities will be separately identified.

**Consultation Question 80:** Do you agree with the definitions of the main business areas presented above? If not, what is a suitable definition for these main business areas?

**Consultation Question 81:** Do you believe that more\less main business areas should be defined? What is the basis for any inclusion\exclusion?

453. It is typical for the Accounts of the main business areas discussed above to be consolidated into a summarised set of accounts depicting the disaggregated activities occurring in these areas. This is done in the interests of transparency and to assure other operators that there is no discrimination in the provision of services by an SMP operator to its own retail operations and other operators. The level of disaggregation required varies by company and jurisdiction. But typically looks something like the following:

(a) Consolidated Accounts

(i) Core Network

(ii) Local Access Network (PSTN / Cable)

(1) Local Access Network - Business

(2) Local Access Network - Residential

(iii) Retail

(1) PSTN

a. Retail - Local Calls

b. Retail - International Calls

c. Retail - Directory Enquiry Services

d. Retail - Leased Lines

e. Retail - Calls To Mobile

f. Retail - Broadband Services

g. Retail - Supplementary Services Business

h. Retail - Remaining activities

(2) Mobile

a. Retail - Voice Calls

b. Retail - SMS / Data

c. Retail - Roaming

d. Retail - Directory Enquiry Services

e. Retail - Remaining activities

(3) Cable

a. Retail – Subscription TV services (further disaggregated by tier and add on packages available.)

b. Retail – National Leased Lines

c. Retail – National Leased Lines



- d. Retail - Internet
- e. Retail - Telephony

(4) Other Activities

- a. Other - Apparatus Supply
- b. Other - Remaining activities

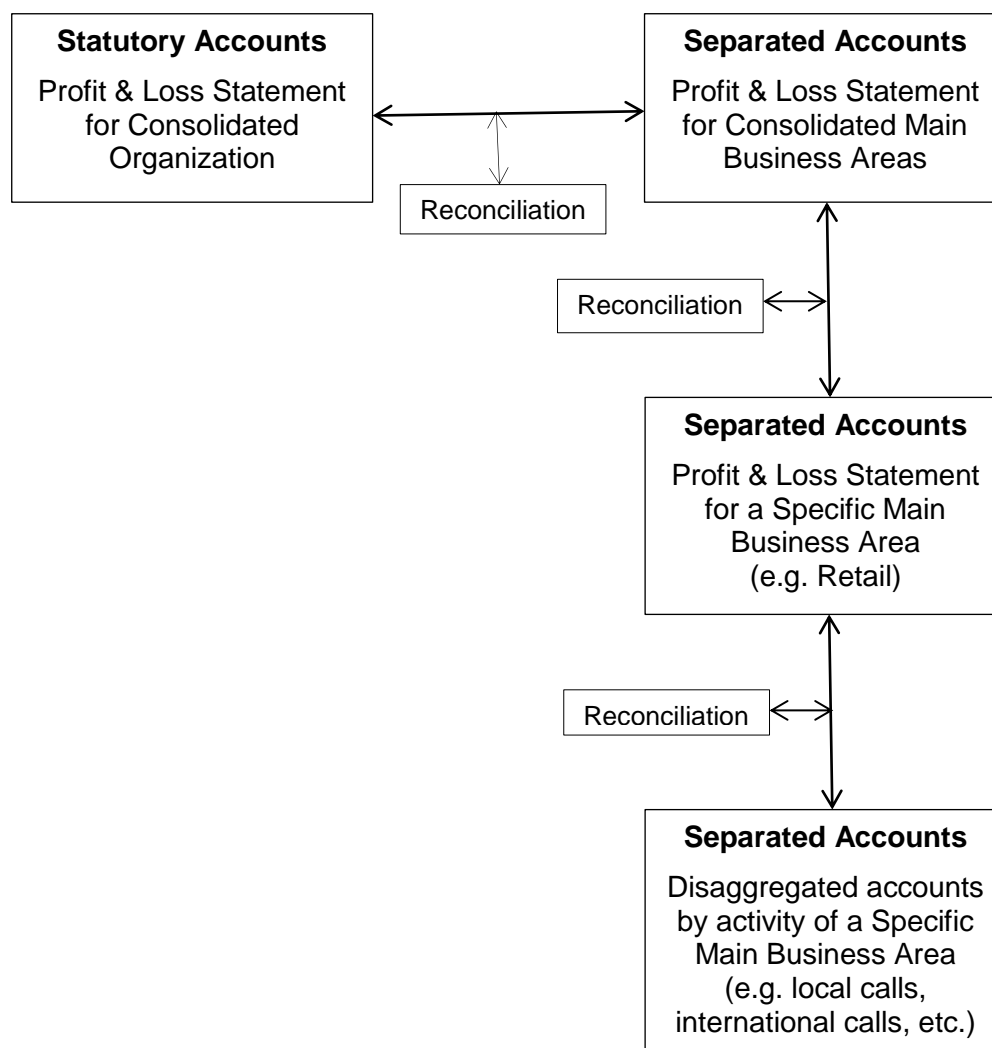
454. A level of disaggregation similar to the above is also typically required for an operator's wholesale activities as well. Even though SMP operators may not have organised their business and accounting structures to distinguish between wholesale and retail services, such a split is required for accounting separation. Due to the fact that no Bermudian operator offers wholesale services at this time, those retail services SMP operators are currently providing in a Relevant Product Market, will be considered as potential wholesale services. All services produced by an SMP operator, for another operator, including itself, will initially be considered wholesale services.
455. Operators are typically required to publish reconciliation statements in conjunction with their separated accounts, which reconciliations would be:
- (a) between the Statutory accounts of the organisation and the Consolidated Accounts of the main business areas;<sup>102</sup>
  - (b) between the Consolidated Accounts of the main business areas and the Separated Accounts<sup>103</sup> of the main business areas (e.g. Retail):
  - (c) between the Separated Accounts of the main business areas (e.g. Retail) and their disaggregated activities (e.g. Local Calls, National Calls).

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<sup>102</sup> These are the set of accounts that companies maintain and publish as part of their regular financial reporting obligations to the investment community and government agencies.

<sup>103</sup> These comprise the set of accounts established and maintained by the operator, in public consultation with a regulatory authority, to meet the requirements of an accounting separation and cost accounting system obligation that has been imposed as a remedy for a designated market, or markets.

456. Schematically, this reconciliation process resembles the following:



**Consultation Question 82:** The appropriate level of accounting separation that should be applied to SMP operators and the reasons for this level. Do you agree with the proposed framework as outlined above? What disaggregated activities do you consider should be included/excluded, and what is your reasoning for this? What is your definition for any additional disaggregated activities?

a. If you disagree with the proposed framework,

- i. Do you believe that a level of accounting separation that is less detailed than what is depicted above is more appropriate publication? If yes, what level of accounting separation do you believe would be more appropriate and why?
- ii. Do you believe that a level of accounting separation that is more detailed than what is depicted above is more appropriate publication? If yes, what level of accounting separation do you believe would be more appropriate and why?

## **7.6.2 General Format of Accounting Separation Statements**

457. The preparation of the separated accounts should follow a set of guiding principles. Examples of such principles are depicted below:

- (a) The separated accounts shall be based on a transparent cost apportionment methodology.
- (b) The separated accounts shall include transfer charges between the main business areas and the disaggregated activities for services the organisation provides to itself, or to any affiliated organizations. They shall also disclose the equivalent transactions with competing operators.
- (c) The separated accounts shall be prepared in accordance with accepted accounting standards insofar as they are relevant.
- (d) The separated accounts shall be prepared in accordance with a set of Regulatory Accounting Principles, which set out the general rules by which the financial statements are prepared. Suggested principles are set out in Section 7.6.2.1.
- (e) Details of significant changes that impact on the financial statements and prior year restatements shall be given.
- (f) Separated accounts shall be published annually and contain comparative information. Where there are material changes to regulatory accounting principles, cost allocation methodology, attribution methods, or to accounting policies that have a material effect on the information reported in the separated accounts of a main business area or a disaggregated activity, the parts of the previous year's separated accounts affected by the changes shall be restated.
- (g) The separated accounts shall make explicit, any differences between costs allocated to different activities by the operator and the costs that the RA allowed for the purpose of determining charges.
- (h) The separated accounts shall be subject to an audit, in accordance with the relevant rules of Bermudian legislation.

**Consultation Question 83:** Do you believe that the guiding principles proposed above for the preparation of the separated accounts are sufficient? If not, what changes, or alternatives, would you suggest?

#### **7.6.2.1 Proposed Regulatory Accounting Principles**

458. The following suggested Regulatory Accounting Principles are ones that are usually applied in the preparation of separated accounts:

- (a) Cost Causality: Revenue (including transfer charges), costs (including transfer charges), assets and liabilities shall be attributed to cost components, services and business areas or disaggregated business areas in accordance with the activities which cause the revenues to be earned or costs to be incurred or the assets to be acquired or liabilities to be incurred. This should all be done at as granular a level as possible
- (b) Non-discrimination: The attribution shall be objective and not intended to benefit the SMP operator, any company with whom it is affiliated, or any other operator, product, service, component, business or disaggregated business. For example, it should be easy to confirm that internal transfer prices charged by a wholesale business area to its associated retail business area (or between the affiliated entities of a parent holding company such as KeyTech) are the same as the prices charged to an independent, third-party retail business.
- (c) Consistency of treatment: There shall be consistency of treatment from year to year. Where there are material changes to the Regulatory Accounting Principles, the attribution methods, or the accounting policies that have a material effect on the information reported in the financial statements of the businesses, the parts of the previous year's financial statements affected by the changes shall be restated.
- (d) Transparency: The attribution methods used should be transparent. Costs and revenues, which are allocated to business areas or activities, shall be separately distinguished from those that are apportioned. Cost drivers, together with the systems and processes used to synthesise these into the form of the statements, should also be clearly explained so that their appropriateness can be considered.

**Consultation Question 84:** Do you believe that the proposed Regulatory Accounting Principles presented above are sufficient? If not, what changes, or alternatives, would you suggest?

#### **7.6.2.2 Other Financial Information**

459. International best practices recommend that the following items of information should also be prepared as part of the accounting separation process:

- (a) a statement of accounting policies used in the preparation of the Accounts. This should include, for example, policies covering revenue and cost recognition, depreciation, and asset valuation;
- (b) a matrix summarising the total transfer charges between the different Accounts;
- (c) information about the cost allocation methodologies employed in order to prepare separate accounts. This should demonstrate for each item of revenue, cost and capital employed what drivers have caused the item to arise and how that driver has been used to allocate each item to an individual business area. This should

be at a level of detail that makes clear the relationship between costs and interconnection charges;

(d) information concerning the cost accounting method employed, that explains how costs are identified and applied to each cost driver and how the costs of those drivers have then been calculated; and,

(e) a statement showing the average cost of network components.

460. It is also necessary to include sufficient explanatory information along with the separated accounts, to assist interested parties in fully understanding the information contained within. This information typically includes:

(a) a statement of the regulatory accounting principles followed when preparing the Accounts;

(b) complete definitions of the main business areas and their disaggregated activities;

(c) a description of the transfer charging system that is operated for accounting separation; and

(d) details of significant changes which may have an impact on the financial statements and on the comparative figures.

#### **7.6.2.3 Public and Confidential Information**

461. Following the audit of the separated accounts and prior to their publication, each SMP operator should provide the RA with a complete copy of those accounts (both the confidential and non-confidential versions) for its review. This review will not take the form of an audit. Following the review, the RA will prepare a statement to be included for publication with the non-confidential separated accounts, indicating any areas of the separated accounts which the RA may wish to examine in greater detail during the course of the year.

462. The RA recognises that the level of disclosure required in separated accounts will in places be much greater than the level of disclosure provided in statutory accounts and annual reports. While recognising the importance of transparency and the ability of users to interpret and analyse the separated accounts, the RA is sensitive to the need for operators to keep certain information confidential. The RA therefore proposes that the information provided in accounting separation reports be classified as non-confidential (and published on the operator's website) and as confidential as follows:

(a) Non-confidential:

(i) separated accounts

(ii) reconciliation statements

(iii) statements of accounting principles and policies

(iv) wholesale-retail mapping matrix

(v) audit report

(b) Confidential

(i) cost attribution methodology (explaining details of cost drivers, attributions and ABC modelling)

- (ii) cost drivers and other operational data
- (iii) routing matrix
- (iv) unit costs

**Consultation Question 85:** Do you agree that the preparation of the information in paragraphs 459 and 460 is sufficient for the purpose of providing a fuller understanding of the accounting separation process and the results generated from it? If you disagree:

**Consultation Question 86:** Do you believe that less information would be sufficient? If yes, what information do you believe would be sufficient and what is the reason for this?

**Consultation Question 87:** Do you believe that more information is required? If yes, what additional information do you believe is necessary?

**Consultation Question 88:** Do you agree with the RA's proposed classification of the information provided in the accounting separation reports presented at paragraph 462? If not, please provide an explanation of any changes you believe are necessary.

### 7.6.3 Timeframe for the Publication of Separated Accounting Information

463. In order for accounting separation to be effective, the information published should be timely. Unnecessary delay in the publication of the accounts and the additional financial information would reduce the positive effects of accounting separation.

464. The RA proposes that the timeframe for the preparation and publication of the Separate Accounting information be within two months after the date on which the SMP operator's annual statutory financial statements are published and, in any event, within four months after the end of the period to which they relate.

**Consultation Question 89:** Do you agree with the proposed timeframe for the preparation and publication of the accounting separation information? If you disagree, what do you believe the appropriate timeframe should be and what is your reason for suggesting it?

### 7.6.4 Transfer Charging Principles

465. A coherent system of transfer charging is important to maintain the principles of non-discrimination and transparency. A transfer charging system should apply to products and services that are provided between the main business areas and the disaggregated activities discussed above at paragraph 452.<sup>104</sup> The principles to be applied in the development of a transfer charging system are:

- (a) Transfer charges (revenues and costs) should be attributed to cost components, services and main business areas, disaggregated business areas, or affiliated entities in accordance with the activities, which cause the revenues to be earned, or costs to be incurred.
- (b) The attribution should be objective and not intended to benefit any business area, disaggregated business area or affiliated entity.
- (c) There should be consistency of treatment of transfer charges from year to year.

<sup>104</sup> A transfer charging system would also apply to the transactions occurring between affiliated ICOL holders within KeyTech and between those affiliates and KeyTech itself.

- (d) The transfer charging methods used should be transparent. There should be a clear rationale for the transfer charges used and each charge should be supportable.
- (e) The transfer charges for internal usage should be determined as the product of usage and unit charges.

**Consultation Question 90:** Do you agree with the transfer charging principles proposed above? If you disagree, please explain why?

### **7.6.5 Cost Accounting Systems and/or Models**

- 466. This section provides an overview concerning the development of cost accounting systems, or models, touching upon such topics as, the principles involved in cost allocation, the different cost accounting methods typically utilized and the various cost bases typically employed. The discussion will be limited to a high level consideration of these factors only as a more detailed examination of these issues will, as was stated at paragraph 443, be held at a later date when the RA turns its attention to consideration of how best to address the assessments under RAA Section 85.
- 467. Cost is an important issue in regulation. It is not uncommon for regulators to require that SMP operators develop cost based retail and wholesale prices for certain products and services, or to impose price controls that cause an SMP operator to cap or reduce prices. When obligations such as these are imposed it is essential that their implementation be based on a clear and comprehensive understanding of an SMP operator's costs and the means by which these are attributed to the operator's various activities and main business areas. Given the prevalence for common costs in electronic communications, the cost accounting process is potentially complex.

#### **7.6.5.1 Principles of Cost Allocation**

- 468. Cost allocation principles indicate how various costs should be treated and allocated/apportioned to various services, products, and network elements. Cost (and revenue) allocation must be done in accordance with the principle of cost causation, that is, costs and revenues should be allocated to those services or products that cause those costs or revenues to arise. Certain overhead costs that have to be apportioned on a more arbitrary basis, because there is no particular activity to which they can be directly or indirectly allocated, should be kept to an absolute minimum.
- 469. In practice, well designed cost allocation methodologies require an operator to:
  - (a) review each item of cost, capital employed and revenue;
  - (b) establish the driver that caused each item to arise; and,
  - (c) use the driver to allocate each item, pooling those costs (unattributable costs) that cannot be related on a causation basis to activities and allocating these on a predetermined basis.
- 470. The application of the above need to be performed following the principles of transparency, consistency and non-discrimination discussed previously at paragraph 458, above.

### 7.6.5.2 Cost Categories

471. Following the principle of cost causation, each item of cost and revenue should be allocated to the products and services provided by an operator. In the case of revenue most, if not all, revenues may be allocated directly to their related products or services. This is not, however, the case with costs due to the fact that, in the electronic communications industry, a relatively high proportion of costs are shared amongst different products and services. Cost items most commonly fall into one of the following categories:
- (a) Direct and directly attributable costs: these are costs that can be directly and unambiguously related to a service or product and which are recorded against the relevant product or service in the operator's accounting system. There are also costs that are directly and unambiguously related to a service or product, but are not recorded in the financial accounts against the product or service to which they relate. For example, product-specific software development costs which can be directly allocated to the product in question, but which may be recorded elsewhere in the company's management accounts.
  - (b) Indirectly attributable costs: These are costs that can be related to a service or product on a non-arbitrary basis based on the relationship of the costs to direct and directly attributable costs. Such costs may be allocated to the relevant service or product using an appropriate cost driver (usage of shared facilities, for instance). For example, depreciation relating to power equipment may initially be allocated to the power equipment to which it relates. It may then be allocated to the network equipment that is supported by that power equipment (possibly on the basis of usage). In order to derive the appropriate basis for apportionment sampling techniques may be used, though these should be based on appropriate statistical techniques, which minimize the margin of error.
  - (c) Unattributable costs: these are costs (also referred to as joint costs) for which no direct or indirect method of apportionment can be identified. These costs exist where use of the input does not involve exclusion.
472. Costs that are joint at one level of study may be directly assignable at a higher level of aggregation. For example, on a fixed network, the cost of a copper loop is not impacted by the level of local and international calls. Therefore the cost of the loop is not directly assignable to either local or international calls because the volume of either type of call does not affect the cost of providing the loop. The cost of the loop is characterized as a joint cost of providing local and international calls. But at a higher level of aggregation, voice services, the cost of the loop is directly assignable to the family of voice products.
473. It is a commonly accepted practice to clearly identify unattributable costs by placing them in a specific account set up for that purpose. Regulators then may adopt one of the many available approaches for allocating these costs to products and services, basing their choice of approach on:
- (a) The practicalities of implementing the approach;
  - (b) The proportion of costs considered unattributable; and,
  - (c) The nature of the unattributable costs: it may, for example, be necessary to apply one mark-up for those unattributable costs that relate to a sub-set of products



and services only, and another mark-up for those unattributable costs that are truly common to all services.

474. Alternatively, regulators may decide to not allocate these costs and instead leave the recovery of this pot of expenses to the price setting process.

#### **7.6.6 Cost Base and Cost Accounting Methods**

475. At the present time, there are two main cost accounting methodology options that are most commonly mandated by regulatory authorities:<sup>105</sup>

- (a) Fully Distributed (or Allocated) Costs (FDC/FAC)—all costs, including costs caused by specific services and costs driven by groups of services, are attributed to different services according to a set of allocation rules; and,
- (b) Long Run Direct Costs (LRDC)—direct cost, defined as the increase in a firm's total costs as a result of an increase in output, or the costs avoided if output falls. If the increment of output under consideration is the whole of a particular service, then the term "total service direct cost" is applied. The addition of "long-run" indicates that the time horizon is sufficiently long for all types of cost to be avoidable. LRDC includes all variable (i.e. volume-sensitive) costs and also the fixed costs specifically relevant to the increment of output under consideration. Costs that are joint to a number of services are not directly assigned (as they will not be avoided if an increment of output of a particular service is no longer provided).

476. And two main cost bases that regulatory authorities typically mandate be utilized as the base for the accounting methodology employed:

- (a) Historical cost accounting (HCA)—an accounting basis where transactions are recorded and reported at their initial transaction value. Traditionally used as the main basis of reporting for statutory and management purposes; and,
- (b) Current Cost Accounting (CCA)—an accounting basis whereby transactions are adjusted from their initial transaction value (Historic cost) in order to represent their current replacement cost rather than the price originally paid for them.

477. LRDC employs either HCA or CCA as a cost base, as does FDC/FAC.

478. The advantages and disadvantages to all these approaches are discussed in the following sections.

##### **7.6.6.1 Historic Cost Accounting (HCA)**

479. One advantage of using HCA is it reflects the actual expenses incurred by an operator in building its network and providing its services. These costs are readily available. Another advantage is the existence of an audit trail back to the company's accounting records which may be followed in determining the reasonableness and allocation of costs. Furthermore, if a firm employs an Activity-Based Accounting System, this would, presumably, lend clarity to this audit trail and also greatly expedite any proceedings developing rates utilizing this methodology

480. Disadvantages of HCA are:

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<sup>105</sup> See, for example, *BEREC Report: Regulatory Accounting in Practice 2012*, Body of European Regulators for Electronic Communications (BEREC), BoR (12)78, 27 September 2012. (BEREC 2012)

- (a) Rates based on historical costs may not take into account declining equipment prices as newer, more efficient technologies become available;
  - (b) Historical cost methods also capture costs that may be the result of previous network or operational inefficiencies, which may then be incorporated into the firm's cost structure;
  - (c) Allocations of unattributable costs are often contentious.<sup>106</sup>
481. None of these disadvantages are insurmountable, however, and can be addressed relatively easily during the course of a consultation on accounting separation and cost accounting systems.

#### **7.6.6.2 Current Cost Accounting (CCA)**

482. CCA is particularly relevant in the electronic communications sector where the delivery of services in wholesale markets is often only possible over extensive and capital intensive infrastructures built, in some cases, over very long periods. These networks can also be subject to rapid technological change and significant real price changes. Financial information prepared using HCA policies may therefore result in asset values not reflecting the value of that asset to the business because the asset can be acquired at today's prices for a cost significantly above or below the book value in the operator's accounts.
483. The main regulatory impact of applying a current cost methodology is that it requires firms to record the value of assets to reflect their 'value to the business' which, by implication, should result in a net asset cost base and measures of profits and prices similar to that expected under fully competitive market conditions.
484. The use of current cost evaluation is intended to measure the financial performance of operators in a way that is broadly consistent with the costs faced by new or potential competitors in a market wishing to offer services at a price that would allow them to recover their current costs. However, there may be significant transitional issues raised when CCA is implemented. For example, the valuation of the asset base may result in significant windfall holding gains and/or losses. It may not be appropriate, depending on the specific regulatory objectives of the regulator, to allow those windfall gains and/or losses to be reflected in pricing decisions.
485. Disadvantages of CCA are:
- (a) The development and implementation of CCA is not a trivial exercise. It is necessary to revalue all capital equipment and to adjust the calculation of depreciation not only to take new asset values into account but also to allow for holding gains and losses that result from changes in asset prices. This will take time and may require training of the relevant accounting staff, thus it is more costly to implement than HCA, depending on the availability of current cost data and the approach taken;
  - (b) It can be highly subjective due to the fact that it involves valuing existing assets at the current cost of replacing them with an equivalent modern asset, if such can be found, and thus taking into account factors such as specific price inflation and

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<sup>106</sup> Arguably, the debates over the treatment of unattributable costs under HCA are no more contentious than those surrounding the treatment of these costs under CCA.

technological progress. Due to controversies regarding asset valuation, this process may be more contentious than an HCA approach.

#### 7.6.6.3 Long Run Direct Versus Fully Allocated Costs

486. LRDC is an attractive methodology because it assigns costs to a product that are directly related to the provision of the product. This establishes a price floor which needs to be covered in order for a service to cover the costs that would be avoided if the service was discontinued.
487. The comparative advantage of a FAC study is that it identifies the costs that must be covered in order for a firm to cover its costs. The LRDC methodology does not assign certain joint costs. These unassigned costs must be recovered and the FAC methodology provides a methodology for assigning those costs to different products.
488. A major drawback with the FAC approach is that the assignment of joint costs may be done in a manner that is inefficient. Efficient recovery of joint costs should be done in a manner that reflects the economic value associated with the use of the joint input. The classic example of the efficient recovery of a joint cost is a farmer's consideration of a sheep that is sent to the market. The joint cost of a sheep is not allocated between mutton and wool; rather a farmer recovers the joint cost based on the relative demand for these two products.
489. Disadvantages of LRDC are:
- (a) They can be extremely expensive undertakings, requiring significant expertise in design and implementation;
  - (b) They can be very contentious as they may require cost estimates provided by experts, whose estimates will vary depending on the interests of the clients they represent.
  - (c) Costs may also vary according to the design(s) of the various models proposed by different parties.
  - (d) Costs derived from this process may bear little relationship to the actual costs incurred by the company being studied.
490. However, many of these issues are not applicable to LRDC studies utilizing HCA as a cost basis instead of CCA.

#### 7.6.6.4 Proposed Cost Accounting and Cost Base

491. It is the RA's opinion that, given the small size of Bermuda's market, the operational costs to operators of implementing CCA, and the additional costs that might be incurred by all parties due to the fact that cost determinations using current costs often becomes highly contentious, utilization of CCA is not appropriate at this point in time. Therefore, the RA is tentatively proposing adopting the HCA methodology and cost base for any cost accounting system, or model, adopted, modifying it where it is deemed appropriate.
492. It is worth noting that the Federal Communications Commission in the U.S. has similarly found that adoption of a modified historical costing methodology is a reasonable and prudent approach to take for modelling the costs of smaller firms.<sup>107</sup>

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<sup>107</sup> See for example, **Before the Federal Communications Commission**, *In the Matter of: Federal-State Joint Board on Universal Service*; and, *Multi-Association Group (MAG) Plan for Regulation of Interstate*

It is also worth pointing out that among those countries imposing the wholesale line rental (WLR) obligations with retail minus as the price control method (as the RA has done for several markets, as is discussed elsewhere in this Consultation), HCA is currently the most utilized cost base and FDC the preferred accounting methodology.<sup>108</sup>

493. At this point in time, with regards to the use of direct versus fully-allocated costs, we tentatively do not recommend either approach over the other. Depending on the nature of the study, both approaches may be useful. For example, in some jurisdictions, price squeeze analysis is undertaken using direct costs, while in other localities reference is made to fully-allocated costs. Therefore, at this juncture, we tentatively conclude that SMP operators should develop cost accounting systems that calculate both direct and fully allocated cost estimates.

**Consultation Question 91:** Do you agree with the RA's tentative proposal to use historical cost accounting rather than current cost accounting as the cost base to be used in developing a cost accounting system or model? If you disagree, what other cost base do you believe would be more suitable and why do you believe this to be the case?

**Consultation Question 92:** Do you agree with the RA's analysis concerning the relative advantages and disadvantages of Long Run Direct Cost and the Fully Distributed Cost accounting methodologies? If you disagree, please explain why?

**Consultation Question 93:** Do you agree with the RA's tentative proposal requiring companies to design cost accounting systems (or cost model) utilizing both LRDC and FDC on a historical cost basis? If you disagree: What other cost accounting methodology and cost base do you believe would be more suitable and why do you believe this to be the case?

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*Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers, CC Docket Nos. 96-45 and 00-256, Fourteenth Report And Order, Twenty-Second Order On Reconsideration, And Further Notice Of Proposed Rulemaking In CC Docket No. 96-45, And Report And Order In CC Docket No. 00-256, FCC 01-157, Released: May 23, 2001, at para. 25.*

<sup>108</sup> See, for example, *BEREC 2012* at pages 18 to 21.

## **APPENDIX B – LIST OF CONSULTATION QUESTIONS**

**Consultation Question 1:** Do you have any comments concerning the proposed process? Please explain.

**Consultation Question 2:** In the event that price cap regulation is adopted, do you agree that there should be one basket for each market? Please elaborate in your response and provide evidence in support of your position.

**Consultation Question 3:** The Authority proposes to apply separate price caps for services bundles that contain SMP services. Do you consider that this is necessary? Please explain your answer.

**Consultation Question 4:** Please describe the type of retail price regulation that you believe would be best suited to conditions in Bermuda, in the event any such regulation may be deemed necessary. For example, would ROR regulation of retail prices be preferable to price cap regulation? Or, would a blended approach such as was followed by the UK be more suited to Bermuda?

**Consultation Question 5:** Under the ICOL, licensees will be better positioned to offer triple and quadruple play bundled offerings. How do stakeholders believe these types of offering ought to be treated under price cap regulation, in the event this type of regulation is adopted? Please explain your response and provide evidence in support of your position.

**Consultation Question 6:** Do you agree with our tentative conclusion that the price cap formula should be  $PCI_t = PCI_{t-1} * (1 + CPI + Y)$ ? Please explain why or why not.

**Consultation Question 7:** Do you agree with our tentative conclusion regarding the price cap imposed on retail bundles subject to price caps? Please explain why or why not.

**Consultation Question 8:** Do you agree our tentative conclusion that a reasonable value for Y in the price cap formula is 2%? Please explain why or why not.

**Consultation Question 9:** Do you agree with our tentative conclusion that an SMP operator subject to price cap regulation should make an annual filing (described above) demonstrating that it has complied with the retail remedy? Please explain why or why not.

**Consultation Question 10:** Do you agree with the Authority's tentative conclusion that it should provide SMP customers subject to price caps with protection from rate shock? Please explain why or why not.

**Consultation Question 11:** Do you agree with the proposed method for limiting rate shock? Explain why or why not?

**Consultation Question 12:** Do you agree with the retail tariff notice filing requirements proposed by the Regulatory? If not, please explain why and whether there are additional or alternative filing requirements that should be applied to SMP operators?

**Consultation Question 13:** Do you agree with the RA's tentative conclusion that the imposition of full accounting separation and cost accounting requirements on SMP operators is not necessary at the present time? If you disagree, please explain why?

**Consultation Question 14:** Do you agree with the RA's tentative conclusion that the question of whether or not full accounting separation and cost accounting obligations ought to be imposed on SMP operators is best left to a fuller examination in a separate consultation on issue of price squeeze determination? If you disagree, please explain why?

**Consultation Question 15:** Do you agree with the RA's tentative conclusion that the remedies discussed and tentatively imposed elsewhere in this Consultation will be sufficient for the establishment of competitive wholesale prices at the present time? If you disagree, please:

- c) explain why you believe the remedies proposed are not sufficient for this purpose;
- d) provide a full description and explanation of any alternative methods for establishing competitive wholesale prices you would like to propose.

**Consultation Question 16:** Do you agree that the key regulatory options to be assessed in the wholesale access and local call markets are: (1) no regulation; (2) retail-minus avoidable cost non-discriminatory wholesale access; and (3) cost-based non-discriminatory wholesale access? If not, what options do you consider most relevant?

**Consultation Question 17:** Do you agree with the RA's finding that the regulatory option for the wholesale access and local call markets that best achieves the objective and principles of the ECA is resale in areas outside of Hamilton and Southside, priced at retail minus avoidable cost?

**Consultation Question 18:** Do you agree that implementation of WLRLC would be feasible from both an economic and technical perspective? Please explain your reasoning.

**Consultation Question 19:** Do you agree that 15% is a reasonable estimate of the avoidable cost margin to use in the calculation of WLRLC pricing? If not, please provide evidence supporting an alternative margin.

**Consultation Question 20:** The RA proposes to introduce tariff filing and price cap regulation on BTC in the residential retail access and local market and the business retail access and local market outside of Hamilton. Do you agree that this approach best satisfies the objectives of the ECA in addressing BTC's SMP in the retail access and local call markets?

**Consultation Question 21:** The RA has identified 2 regulatory options for the wholesale call origination market: (a) regulatory forbearance; (b) maintain the current rate established in the LAC proceeding until a separate investigation is completed. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 22:** The RA has come to the preliminary conclusion that the remedies for the wholesale market for origination of international calls that are most consistent with the objectives of the ECA are that BTC be required to: (a) provide origination at the rate equal to, or below the level established in the LAC proceeding until a separate investigation is completed; and (b) provide the origination service on a non-discriminatory basis. Do you agree with this conclusion?

**Consultation Question 23:** Do you agree that the key regulatory options to be assessed in the wholesale broadband access markets are: (1) no regulation; (2) retail-minus avoidable cost non-discriminatory resale; and (3) cost-based non-discriminatory wholesale bitstream? If not, what options do you consider most relevant?

**Consultation Question 24:** Do you agree with the RA's tentative finding that the regulatory option for the wholesale broadband access markets that best achieves the objectives of the ECA is the implementation of non-discriminatory resale of broadband access services in areas outside of Hamilton and Southside, priced at retail minus avoidable cost?

**Consultation Question 25:** Do you agree that implementation of resale broadband access would be feasible from both an economic and technical perspective? Please explain your reasoning.

**Consultation Question 26:** Aside from resale, what specific type of wholesale broadband access could feasibly be offered and used in Bermuda and what are the minimum features required? Are these alternatively more consistent with the objectives of the ECA than resale?

**Consultation Question 27:** Do you agree that 15% is a reasonable estimate of the avoidable cost margin to use in the calculation of wholesale broadband pricing? If not, please provide evidence supporting an alternative margin.

**Consultation Question 28:** The Regulatory Authority proposes to introduce tariff filing and price cap regulation on BTC and BCV in the residential retail broadband market and on BTC in the business retail broadband market outside of Hamilton. Do you agree that this approach best satisfies the objectives of the Act in addressing SMP in the retail broadband call markets?

**Consultation Question 29:** Do you agree that there is no apparent cost justification for setting the price of off-net outbound or inbound calls significantly above the on-net price? If you disagree, please explain and provide supporting cost studies.

**Consultation Question 30:** Do you agree that the four key competition problems in the retail mobile market and the wholesale mobile access and local call origination markets are: (1) excessive pricing; (2) the barrier to entry that on-net/off-net price discrimination can create; (3) wholesale price discrimination and (3) the ability of BDC and Digicel to leverage market power from the mobile market into the fixed markets through bundling?

**Consultation Question 31:** The RA has identified 4 regulatory options for the wholesale mobile access and local call origination market: (a) regulatory forbearance; (b) resale of retail packages at retail minus pricing; (c) a form of MVNO access which gives the access seeker greater control over the pricing of its retail package pricing; and (d) a requirement that the SMP operator offer a non-discriminatory mobile access product only if it provides wholesale mobile access to another carrier. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 32:** The RA has identified 4 regulatory options for the retail mobile services market: (a) regulatory forbearance; (b) tariff filing requirements; (c) tariff-filing plus monitoring of on-net/off-net traffic flows; (d) ban on on-net/off-net price differentials. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 33:** For mobile networks: please provide estimates of (1) the cost of implementing resale access; and (2) implementing MVNO access.

**Consultation Question 34:** Is resale technically feasible as a remedy?

**Consultation Question 35:** The RA has come to the tentative conclusion that a requirement to supply a non-discriminatory wholesale mobile access and call origination service should apply to SMP operators but should only be mandated if BDC or Digicel offer wholesale mobile services to at least one wholesale customer (an affiliate or otherwise). Regulatory intervention on the terms and conditions of wholesale supply will only occur if commercial negotiation fails. Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 36:** The RA has come to the tentative conclusion that tariff filing obligations apply to BDC and Digicel and that the two parties must supply information on on-net/off-net traffic on a quarterly basis in order for the RA to monitor the extent to which on-net/off-net price discrimination forms a barrier to entry or expansion to new entry. Do you agree with this conclusion? Please explain why or why not.



**Consultation Question 37:** The RA has identified 4 regulatory options for the wholesale mobile call origination market: (a) regulatory forbearance; (b) maintain the current arrangements; (c) a non-zero origination charge with no airtime charges for the origination of international calls carried by third parties; (d) a non-discrimination requirement. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 38:** The RA has come to the preliminary conclusion that the remedies for the wholesale market for origination of international calls that are most consistent with the objectives of the ECA are that BDC and Digicel be required to: (a) continue to provide origination at a zero wholesale charge for international calls origination on their mobile networks on the basis that they can continue to levy an airtime charge; and (b) provide the origination service on a non-discriminatory basis. Do you agree with this conclusion?

**Consultation Question 39:** Do you agree with the Regulatory Authority's proposal to mandate non-discriminatory provision of wholesale domestic leased lines by BTC priced at retail minus?

**Consultation Question 40:** Do you agree with the proposal for monthly fees for the wholesale domestic leased line service to be set at the retail price minus 15%? If not please evidence what retail minus percentage you consider to be appropriate.

**Consultation Question 41:** The Authority proposes to introduce tariff filing and price cap regulation on BTC to retail prices for low-speed leased line services nationwide and high-speed leased line services outside of the City of Hamilton and contiguous suburbs. Do you agree that this approach best satisfies the objectives of the Act in addressing BTC's SMP in the retail leased line markets?

**Consultation Question 42:** The Authority proposes in the fixed infrastructure access market a price ceiling by set at the existing rates charged by BELCO for pole access and for duct access a price ceiling set at the existing rate charged by BLDC. Terms of access would need to be submitted to the Authority for approval in a Reference Offer. Access seekers and suppliers would have the right to petition and seek a rate investigation if they considered that prices did not reflect cost. Do you agree with this approach? If not, what remedy do you consider to be optimal and why?

**Consultation Question 43:** Do you agree that the three key competition problems in the retail subscription television and the wholesale subscription television markets that may require ex ante regulatory remedies are: (1) Cablevision's market power; (2) high entry barriers; and (3) the ability to leverage market power from the subscription television market into other electronic communications markets?

**Consultation Question 44:** The RA has identified 3 regulatory options for the wholesale subscription television market: (a) regulatory forbearance; (b) resale of retail packages at retail minus pricing; and (c) a form of access which gives the access seeker greater control over the pricing of its retail package pricing and the provision of content. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 45:** Are there legal restrictions on the ability to resell a subscription TV service that includes content?

**Consultation Question 46:** Aside from rebilling are there other wholesale options that should be considered by the RA? If so, please identify those options and explain whether they would be technically and economically feasible.

**Consultation Question 47:** The RA has identified 3 regulatory options for the retail subscription TV market: (a) regulatory forbearance; (b) tariff filing requirements; (c) price cap regulation. Do you consider that these are the correct set of options to assess? Explain why and whether there are other remedy options that you think should be considered?

**Consultation Question 48:** For subscription television networks: please provide estimates of (1) the cost of implementing resale access; and (2) implementing access that would allow the access seeker to provide its own content.

**Consultation Question 49:** Is resale technically feasible as a remedy?

**Consultation Question 50:** Is access technically feasible as a remedy?

**Consultation Question 51:** The RA has come to the tentative conclusion that a requirement to supply a non-discriminatory wholesale subscription television service is the appropriate remedy. Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 52:** The RA has come to the tentative conclusion that if resale is implemented in the wholesale market as a regulatory remedy then in the retail market tariff filing obligations should apply to BCV, but not retail price regulation. If, alternatively, resale is not mandated, the RA proposes that a retail price cap be implemented. Do you agree with these conclusions? Please explain why or why not

**Consultation Question 53:** The RA has come to the tentative conclusion that the retail tariff remedies should be the remedy for retail subscription television market. Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 54:** Do you agree that BCV should be required to produce a RAO for its wholesale subscription television product? Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 55:** The RA has come to the tentative conclusion that the wholesale discount for subscription television should be 15%. Do you agree with this conclusion? Please explain why or why not.

**Consultation Question 56:** Do you agree with our proposal that BCV, BTC, Logic, BDC, CableCo, and North Rock should obtain approval from the Authority for bundled offerings until BCV, BTC, and BDC, have obtained a Satisfactory Compliance Notice as set out in ECA Section 73(5)(a)? Explain, why or why not.

**Consultation Question 57:** Do you agree with the Authority's proposal to impose the obligation on any KeyTech affiliate (as defined in ECA Section 2) to seek prior written approval from the Authority before effectuating:

- a. any increase in the ownership of the shares, stocks or other securities or voting rights of another KeyTech affiliate, or
- b. any transfer of assets or significant groups of personnel or functions relating to the provision of electronic communications services to another KeyTech affiliate.  
Explain why or why not.

**Consultation Question 58:** Do you agree with our proposed provisional obligation and remedy, to obligate BTC, BCV and BDC to:

- a. submit a detailed schematic that maps the organizational, functional and personnel relationships between and among them (including at the Board, Management and staff levels), as well as with the Group level organization and with their other affiliates; and

- b. prepare for our approval a draft Code of Conduct establishing explicit internal rules that clearly prohibit, facilitate the detection of, and penalize the preferential, anticompetitive exchange of information about customers, networks or services within each company and as between and among affiliates of the KeyTech Group. Please explain why or why not.

**Consultation Question 59:** Do you agree that BDC and Digicel should not have an RAIO obligation? Please explain why you agree or disagree.

**Consultation Question 60:** Do you agree that BDC should have an RAIO obligation if it enters into an MVNO or other wholesale arrangement with a Key Tech affiliated licensee?

**Consultation Question 61:** Do you agree that BTC, BCV, and BLDC should each have an RAIO obligation? Please explain why you agree or disagree.

**Consultation Question 62:** Do you believe that any other party should have an RAIO obligation? Please explain why, or why not?

**Consultation Question 63:** For each party required to provide an RAIO, do you agree that 6 weeks is a sufficient amount of time to develop a comprehensive RAIO once ordered to do so by the RA? Please explain.

**Consultation Question 64:** Do you agree that the RAIO must comply with the aforementioned basic principles? Please explain why or why not.

**Consultation Question 65:** Do you believe that the list provided above represents a comprehensive set of principles that should guide RAIO development? Please explain why you agree or disagree.

**Consultation Question 66:** Considering the firms for which the Regulatory Authority has tentatively proposed an RAIO obligation, please list and briefly describe (by operator and market) the types of interconnection and access services your firm would like to have included in each RAIO.

**Consultation Question 67:** Given the types of interconnection and access services that your firm would like to have included in the RAIO, what associated facility ordering procedures and timelines should be required by the RA? In your response for each necessary step please indicate your proposed maximum or minimum timeline for completion of the step. Time proposals should be given relative to the day the order is placed (e.g. Order Date + two days maximum or minimum five days before Delivery Date.)

**Consultation Question 68:** Do you agree that financial penalties should be paid by the SMP operator to other ICOL holders when the SMP operator has caused ordering and provisioning timelines to be missed?

**Consultation Question 69:** Do you agree the proposed 'daily rate' penalty is an appropriate and efficient mechanism? Please explain why or why not.

**Consultation Question 70:** Do you agree that 500% of the daily rate is an appropriate level for this penalty? Please explain why or why not.

**Consultation Question 71:** Do you agree that the penalty mechanism and rate proposed above (i.e. 500% of daily interconnection service rate for each day of delay caused by SMP operator) is reasonable and proportionate with respect to interconnection orders? If you agree, please explain why. If you disagree, please explain why and recommend an alternative mechanism.

**Consultation Question 72:** Do you believe that the alternative relative performance methodology described above should be implemented in place of the recommended timeline approach? Please explain.

**Consultation Question 73:** If financial penalties are imposed should the RA establish a one or two tiered approach? Please explain.

**Consultation Question 74:** What type of safeguards should be implemented to ensure confidentiality and prevent an SMP operator from marketing to another licensee's customers using information the SMP operator gained in its role as a wholesale provider? Please explain.

**Consultation Question 75:** What, if any, remedy should apply to an SMP operator who is found to be marketing to another licensee's customers using information the SMP operator gained in its role as a wholesale provider? Please explain.

**Consultation Question 76:** Should an RAIO adjust wholesale prices to reflect volume discounts, term discounts, and/or special retail promotions offered by the SMP operator? Please explain why, or why not.

- e) How should the wholesale price be adjusted relative to volume discounts, term discounts, and/or special retail promotions? Please explain.

**Consultation Question 77:** Should SMP licensees be permitted to offer volume discounts in an RAIO? Please explain why, or why not.

- f) What should be the basis for determining if and when a volume discount should apply?
- g) How should volume discounts be calculated?

**Consultation Question 78:** What specific quality of service standards should be established to ensure that the SMP operator provides at least as high a level of service quality to interconnecting licensees, and those being provided access, as it provides to its own retail customers. Please define each proposed standard and explain why it is necessary.

- h) For the standards you propose how should compliance be determined? Please describe.

**Consultation Question 79:** Do you agree that the issues presented in Section 7.4 represent a reasonable set of issues to be addressed by the RAIO? If not, what issues should be included or omitted, and why?

**Consultation Question 80:** Do you agree with the definitions of the main business areas presented above? If not, what is a suitable definition for these main business areas?

**Consultation Question 81:** Do you believe that more\less main business areas should be defined? What is the basis for any inclusion\exclusion?

**Consultation Question 82:** The appropriate level of accounting separation that should be applied to SMP operators and the reasons for this level. Do you agree with the proposed framework as outlined above? What disaggregated activities do you consider should be included/excluded, and what is your reasoning for this? What is your definition for any additional disaggregated activities?

- a. If you disagree with the proposed framework,

- i. Do you believe that a level of accounting separation that is less detailed than what is depicted above is more appropriate publication? If yes, what level of accounting separation do you believe would be more appropriate and why?
- ii. Do you believe that a level of accounting separation that is more detailed than what is depicted above is more appropriate publication? If yes, what level of accounting separation do you believe would be more appropriate and why?

**Consultation Question 83:** Do you believe that the guiding principles proposed above for the preparation of the separated accounts are sufficient? If not, what changes, or alternatives, would you suggest?

**Consultation Question 84:** Do you believe that the proposed Regulatory Accounting Principles presented above are sufficient? If not, what changes, or alternatives, would you suggest?

**Consultation Question 85:** Do you agree that the preparation of the information in paragraphs 459 and 460 is sufficient for the purpose of providing a fuller understanding of the accounting separation process and the results generated from it? If you disagree:

**Consultation Question 86:** Do you believe that less information would be sufficient? If yes, what information do you believe would be sufficient and what is the reason for this?

**Consultation Question 87:** Do you believe that more information is required? If yes, what additional information do you believe is necessary?

**Consultation Question 88:** Do you agree with the RA's proposed classification of the information provided in the accounting separation reports presented at paragraph 462? If not, please provide an explanation of any changes you believe are necessary.

**Consultation Question 89:** Do you agree with the proposed timeframe for the preparation and publication of the accounting separation information? If you disagree, what do you believe the appropriate timeframe should be and what is your reason for suggesting it?

**Consultation Question 90:** Do you agree with the transfer charging principles proposed above? If you disagree, please explain why?

**Consultation Question 91:** Do you agree with the RA's tentative proposal to use historical cost accounting rather than current cost accounting as the cost base to be used in developing a cost accounting system or model? If you disagree, what other cost base do you believe would be more suitable and why do you believe this to be the case?

**Consultation Question 92:** Do you agree with the RA's analysis concerning the relative advantages and disadvantages of Long Run Direct Cost and the Fully Distributed Cost accounting methodologies? If you disagree, please explain why?

**Consultation Question 93:** Do you agree with the RA's tentative proposal requiring companies to design cost accounting systems (or cost model) utilizing both LRDC and FDC on a historical cost basis? If you disagree: What other cost accounting methodology and cost base do you believe would be more suitable and why do you believe this to be the case?

## **APPENDIX C – DRAFT RAIO TEMPLATE**

## DRAFT RAIO TEMPLATE<sup>109</sup>

494. The following table contains the contents of a typical interconnection agreement and is being provided by the Regulatory Authority in order to facilitate discussions between SMP operators and other ICOL holders regarding the required RAIOS. While this could be used, or modified, as a draft template for an RAIO the Regulatory Authority remains open regarding structure, language, and format at this time.

**Table 9: Contents of Typical Interconnection Agreement**

Contents	Detail and Comments
<b>Interpretation</b>	
Recitals	➤ “Whereas” clauses add historical and legal context to assist understanding by future readers of agreements
Definition of Key Terms	<ul style="list-style-type: none"> <li>➤ Terminology varies significantly among different countries and operators</li> <li>➤ It is important to ensure compatibility of terminology to the local environment when adapting interconnection agreements from other countries</li> <li>➤ Definitions in other documents may be referenced, e.g. definitions in laws or regulations, regulatory guidelines, ITU definitions</li> </ul>
<b>Scope of Interconnection</b>	
Description of Scope and Purpose of Interconnection	<ul style="list-style-type: none"> <li>➤ Different types of interconnection agreements have different purposes (e.g. two local networks, local to long distance/international, fixed-to-mobile, mobile-to-mobile, local ISP to ISP backbone)</li> <li>➤ The purpose of some interconnection agreements is to provide termination services or transit services; others involve provision of unbundled facilities, etc.</li> <li>➤ Interconnection architecture (annotated diagrams)</li> </ul>
<b>Points of Interconnection and Interconnection Facilities</b>	
Points of Interconnection (POI) and Related Facility Specifications	<ul style="list-style-type: none"> <li>➤ POI locations (e.g. exchanges, meet points) usually listed in an appendix; may be modified from time to time. Typically includes exchange types and street addresses</li> <li>➤ Specific POI facility locations (e.g. digital distribution frame; manhole splice box)</li> <li>➤ Description of network facilities to be interconnected (e.g. OC-3 fibre optic terminals with interconnecting single-mode optical fibres)</li> <li>➤ Specify capacity and/or traffic volume requirements</li> <li>➤ Indicate which party is to provide which facilities (include diagram of POIs and interconnected facilities)</li> <li>➤ Technical specifications, for example: <ul style="list-style-type: none"> <li>○ Calling Line Identification (CLI) specs</li> <li>○ Other advanced digital feature specs, e.g. call forwarding,</li> </ul> </li> </ul>

<sup>109</sup> Based on Table 3-1 from the Telecommunications Regulation Handbook, Infodev, 2000.

	<ul style="list-style-type: none"> <li>○ caller name ID, etc.</li> <li>○ Basic and ISDN call control interface specs</li> <li>○ Local Number Portability (LNP) query-response network specs</li> </ul>
Signaling Interconnection	<ul style="list-style-type: none"> <li>➤ Specify type of signaling networks/standards (e.g. CCS7)</li> <li>➤ Signaling POIs locations to be specified (i.e. Signal Transfer Points or STPs)</li> <li>➤ Point Codes to be specified</li> <li>➤ Technical interface specifications (e.g. signaling links to be dedicated E-1 or DS-1 transmission facilities; operating at 56 kbps)</li> <li>➤ Diagram of signaling interconnection architecture</li> </ul>
<b>Network and Facility Changes</b>	
Planning and Forecasts	<ul style="list-style-type: none"> <li>➤ Requirement for mutual notification of network changes and capacity forecasts, for example: <ul style="list-style-type: none"> <li>○ traffic forecasts for each POI</li> <li>○ local number and portability requirements</li> <li>○ default and redundant routing arrangements</li> </ul> </li> <li>➤ Periodic network planning reports may be specified</li> </ul>
Facility Ordering Procedures	<ul style="list-style-type: none"> <li>➤ Specify rights and obligations of each party with respect to ordering and provisioning of interconnection facilities (including unbundled network elements – see below).</li> <li>➤ Confidentiality requirements and procedures to ensure same</li> <li>➤ Ensure no anti-competitive use of order information (e.g. no contacts with end users; competitive service divisions of operator receiving orders)</li> <li>➤ Specify points of contact (e.g. Interconnection Service Groups; Email addresses, etc.)</li> <li>➤ Specify order format and procedures (e.g. standard order forms may be utilized in paper or electronic (EDI) format)</li> <li>➤ Procedures to expedite specific orders</li> <li>➤ Co-ordination process for migration of customers between operators (e.g. coordination of cut-overs to prevent or minimize service interruptions to end users)</li> <li>➤ Procedures for ordering operator to arrange for all equipment installations and changes at end-user premises</li> <li>➤ Order confirmation and order rejection procedures, timely notification, notification of additional charges, etc.</li> <li>➤ Order completion notification and reporting requirements</li> </ul>
<b>Traffic Measurement and Routing</b>	
Traffic Measurement Responsibilities and Procedures	<ul style="list-style-type: none"> <li>➤ Describe party responsible; measurement and reporting procedures (see billing procedures below):</li> <li>➤ Rules for routing of different types of traffic, if any (e.g. Bill and Keep local traffic that is to be terminated reciprocally without charge may be carried on “Bill and Keep” trunks; traffic to which termination charges apply may be carried on other trunks, e.g. transit trunks, etc.)</li> </ul>
<b>Infrastructure Sharing and Collocation</b>	
Sharing of	<ul style="list-style-type: none"> <li>➤ Availability of poles, conduits, towers, rights of way, etc.</li> </ul>



Infrastructure, Procedures and Costs	<ul style="list-style-type: none"> <li>➤ Procedures, if any, for determining available capacity; procedures for allocating capacity among requesting operators (e.g. first come/first served)</li> <li>➤ Prices and/or costing method</li> <li>➤ Provision and pricing of supplementary services (electrical power, security systems, maintenance and repairs, etc.)</li> <li>➤ Sub-licences on property of third parties (e.g. right of way owners, municipal and other public and private property owners, where infrastructure is located), insurance and indemnification for damages</li> </ul>
Collocation	<ul style="list-style-type: none"> <li>➤ Availability of actual or virtual collocation (e.g. for transmission facilities on exchange premises); list of addresses where collocation is available; procedures for determining available space; reservation of expansion space</li> <li>➤ Prices and/or costing method for collocated space</li> <li>➤ Provision and pricing of supplementary services (e.g. electrical power and emergency backup power, lighting, heating and air conditioning, security and alarm systems, maintenance and janitorial services, etc.)</li> <li>➤ Procedures for ensuring access to and security of collocated facilities (notification; supervised repair and provisioning work and/or separated premises, etc.)</li> <li>➤ Negotiation of other lease and/or licence arrangements, including issues of sub-licences on property of third parties (e.g. building owners, right of way owners, municipal and other public property owners), insurance and indemnification for damages</li> </ul>
<b>Billing</b>	
Scope of Billing Arrangements and Responsibilities	<ul style="list-style-type: none"> <li>➤ May include different arrangements, for example: <ul style="list-style-type: none"> <li>○ Operators billing each other for interconnection services (e.g. termination) and facilities (e.g. unbundled loops and other network elements)</li> <li>○ Performance of billing functions by some operators for others (e.g. local operators billing end-users for long distance or international operators, ISPs, etc.)</li> </ul> </li> </ul>
Billing Procedures	<ul style="list-style-type: none"> <li>➤ Interconnection billing media – discs, tapes, paper and/or electronic (EDI) transfers; format and software specifications</li> <li>➤ Guidelines for production of interconnection billing outputs, including: <ul style="list-style-type: none"> <li>○ Applicable industry standards (e.g. CABS, BOS, SECABS, used with or without modifications)</li> <li>○ Billing data format and data elements</li> <li>○ Standardized codes and phrases</li> <li>○ Billing schedule</li> </ul> </li> <li>➤ Customer Service Record (CSR) provision, including: <ul style="list-style-type: none"> <li>○ details to be supplied by provisioning local operator (e.g. record of interconnection elements used, including circuit and other (e.g. DSLAM) equipment identification numbers)</li> <li>○ media (e.g. tape, paper, etc.) and schedule for delivery</li> <li>○ other requirements to facilitate efficient verification and</li> </ul> </li> </ul>

	<p>billing of end-user by non-provisioning operator</p> <ul style="list-style-type: none"> <li>➤ Retention periods for billing data</li> </ul>
Payment Terms and Conditions	<ul style="list-style-type: none"> <li>➤ Billing fees and related charges.</li> <li>➤ Payment terms and conditions, including late payment penalties; service disruption credits, etc.</li> </ul>
Billing Disputes and Reconciliation Procedures	<ul style="list-style-type: none"> <li>➤ Contact details for reconciliation and billing queries</li> <li>➤ Responsibilities to provide back-up records</li> <li>➤ Notification of billing disputes</li> <li>➤ Initial resolution procedures (e.g. escalation to more senior management)</li> <li>➤ Final resolution (referral to arbitration, regulator or courts)</li> </ul>
<b>Quality of Service/Performance and Trouble Reports</b>	
Quality of Service	<ul style="list-style-type: none"> <li>➤ Service performance standards may be specified in appendix, for example: <ul style="list-style-type: none"> <li>○ Average time for provisioning interconnection circuits</li> <li>○ Percentage of interconnection cut-overs made on scheduled dates</li> <li>○ Comparative provisioning performance for competitors and self (or affiliates)</li> <li>○ Switching and transmission quality measures on interconnected circuits (e.g. probability of blockage at peak hours, transmission delay and loss – consider referencing ITU-T recommendations)</li> </ul> </li> </ul>
Testing and Maintenance	<ul style="list-style-type: none"> <li>➤ Right to make reasonable tests, and to schedule service interruptions; procedures to minimize disruption</li> </ul>
Trouble Reports	<ul style="list-style-type: none"> <li>➤ Procedure for trouble reports; notice periods; response time standards</li> <li>➤ Duty to investigate own network before reporting faults to interconnecting operator</li> <li>➤ Responsibility for costs incurred to second operator in investigating faults subsequently found to exist in first operator's network</li> <li>➤ Calculation of charges (labour, etc.) for investigating trouble reports</li> </ul>
System Protection and Safety Measures	<ul style="list-style-type: none"> <li>➤ Responsibilities of parties to take necessary precautions to prevent interference with, or interruptions of, other parties' networks or customers</li> </ul>
<b>Interchange and Treatment Information</b>	
Data Interchange Format	<ul style="list-style-type: none"> <li>➤ Method and format of data interchange between carriers, including data interfaces, software, forms, etc.</li> </ul>
Data to be Exchanged	<ul style="list-style-type: none"> <li>➤ Specify all data types and systems for which data is to be interchanged, for example: <ul style="list-style-type: none"> <li>○ New facilities and service orders, network changes and forecasts, billing, etc. (see above)</li> <li>○ Number allocations and other data required for call routing and local number portability (where applicable, e.g. where LNP system is operated by incumbent operator rather than an independent party)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Customer listings in directories and databases</li> <li>○ Access to network databases, for provision of advanced services</li> </ul>
Access to and use of Customer Information	<ul style="list-style-type: none"> <li>➤ Confidentiality procedures for customer information, including: <ul style="list-style-type: none"> <li>○ Establishment of separate interconnection services group with secure data (password protection for electronic files; locks for data rooms and filing cabinets, etc.)</li> <li>○ Confidentiality forms to be completed by all relevant employees (penalties and bonding optional)</li> <li>○ Procedures to ensure protection of customer privacy</li> </ul> </li> </ul>
Access to and use of Operator Information	<ul style="list-style-type: none"> <li>➤ Confidentiality procedures (see customer information procedures – above)</li> <li>➤ Intellectual property rights</li> </ul>
<b>Equal Access and Customer Transfer</b>	
Equal Access Procedures	<ul style="list-style-type: none"> <li>➤ Procedures depend on equal access approach, e.g. carrier pre-selection; casual selection. Detailed procedures normally incumbent for carrier pre-selection, including: <ul style="list-style-type: none"> <li>○ Customer authorization requirements (signature on prescribed form, clear choice requirements)</li> </ul> </li> <li>➤ Authentication and measures to prevent unauthorized customer transfers (slamming)</li> <li>➤ Penalties for unauthorized customer transfers</li> <li>➤ Methods of reporting customer transfers (contact points and data to be provided)</li> <li>➤ Order confirmation procedure (format, medium, etc.)</li> <li>➤ Schedule to implement transfers</li> <li>➤ Procedures to implement transfers</li> <li>➤ Dispute resolution process (e.g. escalation through senior management, arbitrator and regulator); information to be provided in dispute resolution process</li> <li>➤ Procedures for dealing with disputed customers (which operator may contact customer, information to be provided to and/or obtained from disputed customers)</li> </ul>
<b>Ancillary Services</b>	
Operator Assistance	<ul style="list-style-type: none"> <li>➤ Types of operator assistance services to be provided, including directory assistance, translation services, fault report routing, etc.</li> <li>➤ Call handling and operations procedures</li> <li>➤ Fees and billing procedures</li> </ul>
Other Ancillary Services	<ul style="list-style-type: none"> <li>➤ Subscriber listings in telephone directories</li> <li>➤ Information and billing inserts</li> <li>➤ Repair and maintenance services</li> <li>➤ Other services provided by one or other operators to increase mutual operating efficiencies</li> </ul>
<b>Termination</b>	
Grounds for Termination	<ul style="list-style-type: none"> <li>➤ Termination may only be permitted subject to certain restrictions (e.g. regulatory approval for termination of</li> </ul>

and Restrictions	<p>interconnection by incumbent operator)</p> <ul style="list-style-type: none"> <li>➤ Grounds for termination by incumbent may include: <ul style="list-style-type: none"> <li>○ Regulatory or court orders</li> <li>○ Bankruptcy, insolvency, receivership, etc.</li> <li>○ Cessation of business</li> </ul> </li> <li>➤ Fewer, if any, termination restrictions in competitive markets, and by non-dominant operators</li> </ul>
Termination Procedures	<ul style="list-style-type: none"> <li>➤ Advanced notice requirements</li> <li>➤ Payment of non-recoverable interconnection costs incurred by disconnected operator</li> <li>➤ Computation and payment schedule for disconnection costs</li> <li>➤ Dealings with end-users, communications restrictions, etc.</li> <li>➤ Disconnection cutover procedures.</li> </ul>
<b>Other Provisions</b>	
Force Majeure	<ul style="list-style-type: none"> <li>➤ List of conditions for which non-performance of interconnection agreement obligations will be excused</li> </ul>
Assignment	<ul style="list-style-type: none"> <li>➤ Rights of assignment and restrictions on same (e.g. consent or regulatory approval requirements)</li> </ul>
Applicable Laws	<ul style="list-style-type: none"> <li>➤ Agreement to be governed by, and interpreted in accordance with, the laws of Bermuda</li> </ul>
Regulatory Approvals	<ul style="list-style-type: none"> <li>➤ Specify regulatory approvals required for effectiveness and/or renewal, amendment, termination, etc. of agreement</li> </ul>
Breach of Agreement	<ul style="list-style-type: none"> <li>➤ Remedies and penalties</li> <li>➤ Liabilities, indemnification and limitation of liabilities</li> </ul>
Legal Interpretation	<ul style="list-style-type: none"> <li>➤ Standard provisions for legal interpretation and enforcement of agreement (e.g. entire agreement clause, effect of unenforceable terms, cumulative rights and remedies, etc.)</li> </ul>
Dispute Resolution	<ul style="list-style-type: none"> <li>➤ Procedures for resolution of disputes under agreement that are not specifically dealt with elsewhere. For example: <ul style="list-style-type: none"> <li>○ Good faith negotiations, time schedule for same, escalation through management levels</li> <li>○ Referral to regulator per RAA Section 58</li> </ul> </li> </ul>
Term	<ul style="list-style-type: none"> <li>➤ Duration of term</li> <li>➤ Renewal rights and procedures</li> </ul>
Amendment	<ul style="list-style-type: none"> <li>➤ Review and re-negotiation procedures</li> <li>➤ Impact of regulatory changes</li> </ul>

## **APPENDIX D – DRAFT GENERAL DETERMINATION**



BERMUDA  
**REGULATORY  
AUTHORITY**

**Draft General Determination:  
Obligations for Operators with  
Significant Market Power**

Draft General Determination

Matter: RM01/13-900

Date: 17 May 2013

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This General Determination is made by the Regulatory Authority pursuant to Section 62(1) of the Regulatory Authority Act 2011, and in accordance with Section 74(b) of the Electronic Communications Act 2011, and; prescribes the Remedies to be imposed on Operators designated as having Significant Market Power in our “Consultation Summary, Final Decision, Order and General Determination: Market Review Process (Part A) – Market Definitions; Market Review Process (Part B) – Significant Market Power”, Matter: MR01/13, issued on 29 April 2013. The Remedies prescribed herein were developed, and are imposed, in accordance with Sections 24 and 74(b)(ii) of the Electronic Communications Act 2011 using the general powers granted to the Authority under Section 13 of the Regulatory Authority Act 2011 and in accordance with the procedures established for this purpose in Section 59 of that Act.

## 1 DEFINITIONS

1. In this General Determination, unless the context otherwise requires:

**“Access”** means the making available of facilities or services to another undertaking, under defined conditions, on either an exclusive or a non-exclusive basis, for the purpose of providing electronic communications services.

**“Avoidable Cost”** when used in the conjunction with Retail Minus, refers to those costs that an Operator would no longer incur if it were to cease retail operations and instead provide all of its services through resellers. In other words, it refers to all of the costs that an Operator incurs in maintaining a Retail, as opposed to a Wholesale, business. This, necessarily, includes a portion of indirect costs as well, which portion must be considered as “attributable to costs that will be avoided”.

**“Broadband”** or **“Broadband Services”** refers to the provisioning of the bundled package consisting of fixed broadband access and ISP services;

**“Broadband Access Services”** refers to the legacy service provided by a Class B provider such as BTC which linked an end-user to a provider of internet service provider (ISP) services. The link in question comprised local access, backhaul, and data stream aggregation, terminating at an ISP provider’s premises;

**“ECA”** means the Electronic Communications Act 2011;

**“Fibre to the x (FTTx)”** refers to any broadband network architecture that uses optical fibre to replace some or all of the copper used in the customer access network. The term is a generalization for a number of different types of fibre deployment, such as fibre to the node (FTTN) and fibre to the home (FTTH). Voice service delivered over FTTx is in the same market as standard telephony service;

**“International Benchmarking”** refers to the process of establishing the price of a service based on prices in other jurisdictions.

**“Internet Protocol TV (IPTV)”** refers to the provision of multimedia services such as television/video/audio/text/graphics/data delivered over IP based networks managed to provide the required level of quality of service and experience, security, interactivity and reliability. Thus IPTV is a carefully managed service delivered using an operator’s proprietary end-to-end platform and possessing quality of service (QoS) standards that guarantee picture quality that is as good as, or better than, traditional TV;



**“ISP Services”** refers to the provisioning of access to local and international Internet networks along with the provisioning of Internet services such as web hosting and email accounts;

**“Leased Lines”** refers to services and products that provide fixed, permanent point-to-point symmetric termination services between two points within Bermuda. A leased line is permanent, in that capacity is available between the two fixed points. However, capacity could be reserved or shared through the associated network depending on the nature of the leased line. Leased lines can be used for providing voice services, other analogue services, and/or data services either directly to end users (e.g. private networks for large companies) or to other telecommunications services providers who would then use the Leased Lines in question as an input for the provision of services to their own customers. Leased Lines may be categorized as follows:

- (a) High-speed Leased Lines—1 Mb/s or faster
- (b) Low-speed Leased Lines—less than 1 Mb/s

**“Mobile Virtual Network Operator (MVNO)”** refers to a wireless communications services provider that does not hold rights to the radio spectrum or own wireless network infrastructure over which the MVNO provides services to its customers;

**“Notice”** means the Notice identifying markets susceptible to ex ante regulation drawn up by the Authority in accordance with Section 22(1) of the ECA;

**“Non-Discriminatory”** means not unreasonably discriminatory. Cognate expressions shall be construed accordingly. When used in reference to the provision of retail services to end-users and Wholesale services to other communications providers, it includes the requirements to:

- (a) apply equivalent terms and conditions in equivalent circumstances to end-users or to other communications providers; and
- (b) in the case of Wholesale services, to provide facilities, services and information to others under the same conditions and of the same quality as it provides for its own internal purposes or to those of its own divisions, subsidiaries, partners and affiliates;

**“Operator”** means Communications Provider as defined under Section 2 of the ECA;

**“Predatory Pricing”** may occur when services are provided by the SMP Operator at prices below cost so as to foreclose, or be likely to foreclose, actual or potential competitors.

**“Price Squeeze”** also sometimes referred to as a “margin squeeze”, may occur when a vertically integrated SMP Operator in an upstream market charges a price for the product from the upstream market which, compared with the price it charges on the downstream market, would prevent an equally efficient competitor from trading profitably in that downstream market on a lasting basis.

**“Public Switched Telephone Network (PSTN)”** refers to a public circuit-switched telephone networks;

**“RAA”** means the Regulatory Authority Act 2011;

**“Replicability”** means the ability of a reasonably efficient competitor to replicate a retail offering using a wholesale service. Testing for replicability involves: (a) assessing whether the relevant wholesale service allows for replication of the retail service from a technical point of view; and (b) whether the margin between the wholesale and retail product is sufficient so that there is no price squeeze;

**“Retail Minus”** involves establishing a wholesale price for a product or service relative to that product or service’s retail price such that there is a sufficient margin for a wholesale customer using that product, or service as an input to recover retail costs and still make a profit on the provision of retail service.

**“SMP”** means significant market power as defined under Section 2 of the ECA;

**“SMP Product”** refers to a product, or service, offered by an SMP Operator that possess SMP in the relevant market to which the product, or service, belongs.

**“Tying”** refers to the practice of linking one good, or service, to another such that customers seeking to purchase one must also purchase the other.

## 2 INTERPRETATION

2. For the purpose of interpreting this General Determination:

- (a) unless the context otherwise requires, words or expressions shall have the meaning assigned to them herein, the ECA, RAA and Interpretation Act 1951;
- (b) where there is any conflict between the provisions of this General Determination and the ECA or RAA, the provisions of the ECA or RAA, as the case may be, shall prevail;
- (c) terms defined herein and in the ECA and RAA have been capitalised;
- (d) headings and titles used herein are for reference only and shall not affect the interpretation or construction of this General Determination;
- (e) references to any law or statutory instrument include any modification, re-enactment or legislative provisions substituted for the same;
- (f) a document referred to herein shall be incorporated into and form part of this General Determination and a reference to a document is to a document as modified from time to time;
- (g) expressions cognate with those used herein shall be construed accordingly;
- (h) use of the word “include” or “including” is to be construed as being without limitation; and
- (i) words importing the singular shall include the plural and vice versa, and words importing the whole shall be treated as including a reference to any part unless explicitly limited.

3. This General Determination shall be construed by reference to the Consultation Document and Final Decision issued in the Public Consultation entitled “Obligations

for Operators with Significant Market Power,” Matter RM01/13-900. Where there is any conflict between the Consultation Document and the Final Decision, the provisions of the Final Decision shall prevail. Where there is any conflict between the Final Decision and this General Determination, the provisions of this General Determination shall prevail.

### **3 LEGISLATIVE BACKGROUND AND PURPOSE**

4. Pursuant to, and in accordance with, ECA Sections 22(1), 23(4) and 74(b)(i) and RAA Sections 59(2), 62(1), 70(1), and 72(4), the Regulatory Authority conducted and concluded its Public Consultation concerning market definition and significant market power determination with the issuance of its “Market Review Process — Market Definition and Significant Market Power General Determination”, Matter: MR01/13, issued on 29 April 2013.
5. Now that the general determination concerning market definition and significant market power has been issued, ECA Section 23(4)(c) next requires the Authority to conduct a public consultation for the purposes of “deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power in order to promote or preserve effective competition, in accordance with section 24.”
6. ECA Section 21 sets out the principles and objectives that the RA must seek to satisfy when determining whether to impose remedies on one or more SMP providers in a market, which are:
  - (a) develop or maintain effective and sustainable competition for the benefit of consumers with regard to price, innovation and choice;
  - (b) promote investment in the electronic communications sector;
  - (c) establish ex ante remedies that are effective but proportionate, taking into account the costs of compliance and the ultimate benefits to consumers;
  - (d) establish ex ante remedies that apply on a technology-neutral and service neutral basis whenever feasible; and
  - (e) rely on market forces and withdraw, reduce or limit ex ante remedies in circumstances where the Authority concludes that markets are effectively competitive or likely to become so within a reasonable period of time, taking into account actual and expected market circumstances.
7. ECA Section 24(4) instructs the Authority that any obligations imposed in accordance with Section 24 shall be proportionate and justified in light of the relevant circumstances and the purposes and objectives set out in sections 5 and 21 and shall, in the case of any access obligations, take account of:
  - (a) the technical and economic feasibility of using or installing competing facilities, taking into account the type of interconnection or access involved;
  - (b) the feasibility of providing access in relation to available capacity;

- (c) relevant investment risks incurred by an operator designated as having significant market power; and
  - (d) the ability of the communications provider with significant market power to impede the development of effective competition through its subsidiaries, partners and affiliates.
- 8. ECA Section 24(1)(a)-(n) provides a list of remedies that the RA may choose to apply to designated SMP Operators. ECA Section 24(1)(o) gives the RA the ability to select other remedies as necessary to promote or preserve effective competition in a relevant market or markets.
- 9. ECA Section 24(6) states that the burden of proof for demonstrating that a remedy should not be imposed, or should be modified or withdrawn, shall rest with the communications provider that is designated as having significant market power in the relevant market.
- 10. ECA Section 24 provides the Act's comprehensive guidance concerning the imposition of *ex ante* remedies on Operators found to possess SMP.
- 11. ECA Section 74(b)(ii) directs the Authority to, following a public consultation, issue decisions and orders specifying any applicable *ex ante* remedies in accordance with section 24 no later than 240 days following the date of commencement of this Part. Section 74(b) further provides that the Authority shall undertake this task notwithstanding the process as set out in RAA Section 72.
- 12. RAA Section 13(r) grants the Authority the power to adopt remedies to deter anti-competitive conduct by sectoral providers in any relevant market.
- 13. RAA Section 59(1) provides that the Authority, without prejudice to its authority to impose obligations on sectoral providers pursuant to Section 85, may impose *ex ante* remedies on a sectoral provider with significant market power, when authorized to do so by sectoral legislation.
- 14. In accordance with RAA Section 70(1), the Authority published a Consultation Document on 17 May 2013 entitled; Obligations for Operators with Significant Market Power. This consultation document set out the proposed Remedies to be imposed on Communications Provider(s) designated as having Significant Market Power in our *Consultation Summary, Final Decision, Order and General Determination: Market Review Process (Part A) – Market Definitions and Market Review Process (Part B) – Significant Market Power*, Matter: MR01/13, issued on 29 April 2013.
- 15. This Public Consultation was closed on \_\_\_\_ 2013. In accordance with RAA Section 72(4), the Regulatory Authority published a Consultation Summary, Final Decision, Order and General Determination in the Public Consultation on \_\_\_\_ 2013, setting out its conclusions regarding the issues raised during the Public Consultation process.
- 16. Pursuant to RAA Section 62(1) and ECA Section 74(b)(ii), and in compliance with the principles and objectives set out in ECA Sections 21, 23(7) and 24, the Authority hereby determines that:
  - (a) the Remedies applied to the markets depicted in Table 10, below shall be imposed upon the Operators depicted in the table as possessing SMP in those markets;

(b) the bundling restrictions depicted in Table 2, below, shall be imposed on the affiliates of the KeyTech holding company appearing in that table.

#### 4 MAIN PROVISIONS

##### 4.1 Determination on the Remedies to be imposed on SMP Operators in the relevant product markets

17. Pursuant to RAA Section 62(1) and ECA Section 74(b)(ii), and in compliance with the principles and objectives set out in ECA Sections 21, 23(7) and 24, the Authority hereby determines that the Remedies applied to the relevant product markets depicted in the table below shall be imposed upon the Operators identified in the table as possessing SMP in those markets.

**Table 10: Remedies to be imposed on SMP Operators**

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
<b>RETAIL MARKET REMEDIES</b>			
A national market (excluding Southside) for the supply of Retail fixed narrowband access lines and local calls to residential customers.	BTC	<ul style="list-style-type: none"> <li>Retail prices shall be capped such that, in any given year, prices may increase by no more than the change in the prior year's Consumer Price Index (CPI)<sup>111</sup>, plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs. <ul style="list-style-type: none"> <li>Price increases in any given calendar must satisfy the conditions laid out in paragraph 21.</li> </ul> </li> <li>Annual reporting requirements demonstrating that the</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and</li> <li>On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>

<sup>110</sup> SMP Operators meeting the compliance triggers appearing here will be considered in compliance for the purposes of ECA Section 73(5)(a) only, as noted in this table they will have continuing compliance obligations after that as well.

<sup>111</sup> The CPI to be used shall be that published by the Bermuda Department of Statistics based on the most recent full calendar year (Jan-Dec).

<b>Relevant Product Markets</b>	<b>SMP Operator(s)</b>	<b>Remedies Imposed</b>	<b>Compliance Triggers<sup>110</sup></b>
		terms of the price cap have been abided by	
A market for the supply of Retail fixed narrowband access lines and local calls to business customers outside of Southside and the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A national market (excluding Southside) for the supply of Retail fixed Broadband Access Services and ISP Services to residential customers.	BTC, BCV	<ul style="list-style-type: none"> <li>• Price per Mb/s may not increase (unless an affirmative showing that prices are not recovering cost).</li> <li>• Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul>	<ul style="list-style-type: none"> <li>• Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>• On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and</li> <li>• On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>• On an on-going basis, comply with the annual reporting requirements.</li> </ul>
A market for the supply of Retail fixed Broadband Access Services and ISP Services to business customers outside of Southside and the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A national market for the supply of Retail mobile services, including voice and data.	BDC and Digicel	<ul style="list-style-type: none"> <li>• Quarterly reporting requirements for the monitoring of on-net/off-net traffic flows</li> <li>• Tariff filing obligations (notification only)</li> </ul>	<ul style="list-style-type: none"> <li>• Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>• On an on-going basis, comply with the tariff</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
			<p>filing notice requirements per paragraph 27(b); and</p> <ul style="list-style-type: none"> <li>On an on-going basis, comply with the quarterly reporting requirements per paragraph 28</li> </ul>
<p>A market for the Retail supply of low-speed Retail Leased Lines in the City of Hamilton and contiguous suburbs.</p>	<p>BTC</p>	<ul style="list-style-type: none"> <li>Retail prices shall be capped such that, in any given year, prices may increase by no more than the change in the prior year's Consumer Price Index (CPI), plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs. <ul style="list-style-type: none"> <li>Price increases in any given calendar must satisfy the conditions laid out in paragraph 21.</li> </ul> </li> <li>Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and</li> <li>On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>
<p>A market for the Retail supply of low-speed Retail Leased Lines outside of the City of Hamilton and contiguous suburbs (excluding Southside).</p>	<p>BTC</p>	<ul style="list-style-type: none"> <li>Same as above</li> </ul>	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
<p>A market for the Retail supply of high-speed Retail Leased Lines outside of Southside and the City of Hamilton and contiguous suburbs</p>	<p>BTC</p>	<ul style="list-style-type: none"> <li>The price of high speed-retail Leased Lines outside of Southside and the City of Hamilton and contiguous suburbs may increase by no more than the change in the prior year's</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a);</li> <li>On an on-going basis, comply with the tariff filing notice requirements per</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
		<p>Consumer Price Index (CPI), plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs.</p> <ul style="list-style-type: none"> <li>Price increases in any given calendar must satisfy the conditions laid out in paragraph 21.</li> <li>Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul>	<p>paragraph 27(b); and</p> <ul style="list-style-type: none"> <li>On an on-going basis, comply with the Authority's relevant determinations concerning of the imposition of the price cap per paragraphs 19 through 26.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>
A national market for the supply of Retail Subscription Television Services (excluding Southside)	BCV	<ul style="list-style-type: none"> <li>Tariff filing obligations (notification only)</li> </ul>	<ul style="list-style-type: none"> <li>Have filed with the Authority a copy of all existing tariffs as per paragraph 27(a); and</li> <li>On an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b);</li> </ul>
<b>WHOLESALE MARKET REMEDIES</b>			
A Wholesale market for the supply of fixed narrowband access and local calls in the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>Obligation to provide Wholesale line rental and local calls (WLRLC) service priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%</li> <li>Terms of supply of Wholesale service to be defined in a RAIO<sup>112</sup></li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority; and,</li> <li>made commercially available<sup>113</sup> a WLRLC service that: <ul style="list-style-type: none"> <li>is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> </ul> </li> </ul>

<sup>112</sup> Reference Access and Interconnection Offer ("RAIO").

<sup>113</sup> Commercial availability certified by the SMP Operator.



Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
		<p>that has been consulted upon and approved by the Authority.</p> <ul style="list-style-type: none"> <li>Obligation to file <i>ex ante</i> price squeeze tests for tariffs on any bundled retail offerings to demonstrate replicability</li> </ul>	<ul style="list-style-type: none"> <li>complies with the terms and conditions established in the RAIO referenced at paragraph 32(a); and</li> <li>has been approved by the Authority</li> <li>On-going compliance requires revision of the WLRLC price when tariffs on any associated retail products or services change.</li> </ul>
A Wholesale market for the supply of fixed narrowband access and local calls in areas outside of Southside and the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>Same as above</li> </ul>	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
A Wholesale market for the supply of fixed Broadband Access Services <sup>114</sup> in the City of Hamilton and contiguous suburbs.	BTC, BCV	<ul style="list-style-type: none"> <li>Obligation to provide Wholesale Broadband Access Services priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%. Wholesale service specifications must allow for replicability of retail service offerings.</li> <li>Obligation to file <i>ex ante</i> price squeeze tests for tariffs on any bundled retail offerings</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority; and,</li> <li>made commercially available<sup>115</sup> a Wholesale Broadband Access Service that: <ul style="list-style-type: none"> <li>is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> <li>complies with the terms and conditions</li> </ul> </li> </ul>

<sup>114</sup> Broadband Access Service comprises: local access, backhaul, and data stream aggregation, terminating at a Wholesale Operators premises.

<sup>115</sup> Commercial availability certified by the SMP Operator

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
		<p>to demonstrate replicability</p> <ul style="list-style-type: none"> <li>• Terms of supply of Wholesale service to be defined in a RAIO that has been consulted upon and approved by the Authority.</li> </ul>	<p>established in the RAIO referenced at paragraph 32(a); and</p> <ul style="list-style-type: none"> <li>○ has been approved by the Authority</li> <li>• On-going compliance requires revision of the Wholesale Broadband Access Service price when tariffs on any associated retail products or services change.</li> <li>• For BCV, have completed at least 100 Wholesale order for residential service, which orders must be for a type of service not provided prior to January 28 (e.g. residential broadband access provided to Link or TBI )</li> </ul>
A Wholesale market for the supply of fixed Broadband Access Services in areas outside of Southside and the City of Hamilton and contiguous suburbs	BTC, BCV	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A national market for the supply of Wholesale access and local call origination on mobile networks.	BDC, Digicel	<ul style="list-style-type: none"> <li>• None, initially</li> <li>• However, if either BDC or Digicel (or an affiliate of either company) sells wholesale mobile service to another licensee, the Authority determines that the SMP mobile Operator must provide a non-discriminatory Wholesale access service to any third</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
		<p>party Operator seeking to obtain such access.</p> <ul style="list-style-type: none"> <li>An SMP operator is obligated to notify the Authority within five business days of any MVNO negotiations that it has entered into with other licensees.</li> </ul>	
A national market for the supply of Wholesale origination of international calls on mobile networks <sup>116</sup>	BDC, Digicel	<ul style="list-style-type: none"> <li>Maintain policy of zero rate unless carriers make an affirmative showing that the current price is not recovering historical costs.</li> <li>Terms of supply of Wholesale service to be defined in a RAIO that has been consulted upon and approved by the Authority.</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority</li> </ul>
A Wholesale market for the origination of international calls on fixed networks in the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>International calls. Price ceiling is the charge established by the LAC (local access charge) decision, unless subsequently revised by the Authority.</li> <li>Terms of supply of origination service to be defined in a RAIO that has been consulted upon and approved by the Authority</li> <li>Annual reporting requirements demonstrating that the</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority.</li> <li>On an on-going basis, comply with the annual reporting requirements.</li> </ul>

<sup>116</sup> Pre-selection of international carriers. ECA Section 73(8)(a) requires carrier pre-selection for international calls for all ICOL holders (that participate in the numbering plan) until the advent of number portability.

<b>Relevant Product Markets</b>	<b>SMP Operator(s)</b>	<b>Remedies Imposed</b>	<b>Compliance Triggers<sup>110</sup></b>
		terms of the price ceiling have been abided by	
A Wholesale market for the origination of international calls on fixed networks in areas outside of Southside and the City of Hamilton and contiguous suburbs.	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A market for the Wholesale supply of low speed Leased Lines in the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>• Obligation to provide Wholesale Leased Lines ("WLL") on a non-discriminatory basis, priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%</li> <li>• Terms of supply of Wholesale service to be defined in a RAIO that has been consulted upon and approved by the Authority.</li> </ul>	<ul style="list-style-type: none"> <li>• A RAIO in place that has been approved by the Authority; and,</li> <li>• made commercially available<sup>117</sup> a WLL service that: <ul style="list-style-type: none"> <li>○ is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> <li>○ complies with the terms and conditions established in the RAIO referenced at paragraph 32(a); and</li> <li>○ has been approved by the Authority</li> </ul> </li> <li>• On-going compliance requires revision of the WLL price when tariffs on any associated retail products or services change.</li> </ul>
A market for the Wholesale supply of low speed Leased Lines outside of Southside and	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

<sup>117</sup> Commercial availability certified by the SMP Operator

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
the City of Hamilton and contiguous suburbs			
A market for the Wholesale supply of high speed Leased Lines in the City of Hamilton and contiguous suburbs	BTC	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
A market for the Wholesale supply of access to facilities used to construct fixed local access networks	BLDC, BELCO, BCV, and BTC	<p><u>Pole access:</u></p> <ul style="list-style-type: none"> <li>• Price capped at the current rate charged to each customer, with the ability for access seekers to petition and request a rate investigation.</li> <li>• Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul> <p><u>Ducts:</u></p> <ul style="list-style-type: none"> <li>• Prices capped at the current rates charged to each customer, unless it can be established to RA's satisfaction through a cost study that this does not reflect cost</li> <li>• Annual reporting requirements demonstrating that the terms of the price cap have been abided by</li> </ul> <p><u>Other services:</u></p> <ul style="list-style-type: none"> <li>• Price capped at the current rate charged to each customer, with the ability for access seekers to petition and request a rate investigation</li> </ul>	<ul style="list-style-type: none"> <li>• The filing of all existing price sheets for services provided to current customers with the Authority within 30 calendar days of the effective date of the General Determination on remedies.</li> <li>• On an on-going basis, comply with the annual reporting requirements.</li> </ul>

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
		<u>Filing Obligations:</u> <ul style="list-style-type: none"> <li>All existing price sheets for services provided to current customers shall be filed with the Authority within 30 calendar days of the effective date of the General Determination on remedies.</li> </ul>	
A market for the supply of access to facilities used to construct wireless radio access networks.	None	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>
A Wholesale market for the transmission facilities used to deliver Subscription Television Services to end users in addition to the Subscription Television Services themselves	BCV	<ul style="list-style-type: none"> <li>Obligation to provide resale service on non-discriminatory terms at Retail Minus Avoidable Cost where the Avoidable Cost percentage, derived by International Benchmarking, is established at 15%</li> <li>Terms of supply of Wholesale service to be defined in Reference Offer. Terms to be approved by the Authority.</li> </ul>	<ul style="list-style-type: none"> <li>A RAIO in place that has been approved by the Authority; and,</li> <li>made commercially available<sup>118</sup> a resale service that: <ul style="list-style-type: none"> <li>is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 27;</li> <li>complies with the terms and conditions established in the RAIO referenced at paragraph 32(a); and</li> <li>has been approved by the Authority</li> </ul> </li> <li>On-going compliance requires revision of the resale service price when tariffs on any associated retail products or services</li> </ul>

<sup>118</sup> Commercial availability certified by the SMP Operator.

Relevant Product Markets	SMP Operator(s)	Remedies Imposed	Compliance Triggers <sup>110</sup>
			change.

#### 4.2 Determination concerning additional obligations to be placed on affiliates of the KeyTech holding company

18. Pursuant to RAA Section 62(1) and ECA Section 74(b)(ii), and in compliance with the principles and objectives set out in ECA Sections 21, 23(7) and 24, the Authority hereby determines that:

(a) BCV, BTC, Logic, BDC, CableCo, and North Rock shall obtain the Authority's approval before introducing new bundles of services.

(i) This requirement shall cease when all KeyTech SMP Operators (BCV, BTC, and BDC) have obtained a Satisfactory Compliance Notice as set out in ECA Section 73(5)(a)

(b) any KeyTech affiliate (as defined in ECA Section 2) shall seek prior written approval from the Authority before effectuating:<sup>119</sup>

(i) any increase in the ownership of the shares, stocks or other securities or voting rights of another KeyTech affiliate, or

(ii) any transfer of assets or significant groups of personnel or functions relating to the provision of electronic communications services to another KeyTech affiliate.<sup>120</sup>

(c) BTC, BCV and BDC shall

(i) submit a detailed schematic that maps the organizational, functional and personnel relationships between and among them (including at the Board, Management and staff levels), as well as within the KeyTech Group level organization and with their other affiliates; and

(ii) prepare for our approval a draft Code of Conduct establishing explicit internal rules that clearly prohibit, facilitate the detection of, and penalize the preferential, anticompetitive exchange of information about customers, networks or services

<sup>119</sup> This a provisional remedy pending completion of a separate consultation on SMP within the KeyTech Group.

<sup>120</sup> We note that under the terms of their ICOLs (Conditions 19 and 20), no KeyTech affiliate may transfer its ICOL to another party (including another affiliate), nor may an ICOL holder allow a change of control to be completed without the prior consent of the Authority, acting with the written consent of the Minister.

within each company and as between and among affiliates of the KeyTech Group.

### **4.3 Assorted General Determinations associated with Table 10**

#### **4.3.1 General Determinations concerning retail market remedies**

##### **4.3.1.1 Determination concerning price cap imposition**

19. The Authority determines that, excepting the price caps imposed on Retail fixed Broadband Access Services and ISP Services, in all other instances where a price cap is imposed on an Operator, the following price cap formula shall be utilized:

- (a)  $PCI_t = PCI_{t-1} * (1 + CPI + Y)$ , where;
- (b) CPI = Consumer Price Index (rate of inflation)<sup>121</sup>
- (c)  $Y = 2\%$ ;
- (d)  $PCI_t$  is the price cap index for the current year; and,
- (e)  $PCI_{t-1}$  is the price cap index for the prior year.

20. The Authority further determines that SMP Operators upon whom a price cap has been imposed shall:

- (a) make an annual filing demonstrating that it has abided by the terms of the price cap for that year. In making this filing, the firm must show that the weighted average (weighted by quantity of price capped goods and/or services sold) of the prices for price capped goods and/or services comports with the price cap terms.<sup>122</sup>
- (b) show that the quantities used in the weighting are those from the year prior to the price cap filing year. For example, a filing demonstrating that a dominant firm's prices for the 2013 reporting year were in line with the price cap formula would be based on the 2012 quantities of the price capped goods and/or services.
- (c) show that carry over effects were not included. Regardless of prior years' adjustments, a firm shall only be permitted to raise their prices by the annual inflation rate plus 2% adjustment factor in any one year.<sup>123</sup>

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<sup>121</sup> As measured by the Consumer Price Index (CPI) published by the Bermuda Department of Statistics based on the most recent full calendar year (January-December).

<sup>122</sup> The percentage change in prices would be calculated using logarithms. For example, if the price for a service changed from \$26 to \$28, this would be reported as a  $7.4108\% = \ln(28 / 26)$  change in price.

<sup>123</sup> For example, suppose that a dominant firm could have raised its prices by an inflation plus 2% rate of 4% in 2013, but decided to lower them by 5% instead. Now further suppose that in 2014 market conditions have changed and the firm would like to raise its prices by 9% to make up for 2013. The firm would not be permitted to implement the 9% carry over price increase. The firm would only be permitted to raise their prices in 2014 by the change in annual CPI plus 2% adjustment factor.



21. The Authority also determines that if a carrier does not implement a price change at the start of the calendar year, its composite rate may go up by more than CPI + Y, as long as the following two conditions are satisfied:
22. the annualized rate increase for the basket must be no greater than CPI + Y; and
23. the price increase for the shorter period of time may be no greater than 25% of the increase permitted on an annual basis.<sup>124</sup>
24. The Authority determines that the annual inflation rate plus 2% adjustment factor shall remain in place until the next market review is completed, unless an SMP Operator is able to demonstrate that the price capped price would not enable it to recover the costs of providing the product or service whose price is capped.
25. Concerning the price cap applied to Retail fixed Broadband Access Services and ISP Services to residential customers, the Authority determines that:
  - (a) the price cap for these service shall be such that the price per Mb/s cannot increase (unless there is an affirmative showing that prices are not recovering historical costs);
  - (b) at the end of each 12 month period BTC and BCV must submit a report to the Authority showing any changes in their retail broadband prices and how those compare to the price cap.
26. Concerning the application of the retail price cap to bundles containing SMP Products, the Authority determines that there shall be:
  - (a) a price cap imposed on any bundle comprised solely of SMP Products (e.g. BTC's voice and Broadband Access Services bundle). Concerning bundles such as these the price cap to be imposed shall be a weighted average of the price caps applicable to each SMP product calculated as follows:
 

Assume:

A=standalone price of SMP Product A

B= standalone price of SMP Product B

C=Bundle price

$Y_A$  = the permitted increase in the standalone price of SMP Product A

$Y_B$  = the permitted increase in the standalone price of SMP Product B

Applying the price cap formula from paragraph 19, and utilizing the pricing information given above, the bundled price shall go up by no more than  $[(A/(A+B)) * Y_A] + [(B/(A+B)) * Y_B]$ .<sup>125</sup>

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<sup>124</sup> For example, if CPI + Y is four percent, and if an increase in prices is not implemented until July 1st, the rate of increase is limited to five percent (4% + .25 \* 4%).

<sup>125</sup> For example,

- a bundle of retail voice access plus unlimited local calling and broadband access is priced at \$89;

- (i) The Authority further determines that, for SMP products in the supply of Retail fixed Broadband Access Services and ISP Services (excluding Southside) markets, the relevant retail price against which the price cap shall be applied are the Broadband Access Service prices to which would be added the relevant ISP charges currently assessed by either Logic/North Rock, or Transact

#### **4.3.1.2 Determination concerning retail tariff notification filing requirements**

27. The Authority determines that any SMP Operator upon whom a tariff notification filing obligation has been imposed shall:

- (a) file with the Authority all existing tariffs within 30 calendar days of the date on which this General Determination becomes effective;
- (b) file a notification with the Authority of all new tariffs, tariff changes and extensions to special promotions at least 10 working days before the proposed effective date of the new tariff, with the exception of bundled offers including an SMP service, which will require at least 20 working days' notice prior to the effective date of the bundled tariff. The tariff notification shall include:
  - (i) A description of the service or services to which the tariff relates;
  - (ii) A description of whether the tariff is a new tariff or replaces an existing tariff;
  - (iii) Information on whether the tariff is a limited availability special promotion, or a permanent tariff change. If it is a special promotion, the period of duration of the special should be specified;
  - (iv) A description of the terms and conditions of provision of the tariff;
  - (v) The proposed pricing, including discounting arrangements – this includes volume discount schedules (where applicable), bundled discounts and any other type of discount off the tariffed price that will be offered to customers;

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- The total standalone cost of voice access plus unlimited local calling plus broadband access is \$98;
  - The standalone cost of voice access plus unlimited local calling is \$59; and
  - The standalone cost of broadband access is \$39.

Applying the relevant price caps to the voice access plus unlimited local calling and the broadband access products would mean that the bundled price could go up by no more than  $[\$59 / (\$98) * (\text{inflation rate} + 2\%)] + [\$39 / \$98 * 0\%]$ . (The 0% in the last formula is due to the fact that the price cap on broadband access of no increase in the price per Mb/s allows for no annual price increase.

- (vi) The commercial rationale for making the proposed change;
  - (vii) The number of existing customers that would be affected by the change; and
  - (viii) The expected demand for the service.
- (c) submit to the Authority any non-standard pricing<sup>126</sup> arrangement it contemplates offering to customer at least 10 working days before the effective date of said offering.
- (d) file a notification with the Authority of any new service at least 30 calendar days in advance of the commercial offer of the service. The notice shall include:
- (i) A description of the service or services to be offered;
  - (ii) A description of the terms and conditions under which the service will be offered;
  - (iii) The proposed pricing, including discounting arrangements – this includes volume discount schedules (where applicable), bundled discounts and any other type of discount off the tariffed price that will be offered to customers;
  - (iv) The commercial rationale for offering the new service or services;
  - (v) The projected impact of the new service(s) offering on existing customers; and
  - (vi) The expected demand for the service.
- (e) In the event of a planned service withdrawal, submit to the Authority the following information no less than 60 calendar days in advance of the termination of that service:
- (i) The commercial rationale for withdrawing the service;
  - (ii) The number of current customers that will be affected by the service withdrawal;
  - (iii) The process that the operator intends to use to notify affected customers; and
  - (iv) Alternative services that customers can transition to.

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<sup>126</sup> Non-standard pricing includes any pricing offered to one or more customers that differs from standard tariffs.

#### 4.3.1.3 Determination concerning the national market for the supply of Retail mobile services, including voice and data

28. The Authority determines that, in addition to the tariff notification filing obligations imposed on BDC and Digicel in Table 10, above, both parties must file, on a quarterly basis, information on traffic flows and customer connections in the following formats:

**Table 11: Quarterly traffic monitoring information required**

Outbound on-net mobile-to-mobile minutes		Outbound on-net mobile-to-mobile minutes	
Prepaid	Postpaid	Prepaid	Postpaid

**Table 12: Quarterly subscriber number information required**

	Prepaid	Postpaid
Number of subscribers active within the last 30 days subscribers, as at end of quarter		

#### 4.3.2 General determinations concerning Wholesale market remedies

##### 4.3.2.1 Determination concerning the Retail Minus Avoidable Cost Wholesale pricing obligation

29. Where an obligation to provide wholesale products or services at Retail Minus Avoidable Cost has been imposed by the Authority on an SMP Operator, the Authority determines that the avoidable cost percentage utilized shall be 15%.
30. The Authority determines that, where volume discounts or loyalty (term) discounts are available, the retail minus avoidable cost calculation shall apply to the discounted price as long as the wholesale customer can satisfy the conditions of the discount.<sup>127</sup>
31. The Authority determines that, as applied to the obligation to provide Line Rental and Local Calls (WLRLC):
- (a) a separate wholesale product and price shall be made available for each fixed narrowband access line and local calling usage package provided to the retail market by an SMP Operator.
32. The Authority determines that, as applied to the obligation to provide Wholesale Broadband Access Services:

<sup>127</sup> For example, if a retail customer is required to sign a long-term contract to obtain the discount offered, then the wholesale service should be available at the discounted retail rate minus the avoidable costs if the wholesale customer is willing to commit to the same long-term contract.

- (a) the relevant retail price upon which the Retail Minus Avoidable Cost price shall be established is the retail price for Broadband Access Services alone, as opposed to the retail price for the bundle of broadband access and ISP services; and
- (b) a separate wholesale product and price shall be made available for each Broadband Access Service speed offering provided to the retail market by an SMP Operator.

#### **4.3.2.2 Determination concerning the establishment of a Reference Access and Interconnection Offer (RAIO)**

33. The Authority determines that SMP Operators upon whom a Reference Access and Interconnection Offer (RAIO) obligation has been imposed shall:
  - (a) submit to the Authority a draft RAIO document, suitable for public consultation, no later than six weeks after this General Determination is published in the Gazette.<sup>128</sup>
34. The Authority determines that the RAIO must comply with the following basic principles:
  - (a) access and/or interconnection must be provided on request in a timely manner by SMP licensees to all other licensees at any technically feasible point of interconnection unless the requested location is:
    - (i) not economically feasible;
    - (ii) not practical given the existing network layout; or
    - (iii) likely to compromise the integrity or interoperability of in interconnected network.
  - (b) the terms and conditions of providing access and/or interconnection shall be reasonable, transparent, and non-discriminatory;
  - (c) charges and quality of service (QoS) shall be no less favourable than those provided by an SMP licensee to its own retail operations, and shall contain no cross subsidy of any part of the SMP licensee's business operation;
    - (i) For a firm such as BELCO, which was found to have SMP in the market for infrastructure access, but does not provide any retail communications products or services, its charges and quality of service must be non-discriminatory for all licensees;
  - (d) access and interconnection fees shall be cost-oriented;
  - (e) each access or interconnection service must be sufficiently disaggregated so that other licensees need only order and pay for the item they require; and

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<sup>128</sup> Operators may (and are urged to do so) provide their draft RAIOs to the Authority at any time during this submission period so that they can be put out for consultation as soon as possible.

- (f) end-users of public communications services shall be able to communicate with other users of like services regardless of which carrier they have elected to use and without any loss in functionality of the service.
35. The Authority determines that the RAIO must address the following general issues in the manner prescribed for each:
- (a) facility ordering and provisioning procedures shall, at a minimum:
    - (i) specify all steps required in the ordering and provisioning of wholesale service; covering from how contact is to be initiated so as to place a service order, through notification by the SMP operator that the order has been successfully completed;
    - (ii) specify the rights and obligations of each party with respect to ordering and provisioning the required interconnection and access products and services;
    - (iii) include confidentiality requirements: and,
    - (iv) include established and transparent procedures designed to ensure that information provided by Wholesale customers seeking to obtain service is not used in an anti-competitive manner by any of the SMP Operator's other business areas, or by any affiliate of that Operator.
  - (b) prices and price adjustments procedures shall, at a minimum:
    - (i) specify the initial level of interconnection charges;
    - (ii) specify how prices will be adjusted over the term of the agreement to account for inflation; and,
    - (iii) specify the means by which any volume discounts, term discounts, and/or special retail promotions offered by the SMP operator shall be treated, if applicable.
  - (c) interconnection procedures shall, at a minimum:
    - (i) specify the physical locations where interconnection is offered;
    - (ii) specify the technical standards to be employed in the interconnection; and,
    - (iii) specify the process governing requests for, and the obtainment of, additional points of interconnection.
  - (d) infrastructure sharing and co-location procedures shall, at a minimum;
    - (i) specify the provisions that will be made available by the SMP licensee to accommodate equipment belonging to another licensee; and

- (ii) specify terms and conditions governing access to any equipment belonging to another licensee, along with any associated charges that will apply.
- (e) transport charges and traffic routing procedures shall, at a minimum:
  - (i) specify the methodology to be utilized in establishing the efficient routing and hand-off point for each type of call;
  - (ii) specify any transfer charges that may be assessed on calls carried beyond the area local to the point of interconnection by the receiving network; and,
  - (iii) specify the methodology employed in developing said transfer charges.
- (f) quality of service standards (QoS) shall, at a minimum:
  - (i) be established and defined for all critical access and interconnection services (e.g. network availability, fault repair times, and for call blocking levels);
  - (ii) be the same as the QoS standards established and defined (if any such exist) by the SMP Operator for its own internal purposes, or as those established between an SMP Operator and any other affiliated entity;
  - (iii) specify the monitoring and measuring procedures to be employed in assessing the quality of service delivered;<sup>129</sup> and,
  - (iv) specify the remedies to be employed in the event the QoS standard are not met on a consistent basis.
- (g) billing and collection procedures shall, at a minimum:
  - (i) specify how and when traffic data is to be collected by each interconnecting Operator;
  - (ii) specify how and when bills for any billable traffic are to be exchanged between each interconnecting Operator;
  - (iii) specify the process that is to be used in reconciling traffic data between the parties;
  - (iv) specify the process that is to be used in making inquiries to the other party on any matters related to

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<sup>129</sup> The monitoring and measuring procedures specified must ensure that the monitoring and measuring of the QoS standard established is done for all products and services referenced in the RAIO, including those products so referenced that are delivered by the SMP Operator to other business areas internally, or by the SMP Operator to any entity with which it is affiliated.

- billing and collection, and traffic data measurement and collection, including specifying how claims shall be handled and disputes resolved; and,
- (v) specify the obligations each party bears in cooperating in anti-fraud detection and enforcement activities;
- (h) forecasting network needs procedures shall, at a minimum:
- (i) specify the planning process that will be used by the parties to ensure that investment for additional capacity can be agreed upon, budgeted for, and installed in time to meet the forecasted demand;
  - (ii) specify the procedures to be followed in resolving any differences concerning demand forecasts that may arise between the parties;
  - (iii) specify the terms and conditions that a request for additional interconnection capacity must meet in order to be considered bona fide; and,
  - (iv) specify the procedures to be followed by each party to ensure that both are appraised of planned network changes and upgrades well in advance of their actual occurrence.
- (i) access to customer information procedures shall, at a minimum:
- (i) establish clear protocols governing the uses to which customer information (e.g. call completion and billing information) may be put;
  - (ii) establish safeguards designed to protect the end-user's privacy and personal information;
  - (iii) establish safeguards designed to ensure the protection of any commercially sensitive information concerning another operator's clients that may be derived from information obtained through interconnection or access activities; and,
  - (iv) establish safeguards designed to ensure that any information that may be obtained through interconnection or access activities shall not be accessible to, or utilized by, any of the SMP Operator's other business areas, or by any affiliate of the SMP Operator, for purposes of marketing any of the SMP Operator's (or affiliates') retail offerings.
- (j) dispute resolution procedures shall, at a minimum:
- (i) provide a clear understanding of the process for escalating disputed issues through company management, to external arbitrators, and to the Regulatory Authority, if necessary.



#### **4.3.2.3 Determination concerning bundled service offerings**

36. The Authority determines that, with respect to bundled service offerings, an SMP Operator shall:

- (a) for any bundle containing an SMP Product or Service, make the SMP Product or Service contained in that bundle available on a standalone basis according to the terms and conditions established in the SMP Operator's RAIO.
- (b) for any bundle comprised solely of SMP Products or Services, make available a corresponding Wholesale bundle whose price shall be set at the retail price of the bundle minus the avoidable cost percentage of 15%.<sup>130</sup>
- (c) provide information demonstrating that a bundled service offering will not impose a Price Squeeze if requested to do so by the Authority. An Operator must provide this information within two business days of receiving a request to do so from the Authority.<sup>131</sup> The information provided must demonstrate that:
  - (i) for any bundle comprised solely of SMP Products or Services, the difference between the retail and Wholesale price of the bundle is not less than the retail price times the avoided cost discount factor of 15%.
  - (ii) for any bundle containing non-SMP Products or Services in the bundle:
    - 1. the retail price of the bundle is not less than the sum of the Wholesale prices of any SMP Products or Services contained in the bundle; and
    - 2. the difference between the retail price of the bundle and the sum of the Wholesale prices of any SMP Products or Services contained in the bundle is such that it recovers the cost of providing the non-SMP Products or Services contained in the bundle, as well as the associated retail costs of the bundle.
- (d) not Tie an SMP Product to a product outside the SMP market.

#### **4.3.2.4 Determination concerning the market for the supply of Wholesale access and local call origination on mobile networks**

37. The Authority has determined that it will not mandate a particular wholesale product at the present time.

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<sup>130</sup> Bundled offerings comprising SMP Products or Services and non-SMP Products or Services do not have to be made available on a Wholesale basis.

<sup>131</sup> We note that RAA Section 85(5) prohibits Price Squeezes and Predation.

38. However, if either BDC or Digicel (or an affiliate of either company) sells wholesale mobile service to another licensee, the Authority determines that the SMP mobile Operator must provide a non-discriminatory Wholesale access service to any third party Operator seeking to obtain such access.
39. An SMP operator is obligated to notify the Authority within five business days of any MVNO negotiations that it has entered into with other licensees.

#### **4.3.2.5 Determinations concerning the market for the Wholesale supply of access to facilities used to construct fixed local access networks**

40. The Authority determines that the wholesale price ceilings for this market shall be set such that they are based on current market rates. In particular:
  - (a) for pole access the price ceiling shall be set at the current rate charged by BELCO to each customer;
  - (b) for access to ducts the price ceiling shall be set at the current rate charged by the duct owner to each customer; and
  - (c) for access to other access services supplied the price ceiling shall be set at the current rate charged to each customer.
41. The Authority further determines that infrastructure providers shall be obligated to file with the Regulatory Authority all existing price sheets for services provided to current customers within 30 calendar days of the effective date of the General Determination on remedies.

#### **4.3.2.6 Determinations regarding the factors relevant to the imposition of access obligations in the narrowband fixed access and local calling markets**

42. The Authority determines that the imposition of the proposed access obligations is consistent with the factors set out in ECA Section 24(4) for the following reasons:
  - (a) Technical and economic feasibility: Given the widespread use internationally of WLR and WLRLC services, the Authority determines it reasonable to conclude that a similar wholesale service would be technically feasible. The cost estimates cited by the Authority at paragraph 147 of the Consultation strongly indicate that the introduction of a WLRLC service would satisfy the economic feasibility factor.
  - (b) Available capacity: The Authority determines that capacity constraints are not likely to arise from the introduction of WLRLC;
  - (c) Investment risk of SMP operator: Pricing of WLRLC at retail minus avoidable cost should result in the SMP operator earning the same contribution to network costs from wholesale access and local call services as it does from its own retail customers. As a result the Authority determines that the implementation of WLRLC imposes no significant investment risk.
  - (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: The Authority determines that introduction of WLRLC is an important means for addressing this factor and will reduce the risk of leveraging market power from one market to another by KeyTech-owned companies.

#### **4.3.2.7 Determinations regarding the factors relevant to the imposition of access obligations in the fixed call origination market**

43. The Authority determines that the imposition of the proposed access obligations is consistent with the factors set out in ECA Section 24(4) for the following reasons:
- (a) Access to the wholesale service is effectively mandated through the requirement in the ICOL that pre-selection of international calls be provided.
  - (b) The requirement to provide call origination at the current wholesale rate is already in place (and had been in place prior to the issuance of the ICOLs).

#### **4.3.2.8 Determinations regarding the factors relevant to the imposition of access obligations in the broadband access market**

44. The Authority determines that the imposition of the proposed access obligations is consistent with the factors set out in ECA Section 24(4) for the following reasons:
- (a) Technical and economic feasibility: Given the widespread supply internationally of wholesale broadband services, the Authority determines it reasonable to conclude that a similar wholesale service would be technically feasible. Similarly, the supply of wholesale broadband services in other small jurisdictions indicate that supply in Bermuda would be economically feasible.
  - (b) Available capacity: The Authority determines that capacity constraints are not likely to arise from the introduction of wholesale broadband access.
  - (c) Investment risk of SMP operators: Pricing of wholesale broadband at retail minus avoidable cost should result in the SMP operator earning the same contribution to network costs from wholesale broadband access services as it does from its own retail customers. As a result the Authority determines that the implementation of wholesale broadband imposes no significant investment risk.
  - (d) Ability of SMP operators to hinder competition through subsidiaries, partners and affiliates: The Authority determines that introduction of wholesale broadband access priced at Retail Minus Avoidable Costs and supplied on a non-discriminatory basis is an important means for addressing this factor and will reduce the risk of leveraging market power from one market to another by KeyTech-owned companies.

#### **4.3.2.9 Determinations regarding the factors relevant to the imposition of access obligations in the mobile call origination market**

45. The Authority determines that the imposition of the proposed access obligations is consistent with the factors set out in ECA Section 24(4) for the following reasons:
- (a) Access to the wholesale service is effectively mandated through the requirement in the ICOL that pre-selection of international calls be provided.

- (b) The requirement to provide call origination at the current wholesale rate is already in place (and had been in place prior to the issuance of the ICOLs).

#### **4.3.2.10 Determinations regarding the factors relevant to the imposition of access obligations in the leased line market**

- 46. The Authority determines that the imposition of the proposed access obligations is consistent with the factors set out in ECA Section 24(4) for the following reasons:
  - (a) Technical and economic feasibility: Given the widespread use internationally of Wholesale Leased Line services including in small jurisdictions, the Authority determines it reasonable to conclude that similar services would also be technically and economically feasible in Bermuda.
  - (b) Available capacity: The Authority determines that capacity constraints are not likely to arise from the introduction of wholesale leased lines.
  - (c) Investment risk of SMP operator: Pricing of wholesale leased line services at retail minus avoidable cost should result in the SMP operator approximately earning the same contribution to network costs from wholesale leased line services as it does from retail leased line services. As a result the Regulatory Authority does not consider that the implementation of wholesale leased line services imposes a significant investment risk.
  - (d) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: The Authority determines that the introduction of Wholesale Leased Lines priced at Retail Minus Avoidable Cost is an important means for addressing this factor and reducing the risk of leveraging market power from one market to another (such as from domestic leased lines markets into international leased lines markets) by KeyTech-owned companies.

#### **4.3.2.11 Determinations regarding the factors relevant to the imposition of access obligations in the Subscription Television Services market**

- 47. The Authority determines that the imposition of the proposed access obligations is consistent with the factors set out in ECA Section 24(4) for the following reasons:
  - (e) Technical and economic feasibility: Given that the proposed remedy is a resale remedy the Authority determines it reasonable to conclude that a similar wholesale service would be technically feasible. As discussed at paragraph 147 in the Consultation with reference to wholesale line rental cost estimates, the Authority considers that the introduction of resale would be economically feasible.
  - (f) Available capacity: Resale should not impair BCV's network capacity. The access seeker will only be reselling BCV's existing product, and not offering its own content.
  - (g) Investment risk of SMP operator: Pricing of resale at Retail Minus Avoidable Cost should result in the SMP operator earning the

same contribution to network costs from wholesale subscription TV services as it does from its own retail customers. As a result the Authority determines that the implementation of resale imposes no significant investment risk.

- (h) Ability of SMP operator to hinder competition through subsidiaries, partners and affiliates: The Authority determines that the introduction of resale Subscription Television Services priced at Retail Minus Avoidable Cost is an important means for addressing this factor and reducing the risk of leveraging market power from one market to another by KeyTech-owned companies.

## **4.4 Compliance**

### **4.4.1 Compliance with Retail market remedies**

- 48. The Authority determines that compliance with the retail market remedies for purposes of ECA Section 73(5)(a) requires filing of all existing tariffs as per paragraph 27(a).
- 49. The Authority further determines that, for purposes of on-going, an SMP Operator shall:
  - (a) on an on-going basis, comply with the tariff filing notice requirements per paragraph 27(b); and
  - (b) on an on-going basis, comply with the Authority's determinations concerning of the imposition of the price cap per paragraphs 19 through 26.

### **4.4.2 Compliance with Wholesale market remedies**

#### **4.4.2.1 Compliance with the obligation to provide Wholesale line rental and local calls (WLRLC) service**

- 50. The Authority Determines that compliance with the obligation to provide Wholesale line rental and local calls (WLRLC) service will be considered met when the SMP provider on whom the obligation has been imposed has:
  - (a) a RAIO in place that has been approved by the Authority; and,
  - (b) made available a WLRLC service that:
    - (i) is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 29;
    - (ii) complies with the terms and conditions established in the RAIO referenced at paragraph 50(a); and
    - (iii) has been approved by the Authority
- 51. SMP Operators meeting the compliance triggers appearing above will be considered in compliance for the purposes of ECA Section 73(5)(a) only, as noted below they will have continuing compliance obligations after that as well.

52. On-going compliance requires revision of the WLRLC price when tariffs on any associated retail products or services change.

**4.4.2.2 Compliance with the requirement to provide Wholesale Leased Line (WLL) services**

53. The Authority Determines that compliance with the obligation to provide Wholesale Leased Line services will be considered met when the SMP provider on whom the obligation has been imposed has:
- (a) a RAIO in place that has been approved by the Authority; and,
  - (b) made commercially available<sup>132</sup> a WLL service that:
    - (i) is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 29;
    - (ii) complies with the terms and conditions established in the RAIO referenced at paragraph 53(a); and
    - (iii) has been approved by the Authority
54. SMP Operators meeting the compliance triggers appearing above will be considered in compliance for the purposes of ECA Section 73(5)(a) only, as noted below they will have continuing compliance obligations after that as well.
55. On-going compliance requires revision of the WLL price when tariffs on any associated retail products or services change.

**4.4.2.3 Compliance with the remedies on the Wholesale market for the origination of international calls on fixed networks**

56. The Authority Determines that, for the purposes of ECA Section 73(5)(a) only, compliance with the remedies imposed on this market will be considered met when the SMP provider on whom the remedies have been imposed has:
- (a) a RAIO in place that has been approved by the Authority; and,
  - (b) established prices for international calls that are no higher than those established by the LAC (local access charge) proceeding, unless these are subsequently revised by the Authority.
57. SMP Operators meeting the compliance triggers appearing above will be considered in compliance for the purposes of ECA Section 73(5)(a) only, they will have continuing compliance obligations after that as well.

**4.4.2.4 Compliance with the obligation to provide Wholesale Broadband Access Services**

58. The Authority Determines that, for the purposes of ECA Section 73(5)(a) only, compliance with the obligation to provide Wholesale Broadband Access Services will be considered met when the SMP provider on whom the obligation has been imposed has:
- (a) a RAIO in place that has been approved by the Authority; and,

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<sup>132</sup> Commercial availability certified by the SMP Operator.

(b) made commercially available<sup>133</sup> a Wholesale Broadband Access Service that:

- (i) is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 29;
- (ii) complies with the terms and conditions established in the RAIO referenced at paragraph 58(a); and,
- (iii) has been approved by the Authority

59. The Authority further determines that, to be considered in compliance with the obligation to provide Wholesale Broadband Access Services, BCV must have completed at least 100 Wholesale order for residential service, which orders must be for a type of service not provided prior to January 28 (e.g. residential Broadband Access Services provided to Link or TBI on a Wholesale basis).
60. SMP Operators meeting the compliance triggers appearing above will be considered in compliance for the purposes of ECA Section 73(5)(a) only, as noted below they will have continuing compliance obligations after that as well.
61. On-going compliance requires revision of the wholesale broadband access price when tariffs on any associated retail products or services change.

#### **4.4.2.5 Compliance with the obligation to provide resale subscription television services**

62. The Authority Determines that, for the purposes of ECA Section 73(5)(a) only, compliance with the obligation to provide wholesale broadband access will be considered met when the SMP provider on whom the obligation has been imposed has:

- (a) a RAIO in place that has been approved by the Authority; and,
- (b) made commercially available<sup>134</sup> a resale subscription television service:
  - (i) is priced at Retail Minus Avoidable Cost where the Avoidable Cost percentage is set according to paragraph 29;
  - (ii) complies with the terms and conditions established in the RAIO referenced at paragraph 62(a); and
  - (iii) has been approved by the Authority

63. Meeting the compliance triggers appearing above will be considered compliance for the purposes of ECA Section 73(5)(a) only, as BCV will have continuing compliance obligations after that as well.

#### **4.5 Non-Compliance with Remedies**

64. The Authority determines that if an SMP Operator is found to be negligent in meeting any of the ordering or provisioning timelines that have been established as part of

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<sup>133</sup> Commercial availability certified by the SMP Operator.

<sup>134</sup> Commercial availability certified by the SMP Operator.

that Operator's RAIO, a financial penalty shall be imposed on that Operator, which penalty shall be calculated at 500% of the daily retail rate for the service in question, for each day of delay the SMP operator's lack of compliance causes another ICOL holder.

65. In addition, concerning the matter of non-compliance with remedies, the Authority takes note of the following language from ICOL Condition 17.1:

(a) The Authority may initiate enforcement proceedings pursuant to Section 93 of the RAA and Section 18(5) of the ECA if there is reason to believe that the Licensee has contravened the terms of this Licence or the Applicable Regulatory Framework. The Licensee shall participate in good faith in such enforcement proceedings. Upon finding that the Licensee has contravened this Licence or the Applicable Regulatory Framework, the Authority may, among other things, issue a warning, direct the Licensee to remedy the contravention or make restitution, impose financial penalties up to ten per cent of the Licensee's total annual turnover, or modify or suspend this Licence and the associated Spectrum licences.

## **5 EFFECTIVE DATE**

66. This General Determination will become effective on the date on which it is published in the Gazette.