

TELECOMMUNICATIONS REGULATORY COMMISSION
VIRGIN ISLANDS

CONSULTATION ON THE MARKET ANALYSIS OF INTERNATIONAL
CONNECTIVITY

NON-CONFIDENTIAL VERSION

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The address for responses to this document or enquires regarding this document is:

Consultation on the Market Analysis of International Connectivity

Telecommunications Regulatory Commission

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The deadline for responses is **18 January 2013**



Instructions for submitting a response

The Telecommunications Regulatory Commission of the Virgin Islands (“TRC”) invites comments on this consultation document from all interested parties.

Comments should be submitted by **18 January 2013** in line with the guidelines for conducting consultations set out in the Telecommunications Code (Part 1) (Public consultations and Public Hearings) Guidelines, 2010¹. The TRC reserves the right not to consider any responses submitted after this date.

Preferably responses to this document should be sent by email to consultations@trc.vg (indicating the subject): “Consultation on the Market Analysis of International Connectivity”. Alternatively, the responses may be sent to the address (or the number) below:

Consultation on the Market Analysis of International Connectivity –Telecommunications Regulatory Commission P.O. Box 4401 or 27 Fish Lock Road, 3rd Floor Road Town, Tortola, British Virgin Islands VG 1110 Fax: (284) 494 6786.

Responses should include:

In the case of responses from corporate bodies (legal persons):

- ☐ the name of the company/institution/association/other organisation;
- ☐ the name of a principal contact person; and
- ☐ full contact details (physical address, postal address, telephone number, fax number and email address).

In the case of responses from individual (natural) persons, name and contact details (including email).

In the interest of transparency, the TRC will normally make all submissions received available to public, subject to confidentiality of the information received. The TRC will evaluate requests for confidentiality according to relevant legal principles.

Respondents are required to clearly mark any information included in their submission which they consider to be confidential, and provide reasons why that information should be treated as such. Where information claimed to be confidential is included in a submission, respondents are required to provide both a confidential and a non-confidential version of their submission. The TRC will determine whether information claimed to be confidential is to be treated as such and, if so, will not publish that information. In respect of information that is determined to be non-confidential, the TRC may publish or refrain from publishing such information at its sole discretion. Once the TRC has received and considered responses to this consultative process, it will issue a final statement on

¹ [http://www.trc.vg/attachments/030_G00349_SI%20No%20100%20of%202010%20-%20Telecommunications%20Code%20\(Part%201\)%20\(Public%20Consultations%20and%20Public%20Hearings\)%20Guidelines,%202010.pdf](http://www.trc.vg/attachments/030_G00349_SI%20No%20100%20of%202010%20-%20Telecommunications%20Code%20(Part%201)%20(Public%20Consultations%20and%20Public%20Hearings)%20Guidelines,%202010.pdf)
[20Telecommunications%20Code%20\(Part%201\)%20\(Public%20Consultations%20and%20Public%20Hearings\)%20Guidelines,%202010.pdf](http://www.trc.vg/attachments/030_G00349_SI%20No%20100%20of%202010%20-%20Telecommunications%20Code%20(Part%201)%20(Public%20Consultations%20and%20Public%20Hearings)%20Guidelines,%202010.pdf)
[20Telecommunications%20Code%20\(Part%201\)%20\(Public%20Consultations%20and%20Public%20Hearings\)%20Guidelines,%202010.pdf](http://www.trc.vg/attachments/030_G00349_SI%20No%20100%20of%202010%20-%20Telecommunications%20Code%20(Part%201)%20(Public%20Consultations%20and%20Public%20Hearings)%20Guidelines,%202010.pdf)

the consultation which will be published on the TRC website (including a report on the consultation), and if appropriate a Determination on Dominance and amendments to the licences of public suppliers, depending upon the outcome of the consultation.

Market Analysis of International Connectivity

Executive Summary

Purpose

The purpose of this market analysis is to define the market for international connectivity and to assess the extent of dominance in this market and apply remedies if appropriate. The Telecommunications Regulatory Commission, (the “TRC”) is consulting stakeholders and the public on these key areas:

1. The definition of the relevant market.
2. Whether it is appropriate to designate any public supplier as dominant in the relevant market.
3. The draft “Determination on dominance in the supply of international connectivity services” and the required amendments to the licences of the public suppliers concerned.
4. Whether it is appropriate to apply a charge control remedy to a public supplier deemed dominant in the relevant market and what type of charge control is most suited to the VI.

Process

This document also sets out the proposed licence change in annex 2 in the event that a public supplier is determined dominant. Interested parties are invited to respond to this document within 30 days. The consultation period for this market analysis is being treated as the same period of negotiation that shall be allowed in the event of a proposed licence change as per Article 18.1 of the Licence. Therefore the TRC is hereby giving notice of a proposed licence change as set out in Annex 2. Licensees have until 18 January 2013 to respond to the TRC on this proposed Licence change. Once this negotiation period is complete the TRC will look to publish a Notice of the proposed licence change and will carry out the process set out under Article 18.5 of the Licence, allowing a further 30 days for responses and issuing a report on the consultation and holding a hearing for interested parties. The final Directive would be published no sooner than 90 days after publication of the Notice.

This consultation document is structured in three parts:

Section 1: Definition of the relevant market

Section 2: Assessment of competition and evidence of significant market power

Section 3: Assessment of appropriate regulatory obligations

Section 1 of this document sets out the market analysis of international connectivity, defining the relevant product and geographic markets as per the methodology set out in the TRC's Telecommunications Market Review document (the "Market Review")². The market is defined as two relevant markets including:

- ☐ The market for international connectivity services provided via international private leased circuits ("IPLC's")
- ☐ The market for international managed data services ("IMDS") including multi-protocol label switching ("MPLS")

Section 2 provides an assessment of competition and analyses the evidence of significant market power leading to provisional conclusions on dominance, on which the TRC is now consulting before drawing any final conclusions. The TRC proposes a draft Determination on Dominance as part of this consultation process. The Draft Determination of Dominance sets out that monopolistic structure of the relevant markets, combined with potential barriers to entry provides a strong presumption of dominance on the part of LIME BVI in the markets for the provision of IPLCs and IMDS and determines that:

- ☐ LIME BVI is dominant in the market for the provision of IPLCs in the VI
- ☐ LIME BVI is dominant in the market for the provision of IMDS in the VI

Section 3 assesses the range of regulatory obligations and remedies that may be appropriate, proposing a draft amendment to the licence. Section 3 presents an overview of the available approaches to setting charge controls and looks for feedback from stakeholders on the following options:

- ☐ No regulation
- ☐ Wholesale and or retail price regulation (based on benchmarking or cost)

In the event of a determination of dominance, the TRC does not see "no regulation" as a viable option. The TRC recognises that the prices of IPLCs and IMDS are relatively high given the variance in pricing across the globe and without regulation, the TRC does not envisage any reduction in pricing. The cost of international bandwidth also feeds into the price of international voice and data for consumers and so the TRC sees that it is necessary to impose some form of price regulation to create the right environment for enhancing competition in the provision of broadband services. The TRC favours regulated prices based on the costs of self-provision and the fact that benchmarks throughout the world vary widely and may not provide appropriate pricing guidance for the VI. Therefore the proposed draft amendment to the licence sets out the proposed monthly rates per IPLC and per MPLS connection based on the costs of self-provision.

This consultation presents an approach and rationale for regulating the price of international connectivity and is looking for feedback from stakeholders on the design of the charge controls that may be most appropriate to the Virgin Islands.

² http://www.trc.vg/images/attachments/014_TRC_Market%20Review_Final.pdf

Introduction and context to the Market Analysis

The Virgin Islands (“VI”) Telecommunications Market Review sets out the process for analysing the competitive state of telecommunications markets in the VI. This document sets out international connectivity as the second cluster market to be reviewed. The purpose of this market analysis is to define the relevant markets, assess the extent of significant market power (dominance) in those markets and apply appropriate remedies, where necessary.

The following public suppliers are licensed to provide telecommunication services in the VI:

1. Cable and Wireless (BVI) Ltd³ (“LIME”) provides both fixed and mobile voice services and data services.
2. BVI Cable TV (“Cable TV”) provides multi-channel TV services and no voice or data services.
3. Caribbean Cellular Telephone Ltd (“CCT”) provides mobile voice and data services.
4. Digicel (BVI) Ltd (“Digicel”) provides mobile voice and data services.

On 3 June 2011, the TRC issued a request for information (“RFI”) to CCT, Cable TV, Digicel, LIME and to three local TV providers, JTV, CBN and HLSCC. Three operators, CCT, Digicel and LIME responded. This document summarizes the information submitted by the three operators in addition to setting out the view of the TRC on the subject. Responses from all parties, including operators and the general public are welcomed. The international connectivity consultation process will take the following form:

1. Public consultation on international connectivity and market power and negotiation over proposed regulations
2. Adoption of determination by TRC on market power (dominance) if appropriate
3. Licence Amendment if appropriate.

In accordance with the process set out in the market review, there are three stages to this market review:

- i) Definition of the relevant market
- ii) Assessment of competition and evidence of significant market power
- iii) Assessment of appropriate regulatory obligations

³ Cable and Wireless (BVI) Ltd trades as LIME

SECTION 1: Market Definition

1. The product market

This market analysis is focused on the international carriage of voice and data in and out of the VI. The market cluster for review identified under the TRC's Telecommunications Market Review included wholesale international connectivity as follows⁴.

"With only one operator having its own facilities for international connectivity there is a potential lack of competition in international connectivity which needs to be assessed. Licensees may have limited access to international links which may negatively impact the growth of new data services as well as, potentially, competition in relation to voice services."

Relevant to this market analysis are the following retail products that can be purchased by residential consumers in the Virgin Islands:

- ☐ Fixed line broadband internet access
- ☐ Mobile broadband internet access
- ☐ Fixed line international voice calls (incoming and outgoing)
- ☐ Mobile international voice calls (incoming and outgoing)
- ☐ International incoming and outgoing SMS (text messages)

Also relevant to this market analysis is the following retail product purchased by corporate customers:

- ☐ International Managed Data services (IMDS)

Corporate customers may purchase IMDS from a public supplier. Such services include products such as multi-protocol label switching ("MPLS").

This market analysis looks at both the IMDS retail products that corporate customers purchase to serve their needs for international connectivity and the wholesale element used to provide each of these products. In order to make an international call or access an international website or send an international SMS, it is necessary to use an international connection to reach the subscriber or website outside of the VI. This market analysis focuses on the provision of this international connection. The relevant wholesale product purchased by VI operators to provide the retail international services listed above include:

- ☐ International Private Leased Circuit ("IPLC")

2. IPLCs

Fibre-optic submarine cables are used to provide International Private Leased Circuits ("IPLCs"). An IPLC is effectively the conduit that supplies international connectivity to operators in the VI.

⁴ http://www.trc.vg/images/attachments/014_TRC_Market%20Review_Final.pdf

The regulator in Singapore, the IDA, defines the terrestrial IPLC market as follows; “the terrestrial IPLC market consists of services, provided over submarine cables, that offer customers the exclusive use of a point to point, dedicated transparent transmission path for voice, data or video between a location in Singapore and a location outside of Singapore.” The TRC, therefore takes this definition for the VI market:

“The terrestrial IPLC market consists of services, provided over submarine cables, that offer customers the exclusive use of a point to point, dedicated transparent transmission path for voice, data or video between a location in the VI and a location outside of the VI.”

For the purposes of clarification, throughout this document, any reference to an IPLC means a terrestrial IPLC.

IPLC’s satisfy three types of demand:

- ☐ Operator demand for capacity
- ☐ Connectivity for multi-national corporations requiring inter-office connections either via MPLS, data services or the internet
- ☐ Database connectivity

The primary demand for IPLCs comes from the mobile network operators (“MNOs”) CCT, Digicel and LIME to provide internet services and international calls. IPLC’s can be purchased as wholesale (by another operator) or retail (by a multi-national corporation such as a bank) products and the TRC sees that there is little difference between the two for the purposes of this market analysis as in each case the product is identical – a point to point international connection.

The supply of international connectivity via IPLC’s comes from LIME. There is currently no alternative supplier in the VI⁵.

3. International Managed Data Services

Whilst LIME provides IPLC connections to other operators in the VI enabling them to provide international connectivity services directly to their own customers, LIME self-provides IPLCs so that it can also offer IMDS to large corporate customers. The IDA in Singapore defines a separate market for IMDS as follows, “The IMDS market consists of packet-based services – such as ATM, Frame Relay and IP-VPN – that provide managed connectivity among multiple customer sites, at least one of which is located outside of Singapore.”

Therefore the TRC takes this definition for the VI market, “The IMDS market consists of packet-based services that provide managed connectivity between multiple customer sites, at least one of which is located outside of the VI.” Managed data services allow for data to be prioritised. The main IMDS product that is available in the VI is multi-protocol label switching (“MPLS”).

⁵ It is understood that an IPLC could be purchased from LIME BVI or from Cable and Wireless Communications Group

In the VI, LIME BVI offer an MPLS product called “Global Connect”. This is effectively an Internet protocol virtual private network (“IP-VPN”) or a Virtual Private Routed Network (“VPRN”) which uses MPLS technology. According to LIME BVI’s website⁶, “LIME's Global Connect solution provides regional and global data services that are fast, secure, scalable and flexible, routing traffic around failures, congestions and bottlenecks. Utilizing Multi-protocol Label Switching (MPLS), our network-based VPNs offer globally consistent access to corporate information inside the office, as well as to mobile and remote workers, regardless of device.”

MPLS is a managed service provided by LIME BVI used to connect the offices of multi-national corporations, therefore the primary demand for MPLS services comes from large multi-national corporations with office locations in the VI.

LIME BVI also provide dedicated internet access (“DIA”) to corporate customers who require a faster more secure connection than an ordinary ADSL connection. In some cases it is understood that where LIME BVI cannot supply an MPLS connection due to lack of network coverage, LIME BVI offer DIA instead. DIA is a local internet connectivity service between the customer premises and the operator’s point of presence in the VI and as such does not form part of this market analysis. Products such as DIA will be addressed in the forthcoming broadband market analysis.

Potential Users of IMDS in the VI:

- ☐ Banks
- ☐ Trust companies
- ☐ Money transfer companies
- ☐ Law firms
- ☐ Web-hosting and data management firms

QUESTION 1: ARE THERE OTHER MANAGED DATA SERVICES THAT SHOULD BE INCLUDED IN THE IMDS MARKET?

We agree that the definition of IMDS and the services referenced under this category do represent the vast majority of the market.

This market analysis looks at the following two markets in international connectivity in the VI:

- ☐ IPLC’s
- ☐ IMDS

In the VI, international connectivity is provided via:

- ☐ Fibre-optic submarine cable
- ☐ VSAT

⁶ http://www.lime.com/vg/business/data/mpls_global_connect.jsp

A fibre-optic submarine cable is a fibre-optic cable laid under the sea for the carriage of voice and data between land-based stations. This form of international connection is effectively a pipe between the VI and another country.

A very small aperture terminal “VSAT” connection is a satellite communications system that receives and transmits signals via terminals installed at dispersed sites, connecting to a central satellite, using small diameter antenna dishes.

Due to the lower level of reliability and the higher cost, VSAT is typically seen as a backup to fibre-optic submarine cables for use in emergency situations to maintain international connectivity. Fibre-optic submarine cables are seen as the primary form of international connectivity.

4. Fibre-optic submarine cables in the VI

There are four fibre optic submarine cables connected to the VI as shown in the table below.

Connection Name	Type	Destination	Route	Contracted Capacity		Active Capacity	
		Country	Operator	Mbps	E1 Equiv.	Mbps	E1 Equiv.
Taino Carib	Fiber	St. Thomas, Puerto Rico	C&W(LIME Caribbean), AT&T	2,600	1,269	1,600	781
ECFS	Fiber	Anguilla, St. Martin, St. Kitts, Antigua, Guadeloupe, Dominica, Martinique, St. Lucia, St. Vincent, Barbados, Grenada, Trinidad	C&W(LIME Caribbean), France Telecom, TSTT	45,800	22,363	2,340	1,142
CBUS	Fiber	Bermuda	C&W(LIME Caribbean), C&W Bermuda	40,000	19,531	10,000	4,882
EWC	Fiber	Dom. Republic ⁷ , Jamaica	LIME	480,000 ⁸	234,375	20,000	9,765

Table 1: International Connection Capacity

⁷ Possible expansion via a spur into Haiti, but currently outside the scope of the current project.

⁸ Design capacity

As the table shows, in the VI these four cables are owned by LIME. Whilst LIME does not own 100% of the submarine cables, it is the only VI licensed operator which has a stake in the cables. It is noted that LIME BVI is part of the Cable & Wireless Communications Group which fully owns CBUS and EWC.

International Link Ownership

Link	Owner	% Local Ownership ⁹
Taino Carib	C&W, AT&T	9.8%
ECFS	C&W, FT, TSTT	4.65%
CBUS	C&W, Bermuda	1.63%
EWC	C&W	0.3%

Table 2: International Link Ownership

These four submarine cables give the VI a total design capacity of 248Gbps with 34Gbps of that being lit capacity. The majority of that capacity (68% design and 58% lit) is on a single submarine cable (EWC) which means that it would not be possible to do a 100% restoration if that cable had a catastrophic failure.

Cable and Wireless Communications Group has made significant investments in the East West Cable and the CBUS Cable system. The East West Cable links Jamaica, Dominican Republic and the British Virgin Islands. As the press statement¹⁰ sets out “It will triple available bandwidth and reduce interconnection costs in the Dominican Republic – a key market in the region...the cable system completes a Caribbean “network ring” that further strengthens LIME’s position as the leading wholesale capacity provider in the region and increases its capability to serve its carrier customers in North and Latin America, as well as within the Caribbean... The undersea cable enables LIME to meet the rising demand for high-speed bandwidth from consumers and business customers in the region. LIME operates in 13 Caribbean countries, and is developing a range of new fixed broadband and mobile data services for customers, which will require high quality capacity support...LIME’s network is well positioned to benefit from growth in wholesale markets. The Caribbean is a major traffic corridor between South America and the major internet, content and carrier hubs in the United States – acknowledged as one of the fastest growing inter-continental routes in the world today,” said David Shaw, Chief Executive Officer, LIME who also said, “The East-West Cable is a valuable addition to our carrier network, increasing the capability and service LIME provides to our carrier customers throughout the Americas and the Caribbean.”

Martin Fijman, LIME Managing Director – Carrier Services, said: “Our investment in the East-West Cable attests to the growing demand for capacity in the region. The cable will provide leading-edge broadband

⁹ Percentage of lit capacity owned by LIME BVI

¹⁰

http://www.cwc.com/assets/uploads/files/Press%20Releases/2011/EW%20Cable%20enters%20service%20UK_040211.pdf

capacity and reliable network services to help fulfill that market demand. LIME will keep enhancing its wholesale proposition as we keep leading the provision of capacity, connectivity and carrier services within the region”.

According to these statements, it is evident that LIME’s investments in the EWC and CBUS are not for the sole purpose of providing international connectivity and bandwidth to the VI but to provide connectivity for its business throughout the region for its own regional customers and to serve the carriers market.

5. Alternative forms of international connectivity

It would also be possible to offer international connectivity via **microwave links** to the USVI or Puerto Rico, however there are technical limitations to using this alternative to connect to points that are further away. Before submarine cables were connected to the VI, LIME operated a microwave network across the Eastern Caribbean¹¹ and also operated a microwave link to St Thomas, USVI. Whilst it could be possible for microwave links to service the current demand for international connectivity, microwave links are not 100% reliable in a hurricane zone where equipment placed in the VI and USVI is susceptible to damage and misalignment which would disrupt service. The TRC is aware that previous attempts by a VI based public supplier to set up a microwave connection to the VI encountered administrative difficulty within the USVI. The TRC is of the view that the administrative cost and the cost of loss of service outweigh the current benefits of a microwave link, otherwise all public suppliers would have their own microwave links. The current market outcome is that the costs of a microwave connection are higher than accessing the submarine cables. If this situation changed, and a licensed public supplier were to set up and use microwave connectivity, then the TRC would seek to monitor the competitive impact on the supply of international connectivity.

Therefore this market analysis is focussed on international connectivity provided via submarine cables in the form of IPLCs and IMDS.

6. SSNIP Test for IPLCs.

Demand side substitutability test

The appropriate test to apply is to ask if the wholesale price of accessing an international connection via an IPLC increased by 5-10%, would an operator seeking international connectivity switch to an alternative such as a VSAT or microwave connection? Would a hypothetical monopolist be able to profitably sustain this price increase? In the view of the TRC, if a monopoly provider of IPLC’s increased monthly rental prices by 5-10%, operators seeking international connectivity would be unlikely to switch all demand to an alternative such as VSAT or microwave connection. This is because IPLC’s offer a superior quality of connection compared to VSAT and microwave connections. Due to the nature of international connectivity and the need for backup, it is unlikely that an operator would be able to rely purely on VSAT and/or microwave connectivity and is therefore reliant on a permanent IPLC connection. Therefore there are no demand side substitutes to IPLC connections.

¹¹ The DECMS Digital Eastern Caribbean Microwave System

Supply side substitutability test

The appropriate test to apply is to ask if the wholesale price of access to an international connection increased by 5-10%, would other providers switch into the provision of international connectivity via IPLC's or can a hypothetical monopolist sustain this price increase without any erosion of profits from new entrants? In order to offer international connectivity via an IPLC, it is necessary to construct a submarine fibre optic cable. Submarine cables take many years to construct and require significant investment which is sunk and irreversible. It is very unlikely that any new entrant would construct a submarine cable following a 5-10% increase in the price of IPLC's therefore there are no supply side substitutes to IPLC connections.

7. IPLC Geographic scope

This market analysis is specifically focused on the provision of international connectivity services provided within the VI, therefore the geographic scope is the VI. It is important to note that this analysis only applies to consumers in the VI. The scope of international connectivity services is obviously international by nature but in this analysis we are concerned only with the demand and supply of international connectivity services in the VI. The TRC understand that third party providers based in other countries, for example, the US, may purchase international connectivity into and out of the VI from LIME and resell that to VI based operators. Note that this analysis only applies to international connectivity services offered by one VI based operator to another VI based operator for the purpose of serving VI demand for international connectivity.

Given that there are four submarine cables running out of the VI, the TRC considers whether it is appropriate to define four separate IPLC markets. The TRC does not believe that it is appropriate given that the cables all land to the same point on Tortola and that one cable does not dictate the sole route to any particular country as all traffic can be hubbed through Miami.

The relevant market therefore is the market for international connectivity provided via IPLC's.

8. SSNIP Test for IMDS

IMDS are deemed to be in a separate market to IPLC. If IPLC prices were to fall, it is conceivable that large corporate users could migrate from IMDS to IPLC. However it is unlikely that customers would migrate back to IMDS if the price of an IPLC increased by a small but significant non-transitory amount because they would not be able to recover the cost of setting up their networks using IPLCs. IMDS is not a pure substitute for an IPLC because IMDS provide a different service, providing managed network capability among multiple points, rather than pure dedicated connectivity and bandwidth between two points.

Demand side substitutability

Strictly applying the SSNIP test, if the price of IMDS, such as LIME's Global Connect, MPLS service increased by 5-10% would a multi-national corporation based in the VI switch to an IPLC? This is very unlikely as explained above, IPLC and IMDS or MPLS provide different services. A company who wants data connections managed on an international basis would not be served by an IPLC if they do not want

to manage their own network. MPLS and DIA are seen as limited substitutes as LIME offers DIA where MPLS is not available.

Supply side substitutability

Similarly, if the price of IMDS increased by 5-10%, it is unlikely that other operators would move into the supply of IMDS as the operators would need to either have their own submarine cable to supply the international connectivity required for IMDS, or would need to use their own IPLC to offer this service which they would be unable to offer at a more competitive price as the hypothetical monopolist could then also increase the price of IPLC's to prevent entry.

9. IMDS Geographic scope

The geographic scope for IMDS is national, limited to the territory of the VI. It consists of all sales of IMDS made within the VI. IMDS can be purchased on a network basis, which connects multiple customer sites globally or regionally. A company that has its headquarters in the VI could have its network hub in the VI and will therefore purchase IMDS in the VI.

IMDS are typically provided on a retail basis. Therefore the relevant market is the retail market for IMDS services.

It is acknowledged that the following markets may also exist but that the TRC does not look to define or analyse these markets at this point.

- ☐ Market for Backhaul
- ☐ Market for International IP transit
- ☐ Market for international connectivity via VSAT
- ☐ Market for international connectivity via microwave transmission

In the view of the TRC, VSAT and MW links are separate markets and are not currently subject to any issues of market power. Therefore the analysis is restricted to the analysis of international connectivity via IPLC or the "IPLC market" and the IMDS market.

The TRC therefore defines the following relevant markets:

The market for international connectivity provided via IPLC's.

The market for IMDS including MPLS

QUESTION 2: DO YOU AGREE THAT IPLC AND IMDS (including MPLS) ARE THE RELEVANT MARKETS TO ANALYSE? SHOULD ANY OTHER MARKETS BE INCLUDED IN THE ANALYSIS?

Given the short distances and importance of BVI connectivity to the US Virgin Islands and Puerto Rico, we recommend including international connectivity via microwave transmission in your analysis. We agree it is somewhat less reliable than undersea fiber optic systems, but given it's substantially lower investment cost, it may be a viable alternative to undersea fiber systems for some operators and applications.

SECTION 2: Assessment of competition and evidence of significant market power

10. Market power

Section 26 (3) of the Telecommunications Act (the “Act”) sets out that the TRC may determine that a public supplier is dominant with respect to a telecommunications network or a telecommunications service where, individually or jointly with others it enjoys a position of economic strength affording it the power to behave to an appreciable extent independently of competitors.

Section 26 (3) of the Act requires that the TRC shall hold a consultation before determining a public supplier dominant, and is carrying out this duty with this document.

11. Assessment of Market power – IPLC Market

In an assessment of market power, the Act directs the TRC to take into account the following factors:

- a) The relevant market;
- b) Technology and market trends;
- c) The market share of the public supplier;
- d) The power of the public supplier to introduce and sustain a material price increase independently of competitors;
- e) The degree of differentiation among networks and services in the market; and
- f) Any other matters that the TRC deems relevant.

The IPLC market is assessed for market power as follows:

- A) The relevant market, as defined in sub-sections 2, 6 and 7, is the market for the supply of international connectivity via IPLCs.
- B) Technology and market trends. As set out in sub-sections 4 and 5, international connectivity is primarily provided throughout the world via submarine cables. The optimum technology for transmitting voice and data internationally is fibre-optic cable. This technology is faster and more reliable than microwave and satellite connections, which typically are only used as a back-up.
- C) The market share of the public supplier. The public supplier, LIME, is the only wholesale provider of IPLC's in the VI. It is possible for operators in the VI to buy an IPLC connection from a third party provider but ultimately provision of that IPLC must come from LIME as LIME controls the cable landing station in the VI. If a third party provider sells an IPLC connection to a VI based operator then this would suggest that the third party provider has access to LIME's IPLC service at a lower price than the VI based operator. It does not make any economic sense for this margin to be paid outside of the VI when LIME must by definition be the most efficient supplier of this service. Therefore, as LIME control the cable landing station, whether the other operators purchase IPLC's directly from LIME or from a third party provider, LIME has 100% monopoly over IPLC connections from the VI.
- D) The power of the public supplier to introduce and sustain a material price increase independently of competitors; as set out in sub-section 6 with the SSNIP test, LIME has the

ability to increase prices without losing market share. Despite the existence of third party providers who resell IPLC's, LIME can sustain a price increase because it can pass on this price increase to the third party providers.

- E) The degree of differentiation among networks and services in the market: LIME is the sole provider of international connectivity services in the VI because it owns and controls access to the cable landing station and the cable itself. CCT and Digicel both require international connectivity to be able to offer their customers international voice, data and internet services. For a market the size of the VI, it does not make economic sense for each operator to build its own submarine cable. It could make sense for operators to own a share in the submarine cables and to be able to access these cables on the same terms, but this is not the case and is not the way the cables were set up and financed in the first place. Therefore all operators require the same inputs (international connections) to offer the same outputs (international voice, data and internet service). Therefore, in order to be able to provide international voice, data and internet services on competitive terms, all operators need to access international connectivity on the same terms.
- F) Any other matters that the TRC deems relevant.
 - a. **Barriers to market entry:** the combination of the high market share held by LIME BVI in the IPLC market, together with the existence of high barriers to entry in terms of the high cost of setting up a submarine cable leads us to a strong presumption that LIME BVI is dominant.
 - b. **Economies of scale:** the four submarine cables connected to the VI provide an excess of international bandwidth to the VI for a territory with a population of only 30,000. The territory does not have the economies of scale to merit the supply of alternative submarine cables purely to circumvent the use of the cables owned by LIME BVI.

12. Assessment of Market power – IMDS Market

The IMDS market is assessed for market power as follows:

- a) The relevant market; as defined in sub-section 9, is the market for the supply of international managed data services including the supply of MPLS.
- b) Technology and market trends; As set out in sub-sections 4 and 5, international connectivity is primarily provided throughout the world via submarine cables. The optimum technology for transmitting voice and data internationally is fibre-optic cable. This technology is faster and more reliable than microwave and satellite connections, which typically are only used as a back-up.
- c) The market share of the public supplier; LIME BVI is the only operator in the VI market who owns access to the submarine cables and is the only operator to offer IMDS including MPLS.
- d) The power of the public supplier to introduce and sustain a material price increase independently of competitors; as set out in sub-section 8 with the SSNIP test, LIME has the ability to increase prices without losing market share.
- e) The degree of differentiation among networks and services in the market; LIME BVI is the sole provider of international connectivity services in the Virgin Islands because it owns and controls

access to the cable landing station and the cable itself. LIME is the sole provider of IMDS in the VI as it is able to access the submarine cables on the lowest cost basis.

f) Any other matters that the TRC deems relevant.

13. Market shares

The TRC therefore proposes that:

- ☐ LIME has 100% of the wholesale market for supplying IPLC connections to consumers the VI.
- ☐ LIME has a very high market share of the market for supplying IMDS to the VI.

The TRC sees that there are no other factors prevailing in the VI which would suggest that LIME does not have significant market power in the provision of international connectivity services via IPLCs and IMDS. The TRC therefore propose to designate LIME BVI as dominant in the following markets respectively:

- ☐ LIME BVI is dominant in the market for the provision of IPLCs
- ☐ LIME BVI is dominant in the market for the provision of IMDS

A draft determination of dominance has been issued with this consultation document and the TRC also seeks responses on this document.

QUESTION 3: DO YOU AGREE THAT LIME BVI IS DOMINANT IN THE MARKET FOR THE PROVISION OF IPLCS? IF NOT, PLEASE EXPLAIN WHY.

[REDACTED]

QUESTION 4: DO YOU AGREE THAT LIME BVI IS DOMINANT IN THE MARKET FOR THE PROVISION OF IMDS? IF NOT, PLEASE EXPLAIN WHY.

[REDACTED]

SECTION 3: Assessment of appropriate regulatory obligations and remedies

Under Section 26 (4) of the Act, “where the Commission determines that a public supplier is dominant in any market, the Commission shall include in the licence of the public supplier, by amending the licence, such additional terms and conditions to the licence for the purposes of regulating tariffs, protecting the interest of users and other licensees including the provision of adequate facilities and interconnection and access services, and of ensuring fair competition among licensees as it considers appropriate”. Therefore, once the TRC issues a determination designating each public supplier as dominant in the relevant international connectivity market, then it is empowered to amend the licence of each public supplier setting out the appropriate regulatory remedies. Furthermore, with respect to access to

facilities, public suppliers shall as per section 26 (2) of the Act, “comply with the Telecommunications Code” and shall therefore comply with the Telecommunications Code (Part 6) (Interconnection and Access to Facilities and Utility Installations) Requirements, 2011. . Also, section 29 (2) (a) of the Act enables the TRC to establish price regulation regimes to promote efficiency and sustainable competition and maximise consumer benefits for setting, reviewing and approving prices where a licensee has a dominant position in the relevant market.

As a result of this consultation the TRC proposes to adopt and publish:

1. A Determination on dominance on the relevant IPLC and IMDS markets in the VI

2. Amendments to the licence of each public supplier setting out the relevant mode of price regulation if appropriate following the Licence Amendment process set out under Article 18.5 of the Licence.

14. The methodology to determine the appropriate regulatory remedy

The range of regulatory options available to the TRC to address dominance in the provision of IPLCs and IMDS include:

- ☐ No regulation
- ☐ Wholesale price and or retail regulation (based on benchmarking or cost)

In the event of a determination of dominance, the TRC does not see “no regulation” as a viable option. The TRC recognises that prices of IPLCs and IMDS are relatively high given the variance in pricing across the globe as explained below and without regulation, the TRC does not envisage any reduction in pricing. The cost of international bandwidth also feeds into the price of international voice and data for consumers and so the TRC sees that it is necessary to impose some form of price regulation to create the right environment for enhancing competition in the provision of broadband services. As explained below, the TRC favours regulated prices based on the costs of self-provision and the fact that benchmarks throughout the world vary widely and may not provide appropriate pricing guidance for the VI.

15. Other relevant jurisdictions

Other countries have achieved lower international bandwidth prices through the introduction of competition into the supply of international connectivity services. The problems of high bandwidth and international call prices have typically arisen due to a monopoly in the international gateway controlling access to the submarine cable. Liberalisation of the international gateway and the construction of alternative submarine cables has typically addressed this problem by introducing competition into the supply of international connectivity services. For example, international bandwidth prices in South Africa fell as Neotel, a new entrant, gained access to another submarine cable, SEACOM, and was no longer dependent on gaining access through the incumbent, Telkom SA.

An alternative is to impose regulated access conditions, where it is not possible to increase competition through alternative cables. In Singapore, access to the incumbent operator Singtel’s cable landing facilities was set out on regulated terms in Singtel’s Reference Interconnect Offer (“RIO”) by IDA in 2004 following the IDA’s determination of dominance of Singtel in the terrestrial IPLC market.

The recent publication by Mark Williams¹², states that, “strong regulatory rules that enforce cost-based open access to landing facilities should be introduced to ensure that the benefits of the additional capacity provided by submarine cables are felt by customers.”

However, in the case of the VI, it is not economic to introduce competition by investing in another submarine cable, when there are four cables already connected for the VI. The key regulatory issue for

¹² Africa’s ICT Infrastructure Building on the Mobile Revolution, Mark D.J. Williams, Rebecca Mayer and Michael Mingos

the VI is that access to these four cables is owned by the same operator, LIME. For operators in the VI, there is no other way to gain access to international bandwidth via the submarine cables other than through LIME or through a third party who gains access through LIME. Therefore LIME effectively controls the bottleneck.

Countries with access to submarine cables have lower international call prices than those without access as set out in the table below. Countries that have competitive access have significantly lower prices than those that have retained a gateway monopoly. As Williams says, "Access to high-capacity submarine fiber-optic infrastructure is therefore necessary for low-price international voice services, but it is not sufficient. Countries also need to ensure competition in the international facilities segment of the market if customers are to benefit from lower prices and better service."¹³

Price of International Services in Countries with and without Access to Submarine Cables in 24 sub Saharan countries, 2007

	Percentage of countries	Price per minute of call within sub-saharan Africa (\$)	Price per minute of call to the US (\$)	Price of 20-hour per month dial-up Internet access (\$)	Price of ADSL broadband Internet Access (\$)
No access to submarine cable	67	1.34	0.86	67.95	282.97
Access to submarine cable	33	0.57	0.48	37.04	110.71
Monopoly on international gateway	16	0.70	0.72	37.36	119.88
Competitive international gateways	16	0.48	0.23	36.62	98.49

Source: World Bank, Ampah and others 2009

A half-circuit E1 from Bangladesh to Singapore, Malaysia, Thailand, India and Sri Lanka is advertised by Bangladesh Telecommunications Company Ltd as \$1000 for a half circuit and \$1500 for a full circuit per month rising to \$1400 for a half circuit and \$2,100 for a full circuit to Italy, France, Tunisia and Algeria. The ICT Authority in Mauritius reduced IPLC prices by 19% in 2006 and by a further 20% in 2007¹⁴. An IPLC including backhaul and local loop cost from Mauritius to India was regulated in 2007 at \$3,654 per month. The monthly cost of an E1 from the US to South America has reportedly¹⁵ been decreasing at a rate of -3% a month based on data from Telegeography. Benchmarks such as these serve to

¹³ <http://www.infrastructureafrica.org/key-msg/sector/lack-competitive-access-submarine-cables-keeps-price-international-voice-calls-and-in>

¹⁴ http://www.icta.mu/mediaoffice/2007/IPLC_en.htm

¹⁵ Presentation by Julian Rawle of Pioneer Consulting to Capacity Latin America Conference, March 2011

demonstrate that IPLC prices vary widely across the globe but all follow a key trend of decreasing following the introduction of competition or regulation

16. Pricing principles

The key question is what is the appropriate price benchmark for the VI? IPLC prices will vary from country to country depending upon the distance covered by the cable. Therefore price per km is more likely to be a more instructive measure. However, the set up cost of an IPLC is likely to be a large component of the total cost and so price per km still does not capture comparative cost. Whilst it is instructive to look at IPLC prices elsewhere, this does not provide a complete guide to the appropriate price for the VI. International benchmarks from countries such as India may represent the most efficient form of IPLC pricing but may not be replicable to the VI bearing in mind the difference in demand patterns based on the population of India compared to the population of the Caribbean. Benchmarks from other jurisdictions in the Caribbean may also not provide guidance on the efficient level of IPLC prices given that the dominant supplier in many of these countries is Cable & Wireless and so access to the submarine cables may be priced at the monopoly level. Benchmarks from the Pacific may also not be very informative, given that some islands are not yet connected via submarine cables and are reliant on more expensive satellite connections. In the absence of useful benchmarks, what we need to understand is the relevant set of costs to take into account in pricing access to international connectivity.

In the case of pricing access, however, total costs do not need to be taken into account. Access pricing rules typically use marginal cost pricing as the key pricing principle. Efficient access pricing looks to encourage competition in the downstream market and to cover the costs incurred by an efficient operator. The key costs that should be considered when calculating the cost of access include:

- ☐ Opportunity cost
- ☐ Investment cost
- ☐ Marginal cost

Submarine cables and opportunity cost

As sub-section 4 explains, Cable & Wireless connected the two submarine cables which it owns completely (CBUS and EWC) to the VI for the purpose of routing international transit traffic. LIME BVI does not currently operate any microwave links to the USVI because it has access to the submarine cables through its parent company C&W. LIME has stated that it uses 99% of lit capacity for transit traffic and therefore, in the view of the TRC, the marginal cost of LIME BVI using the cables for its own international traffic is very low or possibly zero. Similarly, in the view of the TRC, the opportunity cost of LIME BVI using the cables to serve its own customers or indeed of any other operator using the cable to serve the demand of the VI is also very low or zero. Due to the large amount of lit capacity (34Gbps) compared to VI demand for capacity, the fact that VI operators use the cable does not detract from the capacity available for international transit. If there were capacity constraints on the submarine cables, then it could be argued that the opportunity cost of serving VI operators was positive and equal to the cost of the lost capacity for international transit. However, especially with the addition of the EWC, the

VI use of the cables does not induce capacity constraints. If the capacity used for the VI were not used by the VI operators then this capacity would lay idle and would not have an otherwise better use. Therefore in the view of the TRC, the opportunity cost of using the submarine cables for routing VI originated international voice and data traffic is zero.

QUESTION 5: DO YOU AGREE THAT THE OPPORTUNITY COST IS ZERO? IF NOT, PLEASE EXPLAIN WHY.

[REDACTED]

Submarine cables and investment cost

As mentioned above, Cable & Wireless invested in the submarine cables for the purpose of creating a transit hub in the VI for the C&W regional and international network. If these cables had been planned for the sole use of the VI market, there is no economic rationale to see why the investment would have gone ahead because the investors could never have expected to recoup the cost of investment from a market the size of the VI over the lifetime of a submarine cable (up to 40 years).

The cost of investment is therefore recouped from C&W international transit business and from facilitating the routing of C&W's regional traffic. It is therefore not efficient to attempt to recover the cost of investment from VI use of the cables. Usage of the cables should be charged on the basis of the additional operational costs incurred from VI usage. Therefore in the view of the TRC, the relevant investment cost to VI use of the cables is zero or negligible.

QUESTION 6: DO YOU AGREE THAT THE INVESTMENT COST OF VI USE OF THE SUBMARINE CABLES IS ZERO? IF NOT, PLEASE EXPLAIN WHY.

[REDACTED]

Submarine cables and marginal cost

As explained above, access to the submarine cables should be charged on the basis of additional operational costs incurred by such usage. The question in this case is what is the correct measure of additional cost – or marginal cost. What is the extra cost from supplying the VI market? If we believe that the capacity used by the VI is available regardless of whether it is used by the VI then the marginal cost of provision to the VI is zero. However, there are likely to be certain set up and operational costs in provisioning an international link to another operator in terms of making a connection between networks in the VI and providing an international connection at the other end of the submarine cable in non VI territory. The TRC is therefore of the view that there are positive marginal costs to providing international services, IPLC or IMDS.

QUESTION 7: DO YOU AGREE THAT THE MARGINAL COST OF VI USE OF THE SUBMARINE CABLES IS POSITIVE?

Yes; we agree that there will always be some incremental marginal cost for provisioning new operators or capacity on the undersea fiber systems. These marginal costs are likely to be quite low.

How to measure/calculate the marginal cost?

In the absence of detailed cost information, it is anticipated that the best proxy for the real cost of access is the internal price that LIME BVI charges itself for self-provision. This cost of self-provision reflects the actual cost of using the submarine cable.

The TRC therefore propose that LIME BVI as the dominant supplier of IPLCs in the VI should offer IPLCs at the same price to other public suppliers in the VI as it self-provides.

The TRC also proposes that LIME BVI as the dominant supplier of IMDS in the VI should offer IMDS services at the same price as it self-provides to retail and wholesale customers in the VI.

QUESTION 8: DO YOU AGREE WITH THE PRINCIPLE THAT LIME BVI SHOULD SELL IPLC'S AND IMDS AT THE COST OF SELF PROVISION I.E. THE SAME PRICE WHICH IT CHARGES TO ITSELF? IF NOT, PLEASE EXPLAIN WHY.

[REDACTED]

LIME's costs of self-provision

The TRC therefore proposes that LIME BVI provide IPLCs and MPLS to other licensees at its own costs of self-provision. LIME BVI has reported its costs of self-provision to the TRC, subject to requirements of confidentiality. The TRC therefore seeks responses from the public on the necessity of publishing this information.

QUESTION 9: WHAT IS THE APPROPRIATE PRICE TO CHARGE FOR A) IPLCS AND B) IMDS?

[REDACTED]

17. Mandatory Access

Upon a determination of dominance, the TRC sees fit to impose access obligations upon a dominant supplier in line with the Telecommunications Code (Part 6) (Interconnection and Access to Facilities and Utility Installations) Requirements 2011¹⁶. Section 17(1) of these Requirements states that "A public supplier and a public utility shall provide other public suppliers and public utilities with access to all facilities or utility installations that it owns or controls on a timely basis, with such access not to be unreasonably withheld, as may be further determined by the Commission." The dominant supplier shall also provide mandatory collocation at the cable landing station as outlined in section 18(2) of the Requirements which state, "The Commission may require a public supplier of public utility to provide collocation or other forms of sharing of facilities or utility installations."

The dominant supplier shall be required to provide international connectivity services at the regulated

price determined by the TRC as set out above in section 16 and Annex 2.

QUESTION 10: DO YOU AGREE THAT MANDATORY ACCESS AND CO-LOCATION IS NECESSARY?

Per BVI regulations as described above, we agree that a dominant carrier should be required to provide equal access to high capacity connectivity systems. In order to create a truly competitive environment for consumers in the BVI, we agree that equal access to undersea fiber facilities is a necessity for all service providers. Given the total reliance on these high capacity fiber systems to provide critical broadband, video and data services that consumers demand, providers must have easy, fair access to these bandwidth systems. Equal access to backbone connectivity is essential to encourage new service providers to enter the market and differentiate themselves based on new technologies, features and functions, service quality and customer support. All of this benefits the local consumer market by increasing competition, motivating new services to be introduced and reducing end user pricing for these services.

18. Consumer Effects

The TRC believes that it is appropriate to take action to lower the price of international connectivity as per section 26(4) of the Act which states that “Where the Commission determines that a public supplier is dominant in any market, the Commission shall include in the licence of the public supplier, upon issuing or by amending the licence, such additional terms and conditions to the licence for the purposes

¹⁶

[http://www.trc.vg/attachments/030_G00406_SI%20No%2056%20of%202011%20-%20Telecommunications%20Code%20\(Part%206\).pdf](http://www.trc.vg/attachments/030_G00406_SI%20No%2056%20of%202011%20-%20Telecommunications%20Code%20(Part%206).pdf)

of regulating tariffs, *protecting the interest of users* and other licensees including the provision of adequate facilities and interconnection and access services, and of *ensuring fair competition among licensees* as it considers appropriate.”

The consumer effects of the proposed regulation will be felt at two levels; operator level and consumer level. At the operator level, which the regulation directly impacts, other public suppliers will gain access to international connectivity services on the same conditions as LIME BVI and therefore will be able to compete on the same basis. By accessing lower price wholesale inputs, such as lower IPLC prices, other public suppliers will be in a position to offer lower retail prices to their customers for:

- ☐ Fixed line broadband internet access (depending upon the results of the forthcoming broadband market review)
- ☐ Mobile broadband internet access
- ☐ Fixed line international voice calls (incoming and outgoing)
- ☐ Mobile international voice calls (incoming and outgoing)
- ☐ International incoming and outgoing SMS (text messages)

By accessing lower price MPLS, both public suppliers and large corporates will be able to lower the costs of doing business in the VI. This should have a positive effect on the use of communications as we would expect there to be some positive responsiveness of demand to a fall in price and consequently a future positive effect on economic growth.

If no action is taken to reduce the price of international connectivity by reducing the price of IPLCs and MPLS, then there would be no reason to assume that prices would fall given the high barriers to entering this market as outlined in section 2. In the view of the TRC, regulatory intervention is necessary to introduce lower prices which mimic the outcome of a competitive market and ultimately lead to benefits for consumers in the form of lower prices, increased usage and future economic growth.

QUESTION 11: WHAT IS YOUR VIEW ON THE LIKELY CONSUMER EFFECTS OF THE PROPOSED REGULATION?

Again, we believe lower wholesale rates would enable new end user service providers to enter the market and provide consumers with more choices for services at lower rates. Lowering this barrier to entry would enable new competitors to enter and compete on features, functions and customer service; since a “level playing field” with LIME will have been created for the underlying cost of international bandwidth.

19. Conclusion and application of appropriate regulatory remedy

As set out in this document, the TRC propose to determine LIME BVI as dominant in the provision of international connectivity services specifically to provide IPLCs and IMDS. A draft determination of dominance is issued with this consultation document and comments on the draft determination are welcomed.

If determined to be dominant, LIME BVI would be required to provide mandatory co-location and access to international connectivity services in accordance with the Telecommunications Code. The TRC also

proposes to amend LIME BVI's licence as set out in Annex 2. Based on this proposed Licence Amendment, the TRC is now inviting interested parties to negotiate on the proposed rates as per the process set out in Article 18.1 of each public supplier's licence. This 30 day period of negotiation runs in parallel to the 30 day consultation period allowed for in this Market Analysis.

If the determination of dominance is published following this consultation then the TRC will seek to amend the licence of LIME BVI following the process set out in Article 18.5 of LIME BVI's licence. This process allows a period of 90 days to amend the licence. This process will commence with the publication of a Notice outlining the proposed licence change allowing interested parties to respond within 30 days with comments or objections to the proposed licence change. The TRC will invite interested parties to a hearing and will issue a report on the international connectivity consultation after 60 days. If the decision is made to adopt the Directive it will be adopted no sooner than 90 days after the publication of the Notice.

Responses to this consultation document are invited by 18 January 2013.

Annex 1

Glossary of terms

E1	International standard unit for small amounts of bandwidth equal to 2 megabits per second
IMDS	International Managed Data Services
IMDS Market	The IMDS market consists of packet-based services that provide managed connectivity between multiple customer sites, at least one of which is located outside of the VI.
IPLC	International Private Leased Circuit. A terrestrial IPLC is effectively the conduit that supplies international connectivity to operators in the VI through a submarine cable
IPLC Market	The terrestrial IPLC market consists of services, provided over submarine cables, that offer customers the exclusive use of a point to point, dedicated transparent transmission path for voice, data or video between a location in the VI and a location outside of the VI.
MPLS	Multi-protocol label switching
STM1	Standard large unit of bandwidth equivalent to 155 megabits per second

ANNEX 2 – PROPOSED LICENCE AMENDMENT

The Licence granted to the Cable & Wireless (West Indies) Ltd. (trading in the British Virgin Islands as “LIME BVI”) for the operation of a public telecommunications network and for the provision of telecommunications services to the public dated May 25, 2007 shall be amended as follows:

1. Article 2.1(b) shall be amended by inserting the following as paragraphs (P) and (Q):
(P) Terrestrial International Private Leased Circuit (IPLC) Services;
(Q) International Managed Data Services (IMDS)
2. Article 8.1 shall be amended by inserting the following as subparagraph (iv):
 - iv. **Should the Licensee be designated as a supplier dominant in the markets for the provision of terrestrial International Private Leased Circuit (IPLC) Services and or for International Managed Data Services (IMDS), the Licensee shall:**
 1. **provide such services to any other licensee or user of such services in the British Virgin Islands at rates which do not exceed the rates set out in Annex 9;**
 2. **notwithstanding (a) above, provide such services to any other licensee or user of such services in the British Virgin Islands at rates which do not exceed the cost of self-provision;**
 3. **upon request by the Commission from time to time, provide the Commission with information in relation to the Licensee’s offer of rates to other licensees or users of such services in the British Virgin Islands in such form and within such period of time as may be required by the Commission.**
3. Article 9.4 shall be amended as follows:
 - i. Subparagraph (c) shall be numbered as subparagraph (d);
 - ii. The following shall be inserted as subparagraph (c):
Interconnection Default rates shall not apply where the Commission has determined the Licensee to be a supplier dominant in the markets for the provision of terrestrial International Private Leased Circuit (IPLC) Services and or for International Managed Data Services (IMDS) in accordance with Section 26(4) of the Act. Should the Commission determine that the Licensee is a supplier dominant in the markets for the provision of terrestrial International Private Leased Circuit (IPLC) Services and or for International Managed Data Services (IMDS), the provisions of Article 8.1(iv) shall apply.
4. Annex 1 shall be amended:

1. by inserting the definition of **“International Managed Data Services (IMDS)”** after the definition of “International Call Completion Rate” as follows:

“International Managed Data Services (IMDS) means the packet-based services that provide managed connectivity between multiple user sites, at least one of which is located outside of the British Virgin Islands.”

2. by inserting the definition of **“International Private Leased Circuit (IPLC) Services”** after the definition of “International Managed Data Services (IMDS)” as follows:

“International Private Leased Circuit (IPLC) Services” means the services provided over submarine cables, which offer users the exclusive use of a point to point, dedicated transparent transmission path for voice, data or video between a location in the British Virgin Islands and a location outside of the British Virgin Islands.”

5. The following shall be inserted as Annex 9:

ANNEX 9

PRICE CAPS APPLICABLE TO THE SUPPLY OF INTERNATIONAL CONNECTIVITY SERVICES

1. Effective from *[the Effective Rate Revision Date]*, the Licensee shall charge and shall be paid rates for the provision of terrestrial International Private Leased Circuit (IPLC) Services and or for International Managed Data Services (IMDS) by other licensees or users of such services in the British Virgin Islands as follows:

IPLCs	US\$[redacted] per E1 per month
MPLS	US\$[redacted] per month

2. The Licensee shall execute revised agreements with other licensees or users of such services in the British Virgin Islands for the provision of terrestrial International Private Leased Circuit (IPLC) Services and or for International Managed Data Services (IMDS) to give effect to the rates prescribed in paragraph 1 above from *[the Effective Rate Revision Date]* and shall submit each such Agreement to the Commission no later than one week after *[the Effective Rate Revision Date]*.