From: [redacted]
Subject: Input on defenition of broadband.
Date: March 23, 2018 at 9:28 AM
To: consultations@ofreg.ky

RP

The only problem that I have with this bit is the part about the “data allowance”

That part worries me considering that we have never had such a thing for line internet since I’ve had internet (to the best of my knowledge)

50 megabits is already $150 …a lot more than competitive speeds in many other markets. The thought of having to then pay more money for a 100 meg connection. In logics case that would be $200 , just to make sure that I don’t hear any shenanigans about data caps. Do we even need data allowances in an island of this size? From my calculations my daily usage just by streaming 4k Netflix is roughly 50gigs a day. What happens a few years from now when streaming becomes even more of a daily part of internet usage. Will I have to pay even more then? All I’m saying is I’d be very careful with the kind of strength we give the isp’s in regards to data caps and if we do go that route then the higher (unlimited) tiers should be more competitive with international prices.

***** PUBLIC VERSION *****

CABLE & WIRELESS (CAYMAN ISLANDS) LIMITED
COMMENTS ON

PUBLIC CONSULTATION ON
A BROADBAND POLICY FOR THE CAYMAN ISLANDS

(Ref: ICT 2018-1 - Consultation)

By E-mail to: **consultations@ofreg.ky**

18 April 2018

I. INTRODUCTION

Cable and Wireless (Cayman Islands) Limited, dba Flow ("**Flow**") is pleased to provide the following comments and responses to the questions provided in the consultation document, ICT 2018-1 *A Broadband Policy for the Cayman Islands* ("**Consultation Document**"), published by the Utility Regulation and Competition Office ("**Ofreg**") on 07 March 2018.

Flow's comments are organized as follows: in Section II, we describe the set of requirements Ofreg has proposed in the Consultation Document and present our comments and objections to these requirements; in Section III, we respond to each of the eight (8) consultation questions in turn, with reference to arguments and analyses presented in Section II; and in Section IV, we conclude.

II. FLOW'S CONCERNS AND OBJECTIONS TO OFREG'S PROPOSED REQUIREMENTS

Ofreg is proposing to insert a set of requirements in each operator's License stipulating that within three-years of Ofreg's decision in this proceeding all Licensees be required to make available to all residents and every household in the Cayman Islands a broadband service with a minimum download speed of 100 Mbps, a minimum upload speed of 50 Mbps, and an uncapped/unlimited data allowance.

Ofreg contends that these requirements are "in line with those set out in other countries", and will be reasonably achievable and beneficial to all consumers. The Consultation Document articulates these conclusions as follows:

> *OfReg considers that, subject to consultation, these proposed download and upload speed objectives should be achievable in a reasonable period of time by the ISPs currently operating in the Cayman Islands. OfReg notes that these speeds are in line with those set out in other countries (see the table at paragraph 45 above). Further, extending this requirement to all ISPs and to all regions of the Cayman Islands would ensure all consumers benefit from competition and choice. OfReg considers, subject to consultation, that these proposed download and upload speed objectives could reasonably be achieved within a three (3) year period.* (Consultation Document, ¶ 58.)

This is an extremely aggressive and significant set of requirements in at least three dimensions:

1. Magnitude and specificity – Ofreg is imposing very high upload and download minimum-speed thresholds that are specifically defined, and that must be offered without any caps on consumption;
2. Scope – Ofreg is requiring that this specifically-defined service be made available by all Licensees and to all Cayman residents and every Caymanian household; and
3. Time to compliance – Ofreg is mandating compliance with these specific service and universal geographic requirements within three years of a decision in this proceeding.

Flow has many concerns and objections with these requirements and Ofreg's assertions that they are in line with benchmarks, reasonably achievable and beneficial to all consumers.

A. IT IS INAPPROPRIATE TO APPLY HIGHLY-PRESCRIPTIVE REGULATIONS TO A DYNAMIC MARKET, ESPECIALLY ONE THAT IS ALREADY PERFORMING AT A HIGH LEVEL

Flow wishes to make clear that it has no objections with monitoring, measuring and reporting the speeds of its broadband services. However, we do object to establishing a broad, intrusive and specific set of requirements in our License, monitoring these requirements to determine if they've been fulfilled, and then being penalized if they're not fulfilled, which appears to be Ofreg's purpose in this proceeding. First among our concerns is Ofreg's decision to pursue a prescriptive regulatory approach to a dynamic market. We believe it is ill-advised to apply detailed regulations of any kind to an innovative market that is rapidly changing and already performing at a high level.

Broadband services in the Cayman Islands have improved dramatically over a relatively brief period, and in the process transformed Caymanian society. In the table below, we present one part of this transformation, which shows the significant improvements in speeds offered by Flow, the growing diversity of plans it offers, and large reductions in the prices it charges over the previous 15 years. In Annex I, we present a more detailed analysis that includes plan-specific information.

# of plans, fixed broadband	4	4	5	7	8
Average download speed (Mbps)	0.83	1.41	3.6	23.43	62.88
Average effective price (per Mbps)	$ 81.53	$ 48.23	$ 22.72	$ 4.46	$ 2.06

These increases in the speed and diversity of plans offered and reductions in their effective prices were achieved without any of the requirements Ofreg is contemplating in this proceeding, and there is no reason to believe these improvements will not continue or that the dynamism of this market will dissipate without these requirements. To the contrary, we think these requirements are unwise, unnecessary and will be harmful to the dynamism of this market.

B. OFREG'S BENCHMARK ANALYSIS IS TAKEN OUT OF CONTEXT

Context is essential in determining whether the benchmarks presented by Ofreg are relevant and appropriate. One must first be clear on how the metrics are applied in the benchmark countries and then confirm that application is comparable to what Ofreg is considering in this proceeding. We do not believe the requirements Ofreg is considering in this proceeding are comparable to the non-binding targets adopted in the benchmark countries.

It is one thing to measure and monitor the speed of broadband service to diagnose progress towards policy targets or universal service objectives, which are the purposes to which the metrics are applied in the benchmark countries discussed in Section D of the Consultation Document. It is an entirely different matter to establish a set of speed requirements in an operator's License, monitor those requirements to determine if they are fulfilled, and then penalize a Licensee if they are not fulfilled. This difference in application is fundamental to determining whether Ofreg's requirements are appropriate vis a vis the benchmarks, and it would appear from its discussion of this issue in Section D that this distinction is not appreciated or understood by Ofreg.

There are seven benchmark countries listed in a table on page 18 of the Consultation Document. However, for reasons not provided, Ofreg chooses to describe and discuss only four of these seven benchmarks: the United States, the United Kingdom, Canada and the European Union countries. Our critique focuses on these four benchmark countries. We set aside, for the moment, our concern that these countries are inappropriate benchmarks to the Cayman Islands, in that they are not comparable across many relevant dimensions (e.g., population size, population density, topography, and demographic profile). It is important to understand that the speed metrics applied in each of these benchmark countries are not binding operator requirements, but non-binding targets used to report publicly on the quality and availability of broadband services within each country, areas of the country that remain underserved and which may require universal service funding, the efficacy of pre-defined policy goals, and in a sense act as a mechanism to evaluate the regulator's performance.

To be clear, in not one of these benchmark countries is a target considered a "requirement", and in none of these benchmark countries does a failure to achieve a target trigger or signal a need to reprimand or penalize an individual operator.

C. OFREG'S PROPOSAL TO IMPOSE PRESCRIPTIVE REQUIREMENTS IS PREMATURE

In each of the benchmark countries, the regulatory strategy and policy to promote a process of broadband deployment and adoption was clearly specified *before* any targets were implemented. This chronology is appropriate and necessary if targets are to be meaningful and specified accurately. Ofreg appears to be pursuing a reverse of this chronology, however, and is seeking to impose a set of requirements before any strategy or policy on the broadband deployment process is established. Therefore, we believe Ofreg's proposal to impose a binding requirement in each operator's License and use that requirement to penalize Licensees is premature.

In particular, Ofreg is proposing a specific requirement on an *outcome* before it has properly evaluated or diagnosed the underlying process that is *causing* this outcome. Ofreg readily acknowledges that to further improve broadband outcomes, the process must be addressed; namely, Licensees must fulfill their network roll-out obligations. As the following excerpt in the Consultation Document makes clear, it is this failure of process that is the underlying cause of the perceived problem:

> *If [the network rollout obligations of Digicel, Logic and C3] had been realised, consumers across the Cayman Islands would have experienced the result of what competition amongst service providers could bring in terms of choice and quality of broadband services, as well as other social and economic welfare benefits produced by competition, since as early as 2006.* (Consultation Document, ¶ 6.)

Unfortunately, Ofreg has yet to consult or articulate a potential remedy to this problem; namely, if Ofreg upholds its build-out obligations, how will they be achieved and funded, and over what timeframe? We believe Ofreg's requirements figuratively put the cart before the horse; they apply a set of obligations without first understanding the underlying process or articulating the regulatory strictures of that process.

D. OFREG'S ASSERTION THAT ITS PROPOSED REQUIREMENT IS READILY ACHIEVABLE AND REASONABLE IS INCORRECT AND WOULD APPEAR UNSUBSTANTIATED

Flow is confused by Ofreg's assertion that "the proposed download and upload speed objectives should be achievable [by all Licensees] in a reasonable period of time…[which Ofreg defines as] within a three (3) year period." Ofreg offers this assertion without presenting a discussion, analysis or any evidence to substantiate it. Nowhere in the Consultation Document does Ofreg explain why three years is a reasonable period to achieve these very high proposed speeds and make them available universally, and without any caps on consumption, to all residents and every household across the Cayman Islands. As we discuss in detail below in Section E, the benchmarks

Ofreg discusses in the Consultation Document do not support, and in fact contradict, Ofreg's assertion that a 3-year implementation deadline is appropriate or reasonable.

Two factors that we also believe are especially pertinent to assessing this issue are the cost to operators to fulfill these requirements and whether there is sufficient widespread demand across the three islands to justify them. To our knowledge these factors have not been evaluated by Ofreg and while Ofreg does not request information on them, we believe it is necessary they be considered to determine whether Ofreg's requirements are appropriate or economically feasible. Below we consider how much it would cost Flow to achieve Ofreg's requirements were they applied to Flow's fixed network. We also examine the existing demand for very high-speed services on Flow's fixed network. We believe these results demonstrate clearly that Ofreg's proposal is not appropriate.

Cost

Were Flow required to offer an uncapped, 100 Mbps download/50 Mbps upload broadband service over its fixed network to every resident or household in the Cayman Islands, regardless of where that household is located, this would require Flow to discard its entire existing copper plant and VDSL infrastructure, and replace it with fibre-to-the-curb (FTTC)/GPON technology. This means Flow would have to write-off approximately #_____# in the net present value of our existing assets. We would then have to replace these assets with an equivalent FTTC/GPON technology, which would require an investment of approximately #_____#. Therefore, the total cost to Flow of complying with this proposed requirement would be approximately #_____#, after considering the forced obsolesce of #_____# in assets, plus incremental investment of #_____# in new assets.

Demand

We currently offer very high-speed broadband services, with download speeds equal to or higher than 100 Mbps, to most (over #_____#) households in the Cayman Islands. These services are provided over Flow's FTTC network, which currently passes approximately #_____# Cayman households. These services were introduced in 2015, and to date, we have #__# customers taking our 100 Mbps service and #_____# customers taking our 300 Mbps service. In other words, of the #___# households that can subscribe to these very high-speed services from Flow, less than #__# percent are choosing to do so.

E. OFREG'S REQUIREMENTS DO NOT CORRESPOND TO THE BENCHMARK TARGETS

Flow is also confused by how Ofreg arrived at these requirements, based on the benchmarks it discusses in the Consultation Document. Despite our serious concerns with the applicability of

these benchmarks, which we have already discussed, were they to be used as benchmarks for the Cayman Islands, in no case do we believe they suggest that Ofreg's requirements (a universally available, uncapped service, with a minimum download speed of 100 Mbps, a minimum upload speed of 50 Mbps, and an implementation deadline within a three-years) are appropriate. Below we explain in turn why each benchmark is not consistent with Ofreg's requirements and then summarize in a table what we believe the benchmarks imply.

EU benchmark

It is the only non-binding target discussed by Ofreg to apply a 100 Mbps download target. However, unlike Ofreg, the EU chose to apply a 9-year implementation period and did not impose any upload speed target.

UK benchmark

Ofreg identifies the UK benchmark as applying a 10 Mbps download-speed target, without any upload-speed target or implementation deadline. We believe this is, in part, incorrect. According to the document cited by Ofreg, *OfCom Strategic Review* (2015), OfCom states:

> *We have suggested previously that the minimum broadband speed should be increased, perhaps from 2Mbit/s to 10Mbit/s and in March 2015 Government announced its intention to raise the Universal Service Obligation (USO) from dial-up speeds to 5Mbit/s. (See,* ¶ 7.37)

Therefore, it would appear Ofreg has cited the upper bound of what OfCom "suggested", i.e., "perhaps from 2Mbit/s to 10Mbit/s". However, as this quote suggests, Government rejected OfCom's suggestion and adopted a target download speed of 5Mbit/s. Therefore, in addition to not applying an implementation deadline or target download speed, the target download speed of 5 Mbps diverges significantly from Ofreg's proposed download speed requirement of 100 Mbps.

US benchmark

In addition to not applying an implementation deadline, the US download-speed target of 25 Mbps and upload-speed target of 3 Mbps diverge significantly from Ofreg's proposed speed requirements of 100 Mbps download and 50 Mbps upload.

Canada benchmark

The target applied in Canada includes each of the three criteria in Ofreg's requirements. However, each Canadian criterion significantly diverges from the equivalent Ofreg criterion. The

Canadian download-speed target of 50 Mbps and upload-speed target of 10 Mbps diverge significantly from Ofreg's proposed speed requirements of 100 Mbps download and 50 Mbps upload. Furthermore, unlike Ofreg's 3-year implementation deadline, the Canadian deadline is set for a loosely defined 10-15 years in the future.

In the table below, we summarize what is indicated from these benchmarks across three criteria: download-speed target, upload-speed target and implementation deadline.

Country	Download Target	Upload Target	Implementation Deadline
EU	100	0	9 years
UK	5	0	No deadline
US	25	3	No deadline
Canada	50	10	10-15 years
Average	45	3.25	10.75

III. RESPONSE TO CONSULTATION QUESTIONS

A. QUESTION 1: WHAT SHOULD OFREG CONSIDER TO BE APPROPRIATE MINIMUM DOWNLOAD AND UPLOAD SPEEDS? WHAT FACTORS SHOULD OFREG TAKE INTO ACCOUNT IN DETERMINING MINIMUM DOWNLOAD AND UPLOAD SPEEDS?

Flow response to Question 1: For the reasons described in Section II, Flow objects to the inclusion of any minimum-speed requirements in its License. The factors we believe Ofreg must consider when evaluating this issue are the following:

- It is inappropriate to apply prescriptive requirements to dynamic markets, especially markets already demonstrating high performance. See, Section II A.
- The benchmarks used to support Ofreg's requirements are not directly relevant; that is the benchmark targets were applied differently than how Ofreg seeks to apply its requirements in this proceeding. See, Section II B.
- Ofreg's proposal to impose a set of prescriptive requirements before it has addressed fundamental issues of process, such as Licensees' broadband deployment obligations, is premature. See, Section II C.

- Ofreg's proposal to impose a set of prescriptive requirements is premised on an assertion (that it is readily achievable) we believe is incorrect and not substantiated. See, Section II D.
- Contrary to Ofreg's assertion, the benchmarks do not come close to supporting the required speeds and other requirements levels Ofreg is proposing. See, Section II E.

B. QUESTION 2: WHAT SHOULD OFREG CONSIDER TO BE AN APPROPRIATE DATA USAGE ALLOWANCE, AND WHY?

Flow response to Question 2: None of Flow's fixed broadband services include data usage allowances, and where they are included on its mobile broadband services it is done by balancing the demands of consumers, competition and the capability/capacity of our mobile network to ensure an appropriate quality of service is provided to all our customers.

Broadband services come with a bundle or menu of attributes, each of which are interdependent or endogenous. We believe that consumer demand, channeled through the competitive process, should determine what, if any, usage allowances are appropriate. In no case, do we believe it is appropriate to determine or define usage allowances by an ex ante regulatory mandate.

C. QUESTION 3: SHOULD OFREG APPLY THE SAME CRITERIA TO BROADBAND DELIVERED OVER FIXED NETWORK TECHNOLOGIES AS OVER MOBILE NETWORK TECHNOLOGIES WHEN DETERMINING WHETHER ITS OBJECTIVE HAS BEEN ACHIEVED?

Flow response to Question 3: We do not believe the delivery of broadband services should be regulated, especially in the manner contemplated by Ofreg in this proceeding. Both modes of providing broadband services—fixed and mobile—are evolving and advancing rapidly, and in many instances mobile broadband is increasingly a reasonable substitute for fixed broadband. Applying the prescriptive set of requirements proposed by Ofreg to one or both modes would significantly impact and potentially harm this evolution. We believe the market, realized by both intra- and inter-modal competition, is the appropriate mechanism to ensure the speed and quality of broadband services in the Cayman Islands. See also our comments above in Section II.

D. QUESTION 4: SHOULD OFREG'S BROADBAND POLICIES BE TECHNOLOGY-NEUTRAL? CAN OFREG'S OBJECTIVES BE ACHIEVED WHETHER BROADBAND IS DELIVERED OVER FIXED NETWORK TECHNOLOGIES OR OVER MOBILE NETWORK TECHNOLOGIES, OR CAN ONLY ONE TECHNOLOGICAL PLATFORM BE DEEMED ADEQUATE TO ACHIEVE THE STATED OBJECTIVE?

Flow response to Question 4: See Flow's response to Question 3 and its comments above in Section II.

E. QUESTION 5: WHAT IS A REASONABLE TIME FRAME FOR ACHIEVING THE BROADBAND OBJECTIVE? EXPLAIN IN DETAIL ALONG WITH SUPPORTING DOCUMENTATION?

Flow response to Question 5: For the reasons described in Section II, Flow objects to the inclusion of any minimum-speed requirements in its License. Therefore, any mandated implementation deadline to achieve these requirements is likewise objectionable. For further discussion see Flow's comments in Section II, and in particular:

- Given the high costs and low observed demand for very high-speed broadband services, a three-year implementation deadline is not readily achievable. See, Section II D.
- Contrary to Ofreg's assertion, the benchmarks do not come close to supporting the required deployment deadline requirement Ofreg is proposing. See, Section II E.

F. QUESTION 6: SHOULD OFREG HAVE DIFFERENT BROADBAND OBJECTIVES IN DIFFERENT AREAS OF THE CAYMAN ISLANDS? IF YES, EXPLAIN IN DETAIL WHY.

Flow response to Question 6: For the reasons described in Section II, Flow objects to the inclusion of any minimum-speed requirements in its License. These objections are not contingent upon the requirements' geographic scope. However, as discussed in Section II D, a predicate to considering these requirements is an understanding of consumer demand and the impact of these requirements on cost. To the extent demand and costs are not homogenous across the country, then geographic implications are likewise relevant and important.

G. QUESTION 7: DO YOU AGREE WITH OFREG'S PROPOSAL TO IMPOSE THE BROADBAND OBJECTIVES AS CONDITIONS OF LICENCE ON *TYPE 9 – INTERNET SERVICE PROVIDER* ICT SERIVCE LICENSE HOLDERS? IF NOT, EXPLAIN YOUR REASONING IN DETAIL.

Flow response to Question 7: For the reasons described in Section II, Flow objects to including in our License any of the requirements contemplated by Ofreg in this preceding. The factors we believe Ofreg must consider when evaluating this issue are the following:

- It is inappropriate to apply prescriptive requirements to dynamic markets, especially markets already demonstrating high performance. See, Section II A.
- The benchmarks used to support Ofreg's requirements are not directly relevant; that is the benchmark targets were applied differently than how Ofreg seeks to apply its requirements in this proceeding. See, Section II B.
- Ofreg's proposal to impose a set of prescriptive requirements before it has addressed fundamental issues of process, such as Licensees' broadband deployment obligations, is premature. See, Section II C.

- Ofreg's proposal to impose a set of prescriptive requirements is premised on an assertion (that it is readily achievable) we believe is incorrect and not substantiated. See, Section II D.
- Contrary to Ofreg's assertion, the benchmarks do not come close to supporting the required speeds and other requirements levels Ofreg is proposing. See, Section II E.

H. QUESTION 8: DO YOU AGREE WITH OFREG'S PROPOSAL TO REVIEW ITS BROADBAND OBJECTIVE IN THREE TO FIVE YEARS, AND IN ANY EVENT NO LATER THAN THE CONCLUSION OF THE PERIOD DETERMINED FOR ACHIEVING THE BROADBAND OBJECTIVE? IF NOT, EXPLAIN YOUR REASONING IN DETAIL.

Flow response to Question 8: For the reasons described in Section II, Flow objects to the inclusion of the broadband objectives in our License. These objections are not predicated on the frequency with which they are reviewed by Ofreg.

IV. CLOSING REMARKS

Kindly send any communication in relation to this consultation to:

Daniel Tathum
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ANNEX 1

RESIDENTIAL BROADBAND PLANS OFFERED OVER FLOW'S FIXED-LINE NETWORK IN THE CAYMAN ISLANDS

PLAN NAME	DOWNLOAD SPEED (MBPS)	MONTHLY PRICE (CI$)
ADSL 256	0.26	$ 40.00
ADSL 512	0.51	$ 59.00
ADSL 1024	1.02	$ 74.00
ADSL 1544	1.54	$ 99.00
Average (speed, P/Mbps)	0.83	$ 81.53

PLAN NAME	DOWNLOAD SPEED (MBPS)	MONTHLY PRICE (CI$)
ADSL 512	0.51	$ 40.00
ADSL 1024	1.02	$ 59.00
ADSL 1544	1.54	$ 74.00
ADSL 2560	2.56	$ 99.00
Average (speed, P/Mbps)	1.41	$ 48.23

2010		
PLAN NAME	DOWNLOAD SPEED (MBPS)	MONTHLY PRICE (CI$)
Mega	1.00	$ 43.00
Mega Plus	2.00	$ 63.00
Mega Max	3.00	$ 79.00
Mega Extreme	4.00	$ 105.00
Mega Optimum	8.00	$ 119.00
Average (speed, P/Mbps)	3.60	$ 22.72

2014		
PLAN NAME	DOWNLOAD SPEED (MBPS)	MONTHLY PRICE (CI$)
Quantum 2	2.00	43
Quantum 4	4.00	63
Quantum 6	6.00	79
Quantum 8	8.00	105
Quantum Family	16.00	105
Quantum Play	24.00	128
Quantum Power	104.00	208
Average (speed, P/Mbps)	23.43	$ 4.46

2018		
PLAN NAME	DOWNLOAD SPEED (MBPS)	MONTHLY PRICE (CI$)
Broadband 2	2.00	$50.00
Broadband 4	4.00	$70.00
Superfast 10	6.00	$80.00
Superfast 15	16.00	$106.00
Superfast 25	25.00	$129.00
Superfast 50	50.00	$150.00
Superfast 100	100.00	$200.00
Superfast 300	300.00	$250.00
Average (speed, P/Mbps)	62.88	$ 2.06

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April 18, 2018

Mr. J Paul Morgan
Chief Executive Officer
Utility Regulation and Competition Office
3rd Floor, Alissta Towers
85 North Sound Rd.
Grand Cayman

Dear Mr. Morgan,

Re: Consultation on a Broadband Policy for the Cayman Islands

We thank the Utility Regulation and Competition Office ("OfReg") for the opportunity to make submissions on the draft Broadband Policy for the Cayman Islands. Set out below are Digicel's responses to the consultation questions.

Question 1: What should OfReg consider to be appropriate minimum download and upload speeds? What factors should OfReg take into account in determining appropriate minimum download and upload speeds?

OfReg has referenced a number of jurisdictions and has stated that its proposals are in line with targets set in those jurisdictions. However, there are a number of fundamental differences between OfReg's proposals and its chosen comparators. Perhaps the most obvious is that OfReg proposes that its proposals would be mandatory requirements on all operators covering 100% of the population. This is not the case for the comparators. In the case of the chosen comparators, the levels set are targets, which often apply at a country level rather than being imposed on each operator. . This means that these targets could be achieved even if each operator did not meet them.

OfReg has made some general statements regarding the requirement for near symmetrical download and upload speeds but has offered no empirical evidence as to why a 2 to 1 ratio is appropriate or necessary nor has it offered any cost impact assessment for this. Digicel has previously provided OfReg with high level costs for providing symmetric uncontended capacity to end users. We believe that the current OfReg proposals would have similar cost and, by extension, retail price implications.

Only one of the countries referenced by OfReg has a target date of less than 7 years. All of the countries have extensive current levels of fixed penetration of high speed services. Only one of them, Germany, has a symmetric or near symmetric download upload criteria and that target is for 2025.

OfReg seems to be proposing that these limits would in some fashion become a definition for broadband[1]. It is notable that the OfReg-proposed definition is, in many multiples, faster than the ITU definition of broadband.[2] Digicel urges against setting a definition unique to the Cayman Islands, which is so out of line with international standards. If minimum service requirements are defined, then this is different.

[1] Paragraph 63 of the Consultation document

[2] Recommendation I.113 of the ITU Standardization Sector (ITU-T) defines broadband as a transmission capacity that is faster than primary rate ISDN, at 1.5 or 2.0 Mbit/s.

OfReg has not advanced any demand side data which would indicate that its proposed upload and download speeds are actually required by the vast majority of consumers over the 3-5 year review period proposed.

We consider it to be pointless to mandate speeds higher than customers need, want or are willing or capable of paying for. Digicel recommends, therefore, that before proposing any such limits, OfReg needs to conduct a more fulsome examination of the demand side requirement.

The OfReg approach of considering a single set of download and upload parameters for fixed and mobile services is fundamentally flawed given the inherent differences in characteristics between the services.

Digicel believes that the OfReg proposals are insufficiently developed to allow meaningful proposals as to appropriate levels of minimum download and upload speeds. However, we note that the UK proposals for Universal Service on the fixed network are set at 10 Mbps and the Irish proposals for State-funded fixed networks to serve uneconomic areas have speeds of 30Mbps download and 6Mbps upload. These are fractions of the OfReg proposals.

OfReg references the fact that no nationwide fibre based service is available, although this is a license condition. However, OfReg offers no analysis as to why this is the case. In Digicel's case, the reason why Digicel has not deployed these networks is because it had become uneconomic to do so due to the difficulties to obtain access to fixed infrastructure. While the targets may be desirable (and this has not even been proven), imposing them as obligations must be tempered by reality.

Digicel would like to suggest that, in the first instance, OfReg should examine what structural enablers could encourage market-based provision of services. Simply imposing obligations that will have costs so high that they will be impossible to recoup will hinder investment rather than encourage it. A balance must be struck between what consumers would like in an ideal world and what they are prepared or able to pay for in reality.

Question 2: **What should OfReg consider to be an appropriate data usage allowance, and why?**

It is not commercially viable for network operators to dimension their networks (either fixed or mobile) so that all customers can obtain the maximum theoretical speed at the same time at a retail price which would be acceptable to customers. Because of this, all networks are contended. They rely on the fact that not all users will require to achieve the maximum theoretical speed at the same time. Similarly not all users have similar throughput or volume requirements. Inclusive data allowances are a tool by which operators the world over use price as a mechanism to de-average retail prices so that those users with lower requirements that remain within the allowance, and who are often those with lower disposable income, are not required to cross subsidise the network capacity that is installed to serve those with higher demands. Similarly, these inclusive allowances, and their counterpart out- of- bundle pricing serve to constrain the proportion of an operator's customer base seeking to simultaneously achieve maximum throughput.

OfReg has not indicated that, once service is available, there is a deficit in the dynamic relating to competitive differentiation in the retail market as regards inclusive data allowances. Therefore, consumer demand itself will drive the optimisation of price and data volume so that the best overall outcomes for consumers are available in the market at any point in time.

Digicel does not believe that OfReg should interfere in this market mechanism. If OfReg choses to intervene but sets the inclusive limit too low, then it is an exercise in regulatory futility as the market will deliver better results to consumers. This exercise will be an inefficient use of resources by both OfReg and operators and impose an un-necessary regulatory cost on the sector. On the other hand, if OfReg sets the limit too high then the cost of providing the network capacity in excess of market requirements will have to be recovered from the totality of the consumer base. Further, those customers who have requirements lower than the specified level will be forced to buy packages which are more expensive than in the absence of the mandated requirement. In the event that OfReg correctly identifies the appropriate level at a point in time,

the dynamic nature of the on-line eco-system means that this level will no longer be correct within a short period of time.

This issue is less acute in fixed services than in mobile services. In fixed the access path is a major network cost driver and is predominantly a dedicated connection to the customer. The cost recovery for this connection is very often achieved by way of a recurring monthly charge. This means that the use of inclusive allowances as a demand control mechanism in the fixed sector is not a significant requirement. Experience from multiple markets has shown that the cost dynamics of fixed networks lead to very large inclusive limits in any event.

For mobile the access path is a shared resource. It is limited by the amount of available spectrum, the number of base stations and throughput is also limited by capacity constraints in the backhaul segment of the network. This means that the use of usage allowances is appropriate and necessary to ensure minimum quality of service levels for the widest section of the mobile user base. For the reasons set out above regulatory intervention in this area risks creating a market distortion, reducing competitive differentiation and un-necessarily forcing up retail prices.

Regulatory intervention in this area for both the fixed and mobile sectors would result in inefficient network design and economically inefficient outcomes in terms of consumer pricing. Further the constraints on competitive differentiation would limit the scope for innovation. A requirement to invest in one aspect of networks in excess of market requirements would reduce the amount of funds available for investment in other aspects of the sector.

The proposal that all operators must offer all customers at least one plan of 100 Mbps download and 50Mbps upload with an unlimited data usage allowance means that this is de facto a minimum network design criteria. Every access path would have to be designed to cater for this even if the customer only purchased a much lower capacity package.

Question 3: **Should OfReg apply the same criteria to broadband delivered over fixed network technologies as over mobile network technologies when determining whether its objective has been achieved?**

OfReg already distinguishes between fixed and mobile in its licensing of ISPs.

It is notable that in jurisdictions where market analysis is carried out, and, in particular, Europe, fixed and mobile broadband are found not to be in the same economic market. Rather, they are complementary.

This implies that there are a range of factors from technical to end-user requirements which mean that what is appropriate for fixed networks will not be appropriate for mobile networks.

As outlined in the response to Question 2, the inherent technical differences in the access layer for both fixed and mobile services require a different approach. Further, there are different usage habits for the two sectors with different types of terminal devices and usage and consumption patterns. Similarly, fixed connections will serve a location with multiple users whereas mobile connections will serve a single user.

All of these elements strongly support a different approach to fixed and mobile.

Question 4: **Should OfReg's broadband policies be technology-neutral? Can OfReg's objective be achieved whether broadband is delivered over fixed network technologies or over mobile network technologies, or can only one technological platform be deemed adequate to achieve the stated objective?**

In general, policy targets for broadband access, penetration and uptake are at a country level. This is the case for most if not all of the comparators referenced by OfReg. These types of policy objectives be technology neutral. Provided access is available from any source it is a separate issue as to whether there is a sufficient competitive dynamic to render further regulatory intervention un-necessary.

The choice of target is key. Setting a target that far outstrips market requirements runs the risk of reducing investment and competition. For example, speeds that might be achieved on xDSL, Hybrid Fibre Coax fixed wireless systems might fully meet minimum consumer requirement in the short to medium term. Such solutions could potentially be delivered at a lower cost and faster than the deployment of a full FTTH network. Digicel would strongly urge a holistic view be taken and a variety of regulatory incentives and supports put in place. These include making cost effective pole access possible, regulating duct access and access to other fixed infrastructure and making spectrum for Fixed Wireless Access (including TDD LTE) available as a matter of priority.

Question 5: **What is a reasonable time frame for achieving the broadband objective? Explain in detail along with supporting documentation.**

As Digicel has noted previously, most of the comparator markets that OfReg has chosen have implementation timelines of 7 years for 100% penetration. A shorter period might be reasonable because of the limited size of the Cayman Islands. However, this must take account of the fact that the investment required to serve less commercially attractive areas must be funded from revenues from the areas which are less costly to serve. This implies a lag in the network build out to these areas until such time as the revenue growth from the initial deployment areas reaches an appropriate level. Lower target speeds would help reduce the deployment timeframe as they would allow for alternative technology solutions such as fixed wireless access to be used on a targeted basis.

Question 6: **Should OfReg have different broadband objectives in different areas of the Cayman Islands? If yes, explain in detail why.**

Where OfReg establishes targets for minimum broadband speeds these should apply across the Cayman Islands. However, they should be at the minimum required by the market rather than a level attainable in a portion of it. Further, there should be a recognition that achievement of 100% of these targets may not be possible on a commercial basis. The levels should be set, regulatory inputs provided (e.g. pole access regulations and spectrum availability) and sufficient time allowed to determine what can and cannot be served on a commercial basis. Only then, would it be possible to assess the extent to which regulatory intervention might be required to close the gap and to design appropriate interventions.

Question 7: **Do you agree with OfReg's proposal to impose the broadband objectives as conditions of licence on *Type 9 – Internet Service Provider* ICT service licence holders? If not, explain your reasoning in detail.**

Digicel does not agree that it is appropriate to impose these objectives as license conditions. The reasons for this are as follows:

1) There has been no costing of meeting these requirements. Therefore OfReg cannot know if there will be a consumer welfare surplus of deficit. OfReg cannot know the extent to which imposing these requirements will force up retail prices nor the extent to which consumers would be willing to pay these increased prices.
2) OfReg has not set out any demand side analysis showing that its proposals are actually required by consumers.
3) The proposals do not distinguish between various technology types and a one size fits all approach will result in the imposition of inappropriate and unachievable obligations.
4) Provided at least one operator provides service to the specified level then from an end user perspective the policy objective has been met. Imposing the same obligation on all licensees would cause un-necessary duplication of effort and may fragment the market to the point where no operator can create a positive business case for the investment necessary to meet the requirements.
5) The imposition of these targets as license obligations would require investment in areas which would be uneconomic. This would jeopardise the business case for investment in areas which would otherwise be economic as cross subsidisation would be required. In turn this could result in no roll-out rather than a partial rollout.

6) Not all regulatory enablers have been deployed to encourage commercial deployment. This includes making spectrum available and mandating cost effective pole access.

Question 8: Do you agree with OfReg's proposal to review its broadband objective in three to five years, and in any event no later than the conclusion of the period determined for achieving the broadband objective? If not, explain your reasoning in detail.

Digicel believes that given the speed of evolution of technology and the wider market it would be appropriate to review the objectives on a three to five year cycle.

General Comments

OfReg in its consultation paper has helpfully set out the criteria which it must take into account in regulating the market

Digicel would like to highlight the following:

Section 6 of the URC Law states in part:

6. (1) The principal functions of the Office, in the markets and sectors for which it has responsibility, are -
[…]
(c) to protect the short and long term interests of consumers In relation to utility services and in so doing –
[…]
*(ii) ensure that utility services are satisfactory **and efficient** and that charges imposed in respect of utility services are reasonable **and reflect efficient costs** of providing the services; and*
[…]
*(d) to **promote innovation** and facilitate economic and national development.*

Pursuant to **Part 11** of the URC Law, OfReg has a particular duty to promote innovation and facilitate investment in the economy of the Cayman Islands:

62. The Office shall have a duty to promote innovation within the sectors for which it has responsibility with a view to contributing to national economic competitiveness and development, and in doing so it may –
(a) through its policies actively facilitate the development and introduction of relevant innovative technologies into the national economy;

Section 9 (3) of the ICT Law states in part:
[…] the principal functions of the Office are –
*(a) **to promote competition** in the provision of ICT services and ICT networks where it is reasonable or necessary to do so;*
[…]
);
[…]
*(h) **to promote and maintain an efficient, economic** and harmonised **utilisation of ICT infrastructure**;*
[…]

[emphasis added]

It is Digicel's view that, when formulating its proposals OfReg did not give adequate consideration to the highlighted requirements and that any invention along the lines proposed in the Consultation document would be procedurally flawed and potentially ultra vires.

Yours sincerely,

Raul Nicholson-Coe
CEO

DataLink

April 18, 2018

Utility Regulation and Competition Office
PO Box 2502
3rd Floor, Alissta Towers
85 North Sound Road
Grand Cayman KY1-1104
CAYMAN ISLANDS

Re: ICT 2018 – 1 – Consultation: A Broadband Policy for the Cayman Islands

Please find below the subject consultation response from DataLink, Ltd.

Question 1: What should OfReg consider to be appropriate minimum download and upload speeds? What factors should OfReg take into account in determining appropriate minimum download and upload speeds?

DL Response:
DataLink does not have an opinion on what the appropriate minimum download and upload speeds should be, other than they should be similar or better to what is available in other markets that the Cayman Islands is comparable to.

In this regard, OfReg should consider setting standards based on the following points.

- Ensure that businesses and residences can take advantage of technologies that are available to them from the global market.
- Consider the available bandwidth for data transmission to and from the Cayman Islands and what the capabilities are in those systems to handle the minimum bandwidth speeds available to individual customers.

Question 2: What should OfReg consider to be an appropriate data usage allowance, and why?

DL Response:
DataLink has no comment.

Question 3: Should OfReg apply the same criteria to broadband delivered over fixed network technologies as over mobile network technologies when determining whether its objective has been achieved?

DL Response:
OfReg should develop quality and reliability of service standards rather than specify technologies.

Question 4: Should OfReg's broadband policies be technology-neutral? Can OfReg's objective be achieved whether broadband is delivered over fixed network technologies or over mobile network technologies, or can only one technological platform be deemed adequate to achieve the stated objective?

DL Response:
OfReg should develop quality and reliability of service standards rather than specify technologies.

Question 5: What is a reasonable time frame for achieving the broadband objective? Explain in detail along with supporting documentation.

DL Response:
In ascertaining an appropriate and reasonable time frame for obtaining the broadband objective, OfReg should consider the limitation of resources available to deploy various networks. In the case of fiber networks, which are most commonly installed overhead and are attached to CUC poles, the make ready process requires a lot of resources and in addition impacts the reliability of electricity service. DataLink notes that in most cases this is the least cost option for deploying fiber optic networks across the island.

DataLink has informed OfReg and the attaching utilities that it currently performs make ready at a rate of up to 200 poles per month. The resources required to increase this capability can be ramped up, provided that Attaching Utilities commit to consistently use the increased dedicated resources, to honour their agreements especially with respect to make-ready payments and to the process for the application for permits including the requirement to provide set plans for roll out priority that do not change from those stipulated in batches of permits requested of DataLink.

The use of resources and make ready costs can be made more efficient, if Attaching Utilities agree to work in the same areas as each other. If this is done resources could be optimized and focused in an area where multiple networks could be deployed while facilitating lower make ready costs for each attaching utility through equitable cost sharing.

It is vital to consider that, in many cases, to perform required make ready scheduled power outages will be necessary. As a result of current ongoing make ready work, reliability indices are negatively impacted and, as a result, the average electricity consumer experiences over an hour of power outage per year for this reason alone. In areas where make ready is under way, it is quite common that multiple power outages of several hours are required to safely perform the work. Therefore, as part of the consideration of a provision of Broadband timeline, that may result in the need to increase the rate that make ready is performed, it should also be acknowledged that the electric system reliability will be negatively impacted and power outages will become proportionally more frequent. This is likely to have a negative impact on electricity consumers including visitors, residents and businesses in Grand Cayman and thus indirectly the local economy.

OfReg should consider the above relevant issues, if there is to be a set deadline with respect to achieving an Island wide broadband objective facilitated by fiber optic network attached to CUC poles alone. Any timeline set must be realistic and achievable taking all matters into consideration.

Question 6: Should OfReg have different broadband objectives in different areas of the Cayman Islands? If yes, explain in detail why.

DL Response:
DataLink refers OfReg to its response to Question 5 & 1 with respect to the time it takes to roll out fiber networks on CUC poles to remote areas and the capability of off island networks to handle broadband traffic.

Question 7: Do you agree with OfReg's proposal to impose the broadband objectives as conditions of licence on *Type 9 – Internet Service Provider* ICT service licence holders? If not, explain your reasoning in detail.

DL Response:
Please refer to our response to question 5. DataLink additionally submits that there should be no deadline for roll out of its fiber network across the island for its D1 licence as DataLink is not in the retail business of providing internet service to all end users, but rather in the business of providing point to point fiber optic connectivity where requested. To provide this service an island wide network is not required, however, a license to operate as a D1 provider island wide is.

Question 8: Do you agree with OfReg's proposal to review its broadband objective in three to five years, and in any event no later than the conclusion of the period determined for achieving the broadband objective? If not, explain your reasoning in detail.

DL Response:
DataLink agrees that a periodic review of objectives is a good idea and agrees with the initial proposal of a three year period for review.

Yours Sincerely,

Sacha Tibbetts

President & CEO

DataLink, Ltd.

C3, BETTER CONNECTED

30 April 2018

Mr Alee Fa'amoe
Deputy CEO & Executive Director at OfReg
85 North Sound Way
Alissta Towers
Box 2052
Grand Cayman, KY1-1104

Dear Sirs,

Re: Response to Questions from Infinity Broadband Ltd "dba C3" in respect of ICT 2018-1-Consultation- A Broadband Policy for the Cayman Islands

Question 1: What should OfReg consider to be appropriate minimum download and upload speeds?

The appropriate speeds that OfReg should consider on the Cayman Islands should be 50Mbps for the download speed and 10Mbps for the upload speed.

This is what 50Mbps broadband means to a user;

- Download a 100MB album in as little as 16 seconds
- Download a 10GB Blu-ray movie in less than 27 minutes
- Stream HD video straight to your computer without buffering
- Host multiplayer games with dozens of players
- Download games in under two minutes

What factors should OfReg take into account in determining appropriate minimum download and upload speeds?

One of the factors that should be considered and that OfReg should take into account is the cost of the off-island capacity. If there can be a considerable reduction in the off-island capacity cost then more appropriate minimum download and upload speeds can be given to subscribers.

Question 2: What should OfReg consider to be an appropriate data usage allowance, and why?

The average usage of the monthly allowance should be 500GB per month. The households with higher-speed broadband connections don't necessary consume more data than households with lower-speed connections. For the households with lower-speed connections they may only be able to view one or two simultaneous video streams, so when they upgrade to a higher-speed connection, their habits may change and data usage may increase.

One day streaming:

According to our usage about 75% of our subscribers are using our broadband to stream video content from various content providers during peak hours 7pm-10pm:

Each SD stream consume 1 Gigs per hour
Each HD stream consume 3 Gigs per hour

Peak hours for consuming the streams are between 7PM to 10PM per day

Assuming each household is using 4 Gigs per hour x 3 hours = 12 Gigs a day.

Per month 30 days x 12 Gigs = 360GB, we propose another 140GB buffer for total usage of 500GB

Question 3: Should OfReg apply the same criteria to broadband delivered over fixed network technologies as over mobile network technologies when determining whether its objective has been achieved?

In general the same criteria should not be applied to broadband delivered over the fixed network technologies as over mobile network technologies. In cases where mobile network technology is in direct competition with the fixed network technology then they should be held to the same criteria.

Question 4: Should OfReg's broadband policies be technology-neutral? Can OfReg's objective be achieved whether broadband is delivered over fixed network technologies or over mobile network technologies, or can only one technological platform be deemed adequate to achieve the stated objective?

Yes, OfReg's broadband policies should be technology-neutral and the market should dictate the demand for the technology.

Question 5: What is a reasonable time frame for achieving the broadband objective? Explain in detail along with supporting documentation.

The first objective of the broadband policy is to assure that all the residents of Grand Cayman have access to at least two providers of fixed network technologies island wide. Until that first objective is achieved the Broadband Policy can't be considered as meeting any of the other objectives.

Question 6: Should OfReg have different broadband objectives in different areas of the Cayman Islands? If yes, explain in detail why.

No, there should not be any difference in the broadband objectives in different areas of the Cayman Islands.

Question 7: Do you agree with OfReg's proposal to impose the broadband objectives as conditions of license on *Type 9 – Internet Service Provider* ICT service license holders? If not, explain your reasoning in detail.

Yes, I agree with OfReg's proposal to impose the broadband objectives as conditions of the license.

Question 8: Do you agree with OfReg's proposal to review its broadband objective in three to five years, and in any event no later than the conclusion of the period determined for achieving the broadband objective? If not, explain your reasoning in detail.

Yes, I agree with the OfReg's proposal to review its broadband objective in three to five years.

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409 Walkers Rd., P.O. Box 30110, George Town, Grand Cayman KY1-1202, Cayman Islands

Submitted by email to consultations@ofreg.ky

April 30, 2018

Utility Regulation and Competition Office
3rd floor, Alissta Towers
85 North Sound Rd.
Grand Cayman
Cayman Islands

TO: The Utility Regulation and Competition Office ("OfReg")

RE: ICT 2018 – 1 – Consultation: A Broadband Policy for the Cayman Islands

In response to the Consultation document issued by the Utility Regulation and Competition Office ("OfReg") on 7 March 2018, we are writing to provide the comments of WestTel Limited, doing business as, and hereafter referred to as, "Logic" in the Cayman Islands. For convenience, the defined terms of the Consultation document are used.

As you are aware, Logic is a combination of a few licensed providers, corporately consolidated to reach sufficient scale to compete effectively in the telecoms market in Cayman. We acknowledge Logic's network rollout obligation setting an initial deadline for 100% Fibre Network Coverage by 8 February 2017, and WestStar's similar obligation. We also acknowledge that, like all our competitors, Logic has been unable to satisfy the obligation within the timeframe allotted. We note, however, Logic's inability to meet the deadline was not for lack of effort and resulted from unforeseen delays and costs from third parties.

In the last 2 years, Logic has spent over $10M in the build out of its fibre optic network in Cayman. In the current fiscal year, we expect to spend over $6 M to continue that build out. Logic has progressed further in this regard than any other licensee in the market. Yet, even with this continued effort, we will not be able to reach 100% of households in Cayman with fibre. We are increasingly of the view that ubiquitous deployment of FTTH networks in Cayman is too expensive an exercise, and too dependent on third parties, to be accomplished economically by Logic or any other provider in the market. If 100% coverage is required, there is a need to reduce or subsidize FTTH deployment, or alternatively, consider different technology options for the last 15-20% of geographic coverage.

In Retrospect, Historical Network Rollout Obligations Were Uneconomic

ICTA, through various decisions and licence conditions, mandated the buildout of two fibre optic networks in the Sister Islands and five on Grand Cayman. All parties involved, licensees and regulator, shared good intentions in the creation and pursuit of those obligations, and yet none have come to fruition. In retrospect, the aspiration to have so many competing fibre optic networks was unrealistic, particularly given the geography and small scale of the Cayman Islands. We also note that no other

country in the world has this degree of competition in FTTH. Some of the largest scale economies have only 2 fibre-based competitors who in many cases do not provide 100% coverage with FTTH service.

Neither Logic, nor its acquired subsidiary, WestStar, were disingenuous in accepting the original coverage obligation. Historically there was a belief that scale economies in other jurisdictions would ultimately reduce the hardware and software costs, and that the level of complexity and labour requirements would similarly reduce, to the point where 100% deployment would be economically possible. There was also a reasonable belief that the cost and/or availability of access to poles/trenches/conduits would reduce or at least stabilize at an acceptable level. These assumptions were common to all market participants, and the regulator, and they were quite simply overly optimistic.

Logic can currently provide fibre-based internet to approximately 65% of Caymanian homes and we are continuing to build out as fast as we can. We are the most experienced provider of FTTH in the country. Logic is, however, only one part of the supply chain that delivers FTTH internet services. There are many other participants in the process. Hardware manufacturers and software companies provide the modems, routers, physical cable, connectors and network equipment necessary to deliver and receive data on your home computer. Governmental organizations (e.g. the National Roads Authority) provide the rights of way, the permits, the planning permissions, the licenses and other key factors in the deployment of fibre networks. Electrical utilities not only provide the electrical power needed, but also the pole space and make ready work that must be done to deploy fibre optic cables efficiently and economically across the country. In addition, subsea capacity providers with landing stations in Cayman are needed to transport data to and from Cayman into global internet hubs like Miami and New York. Tier 1 ISPs (large international carriers) must take the traffic at those hubs and deliver it into the broader 'internet'. All aspects of the supply chain need to deliver their component part for Caymanians to use the internet over FTTH.

Every participant in the supply chain requires its costs and fees to be paid. There are taxes and other licence fees, permit fees, pole reservation and attachment, subsea capacity costs, transit fees, colocation fees, etc. If any aspect of the supply chain fails, or is too expensive, or is delayed, or is unavailable, the supply chain fails. Given the current costs of deployment, it is clear that some portion of Cayman cannot be provided FTTH services on an economic basis.

Economic Repercussions of Forcing 100% FTTH Buildout Obligations

We note that some parties in Cayman have called for the enforcement of buildout obligations against all licensees. While this may have some degree of political popularity, it ignores the fact that licensees like Logic have control and management over only a portion of the supply chain and must act economically in deploying FTTH. If forced to do the uneconomic, a licensee will ultimately fail, and unserved households will remain unserved, while the broader market will lose the competitive benefit of that licensee. Customers and the broader public will be worse off if licensees go out of business.

Moreover, if the goal of building 5 fibre networks in Grand Cayman had been realized, it is highly doubtful that 5 different companies would have survived. Cayman simply does not have the minimum efficient scale for 5 different providers to have sustainable business models. Even in jurisdictions where a dramatically greater scale is available, 5 competing FTTH networks do not exist. OfReg has only to look at the European Union, the United Kingdom, the United States and Canada – all of the reference

jurisdictions in the Consultation document. None of those jurisdictions has 5 competing FTTH networks. Also, none of those jurisdictions has FTTH to 100% of households.

Setting an Achievable Broadband Policy Goal – Technology Neutral with Realistic Minimums

The ultimate goal of this Consultation should be to define a national broadband goal and that is economically achievable and sustainable. Simply mandating 100% FTTH coverage has not accomplished, and will not accomplish, that goal. Broadband policy in Cayman needs to recognize that a business case must be made, and the business case needs to consider all technologies, not just FTTH.

Logic firmly believes in the FTTH business model for portions of Cayman with sufficient population density and demand. We also believe that other technologies will be needed to economically serve the last 15-20% of households. It is not yet clear exactly which technologies may be better suited to those less dense parts of Cayman, but licensees need the regulatory freedom to explore options as they present themselves in the global market.

On the horizon in other jurisdictions, as discussed in the Consultation document, 5G wireless technologies offer a promising solution to extending broadband coverage on an economic basis. We note, however, that like FTTH, many parties are needed to deliver various aspects of a 5G solution. Government must be willing to provide the right spectrum, and the right amount of spectrum, to licensees. Communities need to be open to the building and placement of antenna towers. Others need to provide the access necessary for poles/conduits/trenches that can be used to reach antenna placements. Homeowners need to be willing to accept the need for some kind of antenna or dish to receive the signals. Even in the context of non-FTTH solutions, the whole community will play a part in bringing broadband coverage to unserved and underserved areas of Cayman.

Setting an Achievable and Reasonable Performance Goals and Timeframe

In terms of defining speeds, OfReg's research of international objectives is instructive. For 2025, the EU set a strategic objective of making available 100 Mbps to all households. In the US, the FCC maintained its current standard of 25 Mbps down and 3 Mbps up. In the UK, OfCom supports the legislated 10 Mbps objective to all homes. In Canada, the CRTC set a standard of 50 Mbps down and 10 Mbps up for 90% of the coverage.

With the benefit of that international context, the proposed OfReg service objective of providing 100 Mbps down and 50 Mbps up to all Cayman households in 3 years is clearly unrealistic. Setting a goal that is well beyond all international standards is aspirational but not constructive. Policymakers need to set a minimum that is reasonably achievable, rather than an ideal that is very likely beyond reach. Moreover, such goals are proposed as conditions of licence. With the benefit of clear hindsight, licensees cannot and should not again accept a condition of licence that is not reasonably achievable in the timeframe allotted. Targets should be set and managed. Making them all or nothing conditions of licence is not a constructive approach. This is a multi-party infrastructure issue. Simply making it a condition of licence for individual firms, makes those firms responsible for matters well beyond their control. As the past has demonstrated, this will not get the job done.

With respect to setting a timeframe for universal coverage, OfReg needs to review its research and reconsider its proposal. The EU set its goal for 2025. The US and UK regulators declined to assign a timeframe for universal coverage. Canada set a goal of 2021 but only for 90% coverage. Canada went

on to say that the last 10% would be covered by 2026 to 2031. When considering a timeframe for Cayman, policymakers need to recognize that these decisions are infrastructure issues that require long term capital and planning that spans 5-7 years at a minimum.

Proposals around ubiquitous FTTH and a corresponding Universal Service Obligation are easily proposed but very difficult to implement in practice. Who will build the network? On what infrastructure will it be based – whose poles, trenches and ducts? Who will maintain the network once built, and who is responsible for the build and ongoing cost? On what basis will service be offered? Every home has a different cost to serve. The more rural, less dense areas have a very high actual cost to serve relative to more urban areas. Will the provider be able to charge true cost plus for those high cost homes? Or will the price be capped for those homes? If yes, what is the maximum price, and will it adjust with inflation? If prices charged are below actual cost, the net effect will be that homes in low cost serving areas are effectively subsidizing homes in high cost serving areas. Is that an acceptable social policy compromise and do policymakers and their constituents truly understand the trade-off they are making?

Building a Way Forward with Industry Support

Logic recognizes the policy pressure that is mounting to provide a solution for unserved and underserved homes in Cayman. To fully participate in a modern economy, all residents need access to broadband infrastructure to support the education, health, commercial and entertainment services they want and need. These are long term policy issues that cannot be properly resolved by short term politics. Actual solutions will require support from the industry and the corresponding supply chain.

As a starting point, the issue of network construction delays and costs needs to be addressed. This is a threshold issue that will sabotage any plan or goal. If the issue of access to poles, trenches or ducts can be resolved economically, a discussion of performance goals and timeframe can be started. To that end, on the issue of performance goals, Logic suggests that current usage patterns in broader Cayman can serve as the minimum. Based on our own experience, customers' actual use averages approximately 20 Mbps down and 5 Mbps up. If a performance minimum is to be set, it should parallel that usage. Essentially, the service goal for currently unserved homes, should be to extend services that would meet average use in other parts of Cayman. Provision of faster services is likely to happen as technologies improve, and the minimum can rise as a consequence. We note, however, that defining the goal as a minimum is extremely important for technology selection.

Once an achievable performance goal is set, a timeframe for deployments can be estimated. Given the international benchmarks referenced by OfReg, a more nuanced perspective is needed. In our estimation, based on the average usage set out above, 85% coverage in 4 years may be achievable. For the remainder of Cayman, 5 to 7 years is a reasonable timeframe for full 100% coverage. Once licensees understand the goal and the timeframes, technology solutions can be proposed that properly suit the geography and cost to serve. All contributors in the supply chain will need to work together to ensure availability of the spectrum, pole/trench/duct access, antenna sites, etc. needed to achieve the goals set.

Regular, annual reviews can be held to monitor licensees' respective progress on meeting the goals. In those reviews, issues of dependency, bottleneck delay and resulting costs should be actively managed, with OfReg and the Government playing a key part in resolving supply chain delays and cost overruns.

All parties can be consulted and scrutinized to ensure they contribute their respective portion of the builds in pursuit of the national goals set.

In closing, we reiterate Logic's willingness to contribute to a national goal of broadband being made available to all residents of Cayman. We have been the most successful in pursuing that goal in the past, and we are fully prepared to set and pursue achievable goals for the future.

Sincerely,

Robert McNabb
CEO

List of Consultation Questions

Question 1: What should OfReg consider to be appropriate minimum download and upload speeds? What factors should OfReg take into account in determining appropriate minimum download and upload speeds?

The minimum download and upload speeds should be 30/10 respectively with annual reviews and adjustment where necessary to meet current demand. If possible link to a globally recognized moving standard.

OfReg should consider what is happening on this front in developed nations especially in the EU because their legislation goes to great lengths to protect its people (GDPR is a great example of this). Caymanians see themselves as first-world and demand the same living standards as developed nations including access to the digital economy.

The large expatriate community (especially the professionals) living and working in the Cayman Islands expect no less than what was available in their home countries. The minimum data rate should place Cayman in the top twenty globally to attract local and global professionals to our shores.

One faction of the 'endgame' should be Cayman Islands as the Caribbean's first smart city. Cayman Islands residents should be able to fully participate in MOOCs as we all stand to benefit from an educated society.

Question 2: What should OfReg consider to be an appropriate data usage allowance, and why?

Data usage allowances should always be unlimited because customers have a tendency to curtail their usage to meet data allowances and this has a negative effect on their participation in the digital economy. E.g. A customer might say "I have time to do this task right now but rather than use my limited mobile bandwidth I will wait until I'm home". This in turn could negatively affect the family's quality of life by impacting other activities in the home such as preparing dinner or assisting with homework.

Existing disparities are discouraging. Mobile customers are able to purchase 400GB for around $100 CI using a MiFi device but the same spend on a mobile phone only nets them a fraction of the data.

Question 3: Should OfReg apply the same criteria to broadband delivered over fixed network technologies as over mobile network technologies when determining whether its objective has been achieved?

In general carriers should be allowed to use the most cost effective mix of services to give customers reasonable costs but where possible the same criteria should be used. If not the service levels could vary greatly. For example the bandwidth might be the same but latency could vary greatly between two delivery mechanisms.

This has to be tempered with restrictions based on technology limitations E.g. It would be unreasonable to expect satellite broadband to compete from a bandwidth and latency perspective with FTTH broadband. Satellite's niche is availability in rural areas where other broadband delivery methods are unavailable.

Question 4: Should OfReg's broadband policies be technology-neutral? Can OfReg's objective be achieved whether broadband is delivered over fixed network technologies or over mobile network technologies, or can only one technological platform be deemed adequate to achieve the stated objective?

Broadband policies should be technology-neutral but regulations need to be in place to ensure that all customers receive the same level of service. I.e. the regulations would specify the bandwidth, latency, availability and contention ratio but leave the rest to each broadband provider. A major caveat is that differing broadband delivery methods have restrictions imposed on them by the technology itself.

Question 5: What is a reasonable time frame for achieving the broadband objective? Explain in detail along with supporting documentation.

Three years would be a reasonable timeframe for achieving the broadband objective because it would allow providers to utilize the profits they realize from urban areas to deploy services to rural areas. In the USA broadband grew from zero to over eight million households in just over 3 years, Faulhaber (2002). Surely multiple local broadband providers can achieve less than one percent of the USA's accomplishment over a similar timeframe.

The Honorable Premiere has suggested that the government will pull from the public purse and build out a fiber network country wide. This is one route. A more cost effective route would be to modify existing regulations to force the two entities that have distributed fiber countrywide to share (at reasonable cost) their infrastructure as has been done with the cell towers for mobile networks.

Question 6: Should OfReg have different broadband objectives in different areas of the Cayman Islands? If yes, explain in detail why.

The objectives should be the same for all areas. The service should be universal with the majority of customers reached.

Question 7: Do you agree with OfReg's proposal to impose the broadband objectives as conditions of licence on *Type 9 – Internet Service Provider* ICT service licence holders? If not, explain your reasoning in detail.

Strongly agree with OfReg's proposal to impose the broadband objectives as conditions of license on Type 9 – Internet Service Provider ICT service license holders.

Question 8: Do you agree with OfReg's proposal to review its broadband objective in three to five years, and in any event no later than the conclusion of the period determined for achieving the broadband objective? If not, explain your reasoning in detail.

Three years or no later than the conclusion of the broadband objective period would be an ideal time for OfReg to review its broadband objective. Wherever possible OfReg should link policies to timetables and subscribe to global standards.

Faulhaber, Gerald R (2002) *Broadband Deployment: Is Policy in the Way?* Available at: http://assets.wharton.upenn.edu/~faulhabe/Broadband%20Deployment%20Is%20Policy%20in%20the%20Way.pdf