



QUALITY OF SERVICE REGULATIONS FOR ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES IN THE BAHAMAS

STATEMENT OF RESULTS AND FINAL DECISION

ECS 41/2016

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1. INTRODUCTION

The Utilities Regulation and Competition Authority (“URCA”) has issued this Statement of Results and Final Decision pursuant to sections 45 and 46 of the Communications Act, 2009 (Comms Act). The publication of this document concludes URCA's public consultation on *“Quality of Service Regulations for Electronic Communications Networks and Services in The Bahamas”*, ECS 06/2015.¹ Concurrently with the publication of this Statement of Results and Final Decision, URCA has also published the finalised text of the Quality of Service Regulations, ECS XX/2016 (the “QoS Regulations”) as a separate document. It should be noted that these regulations are intended to strengthen URCA’s overall framework for regulation of the quality of services provided in the Electronic Communications Sector (ECS) in The Bahamas, in conjunction with URCA’s Consumer Protection Regulations, ECS 19/2013 (CPR).

1.1 Responses to this Consultation

On 12 December 2015, URCA published its consultation document on *“Quality of Service Regulations for Electronic Communications Networks and Services in The Bahamas”*, ECS 06/2015, seeking comments from interested parties and the public. The period for submission of written responses and comments to the consultation document closed on 26 February 2016. During the consultation period URCA received written responses from:

- Bahamas Telecommunications Company Ltd. (BTC); and
- Cable Bahamas Ltd. (CBL).

URCA appreciates and thanks the respondents for their participation in this public consultation process. Their participation was valuable in informing this Statement of Results and Final Decision and the finalised text of the QoS Regulations. The substance of the responses is summarised in this Statement of Results. However, the full text can be downloaded from URCA’s website at **www.urcabahamas.bs**.

In this document URCA has sought to provide a summary of the responses considered and discussion of URCA’s position on those responses, however, URCA may not have reproduced all matters considered. The lack of response to a comment or any issue raised by a respondent does not signify URCA’s agreement in whole or in part with the comment nor should it be taken to mean that URCA has not considered the comment or that the comment was considered to be unimportant or without merit.

1.2 Background

Section 5 of the Comms Act requires that regulatory and other measures implemented pursuant to the Comms Act should have as their purpose to implement the ECS Policy objectives, and sets out some principles that should underlie regulation. Among these is the requirement that regulatory and other measures introduced by URCA be efficient and proportionate to their purpose, and that they must be introduced in a manner that is transparent, fair and non-discriminatory. The Comms Act

¹ <http://www.urcabahamas.bs/download/087456200.pdf>

exhorts URCA to rely on market forces where possible, but where URCA believes that market forces alone are unlikely to achieve a policy objective, URCA may introduce regulatory requirements, having due regard to the costs and implications for affected parties. Specific to the regulation of the quality of service provided by licensees, URCA is empowered by sections 45 and 46 of the Comms Act to impose such ex-ante regulations on Licensees.

It should be noted that pursuant to those provisions and principles, on 30 December 2013 URCA published the CPR. This measure has as its purpose to regulate and ensure that each customer is able to rely and insist upon a minimum quality of service from their service provider in relation to specific matters. The CPR was introduced because of increasing concerns from customers about the quality of service received from their service providers and URCA's view, supported by experience in the global market, that exclusive reliance on market forces does not always lead to optimal outcomes in service quality for customers. Hence, the need for ex-ante regulations to safeguard the public interest. The CPR apply to the services provided by operators of fixed telephony, cellular mobile services (voice/data), pay TV services and Internet services.

URCA is of the view that the CPR has resulted in some improvement in relations between service providers and customers, and provided some degree of protection to customers. However, the information provided to URCA, complaints received from customers, and international experience, suggests to URCA that exclusive reliance on the CPR falls short of ensuring that customers receive optimal service quality on a consistent basis. This is especially in light of the strong market positions of providers in key communications markets in The Bahamas, customer inertia, and the information asymmetry between service providers and their customers, and indeed URCA. URCA, therefore, is of the view that it would be appropriate and proportionate to introduce additional regulations governing quality of service, to further promote the ECSP objectives relating to quality of service and consumer protection. Therefore, on 11 December 2015, URCA published for consultation the *"Quality of Service Regulations for Electronic Communications Networks and Services in The Bahamas"*, ECS 06/2015 in which URCA proposed to introduce network level Quality of Service (QoS) Regulations on Licensees in the markets for fixed telephony, cellular mobile services and internet services. It should be noted that while URCA's information suggests that there are existing challenges with the quality of service delivered by providers of pay TV services in The Bahamas, URCA does not intend at this time for the additional QoS Regulations to apply to pay TV services. URCA will continue to monitor the services provided to determine whether it should broaden the scope of the QoS Regulations to include pay TV services. Further, the additional Regulations set out in ECS 06/2015 would apply only to holders of Individual Operating Licences (IOLs) that provide fixed telephony services, cellular mobile services (voice and data), and Internet services, irrespective of the technology used to provide those services.

URCA's intention is to issue, in addition to the existing CPR, additional regulation on the Minimum Required Service Standards (MRSS) for electronic communications networks and services. The MRSS are the KPIs against which URCA will assess Licensees' network and service quality. As previously noted, the CPR was specifically designed to regulate the QoS each customer receives from their service provider, and to ensure that customers are adequately compensated in the event of a breach of the relevant standards by a service provider. The additional QoS Regulations now being introduced are intended to regulate service quality at the network level. URCA considers that effective QoS regulation at the network level requires service providers to operate networks that are better able to achieve

the requisite QoS standard specified in the CPR for each customer. URCA considers that the QoS Regulations now being introduced, and those introduced in 2013 through the CPR, are complementary documents.

URCA confirms that it was always URCA's intention to issue separate regulatory measures on (i) consumer protection, and (ii) Minimum Required Service Standards for electronic communications networks and services. URCA, however, clarifies that the two regulatory measures are discrete, but not mutually exclusive, and accepts that some degree of overlapping between the two documents is inevitable and intentional. Together, the two documents create a robust framework for the regulation of service quality in the ECS in The Bahamas. URCA does not accept that it would be appropriate and does not intend to amalgamate the QoS Regulations now being introduced and the existing CPR into a single document, as suggested by the respondents to the consultation.

1.3 Structure of the remainder of this document

The remainder of this document is structured as follows:

- Section 2 summarises and responds to the general comments received on the consultation;
- Section 3 summarises the responses received to the specific consultation questions; and
- Section 4 sets out conclusion.

2. GENERAL COMMENTS RECEIVED ON THE CONSULTATION

In this Section, URCA summarises and responds to the general comments received from the respondents.

2.1 URCA's Consultation on the Proposed QoS Regulations

BTC's Comments

BTC asserted that any new regulation should be introduced with the aim of meeting specific identified gaps in the CPR. Also, BTC asserts that the additional regulations proposed by URCA will not be fit for purpose and will impose unnecessary costs on operators and consumers. BTC opined that the consumer should be at the heart of regulations in The Bahamas, and the consumer-centric position should drive the approach URCA takes to the measurement and publication of QoS parameters. BTC further argued that the principal purpose of URCA's consultation must be to bridge the information gap or information asymmetry between service providers and their customers and to empower customers to make informed decisions about their choice of service provider. BTC concluded that the objectives of collecting, analysing and producing QoS information must be to assist consumers in making their buying decisions and for this to happen, BTC says:

*"The parameter used and standards applied must be meaningful to consumers.
The results must be produced in a way that consumers can easily understand.
Information must be up to date."*

BTC was also of the view that best practice regulation is moving away from technological measures to consumer based measures as evidenced by the approach taken by regulators in the UK and Ireland.

CBL's Comments

A common theme throughout CBL's response is that URCA has not provided any factual evidence to support the need for the proposed QoS Regulations. In CBL's view, URCA has placed selective reliance on international experience that are *"... of questionable comparative value for The Bahamas."*

URCA's Response and Final Position

URCA agrees with BTC that that any new regulation should be introduced with the aim of meeting specific identified gaps in current regulations and that the consumer should be at the heart of regulations. URCA considers that its approach is consistent with BTC's view and supported by the statutory framework for regulation of the ECS in The Bahamas. As mentioned above (Section 1.2), it was always URCA's intention to establish separate QoS regulatory measures for (i) consumer protection and (ii) Minimum Required Service Standards for networks and services. URCA affirmed its intention in URCA's Annual Plans for 2014 and 2015.

Indeed, in considering the proposed Regulations, URCA was guided by its responsibilities under sections 5, 45, and 46 of the Comms Act. In particular, section 5 makes it a requirement that all policy measures, decisions, and laws to take effect in the electronic communications sector in The Bahamas shall be made with a view to implementing the ECS Policy objectives having due regard to the costs

and implications of those regulatory measures on affected parties. To this end, URCA reminds the respondents of the Government’s policy objective regarding “Protection and Promotion of Consumer Interest” at Paragraphs 85-86 of the ECS Policy:

“... at the core of the Government policies for the ECS is the promotion of the interests of Bahamian residents, individually and collectively. URCA will ensure that there are adequate regulatory protections in place so that consumers receive electronic communications services that are of high quality, and that are delivered subject to terms and conditions that are fair, non-discriminatory, and reflect the rights of consumers individually and collectively” (pg.6).

As explained in the preceding paragraph, the proposed QoS Regulations complement the existing CPR.

URCA notes BTC’s comments regarding emerging trends in best practice QoS Regulation. URCA, however, affirms that the proposed QoS Regulations parameters are not out of step with the international mainstream. As discussed in the consultation paper the proposed QoS Regulations parameters are in line with the Recommendations of the global standard setting body for the communications industry (International Telecommunications Union – ITU)² and have been adopted by regional bodies such as the European Telecommunications Standard Institute (ETSI).³

URCA accepts that its approach to QoS Regulation need not be consistent and in strict accordance with practices in the region or elsewhere, but stresses that consideration of the practices in other jurisdictions is an essential factor in reaching an appropriate solution for The Bahamas. In URCA’s view, the markets considered are relevant having regard to the purpose of the consultation and the ITU’s Recommendations. URCA is also satisfied that the final regulations to be adopted are fit for purpose and comply with the relevant principles laid down in section 5 of the Comms Act for regulation.

2.2 Existing Consumer Protection Regulations

BTC’s Comments

BTC noted that the existing CPR already contains provisions relating to reporting and publication of QoS information and suggested that URCA should put on hold its plans for the additional QoS Regulations pending concrete evidence that the CPR have failed to achieve their purpose.

CBL’s Comments

CBL commented that QoS has been improving on CBL’s networks and attributed this to the introduction of the CPR in 2014. In CBL’s view, this improvement runs counter to URCA’s statement in the consultation paper that there has been no significant QoS improvement since the introduction of the CPR.

URCA’s Response and Final Position

²Framework and methodologies for the determination and application of QoS parameters.

<http://www.itu.int/rec/T-REC-E.802-200702-1/en>

³These organisations represent the collective input of one hundred ninety-one (191) member states and seven hundred (700) sector members and associates including private companies, non-governmental organizations and other entities from across the globe

URCA recognises that the CPR has resulted in improved relations between service providers and customers and provided some degree of protection to customers. However, the international experience, the information provided to URCA, complaints received from customers, and other factors suggest to URCA that exclusive reliance on the current CPR falls short of ensuring that customers receive an optimal quality of service on a consistent basis. Also, URCA reminds the respondents that the existing CPR and proposed QoS Regulations are complementary regulatory measures and constitute a more holistic framework for QoS regulation in The Bahamas. As discussed in Sections 1.2 (above) and 2.5 below, the proposed QoS are supported by the statutory framework for regulation of the electronic communications sector, and URCA's analysis under section 5 of the Comms Act support the need for the additional QoS Regulations.

2.3 Light Touch Regulation

BTC's Comments

BTC argued that section 5 of the Comms Act requires URCA to rely on market forces to achieve the ECS Policy objectives. BTC reminded URCA that regulatory and other measures shall be introduced only where *"...market forces are unlikely to achieve the electronic communications policy objective within a reasonable time frame ..."*. Also, BTC noted that URCA must have regard to the principles laid down in section 5(b)(i), (ii) and (c) of the Comms Act for regulation. BTC expressed the view that *"...having two different systems of measurement on quality of service ..."* is contrary to section 5 of the Comms Act, in particular, section 5(a) and section 5(c). In support of its contention that the proposed measures are disproportionate, BTC noted that there are duplications and inconsistencies between the existing CPR and the proposed QoS Regulations. BTC argued that URCA's cost and benefit analysis, included in the consultation document, failed to adequately capture this issue.

URCA's Response to Comments Received/Final Position

As stated in section 1.3 of the Consultation Document, in URCA's view the CPR have not led to significant sector-wide improvements in the QoS of electronics communications networks and services in The Bahamas. URCA's research of international experience suggests that exclusive reliance on market forces or Consumer Protection Regulations, especially in monopolistic markets, does not always lead to an optimal outcome in service quality for customers. Recognizing the aforementioned, URCA believes that additional QoS Regulations are necessary to promote the ECS Policy objective relating to QoS, since market forces alone have not so far, and are unlikely in future, to achieve the electronic communications policy objectives relating to quality of service and consumer protection. URCA also refers BTC to Section 1.2 above for URCA's justification for issuing two separate documents on QoS Regulations.

Regarding BTC's comments about duplication and/or inconsistencies between the existing CPR and the proposed QoS Regulations, URCA has addressed such concerns in Section 2.6 below. Meanwhile, in Section 2.5 URCA sets out a detailed response to the respondents' comments on URCA's assessment of the cost and implications associated with the proposed QoS Regulations.

2.4 Application of the Proposed QoS to Cellular Mobile Operators

BTC's Comments

In BTC's view, the entry of a second cellular mobile operator in The Bahamas may have a significant impact on the QoS provided by providers. BTC argued that URCA did not give sufficient consideration to this development and urged URCA to *"allow a reasonable timeframe for market forces to come into play."*

CBL's Comments

CBL highlighted its entry into the cellular mobile market and suggested that any QoS metric related to that market should not be extended to the second cellular mobile operator.

URCA's Responses and Final Position

While URCA is supportive of competition as a driver of innovation and improvement in service quality and price, URCA is also cognisant that, particularly in small markets, the advent of competition often does not negate the need for effective regulation. Indeed, even in communications markets with a long history of competition in cellular services, ex-ante regulations are often still necessary to safeguard the interest of customers. For example, regulators across the Caribbean have maintained QoS Regulations for mobile and fixed telephony operators in direct response to the failure of competition (or market forces) alone to drive adequate improvement in service quality. Considering that precedent, URCA has no basis to anticipate that The Bahamas market will behave differently or that the need for effective QoS service regulation will be diminished.

URCA stresses that the QoS Regulations which URCA proposed to introduce in respect of cellular mobile networks and services are fully aligned with those adopted in the selection and licensing process for the second cellular mobile operator, and eventually included in the licences granted to NewCo2015 Limited (NewCo). Under the terms of section 5 of the Comms Act, URCA cannot be discriminatory in its application of the proposed QoS Regulations. Hence, the finalised text of the proposed QoS Regulations shall apply to both BTC and NewCo, and represent an equivalent level of regulation to that already applied to NewCo through the conditions contained in its Individual Spectrum Licence (ISL).

In keeping with the proportionality and other relevant principles of the Comms Act, URCA proposes to review its approach on a going forward basis to take account of experience and other changing circumstances.

2.5 Comments Received on URCA's Cost Benefit Analysis

BTC's Comments

BTC argued that URCA's analysis of the benefit and costs associated with the proposed QoS Regulations (See Section 3 of ECS 06/2015) is inadequate and results in an erroneous conclusion. BTC again reminded URCA of the principles laid down in section 5 of the Comms Act. BTC contended that the consultation failed to take account of the existing QoS metrics specified in the CPR. BTC opined that the benefits identified for operators are nebulous, inaccurate and lacks any quantification of costs and benefits. BTC further commented that the costs of implementing the proposed regulations could be very significant, especially given the penalty provisions. Finally, BTC argued that URCA did not quantify the costs and benefits associated with the various options discussed in Section 3 of the consultation paper.

CBL's Comments

CBL argued that URCA's assessment of the costs and benefits associated with the proposed QoS Regulations was inadequate and does not justify the introduction of the proposed Regulations or meet the standard required under the Comms Act

URCA's Response to Comments Received/Final Position

URCA notes the various arguments proffered by the respondents in respect of URCA's analysis under section 5 of the Comms Act. URCA assures respondents that URCA is fully cognisant of and has had due regard to the principles for regulatory intervention laid down in section 5 of the Comms Act.

It is URCA's considered view that market forces alone have not, and are highly unlikely to achieve the policy objectives for consumer protection and quality of service moving forward. Hence, URCA's intervention through the CPR, and as discussed in Section 1.2, URCA also considers that the CPR by itself remains inadequate to achieve the aforementioned policy objectives. Therefore additional regulatory intervention is warranted to further the interests of persons in The Bahamas in relation to the electronic communications sector. URCA considers the proposed QoS Regulations to be an appropriate enhancement to the existing regulatory framework towards the achievement of the relevant objectives.

As to the costs and implications of the proposed regulations on affected parties, URCA reminds both BTC and CBL that it is not a statutory requirement of the Comms Act for URCA to conduct a comprehensive quantitative assessment of costs and benefits or a formal cost-benefit analysis of its proposals. Instead, section 5(b)(ii) of the Comms Act merely requires URCA to have "*...due regard to the costs and implications*" of the proposed regulations on affected parties. URCA remains confident that its analysis of the costs and implications set out in Section 3 of the consultation paper is reasonable, fit for purpose, and meets or exceeds the standard required by the Comms Act. It, therefore, fully justifies the introduction of the proposed QoS Regulations on operators in the ECS. Moreover, the approach taken by URCA is not new to BTC or CBL. In fact, the approach taken is not out of step with URCA's previous assessments of costs and implications of the various ex-ante obligations/remedies to be imposed on SMP operators in key retail and wholesale markets. In this regard, URCA refers the respondents to its previous proceedings on costs and implications of proposed regulatory measures on affected parties. In particular:

- ECS 07/2010 "*Position Paper- Types of Obligations on Bahamas Telecommunications Company Ltd. and Cable Bahamas Ltd.*"⁴;
- ECS 13/2013 "*Assessment of Significant Market Power in Call Termination Services in The Bahamas Under Section 39(1) of the Comms Act – Statement of Results to Public Consultation and Final Determination*"⁵; and
- URCA's most recent Preliminary Determination on national roaming services on cellular mobile networks in The Bahamas (ECS 10/2016)⁶.

⁴ <http://www.urcabahamas.bs/download/070973300.pdf>

⁵ <http://www.urcabahamas.bs/download/067809100.pdf>

⁶ <http://www.urcabahamas.bs/download/072284600.pdf>

Lastly, the consultation process and publication of the finalised text of the proposed QoS Regulations satisfies the transparency requirement of the Comms Act. In addition, the proposed QoS Regulations are:

- non-discriminatory (i.e., apply to all holders of IOLs); and
- proportionate and efficient, having regard to their purpose.

2.6 Inconsistencies and Duplication with Existing CPR and Proposed QoS Regulations

BTC's Comments

BTC opined that there are inconsistencies and/or duplication between the existing CPR and the proposed QoS Regulations particularly as it relates to *"Service Activation for Fixed Networks"*, and *"Fault Repair Time."* According to BTC, both regulations include *"Service Activation for Fixed Networks"* and *"Fault Repair Time"*. According to BTC, the *"Supply Time for Fixed Network Access"* in the proposed QoS Regulation is defined as *"the duration from the instant a valid service order is received by the service provider to the instant a working service is made available for use."* By contrast, the CPR has a comparable parameter called *"Service Activation After Approval"* defined as *"the time it should take between approval of an application for service and the actual provision of the service."* BTC proposed an alignment of the definitions. Further, BTC stated that the *"Supply Time for Fixed Access,"* in the CPR in Bimini is seven (7) days versus six (6) days in the proposed QoS Regulations.

Regarding the definition of *"Fault Repair Time"*, BTC noted that the wording is different in the CPR and the proposed QoS Regulations. BTC recommended that the definitions in both documents should be identical and suggested that the definition in the CPR should be used. Also, BTC stated that the *"Fault Repair Time for Fixed Network Access"* in Bimini is 120 hours (5 days) versus 96 hours (4 days) in the proposed QoS Regulations.

With respect to Reporting, BTC noted that while under the CPR operators must submit their quarterly reports ten (10) days after the end of the quarter, under the QoS Regulations operators must submit their reports thirty (30) days after the end of the quarter. Also, under the CPR operators are required to keep data for eighteen (18) months versus twelve (12) months under the proposed QoS Regulations.

Finally, BTC expressed the view that URCA's proposal for reporting areas to be individual islands and cays is unreasonable. BTC believes that where possible the reporting areas should be consistent with the reporting area requirements in the CPR.

CBL's Comments

CBL expressed the view that the proposed QoS Regulations duplicate existing regulations and impose unnecessary new costs on operators and consumers. CBL sought to outline the perceived duplications in Section 3 of its submission and provided a comparison of the standards under the existing CPRs and proposed QoS Regulation.⁷ Based on this comparison, CBL concluded that of the fifteen (15) proposed QoS Metrics:

⁷See Appendix 4 of CBL's Submission.

- five (5) are duplicative of existing QoS metrics under the CPR and could be eliminated or used to replace existing metrics;
- five (5) have very limited or no value and should not be adopted; and
- the remaining five (5) proposed QoS Metrics could be, with some amendments, adopted and incorporated into the existing CPR-related QoS Metrics.

CBL recommended the elimination of the license-related QoS metrics because it considered them to be redundant. Lastly, CBL submitted that URCA should use this consultation process to review and assess the licence-related and CPR QoS Regime in conjunction with the proposed QoS Metrics with a view to rationalising and consolidating the QoS Framework.

URCA's Responses and Final Position

URCA reiterates that the CPR focuses on the quality and standard of service each customer receives from his or her particular service providers. On the other hand, the proposed QoS Regulations address QoS at the network level. Therefore, in the context of the proposed QoS Regulations, it is URCA and not the customer that is directly involved in the resolution process. As such, and consistent with the relevant provisions of the Comms Act, URCA's intention has been to issue separate regulatory measures to address QoS for customers (i.e., the CPR), and the Minimum Required Service (MRSS) standards for electronic communications networks and services in The Bahamas. It is worth emphasising that the CPR were specifically designed to provide customers with an individual remedy in respect of the QoS they receive from their service providers and to ensure that customers are adequately compensated in the event of a breach of the relevant standards by a service provider. By contrast, the proposed QoS Regulations are intended to regulate service quality at the network level. From URCA's perspective, effective QoS regulation at the network level ensures that service providers are better able to achieve the requisite QoS standard specified in the CPR. Indeed, URCA affirms its view that the additional QoS Regulations and CPR are complementary documents and without the former, the CPR will not achieve the desired outcome for customers.

Notwithstanding, URCA sees merit in respondents' proposals for consistency between elements of the CPR and the proposed QoS Regulations. Where feasible and appropriate, and as further particularised in Section 3 below, URCA will align the proposed QoS Regulations and the CPR.

2.7 Penalties under the Proposed QoS Regulation

BTC's Comments

BTC commented that consumers should be the focus of any compensation under the proposed QoS Regulations. Given this view, BTC suggested that the penalty for not achieving the proposed Minimum Required Service (MRSS) standards should be in the form of a direct compensation to affected customers rather than fines paid to URCA. BTC noted that this was the approach taken by regulators in Barbados and the UK.

BTC highlighted the potential for undue financial burden if an operator is subject to fines under the proposed QoS Regulation while simultaneously having to compensate customers for breaches under the CPR.

CBL's Comments

CBL was of the view that the CPR already includes compensation to be paid to customers in cases where certain QoS metrics are not met. CBL argued that these are an effective and efficient means for compensating customers directly for QoS issues (such as service activation or fault repair delays). CBL suggested that adding a further penalty structure in the context of the proposed QoS Regulations is unnecessary and counterproductive, and CBL strongly objected to any such penalty structure beyond customer compensation.

URCA's Response to Comments Received/Final Position

As previously stated, the CPR and QoS Regulations are separate regulatory measures with separate and distinct enforcement mechanisms. In deciding on a penalty for breach of the QoS Regulations, URCA will determine the penalty that would be proportionate to the impact or the potential impact of the breach.

2.8 Comments Received on the Reporting and Enforcement

BTC's Comments

BTC argued that the time between the publication of the proposed QoS Regulations and the submission date of the first report should be greater. To this end, BTC proposes language such as "*the holders of IOL Licenses shall submit their first report at the end of the first full quarter that starts after 270 calendar days following the publication of these Regulations.*"

CBL's Comments

CBL suggested that an initial phase-in period of twenty-four (24) months is required to ensure that any newly adopted QoS measures are properly established and to ensure that a consistent approach to measuring all of the adopted QoS metrics is followed by Licensees subject to the regime.

URCA's Response to Comments Received/Final Position

URCA notes the proposed reporting timeframes put forward by the respondents. However, URCA is satisfied that the reporting timeframes outlined in the proposed QoS Regulations are reasonable given that URCA will defer enforcement until twenty-four (24) months after the publication of URCA's Final Decision. URCA considers this period as necessary and appropriate to allow the affected Licensees a reasonable opportunity to make the necessary adaptations to their networks and services to enable compliance with the provisions in these Regulations.

2.9 Comments Received on the Publication

BTC's Comments

BTC commented that QoS data should not be published in URCA's Annual Report. BTC reasoned that URCA published its Annual Reports for 2013 and 2014 at the end of April 2014 and 2015, and so the data was between sixteen (16) and twenty-eight (28) months out of data. BTC opined that the data

was, therefore, misleading to consumers. BTC suggested that the information should be available on URCA’s website as it is a better medium for keeping data up-to-date.

CBL’s Comments

CBL is not opposed to publication of QoS data URCA’s Annual Report. However, CBL made it clear that any such publication should not disclose competitively sensitive information. Accordingly, CBL proposes that URCA distributes the proposed format for any such QoS report(s) to the affected Licensees for their comment before publishing such information.

URCA’s Responses and Final Position

URCA notes BTC’s remarks regarding publication of Licensee’s performance against the Minimum Required Service (MRSS) standards in URCA’s Annual Report. Having considered BTC’s comment, URCA has amended the finalised text of the Regulations to include publication on URCA’s website as this will ensure customers have access to timely and relevant information. When the information is eventually published in the Annual Report, URCA will clearly identify the period to which the information relates to so as to avoid confusion by consumers. Regarding CBL’s comment about the treatment of sensitive information, URCA does not believe that distributing the proposed format of QoS report(s) to the affected Licensees for comments before publishing would be efficient but assures CBL that URCA will take the usual safeguards when dealing with information provided to URCA by Licensees.

3. RESPONSES RECEIVED TO CONSULTATION QUESTIONS

In this Section, URCA summarises and responds to the responses received to the specific consultation questions.

3.1 Reporting Requirements

Question 1: Do you agree with the reporting requirements in Part 10.4?

BTC’s Response

BTC considers that QoS Reports should be submitted to URCA every six (6) months rather than every (3) three months as this will ensure that the data is more representative of performance due to the averaging out of any periods of exceptional performance.

CBL’s Response

CBL is not opposed to the reporting requirements under Part 10.4.

URCA’s Response and Final Position

URCA recognises that BTC’s response relates to Part 10.2 and not Part 10.4. Nevertheless, URCA considers that data collected over shorter intervals provides a more accurate assessment and also provides the opportunity to seek remedies sooner. On balance, URCA believes that quarterly reporting is appropriate and therefore will not amend its proposal in Part 10.2 as suggested by BTC.

Question 2: Do you agree with URCA’s proposal to commence the submission of QoS MRSS Reports one hundred and eighty days (180) after the publication of these Regulations?

BTC’s Response

BTC considered the proposed timeline for the initial submission to be unreasonable and posited that the reporting timeline should be aligned with the quarterly reporting as envisaged in Part 10.2. This alignment would require data to be submitted two hundred seventy (270) days after the end of the first quarter in order to give operators sufficient time to develop and test their systems. As such, BTC proposed that the last sentence of the proposed Part 10.2 be reworded as follows:

“Holders of IOL licences shall submit their first reports at the end of the first full quarter that starts 270 calendar days following the publication of these Regulations.”

CBL’s Response

CBL stated its preference for a defined date in Part 10 (i.e., specific quarter) as to when QoS measurement should begin and deadline for the first quarterly QoS report.

URCA’s Responses and Final Position

URCA does not accept BTC’s proposal to reword the last sentence of Part 10.2 and thus require data to be submitted two hundred seventy (270) days after the end of the first quarter. Also, URCA does not accept CBL’s proposal to implement an initial phase-in period of twenty-four (24) months. URCA considers that one hundred eighty (180) days is a reasonable period to allow operators to prepare for the reporting requirements in the proposed QoS Regulations, especially given that URCA will not issue a penalty under these Regulations until twenty-four (24) months after the publication of the Final Decision on the consultation. URCA will specify the specific dates in its Final Decision.

Question 3: Do you agree with the requirement to submit QoS Reports to URCA no later than 30 days after the last day of the reporting period?

BTC’s Response

BTC believed that this requirement is reasonable but recommended that it should be reviewed after the operators and URCA have had some experience with the submission of Reports.

CBL’s Response

CBL is not opposed to this requirement.

URCA’s Response/Final Position

The requirement will remain as specified in the proposed QoS Regulations. Going forward URCA will review the requirement to take account of the factors suggested by Licensees.

Question 4: Do you agree with URCA permitting the combining of two or more reporting areas for particular Licensees, MRSS, services and reporting periods?

BTC's Response

BTC considered URCA's proposed Reporting Areas (i.e., individual islands and cays) to be unreasonable. BTC suggested that where feasible, the Reporting Areas should be consistent with the corresponding requirement of the CPR.

CBL's Response

CBL stated that it is not opposed to this provision and, in fact, agrees that it may be unavoidable in some cases.

URCA's Response/Final Position

Given the comments, URCA has revised Part 10.3 of the Regulations as follows:

The Reporting Areas, defined as geographic territories for which measurements are taken and recorded by Licensees, shall be the territory defined by URCA as follows:

- i. Reporting Area I: New Providence and Grand Bahama;*
- ii. Reporting Area II: Abaco, Eleuthera, Exuma and Andros; and*
- iii. Reporting Area III: All other islands*

3.2 Penalties Under the Proposed QoS Regulations

Question 5: Do you agree that URCA should consider the factors listed in Part 13.5 when making a decision on the penalties to be imposed? Are there other relevant factors that URCA should consider?

BTC's Response

BTC opined that the most important factor to consider was the impact of the breach on customers. BTC suggested that URCA should include in its list of relevant factors the culpability of the operator for not achieving the quality of service. BTC stated that there were many factors beyond the control of the operator that affect the QoS performance measures that URCA should consider before issuing a penalty.

CBL's Response

CBL considered URCA's proposal to impose fines and penalties for breaches of the proposed QoS Regulations as unnecessary and counterproductive. Notwithstanding this, CBL proposed that the following factors should be added to the list specified in Part 13.5:

*“the state of competition in the affected relevant market(s);
the effect of the contravention on consumers in the relevant market(s);
the extent to which the penalties are likely to improve the choice, price or quality of services;
and
the financial and operating circumstances of the Licensee.”*

URCA's Responses and Final Position

URCA agrees that service providers should not be penalised for breaches that are not within their control provided that the related consumer service issues are addressed appropriately and adequately. URCA also agrees with CBL that other factors should be considered when assessing a penalty. URCA reminds CBL that under Part 13.5 (vi) of the Regulations states, *"URCA will consider any representations made by the Licensee regarding any alleged breach and related circumstances."* However, URCA does not consider delays due to logistical issues as mitigating factors except in circumstances where force majeure creates difficult situations. Also, URCA does not agree that penalties for failure to meet Minimum Required Service (MRSS) standards are unnecessary and counterproductive because "there is already a compensation mechanism available to customers under the CPR". URCA refers to its final position in Section 2.7 above which states that the CPR and QoS Regulations are separate regulatory measures with separate and distinct enforcement mechanisms.

3.3 Publication under the Proposed QoS Regulations

Question 6: Do you agree with URCA's proposal to publish in its annual report, on its website and in other appropriate media source for public access, the QoS reported by Licensees, at least, six (6) months after the end of the Reporting Period?

BTC's Response

BTC's comments are summarised in Section 2.9 of this document.

CBL's Response

CBL's comments are summarised in Section 2.9 of this document.

URCA's Response and Final Position

As stated in Section 2.9, URCA notes BTC's remarks regarding publication of Licensee's performance against the MRSS in URCA's Annual Report. Having considered BTC's comment, URCA has amended the text of the Regulations to include publication on URCA's website as this will ensure customers have access to timely and relevant information, as well as in the Annual Report. Also, whenever the information is published in the Annual Report, URCA will clearly identify the period to which the information relates to so as to avoid confusion by consumers. URCA also notes CBL's assertion that any such publications should not disclose competitively sensitive information, and, therefore, URCA will take the usual precautions concerning the handling of information.

3.4 Minimum Required Service Standards for Fixed Wireline and Wireless Networks and Services

Question 7: Do you agree with the Minimum Quality of Service Standards proposed by URCA on Form QoS-Schedule 1 of this Network Quality of Service Regulations? If not, propose alternative minimum standards for the network performance metric with which you disagree and provide justification for the proposal.

BTC's Response

Supply Time for Fixed Network Access: BTC suggested that the definition in the CPR should be used for this parameter and proposed that URCA adopts an MRSS that is similar to those of the countries in the table below.

Country	Target
Bahamas	99% in NP and GB 5 Business Days (BD), and Abaco, Eleuthera, Exuma, Andros 6 BD, All other islands 7BD.
ECTEL	90% within 7BD
Jamaica	80 within 5 BD and 95% with 10BD
Trinidad	75% with 3 BD, 85% within 5BD and 100% within 7 BD

Fault Report Rate Per Fixed Access Lines: BTC suggested that faults due to causes other than its network (e.g., equipment problems) should be excluded and proposed that URCA adopts a target similar to those of the countries in the table below:

Country	Target
Bahamas	Less than 0.1%
ECTEL	n/a
Jamaica	5%
Trinidad	Less than 4.5%

Fault Repair Time for Fixed Access Lines: BTC offered no comments.

Unsuccessful Call Ratio: BTC noted that a significant proportion of national calls and all international calls involve interconnection with other operators. BTC asserted that this parameter is an inadequate measure of an operator's quality of service and should be excluded, or if implemented, it should be redefined as *Call Completion Rate*. In its submission, BTC provided regional benchmarks on "*Unsuccessful Call Ratio*" and suggested that if URCA decides to include "*Unsuccessful Call Ratio*" it should adopt the standards used in Jamaica.

Country	% of unsuccessful national calls	% of unsuccessful international calls
Bahamas	0.5%	1%
ECTEL	10%	15%
Jamaica	2%	5%
Trinidad and Tobago	1%	1%

Speech Connection Quality: BTC considered that measuring this parameter is cumbersome, and the results are dependent on factors outside BTC's control and, therefore, should be excluded.

Call Setup Time: BTC found this parameter to be unimportant and would like URCA to exclude it.

CBL's Response

Supply Time for Fixed Network Access: CBL proposed that this parameter should not be adopted, but if adopted, it should supersede the existing CPR parameter “*Service Activation After Approval*” and the existing IOL parameter “*Connection Time*” should be eliminated. CBL proposed an MRSS of 80% in New Providence and Grand Bahama after five (5) business days (BD), Abaco, Eleuthera, Exuma, Andros after 6 BD and all other islands after 7 BD. CBL supported its proposal by benchmarking the MRSS of the countries shown in the table below:

Country	Target
Bahamas	99% NP and GB 5 Business Days (BD), Abaco, Eleuthera, Exuma, Andros 6 BD, ALL other islands 7 BD.
Qatar	99% in 5 Days
Turks and Caicos	99% in 10 Days
Cyprus	99% in 18 Days
Dominica, Grenada, Saint Kitts and Nevis and Saint Lucia	90% in 7 Working Days

Fault Report Rate Per Fixed Access Lines: CBL proposed that the existing IOL parameter “*Faults per 100 Lines*” be eliminated and the proposed QoS parameter “*Fault Report Rate Per Fixed Access Line*” not be adopted. CBL suggested that if the proposed QoS parameter is adopted, it should replace the existing CPR parameter “*Fault Repair Time*” and the proposed MRSS should be based on evidence which illustrates what can be achieved in The Bahamas, or should take into account the MRSS in the Benchmark Jurisdictions⁸ or should be less than 5%.

Fault Repair Time for Fixed Access Lines: CBL proposed that the existing IOL parameter “*Fault Repair Rate*” be eliminated and the proposed QoS parameter “*Fault Repair Rate Per Fixed Access Lines*” not be adopted, but if adopted, it should replace existing CPR parameter “*Fault Repair Time.*” CBL suggested that any proposed MRSS should first be based on evidence about what can be achieved in The Bahamas or should take into account the MRSS in the Benchmark Jurisdictions. CBL considered that the MRSS would be more realistic if it refers to the mean time or even if it refers to the time taken by 80% of orders. CBL also suggests that “*Supply Time for Fixed Access Network Access*” and “*Fault Repair Rate Per Fixed Access Lines*” should report the same sort of figure, which would be either the mean time taken or the time taken by 80% (for example) of the cases.

Unsuccessful Call Ratio: CBL proposed that the existing IOL parameter “*Call Completion Rate Percentage (%)*” should be eliminated and the proposed QoS parameter “*Unsuccessful Call Ratio*” could be adopted. In CBL’s view, any proposed MRSS for the proposed QoS parameter should first be based on evidence about what can be achieved in The Bahamas or should take into account the MRSS in the Benchmark Jurisdictions. CBL highlighted the targets in the four ECTEL Member States that have QoS Regulations, where the targets are now 10% for national calls and 15% for international calls. CBL stated that in other jurisdictions, that have proposed or adopted targets, the most common target for national calls is 2% (though they vary between 1% and 5%) and that there is

⁸ The Benchmark Jurisdictions refers to any subset of the following countries: Channel Islands, India, Ireland, Mauritius, Nepal, Qatar, Saudi Arabia, Singapore, Cyprus, Malta, Anguilla, The British Virgin Islands, Dominica, Grenada, Jamaica, Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago, and Turks and Caicos Islands

no target for international calls. Based on this approach, and having reviewed CBL’s historical “Call Completion Rate Percentage (%)” performance, CBL proposed an MRSS of 4% for national calls and suggested that there should not be any MRSS for international calls.

Call Setup Time: CBL indicated that the proposed QoS parameter “Call Setup Time” should not be adopted, but if adopted, the proposed MRSS should first be based on evidence which illustrates what can be achieved in The Bahamas or should take into account the Benchmark Jurisdictions. CBL proposed an MRSS of seven (7) seconds for national calls and no MRSS for international calls.

Speech Connection Quality: CBL stated that conducting a Speech Connection Quality Survey would be expensive, time-consuming for the testers and the volunteers, and impracticable in realistic situations. CBL posited that the proposed QoS parameter should not be adopted but if adopted CBL proposes an MRSS of 3.5 Mean Opinion Score (MOS) for national calls and no MRSS for international calls.

URCA’s Response and Final Position

Supply Time for Fixed Network Access: URCA initially stated in Section 1.2 and repeated throughout this document that the CPR and proposed QoS Regulations are separate and distinct regulatory measures, but due to the related purpose of the documents there is some unavoidable duplication. However, URCA advises that this parameter is different from the “Service Activation After Approval” parameter in the CPR. The proposed QoS parameter measures the efficiency of the technical component of service activation whereas the CPR parameter measures the composite efficiency of the customer relations component together with the technical component. Therefore, URCA does not accept the proposal to replace the “Service Activation After Approval” parameter in the CPR. Notwithstanding that CPR and proposed Regulations are separate, URCA notes both CBL’s and BTC’s comments regarding the grouping of islands and agrees to move Bimini to the “All other islands” group. URCA believes this would simplify the reporting process. Further, URCA considers that if this parameter is implemented, the IOL parameter “Connect Time” would not be necessary. Hence, as proposed by CBL, the existing IOL parameter “Connection Time” will no longer be enforced.

Fault Report Rate Per Fixed Access Lines: As previously stated the CPR and proposed Regulations are separate and distinct regulatory measures. Notwithstanding that, URCA sees merit in respondents’ comments and therefore accepts CBL proposal to reduce the MRSS to 5%.

Fault Repair Time for Fixed Access Lines: URCA accepts CBL’s proposal to adopt the definition for Fault Repair Time from the CPR and replace the proposed definition. Again, URCA notes CBL’s comments regarding the grouping of islands and considers that moving Bimini to the ‘All other islands’ group in these regulations would simplify the reporting process. Therefore, URCA also accepts CBL’s proposal to make that change.

Unsuccessful Call Ratio: URCA does not accept BTC’s proposal to redefine this parameter redefined as “Call Completion Rate” and the proposal to align the MRSS with those of Jamaica. URCA considers that the term “Unsuccessful Call Ratio,” which was recommended by ITU⁹, is appropriate for fixed networks.

⁹ Framework and methodologies for the determination and application of QoS parameters.
<http://www.itu.int/rec/T-REC-E.802-200702-l/en>

However, in consideration of BTC’s proposal, URCA agrees to align the MRSS with that of Trinidad and Tobago, which is 1% for both national and international calls.

Call Setup Time: URCA accepts the proposal of the respondents to exclude this parameter. URCA considers that this MRSS could be of considerable importance especially since it impacts the telephone user experience. However, URCA recognises that a diverse set of mobile technologies (2G through 4G) are interconnected to PSTN networks resulting in various call setup times. Hence, after reviewing comments by the respondents, URCA agrees to exclude this MRSS but will reconsider the matter at the next review of the QoS Regulations.

Speech Connection Quality: URCA accepts the proposal of the respondents to exclude this parameter having regard for the likely challenges identified by the respondents and costs associated with measuring this parameter. URCA proposes to review this decision on a going forward basis to take account of the consumer’s experience.

3.5 Minimum Service Standards for Cellular Mobile Networks and Services

Question 8: Do you agree with the Minimum Quality of Service Standards proposed by URCA on Form QoS-Schedule 2 of this Network Quality of Service Regulations? If not, propose an alternative minimum standard for the network performance metric with which you disagree and provide justification for the proposal.

BTC’s Response

Broadband Data Speed: BTC recommended that 2G networks should be excluded from this performance measure.

Network Availability (data): No Comments

Network Availability (voice): No Comments

Call Completion Rate: BTC commented that this parameter is meaningless and should be deleted or if it is applied, reduced to levels between 95% and 98% for international calls, and 98% for national calls.

Dropped Call Rate: BTC recommended that the target should be reduced to 2% as obtains in Trinidad and Jamaica.

CBL’s Response

Broadband Data Speed: CBL recommended that this parameter could be adopted but should be measured by using a crowdsourcing application selected by URCA and should not have an MRSS. However, if adopted with an MRSS, the MRSS should be 2Mbps for downloads from international servers at peak hours, if the service is advertised as potentially offering a speed of 2Mbps or more.

Network Availability (data): CBL recommended that this parameter should not be adopted. However, if adopted:

- a) it should be required to be measured by using network element counters¹⁰, without specifying the message flow; and
- b) the corresponding measurement should exclude durations of scheduled outages from the period over which unavailability is measured.

Furthermore, if adopted, CBL proposes an MRSS of 97%. However, CBL submits that this standard is unnecessary as, by contrast to a fixed network service; a cellular mobile network service can be fully functional without the network elements being fully functional.

Network Availability (voice): CBL recommended that this parameter should not be adopted. However, if adopted:

- a) it should be required to be measured by using network element counters, not by using test calls; and
- b) the corresponding measurement should exclude durations of scheduled outages from the period over which unavailability is measured.

CBL proposes an MRSS of 97%. However, CBL submits that the parameter is unnecessary as, in contrast to a fixed network service, a cellular mobile network service can be fully functional without the network elements being fully functional

Call Completion Rate: CBL recommended that this parameter should be redefined as *Unsuccessful Call Ratio* and if the revised definition is adopted then:

- a) it should be required to be measured by using network element counters;
- b) measurements using network element counters should not be used to compare networks, unless their definitions are manifestly precise enough, but might be used to check the progress of an individual network over time;
- c) monthly averages should be replaced by quarterly averages;
- d) reports about each cell site on each island should be eliminated; and
- e) reports about the busiest cell site on each island should be eliminated.

CBL proposes MRSS of 96% for average monthly rate across all cell sites, 95% for average completion rate for busiest cell site on each island, and 75% for average monthly completion rate for each cell site. However, CBL indicated that if it is to adopt *Call Completion Rate*, URCA should first remove the requirements for monthly reporting and for reporting on every cell site.

Dropped Call Rate: CBL recommended that this parameter could be adopted subject to:

- a) it should be required to be measured by using network element counters;

¹⁰ A network element counter is an automation element used to count and perform control operations and maintain state in the network. The network element counter should be programmed with the target value and mode of operation that determines the behaviour when the count reaches the target.

- b) measurements using network element counters should not be used to compare networks, unless their definitions are manifestly precise enough, but might be used to check the progress of an individual network over time; and
- c) monthly averages should be replaced by quarterly averages.

If adopted, CBL proposes MRSS of 2%, 3%, and 4%. However, CBL submits that if it is to adopt the standard URCA should first remove the requirements for monthly reporting.

URCA’s Response and Final Position

URCA accepts BTC’s proposal to exclude 2G networks from the MRSS for Broadband Data Speed since 2G networks do not offer broadband services. However, URCA does not accept the other proposals put forth by both BTC and CBL. In URCA’s view, having accepted BTC’s proposal to exclude 2G networks, the proposed MRSS standard for cellular mobile networks and services are now directly aligned with specific Government policy objectives established for cellular mobile networks in The Bahamas which, according to the Government, aim to ensure that the public in The Bahamas is able to access reliable, high quality mobile voice and data services that are in line with those available in developed economies.¹¹ URCA agrees with the Government and has advised the Government that it intends to introduce equivalent obligations by regulatory measure so as to ensure all operators are required to meet the standards set out by the Government.

3.6 Minimum Required Service Standards for IP Networks and Services

Question 9: Do you agree with the Minimum Quality of Service Standards proposed by URCA in Schedule 3? If not, propose an alternative minimum standard for the network performance metric with which you disagree and provide justification for your proposal.

BTC’s Response

Availability: No comments

Loss: BTC contends that this parameter is meaningless and should be deleted. However, if it is applied, the MRSS should be reduced to 1%.

Delay: BTC contends that this parameter is meaningless and should be deleted or made similar to other Caribbean countries. However, if it is applied, the MRSS should be tightened to less than 50 milliseconds.

Bandwidth: BTC contends that this parameter should be deleted or similar to other Caribbean countries. However, if applied, the MRSS should be reduced to levels between 50% and 95% of the speed in a Service Level Agreement (SLA).

CBL’s Response

¹¹ Quality of Service Obligations. The Government of The Bahamas Request for Proposals for Operating A Cellular Mobile Network and providing Mobile Services in The Bahamas.

Availability: CBL requested that the existing IOL parameter *Minimum Availability Time* be eliminated. The proposed QoS parameter *Availability* could be adopted, and CBL proposed an MRSS of 99%.

Loss: CBL posited that if the proposed metric is adopted, it should be measured using a crowdsourcing application selected by URCA or by the service provider performing automatic tests of the customer modems from a central point. If the proposed QoS parameter *Loss Ratio* is adopted, CBL proposes MRSS of 2% for services with destinations claimed to be suitable for real-time interactions (such as voice conversations and gaming) and 5% otherwise. CBL submits that for it to adopt this metric URCA should first choose, and define the details of, the measurement method to be used.

Delay: CBL recommended that this parameter should be adopted. However, if adopted, it should be measured by using either a crowdsourcing application selected by URCA or the service provider performing automatic tests of the customer modems from a central point and should not have an MRSS. If adopted with an MRSS, CBL proposes MRSS of 100 milliseconds for services with destinations claimed to be suitable for real-time interactions (such as conversations and gaming) and 400 milliseconds otherwise. CBL submits that for it to adopt the standard URCA should first choose, and define the details of the measurement method to be employed.

Bandwidth: CBL recommends that this parameter could be adopted. However, if adopted, it should be measured by using a crowdsourcing application selected by URCA and should not have an MRSS. On the other hand, if adopted with an MRSS, CBL proposes an MRSS of 75% of downlink test measurements should attain at least 75% of the advertised speed. CBL submits that URCA should first define the details of the measurement method to be employed before adopting this measure.

URCA's Response and Final Position

Availability: URCA does not accept the CBL proposal to reduce the MRSS to 99%. URCA considers availability to be one of the most critical performance indicators. CBL suggested MRSS of 99% implied downtime of as much as 14 minutes per day, or 7 hours per month (i.e. 87 hours per year). URCA is not minded to permit 87 hours of network unavailability. URCA considers that 99.9% which implies 9 hours of unscheduled downtime per year would more effectively promote improved network quality of service. URCA considers that this is reasonable because Licensees have two years to work towards this standard before URCA applies a penalty.

Loss: URCA accepts the proposal to delete this parameter. URCA believes that "Delay" parameter, as revised, would be an effective alternative. URCA proposes to review this decision on a going forward basis to take account of the consumer's experience.

Delay: URCA does not accept BTC proposal to exclude this parameter. Also, URCA does not accept BTC's and CBL's proposal to reduce the MRSS. However, Licensees are not precluded from offering shorter delay times than 233 milliseconds (ms), as proposed by BTC and CBL. Also, in URCA understanding, CBL's proposal of an MRSS of 400 ms would not promote the availability of high QoS networks and services in The Bahamas because it results from an inaccurate interpretation of the ITU recommendations cited by CBL, but URCA agrees to redefine the details of the measurement method to be employed as follows:

The statistic should be obtained from at least three (3) test sessions, separated from each other by at least twenty-four (24) hours. Each session should be conducted from a traffic-weighted location inside the Reporting Area during the Busy Time for the Service and should consist of sending the following ping command to the Regional Internet Registry (RIR) websites below:

- i. ping -n 100 www.arin.net*
- ii. ping -n 100 www.lacnic.net*
- iii. ping -n 100 www.afrinic.net*
- iv. ping -n 100 www.apnic.net*

Bandwidth: URCA reiterates that the purpose of these Regulations is to promote a high quality of electronic communication networks and services in The Bahamas. In URCA's view, this objective could be achieved by establishing appropriate parameters and setting clear, achievable targets for Licensees. Therefore, in light of comments received from BTC and CBL URCA agrees to reduce the proposed requirement 99.99% to 80%, which is in line with the standard obtained in the benchmarked countries.¹²

¹² Including the Channel Islands, Nepal, Saudi Arabia, Cyprus, Anguilla, Jamaica and Trinidad and Tobago.

4. CONCLUSION

URCA thanks the respondents for their contribution to the development of the proposed QoS regulation and network performance metrics for the ECS. The comments received were useful and important in determining URCA's final position on the concerns raised by the respondents. URCA will also publish as a separate document the finalised text for the *"Quality of Service Regulations and Network Performance Metrics for Electronic Communications Networks and Services in The Bahamas Under Sections 45 and 46 of the Communications Act, 2009"* alongside the publication of this Statement of Result and Final Decision. URCA looks forward to working with licensees and the public to ensure the effective implementation of its decision.