



The Bahamas Telecommunications Company Limited

Comments on

The Utilities Regulation and Competition Authority's
Public Consultation Results on the
Bahamas National Number Plan

Consultation Document
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TABLE OF CONTENTS

I. INTRODUCTION.....	3
II. SPECIFIC RESPONSES TO QUESTIONS.....	6
III. CONCLUSION.....	17

1. Introduction

In 2008, the then PUC issued on consultation on revisions to The Bahamas National Numbering Plan. Subsequently the Communications Act, 2009, became law and UCA succeeded the PUC. Given the elapsed time since the PUC's consultation, the new legal framework and the continuing evolution of the telecommunications market in The Bahamas, URCA decided to undertake a second consultation on the proposed National Numbering Plan. On 25 May 2010, URCA issued their conclusions from the 2008 consultation in the form of the *Results of the Public Consultation initiated in 2008* (referred to as URCA's report in this submission) and a revised draft of the Bahamas National Numbering Plan for public consultation. BTC believes that URCA was correct in adopting this approach and we would like to thank them for this opportunity to provide further comments on the proposals.

In reviewing URCA's documents, we detect that URCA have placed the interests of the end user and development of the telecommunications' market as their primary objectives, rather than the interests of any one licensed operator (including BTC). It is our opinion that this is the correct approach and in this submission, we have adopted the same priorities. In particular, we welcome URCA's focus on objective considerations rather than emotive and incorrect statements, regarding BTC, contained in some responses to the original consultation.

Overall, we believe that URCA have drafted a practical National Numbering Plan that will enable the telecommunications industry to grow and thus benefit The Bahamas. Consequently, we have not attempted to respond to each of URCA's conclusions in the *Results of the Public Consultation initiated in 2008*. Rather we have limited this response to those Questions and conclusions where we believe that the National Numbering Plan will benefit from further consideration.

URCA may assume that the absence of any comment against a specific question in this submission indicates our agreement with URCA's conclusions. However, we reserve the right to make further representations should URCA modify their current

conclusions. We would ask URCA to refer to our response to the 2008 consultation, in the first instance, if they need to understand our views on any point that is omitted from this submission.

One of the questions that we have not provided comments on is Question 12 as we agree with URCA's proposals that CO Code 555 should be used for Information Services. It is our opinion that, within the scope of the INC guidelines for code 555, such services can include Revenue Sharing services, i.e. the charges paid by the end customer for accessing the information or content provided is shared between the telecommunications operator and the service provider that supplies the information and content. In some countries such services are also referred to as Premium Rate services and their use can extend to 'voting' services in response to TV and radio programmes and donations to charity appeals.

We are aware that in the USA, at least, 1 900 numbers have been branded as Premium Rate numbers, rather than Shared Revenue services and have become associated with 'Adult Services' or pornography. Consequently there has been limited use of these numbers. However other countries have used numbering policy to distinguish between general content services and those relating to 'Adult Services' and seen a flourishing market develop in Shared Revenue services. It is for this reason that we believe that Shared revenues services, as described above have "service needs which may not be met by current numbering solutions, e.g., 976 and 900"¹.

We would also draw URCA's attention to our submission, dated July 19th 2010, on *Calling Card Services in the National Numbering Plan of the Bahamas*. That submission forms an integral part of our response to this consultation.

We would also like to comment on suggestions, from others, that Number Portability should have been included in this consultation. Number Portability is a significant subject in its own right and requires the consideration that it will receive in a

¹ Section 2.2. of ATIS-030004: 555 NXX ASSIGNMENT GUIDELINES Issue May 28, 2010

consultation dedicated to the subject. Therefore we welcome URCA's intention to undertake such a consultation. We will provide our comments at that time. However URCA may care to note that we recognize the perceived competition and end-user benefits that Number Portability may achieve, but we are also aware of the significant costs associated with it, particularly for a small market such as The Bahamas. We believe that achieving a balance between these two aspects will be difficult and we will be interested in URCA's evaluation of these potentially conflicting aspects.

We have structured the remainder of this submission based on the questions in PUC's original consultation and limit our comments to those questions that we believe will benefit from URCA's further consideration of its current conclusions.

2. Specific Responses

1. Do you support the PUC's position and its role of a neutral Numbering Plan Administrator? If not, what suggestions or recommendations would you make?

We welcome URCA's conclusions with respect to their overall responsibilities for the National Numbering Plan and, specifically, that they are avoiding any unnecessary changes to end-users telephone numbers even where the current CO codes have a low utilization rate.

We also support URCA's efforts to ensure that the proposed National Numbering Plan endures for a significant period and note URCA's recognition that new National Numbering Plans should last for 20 years, or so. We are therefore surprised that URCA is only predicting that the current National Numbering Plan will endure until 2016, some six years from now. If URCA genuinely believe that the capacity will be effectively exhausted in 2016 then they will need to start their work on redesigning the National Numbering Plan next year, as exhaustion implies a fundamental re-design and experience elsewhere indicates that the such a re-design and the subsequent implementation can take between 4 and 5 years.

Although we have not attempted to undertake a detailed demand forecast for this response, BTC's original submission to the PUC included the UN population forecast for 2030 of just over 400k people. It is our belief that the current National Numbering Plan capacity (equivalent to approximately 20 numbers per forecast head of population in 2030) should endure for many years and we urge URCA to set a more ambitious target duration for the National Numbering Plan to avoid the fundamental changes within 6 years that are implied by URCA's comments.

It is in this context that we agree with URCA's conclusion that they must set targets for service providers to achieve before they may be assigned additional CO Codes. However we believe that the proposed targets are unachievable in practice and that the calculation of 'fill capacity' needs significant clarification.

We have undertaken a review of 'fill capacity' (or utilization) targets established in other countries, although we do not claim that it is exhaustive. URCA note in their report that every country has a unique telecommunications market and those international comparisons must be treated with care, nonetheless we believe that helpful guidance can be obtained from international practice. We have found that it is only those countries that have revised their National Numbering Plan in recent years that have included such targets and even then not all countries have adopted this approach. The following table summarizes our review:

Country	Target
Germany	75%
Jordan	65% - 80% depending on the service type
Malaysia	70%
Pakistan	50%
Singapore	50% to 80% depending on service type
South Africa	60%

Whilst we recognize that all of these countries are different in terms of geography, economy and demographics to The Bahamas they provide a wide range of telecommunications markets. In all these cases, there is no "expectation of a date in the future when 100% utilization will be achieved", or even of any future utilization.

The only criterion is the utilization at the time of the application for additional number block(s). One of the reasons that 100% can never be achieved is that URCA, in the draft National Numbering Plan, requires service providers to ‘age’ numbers that have previously been in use for 90 days (in the case of residential customers) and 365 days (in the case of business customers). We believe that this ‘aging’ is the correct approach but it does mean that 100% is an impossible target.

Likewise, there is a significant period from the time when a service provider orders new SIM cards from their supplier and the point in time that it is in in-service with customers. The time from SIM order to delivery is measured in weeks and then there is the period when the delivered SIM cards are in retail outlets waiting for end-users to take service. During the whole of this period the number is unavailable for use by a customer visiting another retail outlet.

In addition the provision of a ‘roaming’ service for international visitors requires BTC, and all service providers to have numbers within their network that are available for such visitors to be assigned on a temporary basis to facilitate call routing. It is inevitable that at any point in time there will be a proportion of these ‘roaming’ numbers that are not in-use.

Given the international experience, the above observations and our own judgment, we strongly urge URCA to set the target at 75% without any impractical requirement that the *“the remaining 15% is forecast to be exhausted within a six month period”*.

We have not identified an explicit means of calculating ‘fill capacity’ within the draft National Numbering Plan or its appendices. Although we have noted that Section 11 of Appendix 1 of the proposed National Numbering Plan includes:

TN's (Telephone Numbers) Available for Assignment

The quantity of telephone numbers within existing CO Codes which are immediately available for assignment to subscriber access lines or their equivalents within a switching entity/POI.

TN's (Telephone Numbers) Unavailable for Assignment

The quantity of telephone numbers within existing CO Codes which are not immediately available for assignment to subscriber access lines or their equivalents within a switching entity/POI. Examples include numbers required for maintenance testing, numbers reserved for specific customers or specific services, disconnected numbers on intercept, pending connects or disconnects.

If URCA adopts a utilization target then these definitions need to take account of the factors that we have identified and clearly state how the utilization will be calculated. When the URCA designs the utilization calculation is it critical that it takes account of the fact that CO codes for fixed-line and mobile services are assigned on an Island basis.

2. Do you agree with the PUC's assessment on the allocation of Central Office Codes? If not why?

BTC has reviewed the list of CO codes that we have used within our network and confirm that the list produced by URCA is correct, with the exception of CO Code 333 which is used for fixed-line service in Harbour Island and Spanish Wells, Eleuthera. URCA should include this code in their list. We cannot comment on the CO Codes used within other service providers' network.

3. Do you feel that the current allocation is appropriate? If not, how would you propose that the allocation be changed?

In BTC's opinion, URCA is correct to recognize both the end-user difficulties caused by forced number changes and the decisions recently made by the PUC with respect to CO Codes already allocated to BTC. We believe that the proposed approach will not prejudice the Numbering Plan capacity and, by endorsing the PUC's decisions, URCA provides regulatory certainty.

6. Do you agree with the PUC's assessment on the current allocation of the other Vertical Services Codes? If not, provide examples of other codes in use.

BTC notes URCA's concerns that some of the Vertical Service Codes activated in our networks are not all used in accordance with the NANP standard. We do not believe this to be the case and, to our knowledge we have followed the NANP standard. In formulating this response to URCA we have reviewed our use of the Vertical Service Codes 52# through 57# and 74#. This has confirmed that codes that *52 through *56 are not currently being utilized in BTC's networks. Code *57 is used for Customer Originated Trace and Code *74 is used for Speed Dialing (8 digits).

7. Do you agree with the PUC's assessment on the adequacy of Central Office codes for future growth? If not, why?

In the response to PUC's consultation, BTC argued that, for reasons of 'tariff transparency', the currently unused 3XX CO Codes should be designated for fixed-line' services. Having now considered URCA's report we accept that efficient use of the available numbering resources is a key issue and agree with URCA's conclusions.

We also agree that all Network Operators have a responsibility "to find solutions for a more efficient use of all numbering resources." If the required efficiency is to be achieved then all Network Operators will have to implement the identified solutions. Therefore it is imperative that they all participate in the process of identifying the solutions and URCA will have an important role in facilitating these discussions between competitors.

In our response to Question 1, we acknowledged the necessity of having targets for 'the utilization. Once again we urge URCA to utilize the experience from other countries in setting realistic, practical targets that achieve the intended aims of such targets.

8. Do you agree with the PUC's assessment on the adequacy of codes for future cellular mobile growth? If not, why?

BTC believes that URCA is correct to provide a focus on efficient use of the available numbering resources, as our response to several of the questions demonstrates. We stated in our response to the PUC and re-iterated our position in our response to Question 7, above, that solutions to improve the efficient use of these resources must be implemented by all Network Operators. It would be fundamentally wrong for any one operator to design such solutions as they must be practical for all operators to implement. Indeed other operators could argue that the one operator would have a significant competitive advantage if they are permitted to design the solution(s). Given these considerations we cannot accept URCA's position that they "expect BTC to offer solutions to improve the efficiency of utilization of CO code resources". However we do recognize our responsibilities and repeat our offer in our response to PUC and Question 7 to work with URCA and other Network Operators to identify and implement solutions to achieve a high utilization of the available capacity.

We are extremely concerned at URCA's statement that they intend "... forcing operators to use their spare capacity for new services that they are introduced." Depending on the services concerned and the call tariffs this may be appropriate. But different services are dependent on different technologies and therefore there are significant practical issues to be considered as these future services are introduced. Equally, tariff transparency cannot be ignored by URCA and, should two services with very different call tariff structures share the same CO codes, end users will have legitimate reasons for complaining about unexpected call charges. URCA should carefully reconsider the consequences of their statement and adopt a more appropriate approach that balances the practical, the end-users and utilization efficiency. It is our view that similar services and call tariff arrangements can share CO Codes in the interests of efficient use of numbering resources, but that dissimilar ones should not for the reasons discussed above.

10. Do you agree with the PUC's allocation of the Easily Recognizable Codes (ERCs) codes in triplicate, e.g., 222, 333, 444, etc., within the 242 NPA for service identification? If not, why?

In our original response to PUC, BTC questioned the demand for such numbers. We also stated that we have no hard evidence about the likely future demand. Given URCA's correct emphasis on the efficient use of the available numbering resource we were surprised that they intend to adopt the PUC's approach. We repeat our view from our response to PUC, that these numbers should be designated for Future Services. This approach will permit URCA to adopt their preferred policy once demand is identified, without preventing a more flexible approach, focusing on efficient use of the resources, should demand prove to be more limited.

In our original response to Question 11 of PUC's consultation we emphasized that CO Code 333 is in-service for fixed line services in Harbour Island and Spanish Wells, Eleuthera. This remains the situation today and if 333 are re-designated for service identification just under 2,000 customers will be forced to change their number. We do not accept that these customers should be forced to undergo the disruption resulting from a forced number change for the benefits of service identification, when the demand for such identification is completely unknown.

On behalf of these customers, and all other customers wishing to call them, we strongly object to the proposed use of 333 for service identification as the resulting costs cannot be outweighed by some future, theoretical, un-quantified benefit.

11. Do you agree with the PUC's recommendation to revoke the 333 and 999 codes and reassign those services? If not, why?

BTC welcomes the weight that URCA has given to the interests of end-users in reaching their decision. We also believe that it is correct that all licensed operators should adopt 999 as an 'on-net code' and ask URCA to note that it is used within the sector for Station Identification / Telephone Number Identification to facilitate maintenance.

In response to Question 10, above, we repeated, from our submission to PUC, our strong objections to URCA revoking 333 because of the disruption and cost that it will cause to customers using these numbers. If URCA decides to override these considerations, it is imperative that they provide advance notice of the change and sufficient lead time ensure a smooth migration and transition of the currently active subscribers.

We understand that other countries that have changed the numbers of end-users typically provide a minimum of 2 years notice and that, until recently, the ITU requested 'at least' two years notice to be given to other countries that may have subscribers that call the numbers that are changing.

13. Do you agree with the PUC's recommendation of the evolution of short codes from the 9XX series to the 1XX series?

We accept the URCA's current proposals as we believe that they are aligned with the interests of end-users. A minor issue is that we could not find the proposed use of the codes 121 and 131 in the draft National Numbering Plan. URCA may wish to check that their intentions for these codes are adequately described in the National Numbering Plan when it is adopted.

16. Do you agree with the PUC's proposal that the numbering resources within the 242-300 code be made available to all service providers? If not, why?

17. Do you agree with the PUC's proposal that each service provider be identified according to the NXX thousand block line numbers and that the host central office route the call to the desired service provider? If not, why?

18. Do you agree with the PUC's proposal to perform an audit of the existing 242 300 resource to determine assigned and spare line numbers in the NXX? If not, why?

19. The PUC proposal does not support the assignment of a second toll free code, but the PUC invites comments on the assignment of a second CO code for domestic toll free purposes. For example, BTC would assign codes from the 242 300 range and competing service providers would assign codes from another CO code?

20. If a second toll free code is assigned to a competitive service provider, what NXX code should be assigned and what method of service provider identification should be used?

BTC agrees that it is important that end-users understand the significance of 242-300 as a toll free code and therefore accepts that all service providers have access to these numbers.

We note that URCA has accepted our concerns that only 10 service providers can be accommodated by the original proposals. Therefore we are surprised that URCA intends to adopt the identification of service providers through the number block assigned to them, albeit extending the approach to permit 20 service providers.

We urge URCA to consider this matter again as it will:

- artificially constrain the market if a significant number of service providers seek to start business;
- introduce inefficiencies in the use of the available capacity if individual service providers require a limited quantity of numbers or require just more than 500 numbers;
- creates the potential that existing service providers, who will have invested in customer loyalty through their use of the individual numbers, will be forced to change their numbers to achieve free blocks of 500 numbers.

It is for the last of these reasons that we welcome URCA's proposed audit of the current use of the 242-300 numbers.

BTC notes URCA's comments that BTC is required to route Freephone traffic to each operator in accordance with the assignments that will be published by URCA. We have already made provision for this traffic in section A9 of our draft RAIO.

21. Do you agree with the PUC's proposal that the numbering resources within the 800 - 389 code available to all service providers? If not, why?

BTC is pleased at URCA's confirmation that the current limited use of these numbers is legitimate. We concur with URCA's conclusions and in particular the fact that call routing and interconnection arrangements will need to be formalized before the proposal can be successfully implemented. We will assist URCA in their proposed audit of the current use of these numbers.

25. Do you agree with the PUC's proposal that the assignment of CICs to international service resellers should be allowed? If not, why?

26. The PUC invites comments on whether there is the need for such assignments in the Bahamas and if their use is technically feasible? If not, why?

29. Do you agree with the PUC's recommendation that wire-line domestic service resellers should be assigned CICs? If not, why?

Questions 25, 26, and 29 all refer to certain aspects of Carrier Identification Codes (CICs). Rather than provide separate, and potentially repetitive, answers we address the topic here.

Our submission to the PUC contained our detailed consideration of CICs. We endorse URCA's views that the Telecommunications Market in the The Bahamas is a distinct market that is different from other members of the NANP. As URCA oversees the development and liberalization of the market these differences are likely to increase. The evolving, detailed regulatory regime will determine the attractiveness of the market to resellers, both international and domestic. Nonetheless the relatively small population and the absence (in international comparative terms) of a high level of migrant labor, implies that the market will be of limited attractiveness to resellers.

As we stated in our submission to the PUC, a critical issue with CICs is that they are digits that are dialed in addition to the required telephone number. Therefore the

number of digits used for the CIC can itself influence the market development, as a long series of dialed digits can inhibit customers from using the service.

We note that neither URCA's Report nor the draft National Numbering Plan addresses this issue, although they clearly state URCA's intention to use the code set 10X. URCA is unclear whether they will limit the codes to just three digits or adopt some longer code. This uncertainty will hinder the development of this market. It is our strong opinion that limiting CICs to three digits, i.e. just nine unique codes, is inadequate for the potential number of international and domestic resellers. Equally, we find it difficult to imagine a market of more than 99 resellers in The Bahamas.

Therefore we re-iterate our comments from our submission to the PUC that four digit CAC/CIC should be clearly included within the National Numbering Plan.

We continue to believe that a code from the '9' series is appropriate for this purpose, however we accept URCA's decision to use the 10 code set.

34. The PUC invites comments on the use of the remaining N11 codes: 211-811, in The Bahamas.

Whilst we argued against PUC's proposal to use N11 codes for specific services we recognize the potential end-user benefit of such an approach. It is our opinion that URCA's intention to make limited use of these codes, whilst reserving the unused codes until demand is proven and justified by the utilization of the allocated N11 codes.

We ask URCA to note that BTC have recently initiated our own review of the N11 codes. The results reveal that CO Code 411 is being considered to facilitate the proposed Directory Assistance Call Completion feature, because of its universal appeal.

36. The VSCs 94 to 99 have been set aside for local use and the PUC invites opinions on the appropriate use of these numbering resources within The Bahamas.

We believe that URCA is correct in its approach as it will permit licensed operators to innovate as technology develops. As URCA will be coordinating the use of these codes we request that URCA acknowledges the current use of *94.

39. The PUC invites comments on the appropriate use of the 1XX range in the Bahamas.

We agree that URCA should retain flexibility for future assignments by avoiding decisions about the 1XX range until the telecommunications' market has developed further. It is for this reason that we are disappointed that URCA has decided to use the code set IOX for CICs, rather than a code set from the '9' series as we suggested to the PUC.

41: Do you agree with the PUC's proposal that the allocation of short codes be made into three categories: Public Interest, Common, and Service Provider specific? If so, by what ratio? If not, why?

Having considered URCA's rationale, we continue to believe that two categories are sufficient. However, we note and accept URCA's conclusions.

42. Do you agree with the PUC's proposal that the Guidelines be accepted and used by the PUC, as the Bahamas National Numbering Plan Administrator? If not, why?

BTC endorses URCA's intention to ensure that the Guidelines reflect the final determination and suggest that an editorial review should be conducted at the same time to remove the few remaining references to PUC and other minor inconsistencies.

3. Conclusion

Again, BTC has welcomed the opportunity to review and revise (where necessary) the submissions made on the draft Bahamas National Numbering Plan in September 2008 and with the exception of BTC's highlighting of the need for URCA's further

consideration in specified areas, BTC is generally pleased with URCA's draft decision.

4. Reservation of Rights

BTC has addressed the issues but reserves the right to comment at any time on all issues and states categorically that the decision not to respond to any issue raised in this Consultation in whole or in part does not necessarily represent agreement in whole or in part with URCA's position, nor does any position taken by BTC in this consultation mean a waiver of any of BTC's rights in any way. BTC expressly reserves all its rights.

Legal, Regulatory and Interconnection Division
The Bahamas Telecommunications Company Limited (BTC)
July 29th, 2010