



THE BAHAMAS NATIONAL NUMBERING PLAN (2008)

**Results of the Public Consultation Initiated
in 2008**

ECS 19/2010

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UTILITIES REGULATION & COMPETITION AUTHORITY

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1 Introduction

The National Numbering Plan (NNP) public consultation process for The Bahamas was started by the Public Utilities Commission (PUC), who was the regulator at the time, with the publication of the NNP Consultation Document on May 26, 2008. The consultation was to be concluded August 15, 2008 however, that closing date was extended to September 26, 2008 based on requests from both the Bahamas Telecommunications Company Ltd. (BTC) and System Resource Group Ltd. (SRG).

The completion of the work by the Utilities Regulation and Competition Authority (URCA) in this consultation process was delayed with the introduction of new electronic communications sector legislation in 2009 and the subsequent transition of the PUC to URCA, as the new regulator. This transition process resulted in the re-prioritization of some of the work already started by the PUC.

The Statement of Results document sets out URCA's analysis of the responses to the consultation which contained proposals for a National Numbering Plan and related numbering guidelines for The Bahamas. This document is being published as the Statement of Results to the initial consultation, along with the draft National Numbering Plan.

URCA therefore now invites additional comments from the industry and the general public on both documents before it makes its final decision on the administration of numbering resources in The Bahamas.

2 Submitting Comments

Written submissions or comments on these documents should be sent to the Chief Executive Officer, URCA, either:

- (a) by hand to URCA's office at Fourth Terrace East, Centerville, Nassau; or
- (b) by mail to P.O. Box N-4860; or
- (c) by email, to info@urcabahamas.bs; or
- (d) by facsimile to 1 242 323-7288

to be received by 30 July 2010.

On reviewing and assessing all responses, URCA will issue its final decision and subsequently publish the National Numbering Plan (NNP) and related guidelines.

3 Background

The Public Utilities Commission (PUC) took over the administration of numbering resources in The Bahamas from the Bahamas Telecommunications Corporation (BTC)¹ around 2004 when a study was commenced on the allocated and assigned numbering resources in the country. This resulted in the initiation of the NNP Public Consultation in 2008. The Utilities Regulation and Competition Authority (URCA) which replaced the PUC on September 1, 2009, is now completing the NNP consultation process with the publication of the Statement of Results and the National Numbering Plan documents in draft form. These are in draft form so as to solicit further comments in consideration that new legislation has been introduced that changed the licensing regime for the sector.

The Bahamas, as a member of the North American Numbering Plan (NANP) originally shared the 809 NPA² with other countries in the Caribbean and Bermuda. In October 1996, The Bahamas was assigned its own exclusive 242 NPA which was introduced with permissive dialing (permitting calls to be processed with both the old and the new codes) that ended at 12:01 EST on Monday March 31, 1997.

URCA believes that with good administration and utilization of the resource, the telephone number capacity under the 242 NPA code would be sufficient to satisfy the demands of the sector until the year 2016³.

Pursuant to Section 79 of the Communications Act (Comms Act), URCA is empowered to prepare and publish a numbering plan and to make rules pursuant to that plan for the allocation of numbers and the use and assignment of those numbers to licensees. URCA is required under the Comms Act to promote the efficient use of numbering resources in The Bahamas. Therefore the re-launch of the NNP Public Consultation process is deemed appropriate to satisfy that all stakeholders would have an opportunity to respond, since the new legislation provides for the immediate full liberalization of the fixed line market and the staged liberalization of the cellular mobile market⁴.

The Bahamas Telecommunications Corporation (BaTelCo), now the Bahamas Telecommunication Company Limited (BTC) was previously both the numbering administrator

¹ The administration of numbering resources were fully transitioned by about 2004 when the PUC started work on a study of allocated and assigned resources and the subsequent publication of a Public Consultation on the National Numbering Plan.

² The NPA is the Numbering Plan Area code that was more commonly referred to as the “Area Code”.

³ A 20 year period is the traditional time frame for a viable NPA resource.

⁴ Two new cellular mobile operators are to be licenced two years following the privatization of BTC.

and the monopoly incumbent provider of voice telecommunications services.⁵ BTC at that time had responsibility to assign itself numbering resources for its own operation. During the transition of numbering administration from BTC to the PUC, central office codes were assigned to Systems Resource Group limited (SRG) by the PUC for the operation of their public fixed radiocommunication system that was licensed to provide telecommunications services (except cellular mobile) in New Providence, Grand Bahama and Abaco.

URCA believes that since the electronic communications sector is now regulated under a new legislation, the sector and the general public should be given another opportunity to offer comments before the National Numbering Plan for The Bahamas is finalized.

4 Overview

The comments and analysis that follows are based on the proposals set out in the 2008 NNP public consultation document.

The participation from the respondents was invaluable and the responses received were insightful. Answers to the specific questions posed in the consultation document were well reasoned and URCA thanks the respondents for their participation.

5 Respondents to the Consultation

Three companies and one individual responded as follows:

- The Bahamas Telecommunications Company Limited (BTC);
- Systems Resource Group Limited (SRG);
- Cable Bahamas Limited (CBL); and
- Mr. Robert K. Samia.

URCA wishes to thank the respondents their participation in the consultation process.

The full text of their responses can be found at www.urcabahamas.bs.

⁵ The Telecommunications Sector Policy, Revised 2002, provided for SRG to be licensed to provide fixed line services as of January 2004, in competition with BTC. This meant that SRG was then also authorized to use numbering resources in its network.

6 Summary of Responses and Proposed Actions

The consultation document presented proposals and raised issues related to the administration of numbering resources in The Bahamas through a series of forty-two (42) questions.

The responses were mixed in their agreement or otherwise with the proposed NNP and related guidelines. The majority of the respondents were generally in agreement with the proposals and guidelines put forward in the consultation document. A summary of the views is as follows:

- The Regulator should make public its position on number portability; and number portability should accommodate fixed lines and mobile phones.
- New NXX code ranges may be needed for convergence services.
- Numbers must be associated with services for which they are allocated.
- The Telecommunications Sector Policy did not permit the issue of a Resellers' license.

URCA notes the comments that specific NXX code ranges may be needed for converged services and that numbers must be associated with services for which they are allocated. The matter of awarding licences to resellers is now a mute point, since the electronic communications sector is under new legislation that fully liberalizes the sector with the exception of cellular mobile services. This is discussed in more detail in responses to specific questions.

These responses along with other specific comments and URCA's proposed actions are addressed below.

7 General Comments

This section of the document addresses general comments that were not related to any specific question

7.1.1 The Bahamas Telecommunications Company Ltd. (BTC)

General Administration of Numbering Resources

BTC offered several general comments regarding the administration of numbering resources, including the reliance on satisfying the end-user, as an objective of developing the Numbering Plan. BTC believed that the essence of the regulator's role was captured in the text and is aware of the challenges they will face and looked forward to supporting the regulator in their endeavors.

They argued that every telecommunications market is different and that, in addition to the three key objectives identified to develop the National Numbering Plan, there was a fourth objective: ensuring that the interest of The Bahamas and the National Numbering Plan was addressed in an international forum, particularly the NANP.

BTC prepared a table comparing The Bahamas with 8 countries relative to the available central office telephone number capacities; population; and current utilization per population. They commented that the comparison showed that the current utilization was aligned with the majority of those countries, although some of them have revised their plans to ensure more than 100 telephone numbers per head of population.

BTC felt that it was important that the available capacity effectively by reserving unused capacity for future needs.

They also suggested that the regulator should be a full and active member of the Industry Numbering Committee (INC) as it considered the evolution and future direction of the NANP.

BTC went on to suggest that the regulator should reconsider its list of 'new services' and delete obsolete services like Paging, while recognizing that innovation will drive the delivery of currently unimaginable services.

They supported the statement on the assignment of numbers, but suggested that the regulator must recognize that unreasonable refusal of number assignment affects end-users while distorting and retarding competition.

BTC continued that some revisions to the Numbering Plans' Policy Objectives should be considered: (1) deletion of the term 'PSTN' by use of a wider phrase reflective of the growth and development of the telecommunications services; (2) addition of ITU recommendations along with reference of Q.705 for the use and assignment of Signaling Point Codes; and (3) the addition of a fourth objective previously outlined above.

URCA's Proposed Further Action/Comments

URCA notes the general response from BTC and acknowledges that BTC felt that the essence of the role of the regulator as the numbering administrator was captured. URCA recognizes that telecommunications is an evolving industry and that each country may be at various stages in the deployment of new technologies.

It is also cognizant that the central office code capacity under the 242 NPA defines the amount of telephone numbers available to the sector. While other countries may have specific working ratios of telephone numbers per population, these ratios cannot be literally imported as a benchmark for assignments in The Bahamas.

Other countries may have larger telephone number capacities to work with under their country codes; and there may be legacy positions already established that facilitates a greater tolerance to inefficient use of numbering resources. This included the assignment of multiple NPAs in a country. The Bahamas is assigned a single NPA and must therefore manage the assignment of central office codes in an efficient manner to promote the objectives of the numbering policy in the NNP.

URCA is planning to become more active in local, regional and international fora associated with the regulation of the sector for the interoperability of all services.

The consultation document did not present a list of any ‘new services’ as suggested by BTC. Question 12 asked: “In the future, what types of new services or applications would impact the assignment of numbering resources and potentially cause the exhaust of the 242 NPA?”

The assignment table presented in the consultation document did not specify which CO codes were assigned to paging services, those codes were instead only listed as assigned to fixed wire line services. BTC in its response correctly noted that the CO codes 380, 381, 382, 383 and 384 were assigned in their network to Paging Services. URCA is not proposing to revoke codes with low utilization rates, but rather expects that CO codes would be released by service providers as the assigned services become obsolete and codes become vacant.

URCA notes BTC’s response that regulator must recognize that unreasonable refusal of number assignment affects end-users while distorting and retarding competition. URCA notes that the NNP states that operators may apply for CO codes to be assigned either as an initial code or as additional codes.

The guidelines are clear that initial codes would be assigned to licensed service providers. However service providers would not be assigned additional CO codes until their previously assignments have reached an 85% fill capacity and the remaining 15% is forecast to be exhausted within a six month period. URCA adherence to this guideline should not be interpreted as an unreasonable refusal to assign additional codes, rather as fulfilling its duty to efficiently manage numbering resources. This obligation is required to ensure that the capacity under the 242 NPA is able to satisfy market demand for the expected life of the NPA.

URCA notes BTC’s comment that the term “PSTN” could be interpreted to refer to the voice based network rather than to evolving services. URCA believes that the term is general enough to identify networks to which end users are connected rather than to specifically identify the technology. The National Numbering Plan objectives seeks address the administration of numbering resources and the term is use in the context of addressing so networks could identify the location of the desired called party and successfully route the call and establish the communication path.

7.1.2 Systems Resource Group Ltd. (SRG)

SRG made three preliminary points in responding to the consultative document.

1. PUC mis-stated the Scope of SRG's License

SRG strongly disagreed with the regulator's description of their licence, i.e. SRG is licensed to provide fixed voice services via wireless local loop. Instead, SRG contended that it was licensed to operate and provide *"Public Fixed Radiocommunications Systems and telecommunications services of every description within, into, from or through the Service Area other than the Excluded Systems and the Excluded Services ..."*.

URCA's Proposed Further Action/Comments

The Public Consultation on the NNP was drafted specifically to address numbering resources associated with the delivery of fixed and mobile services. Hence the reference to the SRG licence was specifically in reference to their right to provide fixed voice services in the licensed areas.

The new legislation has now made this a mute issue.

URCA proposes that no further action is required.

2. Local Number Portability

SRG also noted that the PUC was silent on the subject of Number Portability. Number Portability in The Bahamas they stated, should accommodate separate portability for fixed lines and mobile phone lines.

CBL believed that local number portability (LNP) should be given equal priority to the National Numbering Plan. This was CBL's only response to the consultation document on NNP for The Bahamas.

URCA's Proposed Further Action/Comments

URCA acknowledges that the document does not address Local Number Portability (LNP) but notes that LNP requires its own study that would result in a separate Public Consultation. It is expected that LNP for fixed-to-fixed and mobile-to-mobile services would affect the general concept of the administration of central office numbering resources in the sector.

It is expected that the LNP public consultation process would be initiated later in 2010. This work would lay out the process for the introduction and administration of LNP.

3. Local and International Resellers

SRG was of the opinion that the Telecommunications Sector Policy did not raise the matter of licensing resellers of telecommunications services and therefore they considered that the PUC did not have the power to licence a reseller. SRG noted that they expressly reserved its rights to challenge any future issue of a reseller's licence.

URCA's Proposed Further Action/Comments

The NNP was not envisaged to be the document to decide whether or not a licence should be awarded by the regulator. Further, the NNP was expected to be able to survive well into to first stage of full sector liberalization. Hence the issues raised in the consultation document sought to address how resources should be allocated and assigned.

The telecommunications industry is separated into international and domestic markets and resellers may operate in either of these. Domestic resellers includes both wireline and wireless service providers.

Generally speaking, resellers buy bulk capacity from licensed operators, and then resell that capacity to its own customers on a retail basis, but without adding value to the product. These resellers may rebrand the product as their own. A reseller would therefore be considered to be a non-facility based entity.

A domestic reseller would be an entity that purchases and retails bulk capacity in the domestic market. An international reseller would be considered to be resellers of an international service.

Virtual Network Operators, operating as both wire line and wireless service providers are considered to be resellers. While these resellers may be non-facility based, it may be difficult to determine to what extent they could enhance their equipment before they should be classified as a facilities-based service provider and not a reseller.

An international reseller would be a service provider who purchases bulk international services from a licensed operator and retails it to his own customers, without adding value to the end product.

URCA has taken the position that numbering resources would only be assigned to licensed operators. If a potential service provider is unable to satisfy URCA's licencing criteria, then he would be unable to obtain numbering resources. It is noted that the main resource in question is central office codes. URCA notes that central office codes are intended to be assigned to

operators establishing a central office⁶. A reseller who does not have a central office would not have the appropriate facilities to be considered to be assigned central office codes.

7.1.3 Cable Bahamas Limited (CBL)

CBL noted that local number portability (LNP) was needed to prepare the sector for fair and equitable competition and that consideration should be given to have LNP as a priority in the National Numbering Plan.

They felt that the administrative duties of the regulator would be greatly reduced in the allocation of central office codes if LNP is addressed at the time when new entrants are ready to launch competitive services.

CBL recommended that all licensed operators must be able to offer LNP one year after the sale of BTC.

URCA's Proposed Further Action/Comments

URCA noted the comments and recommendation offered by CBL. Under the new licensing regime, URCA is initiating work for the introduction of LNP in its 2010 Annual Work Plan.

7.1.4 Robert K. Samia

Mr. Samia recommended the use of 10 digit dialing for both local and domestic long distance calls to avoid the confusion of having to know when to prefix the 242 NPA (area code).

URCA's Proposed Further Action/Comments

URCA notes this response and thanks Mr. Samia for his comments. URCA will continue to monitor the use of resources and the deployment of new technologies and services in the sector.

At present, the dialing plan calls for local 7-digit dialing, but URCA will monitor the need to introduce local 10-digit dialing, if it becomes necessary to improve end user access to the PSTN.

⁶ A central office is a network where subscriber's lines are joined to switching equipment for connecting other subscribers to each other either within a local environment, or internationally. Central office codes are used to identify subscribers on the originating network and route calls to subscribers on the terminating network.

Analysis of Responses

CBL and Mr. Robert Samia did not offer comments to any specific questions.

8 Analysis And Responses To Questions In The Consultation

Question 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?

Both BTC and SRG responded to this question.

BTC

BTC supported the PUC's positions and its role of a neutral Numbering Plan Administrator offering comments to assist the PUC in the development and administration of numbering resources.

SRG

SRG supported the PUC's position and its role of a neutral Numbering Plan Administrator, without additional comments.

URCA's Proposed Further Action/Comment

URCA notes that both SRG and BTC responded to the question and they supported the position of the PUC as the neutral Numbering Plan Administrator for The Bahamas.

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

Both BTC and SRG responded to this question.

BTC

BTC agreed with the PUC's assessment with the following amendments and augmentations:

376 – GSM Cellular Mobile	BTC New Providence
380 – Paging Services	BTC New Providence
381 – Paging Services	BTC New Providence

382 – Paging Services	BTC New providence
383 – Paging Services	BTC New Providence
384 – Paging Services	BTC New Providence
439 – GSM Cellular Mobile	BTC Grand Bahama
448 – GSM Cellular Mobile	BTC New Providence
533 – GSM Cellular Mobile	BTC Grand Bahama
553 – TDMA Cellular Mobile	BTC National
559 – TDMA Cellular Mobile	BTC National
565 – GSM Cellular Mobile	BTC New Providence
636 – TDMA Cellular Mobile	BTC New Providence

SRG

SRG disagreed with the PUC’s assessment on the allocation of Central Office Codes. They advised that their NXX assignment was as follows:

- *676 and 677, New Providence*
- *687 and 688, Grand Bahama*
- *698 and 699, Abaco*

SRG also indicated that the NXX 357 assigned to BTC for TDMA cellular mobile services in New Providence was also being used in Abaco, Andros and Grand Bahama for cellular services. They noted that there are other such examples.

URCA’s Proposed Further Action/Comment

Both BTC and SRG offered corrections to the table of assigned Central Office NXX Codes as noted in the detailed responses above. They have been noted and the appropriate changes will be made to the Allocation and Assignment Tables in the NNP.

It was noted that this would be the first time that the industry was publicly engaged as to the accuracy of assigned Central Office Codes since the responsibility for numbering administration was transferred BaTelCo/BTC.

The updated Assignment Table would now be used as the base for future assignments of the numbering resource. Any other use of central office codes would be assumed to be an unauthorized use of resources that could invoke enforcement actions, including a full audit.

The revised Assignment Table will be included in the final NNP document and would also be regularly updated on URCA’s website: www.urbahamas.bs.

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

Both BTC and SRG responded to this question.

BTC

BTC agreed with the proposal that the current allocation is appropriate. They did not support the proposal for number changes, both because of the disruption it will cause to end users by unreasonable number changes and because of broad adequate numbering capacity for known needs and a degree of capacity for unknown future requirements.

BTC noted its desire to retain the TDMA NXX assignment for migration to the GSM mobile network. This was to allow end-users to carry their TDMA mobile telephone numbers over to the new GSM mobile network, thus increasing the GSM mobile network capacity by 190,000 telephone numbers.

One allocation BTC strongly supported was the allocation of 8XX for future growth without any specific purpose. They stated that this would ensure that more than 20% of the capacity was set aside for new services. BTC suggested that the PUC should use other unassigned allocated NXX codes from the allocated ranges before allocating any of these codes for use.

SRG

SRG expressed its disagreement with BTC's practice in its mobile network of mixing both "calling party pays" and/or "receiving party pays", particularly where a fixed line customer calls a local mobile customer on the same island and the receiving mobile customer incurs a charge.

This was unlike a mobile subscriber originating the same call. SRG's view was that the receiving mobile customer should know whether to accept the call and incur a charge, or deny the call based on the information provided in the caller ID. They argued that NXX codes should help consumers distinguish between services and that NXX codes should not intermingle fixed and mobile numbers, such that a fixed line NXX should not be in the middle of a block of mobile NXXs. SRG gave as an example BTC's fixed line central office code NXX 461 that is assigned in the 4XX range with cellular mobile services.

URCA's Proposed Further Action/Comment

This section analyzes the current allocation of Central Office (CO) codes within The Bahamas Numbering Plan Area (NPA) Code '242'. The term "allocation" was used intentionally to differentiate between it and "assignment".

To allocate a numbering resource is to identify its intended use, e.g., geographic, wireless, or special services, by telecommunication sector. To assign a numbering resource is to reflect the

allocation by actually assigning a specific block(s) of the resource to service providers to use for the stated purpose (allocation).

SRG makes an important point that touches the essence of numbering and the need to protect customers by creating a plan that is easy recognizable by the users in identifying services.

Additionally, numbers used by the end-user should be able to convey sufficient information for the end-user to determine whether an incoming call is one that attracts a termination fee and whether it is a call that he would like to receive.

URCA noted SRG's opinion that BTC's mobile network structure limits the amount of information being conveyed to end-users enabling them to always distinguish incoming fixed line and mobile calls. This legacy issue would require an extensive number change program to fix the existing allocation.

There was an opportunity to address some of these issues without a number change when BTC decommissioned the TDMA cellular system. This would have facilitated the recovery of central office codes in the 3XX block, permitting this block to be exclusively allocated to fixed line services. BTC insisted and the public was encouraged to lobby to retain and migrate their TDMA telephone numbers over to the new GSM mobile network even though the GSM network had been already assigned adequate NXX codes in other blocks.

This issue has already been resolved with the regulator authorizing BTC to use the assigned TDMA CO codes on the new GSM cellular network. This now gives BTC a 640,000 telephone number capacity on its GSM cellular network.

URCA notes BTC's statement that reserving the 8XX CO code would yield the conservation of 20% of the telephone number capacity. URCA's calculation however shows that the capacity is around 14.3% (i.e. 1 out of 7). URCA however agrees with the principle behind the discussion.

URCA feels that there is adequate capacity within the 242 NPA Code for The Bahamas to avoid the need to request an additional NPA Code in the foreseeable future. URCA will:

1. Adhere to normal code utilization and conservation methods;
2. Encourage operators to improve the efficiency of utilization in the assignment of telephone numbers;
3. Develop and implement fair and equitable resource Assignment Guidelines; and
4. Allocate and assign numbering resources so that these resources would be utilized in an efficient manner.

Where there are mixed services URCA, will evaluate whether there is a need to recover these codes and align the assignments according to the Allocation Table. This would be an on-going exercise for URCA.

Question 4: Do you agree with the PUC's assessment on the current allocation of short codes? If not, provide examples of other short codes in use.

Both BTC and SRG responded to this question.

BTC

BTC agreed that the short codes listed in the Consultation Document were correct but noted that the following short codes were also in use in their network for rotary dial phones:

11XX – Vertical Service Codes (rotary phones)

112XX – Vertical Service Codes (Rotary phones)

SRG

SRG commented that the PUC had omitted the use of “0” and/or “00” for operator calls.

URCA's Proposed Further Action/Comments

URCA notes SRG's comments that “0” and “00” should be included in the list of vertical services codes. It also notes BTC's comment that they have two additional codes activated in their network for rotary dial phones to use vertical service code features.

The BTC rotary dial codes have been in use prior to the PUC taking over the administration of numbering resources and these codes will be added to the list. However, these codes are used in compliance with NANP guidelines.

URCA recognizes that new operators would want to use short codes in their network so that their end users may also access services such as repair and maintenance centers. These services have been assigned out of the 9XX CO code block by BTC thereby reducing the telephone number capacity by one million. While this is a significant reduction in available capacity, URCA is not inclined to move these services to another CO block, such as the 1XX block, at this time.

Those codes, that are deemed to be in the Public Interest category (911 & 919), will remain in the 9XX range provided a jeopardy situation does not arise that might mandate the use of another code block such as 9XX, to prolong the life of the 242 NPA.

The 911 & 919 short codes will continue to be dialed on every public switched network in The Bahamas and will be switched and routed based on current interconnection rules and guidelines so that all end-users would have access to the services.

URCA will continue to monitor the use of the numbering resource and may take the decision to move the services when it is expected that a jeopardy situation is at hand.

0 and 00 were not included in the short code list since that are not normally considered to be short codes. These are normally accepted as prefixes and access codes for special services.

URCA proposes no further action for short codes.

Question 5: Do you agree with the PUC's assessment on the current allocation of Vertical Services Codes? If not, provide examples of other codes in use.

Both BTC and SRG responded to this question.

BTC

BTC stated that the assessment of current VSC's was correct, however they referred to their answer in question 4 where they included 11XX and 112XX under short codes and identified them as VSC's.

SRG

SRG noted that they had three (3) additional VCS's in use in their network:

- i. *78, Do Not Disturb Activation
- ii. *79, Do Not Disturb Deactivation
- iii. *123, Voicemail (which is also used by Vonage voicemail)

URCA's Proposed Further Action/Comment

URCA notes the differences in the use and format of the codes in the two networks and emphasizes that such differences could lead to confusion among end-users especially when the same end-user uses different networks.

The additional VSC's in use on the SRG network will be added to URCA's list.

URCA emphasizes that all network operators in The Bahamas must comply with the NNP. This includes adherence to the guidelines especially the use of vertical service codes and the services assigned to them. URCA will insist that there is common use of the codes and the services assigned to them.

Question 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.

Both BTC and SRG responded to this question.

SRG agreed with the PUC's assessment on the current allocation of the other VSCs.

BTC

BTC agreed with the PUC's assessment but added that they follow the NANP Guidelines and prefix the VSC's with "*" and suffix them with "#" as follows:

*74 and in specific cases suffixing with "#" for Calling Card Access Numbers, ranging from 52# to 57#.

URCA's Proposed Further Action/Comments

The Comments from BTC are noted with regards to the VSC in use and the prefixes and suffixes used along with the codes to access the services. The PUC had to rely on information contained in the BTC telephone directory to accumulate the list of VSC's in use in the BTC network when the consultation document was published. It is noted that BTC used "*74" for some services, however the BTC 2008 Telephone Directory lists "74#" as the code that is used to program Speed Calling (8 Digit). "*74" is not listed in the directory. SRG on the other hand uses "*78, *79 & *123" for various services.

URCA as the Numbering Administrator is required to specify the codes to be used for services that are to be offered by fixed line operators and notes that there are accepted NANP common standard formats for the use of vertical service codes across all networks. URCA will publish in the NNP, the standard VSC format that is to be used in all public networks. This assignment conforms to the standards set by NANP for the use of the resource. All operators in The Bahamas are expected to conform to the approved published list.

Further, URCA considers that all network operators would follow the VSC guidelines to apply for other VSCs that they desire to use in their networks. This would confirm that there is common use of the VSC's in all networks in The Bahamas.

The following table cites the standard VSCs and code format that is to be used by all service providers:

Vertical Service Codes

Code Assignments

- *00 - Inward Voice Activated Services (English)
- *01 - Inward Voice Activated Services (French)
- *02 - Deactivation/Activation of In-Session Activation (ISA) on a per line basis
- *03 - Deactivation of In-Session Activation (ISA) on a per call basis

- ***2X** - Reserved for expansion to 3digit VSCs
- ***228** - Over-the-Air Service Provisioning
- ***272** - Access Wireless Priority Service
- ***3X** - Reserved for expansion to 3-digit VSCs
- ***40** - Change Forward-To Number for Customer Programmable Call Forwarding Busy Line
- ***41** - Six-Way Conference Calling Activation
- ***42** - Change Forward-To Number for Customer Programmable Call Forwarding Don't Answer
- ***43** - Drop last member of Six-Way Conference Call
- ***44** - Voice Activated Dialing
- ***45** - Voice Dialing Extended Dial Tone
- ***46** - French Voice Activated Network Control
- ***47** - Override Feature Authorization
- ***48** - Override Do Not Disturb
- ***49** - Long Distance Signal
- ***50** - Voice Activated Network Control
- ***51** - Who Called Me?
- ***52** - Single Line Variety Package (SVP) - Call Hold
- ***53** - Single Line Variety Package (SVP) - Distinctive Ring B
- ***54** - Single Line Variety Package (SVP) - Distinctive Ring C
- ***55** - Single Line Variety Package (SVP) - Distinctive Ring D
- ***56** - Change Forward-To Number for ISDN Call Forwarding
- ***57** - Customer Originated Trace
- ***58** - ISDN MBKS Manual Exclusion Activation
- ***59** - ISDN MBKS Manual Exclusion Deactivation
- ***60** - Selective Call Rejection Activation
- ***61** - Distinctive Ringing/Call Waiting Activation
- ***62** - Selective Call Waiting
- ***63** - Selective Call Forwarding Activation
- ***64** - Selective Call Acceptance Activation
- ***65** - Calling Number Delivery Activation
- ***66** - Automatic Callback Activation
- ***67** - Calling Number Delivery Blocking
- ***68** - Call Forwarding Busy Line/Don't Answer Activation
- ***69** - Automatic Recall Activation
- ***70** - Cancel Call Waiting
- ***71** - Usage Sensitive Three-way Calling
- ***72** - Call Forwarding Activation
- ***73** - Call Forwarding Deactivation
- ***74** - Speed Calling 8 - Change List
- ***75** - Speed Calling 30 - Change List
- ***76** - Advanced Call Waiting Deluxe
- ***77** - Anonymous Call Rejection Activation
- ***78** - Do Not Disturb Activation
- ***79** - Do Not Disturb Deactivation

- *80 - Selective Call Rejection Deactivation
- *81 - Distinctive Ringing/Call Waiting Deactivation
- *82 - Line Blocking Deactivation
- *83 - Selective Call Forwarding Deactivation
- *84 - Selective Call Acceptance Deactivation
- *85 - Calling Number Delivery Deactivation
- *86 - Automatic Callback Deactivation
- *87 - Anonymous Call Rejection Deactivation
- *88 - Call Forwarding Busy Line/Don't Answer Deactivation
- *89 - Automatic Recall Deactivation
- *90 - Customer Programmable Call Forwarding Busy Line Activation
- *91 - Customer Programmable Call Forwarding Busy Line Deactivation
- *92 - Customer Programmable Call Forwarding Don't Answer Activation
- *93 - Customer Programmable Call Forwarding Don't Answer Deactivation
- *94 - Reserved For Local Assignment
- *95 - Reserved For Local Assignment
- *96 - Reserved For Local Assignment
- *97 - Reserved For Local Assignment
- *98 - Reserved For Local Assignment
- *99 - Reserved For Local Assignment

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

Both BTC and SRG responded to this question.

BTC

BTC said that the current allocations are theoretically adequate, but not excessive, for future growth and did not take account of expansion for competition which reduces the spare capacity of numbering resources. The impact of islands with low population and the migration of the population between remote islands and major urban areas result in low usage, and localized shortages of numbers. BTC suggests these factors imply the future need for a limited number of additional Central Office Codes per service provider, and that the PUC must affirm that current unassigned Central Office 3XX codes are allocated for growth in fixed wire line services

SRG

SRG was unclear whether the PUC was advocating exclusive NXX by operator for each island. SRG felt that if that were the case, then it would be an inefficient use of numbering resources, but they noted that it simplified inter-carrier billing where interconnection charges may differ between islands. SRG also stated that some logical group sequence or an adequate billing system would have to be established to properly account for the differences in charges.

URCA's Proposed Further Action/Comment

URCA is satisfied that there are sufficient ranges with the capacity to reserve central office NXX codes for new entrants in fixed and wireless services.

URCA notes SRG's response and their uncertainty of NXX codes being proposed for each island. URCA agrees that such a proposal was an inefficient use of numbering resources and states that it was not proposing that this practice should continue. Further, developments in new technologies have eliminated switching and billing issues that may have led to the practice of assigning a 10,000 telephone number block, or multiple blocks, to islands with much less than 10,000 in population. Network operators will be encouraged to find solutions for a more efficient use of all numbering resources.

URCA notes BTC's response related to reserving the 3XX NXX code for future fixed line growth. This however appears to run contrary to BTC's previous position when it insisted on keeping its TDMA cellular subscribers in this code block when the PUC wanted customers taking new services on the GSM cellular mobile network to be assigned telephone numbers out of the existing GSM assignment. The PUC's plan was to have the 3XX block reserved for fixed line services. It is also noted that the 3XX block is currently exclusively assigned to services offered by BTC.

URCA will have to balance future requests for central office codes for new services with the service provider's current assignments. Consideration must be given to the 134 CO NXX codes (a telephone number capacity of 1,340,000) that have already been assigned in the country with a population of just over 300,000.

URCA believes that given the projected growth of the population, the present assignment is excessive and will adopt measures to ensure that the assigned codes are efficiently utilized by network operators. Therefore new requests by operators to be assigned additional NXX's; or NXX's by Island for billing purposes, or to segregate products and services, may not be favorably considered unless the 85% fill criteria and the month to exhaust jeopardy declaration could be satisfied.

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

Both SRG and BTC responded to this question. SRG noted that the adequacy of the codes for future growth would depend on URCA's assignment policy. BTC noted that that even with the continued policy of assigning central office codes, that there should still be sufficient capacity to satisfy demand.

BTC

BTC suggested that current international trends gives no indication of the likely future demand for growth in cellular services, but a market for 'data' based services is likely to develop in the medium term. Further compounding the unpredictable demand for cellular services and numbers is the trend for end-users to have 1.5 to 2 instruments per person. This makes the Central Office Code number capacity threshold requirement more significant than base population benchmarks.

BTC agreed that, in this uncertain situation, the regulator was wise to continue the allocation of significant unassigned numbering capacity for various cellular networks and that there are currently 319 unassigned NXX codes in the 4XX, 5XX, 6XX, and 7XX codes, equating to over 3 million numbers to satisfy the forecasts for cellular service. BTC suggested that the PUC should use the unassigned codes in 4XX and 5XX first which will provide the PUC with the flexibility to use the allocated (but unassigned) 6XX and 7XX codes for innovative cellular services.

BTC stated that call billing has been and remains the reason for its support of using island designations in Central Office Codes assigned for cellular use, but recognizes that this leads to inefficient use of numbers and offered to explore (without prejudice) options for removing island designations from formal allocations. This would encourage and enable operators to maximize their use of assigned capacity by using numbers where they are required.

BTC agreed with the assessment on the adequacy for future cellular growth.

SRG

SRG expressed the view that much will depend on the number of new licensees and the policy of allocating NXXs by Island for fixed mobile services. SRG suggested that if every island has unique NXX's by operator, split into separate NXX's for fixed and mobile, then a large number of NXXs would be needed, with significant wastage of numbers in islands with small population.

URCA's Proposed Further Action/Comment

URCA recognizes SRG's concern, however the forecast and recommendations made are in the context of projected growth of population in The Bahamas.

When forecasts are made by service providers, regarding their future subscriber expectations, a reality test must be applied. For example, if a new entrant predicts that they would attract a significant portion of the market that is already being serviced, the regulator would have to take conservative approaches when assigning codes. This would follow the steps of assigning an initial code, then additional codes as the current assignments when utilization and month to exhaust guidelines have been satisfied

The existing cellular mobile network has sufficient central office codes assigned to provide the population a minimum of two phones each. Some of these codes have a low utilization as they

are used to differentiate services; islands; and the geographic locations where the service was initially issued.

Therefore, URCA believes that the correct approach is to correct the inefficient use of central office codes allocated on a per island per service basis by forcing operators to use their spare capacity for new services that they are introduced.

URCA notes the Government's intention to award two new cellular mobile licences and believes that there is adequate central office code capacity for the growth of the cellular mobile market.

URCA notes BTC's analysis of the efficient use of NXX by island to solve previous technological and billing issues. URCA welcomes and expects BTC to offer solutions to improve the efficiency of utilization of CO code resources.

Question 9: Do you agree with the PUC's allocation of the Easily Recognizable Codes (ERCs) ending in "00" within the 242 NPA for service identification? If not, why?

BTC and SRG responded to this question and both supported the proposal.

BTC

BTC supports the proposal and welcomed the PUC's recognition that an important element of modern telecommunications markets is the growth in services that require identification by end-users through the number used, such as Toll Free, Shared Cost and Shared Revenue Services. BTC further suggested that the chosen codes relate to those NPA Codes used within the NANP, because of their (potential) familiarity by end-users.

BTC also suggested that a further benefit of the PUC's proposal is that the majority of these NXX codes (except 1-242-300 for Toll Free Service) are currently unused and that the PUC's proposal for N00 codes (and no other codes) are likely to create sufficient numbering capacity for these services within The Bahamas.

SRG

SRG agrees with the allocation of the Easily Recognizable Codes, without any further explanation.

URCA's Proposed Further Action/Comment

A set of codes is traditionally set aside for "special services". The purpose of using Easily Recognizable Codes (ERCs) is that there is usually a unique aspect to special services (e.g. billing), that requires easy customer recognition to avoid misunderstanding and misdials.

With the introduction of new services and/or the growth of existing services, the numbering plan could exhaust the inventory of codes in the N00 format. Therefore, all Central Office codes in the N00 format would be reserved for common services throughout the country.

URCA has determined that the N00 code format will be accepted as an easily recognizable code. The “300” central office code currently used by BTC for Domestic Toll Free Services will now be available to all service providers.

Question 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?

BTC and SRG both responded to the question. SRG agreed with the proposal while BTC felt that the triplicate codes (NYY) should be reserved for Future Services instead of ERC’s.

BTC

BTC did not agree that the ERCs codes in triplicate should be allocated as Easily Recognizable Codes.

BTC recognizes that market forecasts, more than a few years ahead, are highly subjective and that the regulator’s concern that there will be inadequate capacity of Easily Recognizable Codes, might be accurate. For this reason, BTC urged the regulator to allocate the unassigned codes as Future Services. This BTC argued would provide the regulator with great flexibility to react to future market development without further changes to the National Numbering Plan.

SRG

SRG agreed with the allocation of the Easily Recognizable Codes, without any further comments.

URCA’s Proposed Further Action/Comment

URCA has considered BTC’s proposals regarding the allocation of triplicate codes as Future Services instead of ERCs and agrees with BTC that market forecasts more than a few years are highly subjective.

URCA also recognizes that triplicate codes are easy for the customer to recognize. Hence triplicate codes will be allocated as ERCs and URCA will assign these codes to services that are defined for national use in accordance with NNP policy.

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

Both SRG and BTC responded to this question. SRG agreed with the proposal without any comments, while BTC disagreed with the proposal to revoke the allocation of both 333 and 999.

BTC

BTC did not agree with the proposal to revoke 333 and 999. They elaborated further that in Section 6.1 of the Consultation Document, the PUC explored the balance they needed to achieve between designing a National Numbering Plan that will last for twenty years and ensuring that the “... end user of any service should not be unduly and adversely impacted by changes to that service”.

Given BTC’s response to Questions 10 and 11, they did not believe that the revocation of the 333 NXX would provide any short to medium term benefit by forcing the citizens of Harbour Island and Spanish Wells to undergo change of number. The number change would provide a contingency against some possible number shortage for services that currently have limited or no market presence. They further stated that it was their judgment that the capacity created for future “special service” is never likely to be needed (see response to Question 9) citing that the end users will perceive the impact to be “greater than what the customer perceives to be reasonable”.

BTC stated that the situation regarding the 999 code was less clear. They felt that without strong evidence that this code will be needed for “special services”, they could not support the regulator’s proposal to revoke the 999 allocation with the disruption that will bring. They further argued that it would introduce confusion for end users in that some numbers will be short access codes and some (longer) numbers will be for “special services”.

URCA’s Proposed Further Action/Comments

URCA understands that BTC assigned itself the 333 NXX as a CO code for fixed line services in Eleuthera when it acted as the number administrator for The Bahamas. BTC also assigned itself the 999 code as a maintenance service code for fixed lines.

URCA accepts that revoking the 333 NXX would force a number change to customers in Eleuthera and that this action would not produce any short term benefits. It also recognizes and accepts the challenges of attempting to structure the National Numbering Plan. There are resources that were previously assigned under different administrative and technological conditions. These assignments must be evaluated as URCA plans for the efficient utilization all numbering resources, without adversely affecting the industry or end users.

URCA has therefore decided that it would not, at this time, force a number change on end users with existing telephone number assignments in the 333 NXX range. It will however monitor the utilization of all numbering resources and the efficiency with which operators use their codes.

This analysis may cause URCA to issue instructions for a future number change as the need arises.

URCA is not convinced that a revocation of the 999 NXX would cause any significant disruption to the industry. It is noted that to date, this code was used exclusively by BTC as a maintenance code for its own technical staff. There is no information to suggest that the 999 NXX was published, or communicated by BTC for public use. Revoking this code would not affect the end user.

This code however could be used as an on-net code service that other operators may also use in the same fashion. URCA invites further comments on the use of this specific code.

Question 12: In the future, what types of new services or applications would impact the assignment of numbering resources and potentially cause the exhaustion of the 242 NPA?

Both BTC and SRG responded to this question.

BTC

BTC suggests that the PUC can ensure future flexibility of allocation by avoiding unnecessary assignments. They cautiously suggest that there is conflicting evidence regarding the popularity of price based “special services” and that Shared Cost calls are unlikely to be a major factor in The Bahamas so long as on-island fixed line to fixed line calls are free. The high popularity of cellular however, is likely to create the market conditions for those services to flourish, although the differing international experiences with the success (or otherwise) of Shared Revenue services is less clear.

Given The Bahamas’ proximity to the USA and membership in the NANP, BTC suggested that sheared Revenue service will remain a niche service within The Bahamas, but renaming those services to Service Revenue Services may help overcome the end user perception that call cost are high and that they only provide access to undesirable services.

Personal Numbers and ENUM, as specified by the Internet Engineering Task Force (IETF) have not proved as popular as many expected and have not entered a mass market.

Paging services are becoming obsolete and it is suspected that end users are now using substitutable services. This lowers the demand for numbering resources for paging services. BTC considered that location independent services (where the end user is in a fixed location for the duration of a call, but can move between calls) using IP based facilities such as in Next Generation Networks (NGN) would be a short term phenomenon that WiMAX and other technologies will make obsolete.

BTC was not convinced that cellular data services will become a major market, but stated that they felt that there was sufficient numbering resources allocated to accommodate the cellular market.

BTC felt that the biggest area of uncertainty was related to future number capacity demand in the evolution of SPC networks to NGN networks. This evolution could bring the development of new data based services, but the networks themselves could provide enhanced flexibility in the use of numbers thereby increasing the efficient use of numbering resources. Hence, while some services could place a demand on numbering resources, others could introduce a more efficient use of resources.

In summary, BTC suggested that it had not yet identified any mass market service that will lead to the exhaustion of a well managed 242 NPA.

SRG

SRG suggests that allocation of numbers in the 242 NPA should be given to persons who do not reside in The Bahamas, particularly for VoIP services. Thus a subscriber to a VoIP service in the United States, who resides in The Bahamas, may wish to have a telephone number in the 242 NPA so that he may receive a call originated in The Bahamas as a local call. SRG suggest this could significantly expand the pool of numbers required beyond a base line limited to the population of The Bahamas.

SRG further suggested that the widespread adoption of blocks of numbers by businesses for Direct Inward Dialing (DID) can have significant impact on increased number utilization.

URCA's Proposed Further Action/Comments

URCA acknowledges SRG's response regarding the allocation and assignment of numbering resources to VoIP networks hosted in other countries. Such a practice could place a high demand on resources allocated to The Bahamas. It is noted that the Comms Act provides for the National Numbering Plan to administer numbering resources assigned to carriage services licensed by URCA. Hence, URCA states that it would only assign numbering resources to VoIP operations that are based in The Bahamas.

BTC cited several services that could place demands on the numbering resources under the 242 NPA, these included: Shared Cost and Shared Revenue Services; Personal Numbers (ENUM); Short Messaging Services (SMS); Location Independent Services; and cellular data services.

URCA agrees with BTC that it is difficult to forecast the telecommunications market and that no mass market services have been identified that has the potential to lead to an early exhaust of the 242 NPA, if the national numbering plan is properly managed.

As such URCA will continue to monitor market trends especially with regard to high demands for numbering resources. URCA will also encourage licensees to use their assigned resources

more efficiently so that new services could be accommodated without the risk of putting the 242 NPA in jeopardy.

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

Both BTC and SRG responded to this question. SRG agreed with the proposal while BTC voiced a strong disagreement.

BTC

BTC did not agree with the proposal as it strongly believes that there was adequate numbering capacity for The Bahamas' future needs. BTC suggest that no regulator in the world has removed existing codes for accessing emergency services and even the EU countries that all introduced a common code 112, they all retained their existing codes because of the familiarity of end users with these codes. BTC stated that people will use the code that they have been familiar with throughout their lives and if that code has changed, it can result in an unnecessary death, a risk that no regulatory body has taken.

BTC also suggested that there was insufficient capacity in the 1XX range to accommodate both the existing 1XX codes and the existing 9XX codes. They agreed that competing operators will require the codes and suggested that the PUC adopt the approach taken by other regulators. Many of these regulators have classified the use of short codes into 'off-net' codes that all operators must provide and route calls to; and 'on-net' codes that operators may use as they wish for customer access to their services and to their internal purposes. BTC suggested that differing operators may use the same "on-net" code for different purposes.

BTC suggested that the PUC adopts the following classification in The Bahamas National Numbering Plan and assigns the following codes for all operators:

- 911 – 'Off-net' – Police Emergency
- 910 – 'On-net'
- 914 – 'On-net'
- 915 – 'On-net'
- 916 – 'Off-net' Directory Assistance (local)
- 917 – 'On-net'
- 918 – 'On-net' codes
- 919 – 'Off-net' – Police Emergency
- 92XXX – 'Off-net' see Question 39 for CAC
- 999 – 'On-net'
- 9XX – (other than the above) reserved.
- 11XXX – 'Off-net' – Vertical Service Codes (rotary phone)
- 112XX – 'Off-net' – Vertical Service Codes (rotary phones)

- 121 – ‘Off-net’ – Inward
- 131 – ‘Off-net’ – Directory Assistance
- 1XX – (other than the above) – reserved

BTC suggested that the PUC identified three categories in section 6.8.12 of the Public Consultation: public interest, common and service provider specific that could apply to the classification of the services. They also stated that while the consultation document did not ask any specific questions related to the classifications, BTC identified two groupings that fit their use of short codes: their “on-net” group fits the PUC’s “service provider specific” category, while their “off-net” group fits the PUC’s “public Interest” and the “common” categories.

BTC also suggest there is a need for additional code capacity for Carrier Access Codes (CACs) which they explained in their response to Question 39, further reducing the available capacity in the 1XX codes.

SRG

SRG stated that it was the only fair approach to ensure that new entrants could operate equitably. They argued that with BTC using the 9XX short codes and other operators using another code would create an advantage for BTC.

URCA’s Proposed Further Action/Comment

URCA has considered the comments from both respondents. It is noted that each generally had an opposing opinion. SRG seemed to suggest that BTC would have exclusive use of the 9XX codes while other operators would have to use other codes. BTC states that forcing end-users to use new codes for emergency services would create confusion.

The proposal set out in the consultation document was concerned that there would be a reduction of 12.5% in telephone number capacity if the 9XX central office code remains allocated for the use of short codes. There was also the concern that there should be equality among licensees and their use of codes. Finding another suitable code was one option in an attempt to ensure equal access by all end-users to services.

URCA agrees that a radical change in short codes assigned to essential services could cause confusion and emphasizes that no such radical approach was suggested. However, URCA has a duty to consider all options for the efficient utilization of all numbering resources.

URCA notes that BTC assigned itself codes other than 911/919 for services exclusively in its network and that these services could be accommodated through the use of other resources. It is also noted that some of the services assigned to the 9XX code in BTC’s network could also be assigned to provide the same services to end users exclusively on those networks.

URCA's main concern in the development of the NNP is that the end-user is not subjected to having to remember to use different sets of codes for the same services when he moves from one network to the other. It is noted that BTC assigned itself the 9XX codes when it was the numbering administrator.

URCA recognizes that in the liberalized environment, the regulator must be concerned that essential national services could be reached by dialing a common set of digits, notwithstanding which operator's network he happens to be using at the time. Further, forcing the end-user to use a familiar set of digits on the incumbent network and an unfamiliar and difficult to remember set of digits on other networks for the same service, would create a situation where the end-user would be reluctant to take services from a new entrant. This would not be a position where the regulator was fostering competition.

URCA notes BTC's recommendation for the use of both the 9XX and 1XX "off-net" and "on-net" allocations and suggest that there is some merit in the approach.

URCA has decided that the following approach will be taken.

It will continue to monitor the capacity available under the 242 NPA and the efficiency with which networks are utilizing the telephone numbers assigned to their networks. When it is projected that the 242 NPA could be approaching a jeopardy situation, then a plan would be put in place to introduce new codes for emergency services through a permissive dialing strategy. This strategy would be introduced with sufficient lead time to allow end-users to become accustomed before they must use the code exclusively to access national services.

URCA does not believe that other codes must be used exclusively by any one operator for non-essential services. This means that, for example, 916 could be used "on-net" on each network for "directory information" services offered by that operator. "Off-net" directory information services could be accessed through a 7-digit number. Alternatively, if a single network operator or other entity is identified to provide directory assistance services nationally, then 916 could be assigned as an off-net code to access the national DQ database service from any service provider's network.

URCA insists that common sets of codes should be used for identical services, regardless of which network the end-user may be using at the time. Each service provider must therefore apply to the regulator, for both "on-net" and "off-net" use of short codes.

VSC codes 11XX and 112XX are standard codes for rotary dial phones as assigned by NANP. These are included in URCA's VSC assignment. The 121 and 131 codes are as BTC described them: "off-net" services that are used as operator services between network operators. These are not codes that an ordinary end-user would use to access services.

As noted by BTC, the consultation document in section 6.8.12 sets out that there are three categories of codes defined to achieve the objective of uniform use of access codes for similar services across the various networks within The Bahamas: public interest, common and service provider specific. These categories were defined and discussed in some detail in the

consultation document. URCA notes BTC's comment that it was immaterial to debate the categories and notes BTC's own classification of its use of short codes in its network.

URCA will continue to use the public interest, common and service provider specific categories as its test in deciding the use of short codes across the networks.

Question 14: The PUC invites comments on the appropriateness/technical implications of the proposed 1XX dialing arrangement for the use of these codes in the fixed and mobile network?

Both BTC and SRG responded to this question.

BTC

BTC does not agree with the PUC's recommendation to migrate short codes from the 9XX series to the 1XX series.

SRG

SRG states that it would have no overriding technical constraints with the use of 1XX.

URCA's Proposed Further Action/Comment

URCA notes that neither SRG nor BTC offered any specific comments on the technical implications of the proposed 1XX dialing arrangement for the use of short codes in the fixed and mobile network.

BTC referred to their response in question 13 that addressed the appropriateness of using the 1XX code instead of 9XX. No technical implications were addressed by either of the respondents therefore URCA assumes that neither had any technical concerns related to the proposal to use the 1XX short code.

Notwithstanding this, URCA has decided that it would not immediately implement a strategy to use the 1XX central office NXX for short codes instead of 9XX. The efficient of use of telephone numbers by service providers would continue to be monitored by URCA and the use of 1XX would only be introduced to replace 9XX when the 242 NPA capacity is predicted to be in jeopardy.

Question 15: Do you support the PUC's proposal that it should be responsible for overseeing the inputting of all the rating and routing information for The Bahamas, into the TRA databases? If not, why?

Both SRG and BTC responded to this question. SRG suggested that it would cause unnecessary bureaucracy for the regulator to take on the responsibility of inputting rating and routing information into the Traffic Routing Administration (TRA) databases. BTC supports the proposal and suggests that as the industry becomes more competitive, new administrative functions would arise such as ensuring that all operators build and use routing data for assigned number blocks.

BTC

BTC supported the PUC's proposal, suggesting that it should be an explicit obligation in the Numbering Plan for all Bahamian operators to use the correct routing data within a specified time period of receiving an assignment of numbering resources.

BTC also supported the distinction that was made between routing and rating information and the proposal that the regulator actively participate in the collection, aggregation and dissemination of the data related to the successful routing of calls within the NANP served area.

SRG

SRG suggests that the PUC's role be kept to a minimum for regulation of the sector and devoid of unnecessary bureaucracy. SRG suggest that the PUC's role should diminish for competition and control purposes and increase for the management of numbers and allocation of radio spectrum. This was to allow a reduction in size and budget of the PUC and a consequent reduction in funding through license fees. SRG suggest that inputting to the TRA database is best left to individual operators.

URCA's Proposed Further Action/Comment

The TRA supports the telecommunication industry by providing data services and products for the completion of telephone calls on the Public Switched Telephone Network (PSTN) and the proper routing of these calls. The TRA function provides processes for the inter-company exchange of pertinent rating and routing data. The TRA data is intended to be NANP-wide in its scope. The TRA function resides in Telcordia. TRA gathers, aggregates and disseminates the collected data in the form of products that are offered to the telecommunications industry on a fee or license-based arrangement.

The BIRRD⁷ process is how the routing data is input to the TRA function. The primary dissemination media for this data is the Local Exchange Routing Guide (LERG) and to a lesser degree, the Terminating Point Master (TPM).

URCA reviewed the comments and new information received on the management of inputting data in the TRA.

⁷ BIRRD is the Telcordia© Business Information Routing and Rating Database System

There are three options for proper management of the process: URCA perform the duty itself; URCA outsource the functions to a neutral third party; or leave the inputting of data to each individual network operator.

Relying on each operator to input his own information is an option to be considered as each operator has a vested interest in ensuring that the database is kept current. Smaller network operators may perceive this as a barrier to enter the market.

Leaving URCA with the responsibility to input the data increases the duties of the regulator and hence the cost of operation. URCA would have to maintain trained human resources for a duty that would only be frequently used. Hence, outsourcing the duty has the advantage of relieving URCA the responsibility of maintaining trained human resources that would not be efficiently used. It however attracts a new expense for the regulatory regime.

TRA has also initiated a new process for service provider in North America and the Caribbean where the regulator advises TRA of CO code assignments; TRA uses this notification to accept details from the service provider and TRA then input the information the database. Each service provider would be responsible for obtaining his own OCN to facilitate the process.

URCA believes that his last option is better suited to the sector and will adopt is as the procedure t be used.

URCA invites further comment on the inputting of all rating and routing information for The Bahamas, into the TRA database.

Question 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?

Question 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?

Question 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?

Question 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?

Question 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?

The following is the combined responses to questions 16, 17, 18, 19 and 20.

Both BTC and SRG responded to the questions. There were varying degrees of acceptance of the proposals but none of them supported the allocation of a second CO code for domestic toll free services.

BTC

BTC agreed with the proposal that the numbering resources within the 242-300 code be made available to all service providers and supported the principle of the host central office routing the calls to the desired service provider. They however have reservations regarding the proposed use of NXX thousand block line numbers for a Service Provider identification because: (1) their Toll Free service customers who have invested in and built customer awareness of the Toll Free numbers would be required to undergo the expense and loss of investment due to a number change; (2) the proposed assignment in blocks of one thousand numbers introduces additional inefficiencies of available numbering capacity of 242-300 numbers; and (3) limits the number of Service Providers receiving numbers from the 242-300 code to a maximum of ten. BTC suggested that despite the additional call routing cost that they will be forced to incur, the 242-300-XXXX CO code should be structured so that service providers may share the capacity to provide domestic toll free services.

They further stated that they believed that it was in the interest of end users for this important service to grow and that all operators will benefit from this expanded use of the service.

BTC further suggested that the PUC use a common approach for all services using Easily Recognizable Codes (including Shared Cost and Shared Revenue/Premium services) that 'translate' the dialed number to the terminating number.

BTC stated that they would assist the PUC in determining assigned and spare line numbers, but stated that they would continue the marketing of the service.

SRG

SRG agreed stating that the proposal was the only fair approach given BTC's dominance, and the need to ensure all new entrants can operate equitably. SRG suggest that retention of 242-300 by BTC, while other operators use other codes, would create the impression of a two tier system with BTC as the privileged operator.

SRG agrees with the proposal but raised the issue of interconnection charges, suggesting that the PUC's interconnection guideline requires no charges for 1-300 routing between operators.

SRG agrees 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.

SRG agrees with the PUC's proposal to perform an audit on the existing 242 300 resource to determine assigned and spare line numbers in the NXX and notes that it is essential.

SRG believes that creating a second code for domestic toll free services would create the impression of a two tier system with BTC as the privileged operator.

URCA's Proposed Further Action/Comment

URCA accepts the support for the proposal that the all service providers have access to the 242-300 central office code to offer domestic toll free services. It notes that other options to provide a similar code to other operators would be an inefficient use of resources since it is unlikely that a single operator would have 10,000 domestic toll free customers.

URCA notes the support for the proposal recommended dividing the CO code into ten blocks of 1,000 telephone numbers, but is now proposing that the CO be divided into 20 blocks of 500 telephones instead, since expectations are that end user demand may be low while service provider demand may be more significant.

URCA considered both SRG and BTC's responses and has designed a plan for each service provider to be identified according to the block of telephone numbers assigned to it out of the 242-300-XXXX NXX. URCA notes BTC objection that service provider identification should be provided in the telephone number.

BTC will be required to route traffic for each operator in accordance with the assignments. The assignment table is shown below.

NPA	Central Office NXX	Line Number Range	Service Providers
242	300	0000 – 0499	
		0500 – 0990	
		1000 – 1499	
		1500 – 1999	
		2000 – 2499	
		2500 – 2999	
		3000 – 3499	
		3500 – 3999	
		4000 – 4499	
		4500 – 4999	
		5000 – 5499	
		5500 – 5999	
		6000 – 6499	
		6500 – 6999	
		7000 – 7499	
		7500 – 7999	
		8000 – 8499	
		8500 – 8999	
		9000 – 9499	
		9500 – 9999	

URCA will conduct an audit of customers currently using the domestic toll free services in the 242-300-XXXX code range.

URCA has also considered the comments provided and will not consider opening another CO code for domestic toll free services at this time.

Finally, URCA considers that the NNP is not the appropriate forum to discuss billing for the routing of domestic toll free traffic.

URCA invites further comments on this new proposal and any technical implications that it may present.

Question 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?

SRG and BTC both responded to this question. SRG agreed with the proposal while BTC agreed but noted that some technical issues may have to be resolved.

BTC

BTC agrees with the proposal that the numbering resources within the 800 389 code should be available to all service providers, and further states that 800 numbers dedicated for intra country use should be readily available within The Bahamas, but they recognized that the NANP Assignment and Portability rules make this impossible.

BTC also stated that with the use of the 1-242-300-XXXX domestic toll free services, there may not be a significant demand for the 1-800-389-XXX services.

They also noted that the PUC would have to consider the technical issue of routing of incoming calls originating outside of The Bahamas to the appropriate Service Provider.

They did not accept that Service Provider Identification should be included in the number, but anticipated that an alternative solution can be found and adopted, as with 242 300 numbers. Subject to resolution of the issue, they agreed with the PUC's position.

SRG

SRG suggested that the proposal was the only fair approach, based on BTC's dominance, and the need to ensure all new entrants could operate equitably.

SRG raised the issue of interconnection charges, suggesting that, to level the playing field, the PUC's interconnection guidelines should require no charges for 800-389 routing of incoming calls between fixed line operators.

SRG also raised the issue of apparent confusion regarding the existing use of 800-389 NPA NXX resource, as SRG understood that the numbers were for incoming international calls terminating in The Bahamas, but the numbers were being used for calls originating in The Bahamas.

URCA's Proposed Further Action/Comment

URCA has considered the comments offered by SRG and BTC and notes that competing service providers must have equal access to comparable numbering resources. Both respondents agreed with the proposal that numbering resources within the 800 - 389 code be available to all service providers.

URCA notes SRG's comment that there is some confusion regarding the use of the resource and that it was being used for both originating and terminating traffic in The Bahamas. URCA notes

that there is no distinction of the type of services that could be offered using the 1-800-389 codes, only that BTC was using it for its international incoming toll free services.

URCA also notes SRG's comment that interconnection guidelines have to be established regarding the use of the 1-800-389 resource. URCA notes that this resource has been accepted as a national resource that falls under the National Numbering Plan.

Network Operators therefore must apply to URCA when they desire to use any numbers out of the code block. It is also noted that network operators in The Bahamas would have to establish interconnecting circuits with the 800 data base network for its originating and terminating traffic. The main point is that the use of the 1-800-389 resource is not exclusive to BTC.

URCA also notes BTC's comments that there may be technical issues that have to be resolved to route incoming calls originating outside The Bahamas. The proper routing of these calls may require interconnection agreements with network operators in The Bahamas with international gateway switches.

It is noted however, that with the coming into force of the Comms Act, 2009 there is no exclusivity to any one operator in the establishment of gateway switches. URCA may, out of necessity, consider accepting that other operators may have to interconnect with the BTC gateway switch to take services related to 1-800-389.

URCA will therefore administer the 1-800-389 numbering resource in the same manner as it administers other numbering resources and would initiate an audit of the line numbers already in use by BTC. Other network operators must have access to the resource.

Question 22: The PUC requests comments regarding the provision of 800 toll free service throughout The Bahamas.

BTC and SRG both responded to this question. SRG stated that arrangement for the use of routing 800 toll free numbers should be regularized. BTC stated that joining the wider 800 Service Portability NANP arrangements will result in the end of an intra country 800 service.

BTC

BTC fully endorsed the PUC's analysis that joining the wider 800 Service Portability NANP arrangements will result in the end of an intra country 800 service. They also stated that BTC has not identified a significant level of traffic nor market demand for access to non Bahamian 'value add' Service Provider by Bahamian end users, nor a demand for access to Bahamian based 'value add' Service Provider from other countries in the NANP, and agreed that it was in the national interest to retain the current arrangement for 1-800-389.

SRG

SRG stated that there were a select few 800 toll free numbers that route internationally, without the use of 880, 881 or 882 which appeared to have a special arrangement with BTC. SRG suggest that arrangements of this type need regularizing so that calls from all operators can be routed accordingly and appropriate inter-carrier billing can be carried out where applicable.

URCA's Proposed Further Action/Comment

URCA notes the comments offered by both SRG and BTC. URCA recognizes that there appears to be limited demand for 800 toll free services with or without the 880, 881 or 882 substitutions. URCA also notes that BTC may have negotiated special arrangements for a few 800 toll free accounts. URCA does not see this as anything other than a commercial arrangement between BTC and their customers.

Considering these responses, URCA does not see where joining the 800 service portability would be in the best interest of The Bahamas. End user access to 800 services in NANP could be easily accessed using the 880, 881 and 882 substitutions for 800 when prompted by the network operator. The use of these codes to contact 800 service customers elsewhere in the NANP is still permitted by the Industry Numbering Committee (INC) and URCA has concluded that the continued use of them in The Bahamas would be beneficial.

As such URCA has determined that use of 880, 881 and 882 substitution to contact 800 service customers elsewhere in the NANP should be allowed in The Bahamas and standardized for use by all operators, until further notice. This means that all network operators should use the substitutions to facilitate routing and billing for their end users to access 800 service customers. These substitutions should be programmed to remain on-net and within net to accommodate the routing process.

Each new network operator is therefore required to complete an application process when there is a desire to introduce the code substitution.

Question 23: Do you agree with the PUC's proposal regarding allocating the 555 XXXX resources for information services throughout The Bahamas? If not, why?

BTC and SRG both responded to this question and agreed with the proposal set out in the consultation document.

BTC

BTC noted that it supported the PUC's position that The Bahamas was a distinct telecommunications market and supported the PUC's proposal.

SRG

SRG agreed without any further comments.

URCA's Proposed Further Action/Comment

Having considered that all of the respondents agreed with the proposal, URCA has determined that the 555 NXX would be assigned to information type services in The Bahamas, based on INC guidelines.

Question 24: Do you agree with the PUC's recommendation that CO Codes or line number should not be assigned to international resellers? If not, why?

BTC and SRG responded to this question and both agreed with the PUC's proposal.

BTC

BTC agreed with the proposal and suggested that to avoid misunderstanding, the PUC should adopt different terminology to refer to international and other resellers. They stated that internationally, there is a clear distinction between Retailers and Virtual Network Operators, and both may be referred to as resellers. The distinction is critical in numbering terms and may be critical in competition terms. BTC stated that it was not appropriate for them to offer comments on telecommunications competition in a Numbering Consultation response but they believed that the differences needed to be recognized.

They noted that Virtual Network Operators (VNOs) buy bulk capacity from network owning operators; re-brand it as their own and then offer it to customers in the retail market. Retailers they noted are resale organizations and sell telecommunications products on behalf of the network owning operators (and potentially VNOs). They do not rebrand the products that they sell and they receive a commission or some other form of payment for each sale that they make. Frequently, but not exclusively, they retail cellular products and services

Otherwise, BTC agreed with the proposal.

SRG

SRG agreed with the PUC's proposal that CO Codes or line number should not be assigned to international resellers and referred further comments to question 26 where they discussed the definition of an international service reseller.

URCA's Proposed Further Action/Comment

URCA notes the comments from both respondents and their references to who may be a reseller.

URCA has provided detailed comments related to resellers and the types of resellers. In summary, central office numbering resources would be assigned only to operators licensed to operate central office equipment and networks located in The Bahamas.

Line numbers therefore would not be assigned to international resellers.

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

Question 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?

The responses to both questions 25 and 26 are as follows.

BTC included all of their responses under question 25, while SRG included their responses under question 26. Both SRG and BTC responded to this question and each agreed that there were instances when CIC should be considered to be assigned to resellers.

BTC

BTC stated that it recognized that CICs may have to be assigned to International VNOs in very restricted circumstances. They continued that CICs were used by the originating network to identify the network that is going to undertake the primary routing of the call. They agreed that CICs should be used to permit the calling end-user (using one-stage call set-up) to inform the call originating network that they wish some other network to route a call.

BTC also noted that CICs should not be required for two-stage call set-up and dial through calls since a PIN or premium number is used (respectively) to select the desired network.

BTC also referred to their response in question 39 that consideration should be given to the specific codes that should be used

SRG

SRG agreed that CICs should be assigned to international service resellers. They elaborated that in the United States, CICs are assigned to identify, bill and route traffic to provide dialing parity to competing operators. SRG noted that there was no comparable distinction between local

and international carriers in The Bahamas, rather customers make the choice of international carrier by routing over local trunks from the same entity.

They also discussed that they were uncertain what was meant by an international service reseller and whether there may not be any practical application of an international service reseller in The Bahamas. The exception they noted would be a reseller (without) infrastructure who buys bulk wholesale minutes and resell those minutes at the retail level. It is inferred that these may not need a CIC code.

URCA's Proposed Further Action/Comment

Noting that the telecommunications market in The Bahamas is unique and that the sector is being liberalized at a time when there are sweeping advances in technology, URCA as the regulator cannot restrict itself to any one country model as the best fit for The Bahamas. Further URCA must allow the sector to develop, fostering competition and encouraging new entrants.

Considering the responses to both questions, URCA believes that there is a need to consider the assignment of CICs in The Bahamas for international resellers and the use of these codes is technically feasible.

Carrier Identifier Codes (CICs), as was pointed, out provide routing and billing information for calls from end users via trunk-side connections to interexchange or international carriers and other entities. In addition to providing routing and billing information for calls from end users via trunk-side connections to interexchange or international carriers and other entities, the CIC comprises part of the Carrier Access Code (CAC). The CAC is a dialing sequence used by the general public to access a preferred provider of service. NANPA administers the assignment and management of CICs.

URCA also notes that the National Numbering Plan for The Bahamas must be structured to be flexible enough to accommodate the development of the sector for the efficient growth of the economy. As the markets develop, providing more competition among operators and choice for the end-user, URCA must ensure that all options are available to foster consumer choices.

In consideration of these issues, URCA refers to its definition and discussion of resellers in Section 7.1.2.

A reseller without infrastructure in The Bahamas cannot be assigned a CIC.

A reseller with infrastructure would necessarily have to satisfy regulatory requirements, including any possibility to obtain a licence to establish and operate the network and to provide services.

URCA acknowledges that the telecommunications market place in The Bahamas is different from the United States and in fact most other countries. Further at the time this Public Consultation was initiated, there were only two licensed operators each with their own networks. However even then, the practice was that the consumer made his choice for international access through the use of prepaid and debit calling cards. URCA envisages that even more creative means may come to market to attract the customer to use other networks for his international access as the sector moves to full liberalization.

URCA wishes to emphasize that licensed operators of electronic communications networks and/or providers of electronic communications services, including resellers with infrastructure in The Bahamas, would be eligible to be assigned CIC codes.

Customers desiring indirect access to other networks, other than the network where they are directly connected, would need a CIC to identify the network they desire to process the international call.

URCA therefore will consider assigning CIC to international resellers for customers to have indirect access to their networks.

Applications for a CIC are to be submitted to NANPA through URCA.

Question 27: Do you agree with the PUC's proposal that IMSIs are not required for international service resellers? If not, why?

Both SRG and BTC responded to this question and they agreed with the proposal that IMSIs⁸ are not required for international service resellers.

URCA's Proposed Further Action/Comment

IMSIs are currently utilized by GSM, CDMA and TDMA based wireless networks to identify a roaming subscriber and that subscriber's home network.

URCA therefore will not consider assigning an IMSI to an international service reseller.

⁸ International Mobile Subscriber Identifier (IMSI)

Question 28: Do you agree with the PUC’s proposal that domestic service resellers should be assigned blocks of numbers from the CO code(s) assigned to their facility-based provider? If not, why?

BTC and SRG responded to this question. Both agreed with the proposal, but SRG had some concerns.

BTC

BTC agrees with the PUC’s analysis of the efficiency implications of assigning Central Office Codes to domestic service resellers and expressed support for the proposal.

SRG

SRG agreed with the proposal that domestic resellers should be assigned blocks of numbers from the CO codes(s) assigned to their facility-based provider. They noted however that it was unclear what the PUC mean by an “international service reseller”, and whether such a concept has any practical application in The Bahamas.

URCA’s Proposed Further Action/Comment

URCA notes SRG’s comments and accepts that both respondents agreed with the proposal as stated in the consultation document.

URCA acknowledges the point raised by SRG concerning the practicality of international service resellers in The Bahamas, but notes that the NNP is intended to determine how numbering resources are to be allocated and assigned for services provided in The Bahamas.

URCA also refers to its detailed comments contained in response to Question 26, regarding resellers

It is decided that domestic reseller may be assigned blocks of numbers out of the assigned CO codes to their facilities based provider.

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

Both BTC and SRG responded to this question. BTC agreed with the proposal. SRG did not provide a clear position on this proposal.

BTC

BTC noted that domestic VNO services could adopt any of the three call scenarios. They further noted that one-stage and two-stage setup scenarios have been widely used at different times in

a number of countries. BTC agreed that CICs should be assigned to domestic VNOs, when they request a code and offer one-stage setup services.

SRG

URCA again refers to its details comments on resellers in section/paragraph X.

SRG did not provide a clear opinion on this proposal. They stated that it was unclear what the PUC meant by a “domestic service reseller” and that understanding the intended operation with respect to exactly how a competing domestic service reseller would fit into the telecommunications sector is a precursor to reaching conclusions with respect to the implications for numbering.

URCA’s Proposed Further Action/Comment

URCA has considered the responses and has determined that wire-line domestic service resellers would be assigned CIC codes.

Question 30: Do you agree with the PUC’s proposal that cellular mobile domestic service resellers should not be assigned CICs? If not, provide rationale.

BTC and SRG responded to this question. BTC agrees with the proposal and appears not to offer an objection

BTC

BTC agrees with the PUC’s proposal that cellular mobile domestic service resellers should not be assigned CICs.

SRG

SRG stated that it was unclear what the PUC meant by the term “cellular mobile domestic service reseller”. To SRG, the practical implementation would be that of a Mobile Virtual Network Operator (MVNO), i.e. a company that provides mobile phone service but does not have its own licensed frequency or complete infrastructure.

They noted that both BTC and SRG currently interconnect their fixed networks to the mobile network by using a trunk group identifier, and such practice can be adopted for interconnect with domestic mobile carriers.

URCA’s Proposed Further Action/Comment

URCA has considered the responses and has concluded that cellular mobile domestic service resellers will not be assigned CICs.

Question 31: Do you agree with the PUC's recommendation that domestic service resellers, both wire line and cellular mobile, should not be assigned IMSIs? If not, why?

BTC and SRG responded to the question and both are in agreement with the proposal not to assign wire line and cellular mobile operator IMSIs.

BTC

BTC agrees that domestic service resellers both wire line and cellular mobile, should not be assigned IMSIs as it does not fit the ITU Recommendation E.212 definition which defines the International Mobile Subscriber Identity code.

SRG

SRG agreed with the proposal, but stated that a MVNO may have its own Home Location Register and therefore may require the assignment of an IMSI.

URCA's Proposed Further Action/Comments

URCA notes the comments of the respondents and particularly the response from SRG. URCA agrees with the response from BTC and accepts the interpretation of the ITU Recommendation E.212.

In consideration of the response from SRG, URCA is of the opinion that when an MVNO seeks to develop his network beyond the boundary of just being a virtual network operator, to the extent of becoming a stand-alone cellular mobile service operator, then that operator may have enhanced his network to the extent that it is now more than a virtual network. Such networks may require a licence. An MVNO having his own HLR may be in this category.

URCA notes that that determining whether a service provider is just a reseller or not, is beyond the scope of the NNP. The status of a provider: whether a reseller or not, would be determined through the licensing process.

URCA has therefore decided that both wire line and cellular mobile domestic resellers would not be assigned an IMSI.

Question 32: The PUC invites comments on any other numbering allocation issues for resellers.

BTC and SRG responded to this question.

BTC

BTC states that it is unaware of any other significant numbering issue for VNOs or retailers.

SRG

SRG stated that it did not believe that the concept of resellers and the role they would play in The Bahamian telecommunications market has been adequately explored for them to express an opinion on the implications for numbering.

URCA's Proposed Further Action/Comment

URCA notes the response from SRG but maintains its position that only licensed entities would be eligible to be assigned numbering resources. Entities retailing bulk service purchased from a licensed operator would be regarded as a reseller. An entity needing infrastructure to deliver a service to the end-user would be regarded as an individual operator who may be eligible to be assigned numbering resources.

URCA has provided extensive discussions on resellers in Section 7.1.2. The new legislation that ushered in URCA introduces a fully liberated sector only with restrictions on when the cellular mobile market is to be opened.

URCA notes that no significant comments were offered related to numbering allocation issues for resellers.

Question 33: Do you agree with the PUC's recommendation that 911 and 919 continue to be used for emergency notification? If not, why?

BTC and SRG responded to this question. SRG and BTC agreed that 911 and 919 continue to be used for emergency notification.

BTC

BTC agreed with the proposal and urged the regulator to retain the existing 911 and 919 codes. They supported the recommendation and re-iterate that the retention of these codes reduced any benefit that might be gained from migrating the other 9XX codes to 1XX.

SRG

SRG stated that use of 919 is now an anachronism that could be slowly phased out and that 911 should become the published standard for access to emergency services. They felt that this would be in line with practices elsewhere within NANP. They continued that 919 may unofficially continue to be routed without publication, pending eventual normalization.

URCA's Proposed Further Action/Comment

URCA has considered the responses and agrees that 911 and 919 should remain as the code used for emergency notification. URCA accepts that 919 was the traditional code used for emergency access and that 911 came recently and is compliant with practices in other NANP countries.

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

Both BTC and SRG responded to this question.

BTC

BTC suggested that N11 is an example of differences between telecommunication markets in individual countries.

They stated that the designations in the NANP are related primarily for the use of these codes within the USA. Some of the differences between the USA and The Bahamas is that 916 is used in The Bahamas for Directory Assistance while 411 is used in the USA. Some of the other uses of the N11 codes within NANP are very explicitly USA focused, e.g. 511.

BTC observed that some of their earlier responses provided comments noting a strong belief that the N00 Easily Recognized Codes provides more than adequate capacity for the foreseeable needs of The Bahamas. BTC saw no evidence of demand for the USA assigned N11 services to be used within The Bahamas and stated that if they were to be assigned, they would have to be recognized as “public interest” as discussed in section 6.8.12 of the consultation document.

Given the need to use the available numbering capacity efficiently, BTC urged the regulator to avoid allocating N11 codes until such time as spare capacity in the 1XX and 9XX codes was exhausted. BTC was also of the opinion that any consideration for the allocation of 1XX codes would result in a conflict with the routing of domestic and regional toll-free calls. They suggested that the N11 codes should be allocated as ‘reserved’ until there was a clear view on the demand for the services and the need to align with the NANP.

SRG

SRG stated that there was no longer any real merit for industry standardized N11 codes. They argued that the only code that stood the test of time was 411 for Directory Assistance. SRG offered no further comments.

URCA's Proposed Further Action/Comment

URCA has reviewed the responses of BTC and SRG and particularly notes the response from BTC indicating that it has not seen any evidence of demand for the N11 services as used in the USA. This is especially important given BTC's long tenure in the sector. SRG did not indicate that it saw any evidence of demand for such services. SRG in fact stated that they only saw 411 for Directory Assistance as having survived "the test of time".

BTC also discussed in their response to questions 33 and 34 that attempts to move services out of the 9XX block to the 1XX block, or other blocks may not provide benefits that out-weigh the inconvenience of number changes.

In consideration of all of the arguments, URCA has decided that the following should be used by all service providers:

- 1) The following short codes are to be used by all network operators for on-net and off-net services:

911 – Police Emergency	on-net for BTC; off-net for other operators until further notice
910 – Telegraph Department	on-net for all operators
914 – Telephone Repair (Complaints)	on-net for all operators
915 – Weather	on-net for all operators
916 – Directory Assistance (Local)	on-net for all operators
917 – Time	on-net for all operators
918 – Telephone Repair (Maintenance)	on-net for all operators
919 – Police Emergency	on-net for BTC; off-net for other operators until further notice
999 – Station Identification	on-net for all operators

- 2) The following N11 code would be assigned to facilitate consistency with the USA and accommodate visitors from that country. It is noted that no operator currently offers this service in The Bahamas.

711 – Telecommunications Relay Service (TRS)	on-net/off-net
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- 3) All other N11 short codes will be allocated as reserved codes to be assigned by URCA on a case by case basis according to demand and the NNP guidelines.

The current assignment of N11 Codes in the USA and Canada are provided as follows, for information only:

211	Community Information and Referral Services (USA)
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311	Non-Emergency Police and Other Governmental Services (USA)
411	Local Directory Assistance
511	Traffic and Transportation Information (USA); Reserved (Canada)
611	Repair Service
711	Telecommunications Relay Service (TRS)
811	Business Office
911	Emergency

Question 35: Do you agree with the PUC’s recommendation to follow the existing VSC assignments? If not, why?

Both BTC and SRG responded to this question.

BTC

BTC expressed support for the proposal but noted that VSC do not form part of the ITU recommendations, although they are used by operators using SPC exchanges in many countries. BTC also observed that globally the NANP is unique in setting common services for the individual codes.

BTC concurred with the proposal outlined in the consultation document that there was a clear end user benefit in a common use of these codes by all operators. BTC registered their strong agreement that the current VSC assignments should remain for the benefit of the end user.

SRG

SRG believes that the assignment of Vertical Service Codes (VSC) in The Bahamas should follow those assigned by NANPA.

URCA’s Proposed Further Action/Comments

URCA has considered the responses and upholds the proposal to follow the existing VSC assignments. URCA emphasizes that operators are required to apply through URCA to open a new VSC.

Question 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.

Both BTC and SRG responded to this question.

BTC

BTC agreed that VSCs 94 to 99 should be retained for local use and they suggested that the PUC recognize that as network technologies develop, new services would become possible. These new services may require VSCs for novel functions that do not currently exist. They therefore recommended that the VSC codes in the range 95 to 99 should be reserved for future use. BTC noted that they have already assigned the VSC code 94 and would like it retained on the current VSC assignment.

SRG

SRG noted that according to the guidelines document published by the Industry Numbering Committee⁹ the VSCs from *94 to *99 are “reserved for local assignments and may be used at the discretion of any service provider”. SRG saw no need to deviate from these guidelines.

SRG was of the opinion that service providers should be free to make use of *94 to *99 at their individual discretion.

URCA’s Proposed Further Action/Comment

URCA acknowledges the comments provided and notes that BTC already has a VSC assignment in the 94 to 99 range (using 94 for the Subscriber Activated Call Blocking feature). URCA also notes that the Vertical Service Code guidelines recommend that the range 94 to 99 be reserved for local assignment at the discretion of service providers.

VSCs in the range 94 to 99 will be set aside for local use at the discretion of service providers, but that the use of these codes be coordinated with URCA prior to placing them in service.

Since these codes are recommended to be used at the discretion of the operators, URCA does not see the need seek common use of the codes by all operators.

Question 37: Do you agree with the PUC’s recommendation that all VSC assignments be handled through the PUC? If not, why?

BTC and SRG responded to this question. SRG disagreed with the proposal while BTC supported it.

⁹ See section 3.11 of the Vertical Service Code Assignment Guidelines, as published by the Industry Numbering Committee,

BTC

BTC agreed with the proposal and support the 'common' attribute that the PUC proposed for VSC assignments and therefore the need for the PUC to ratify the proposed use before operators use the codes.

BTC continued that the operators and their suppliers better understood the needs of the network service VSCs. They urged the PUC to create a Numbering Working Group with representatives of the operators to address numbering issues as the need arose so that the numbering administrator would have a consensus view to guide its decisions.

SRG

SRG stated that it was not aware of any problems with the use of VSCs in The Bahamas and saw no need for the PUC to be involved in VSC assignment, or any benefit that could arise from such involvement. They felt that it was sufficient that service providers follow the VSC assignments established NANPA.

URCA's Proposed Further Action/Comment

URCA notes the comments offered by both respondents. It notes SRG's response that there was no merit in URCA being involved in the assignment of VSC. It should be pointed out however that the VSC Guidelines state that VSC's are assigned exclusively by the NANPA in the NANP area.

The regulator has the discretion to coordinate the application process.

The guidelines also states that the 94 to 99 VSC range may be used at the discretion of the service provider. BTC has already assigned itself the 94 VSC for a feature in its network. Since these codes are used exclusively within BTC's network, URCA does not see any benefit forcing a change or requiring conformity across the sector.

The PUC has therefore determined that all applications for new VSC's should flow through URCA.

Question 38: Do you agree with the PUC's recommendation that the digits length for service provider specific services be 3-digits in length? If not, why?

Both BTC and SRG responded to this question and they agreed with the proposal without any significant comments other than their responses to Question 13.

URCA's Proposed Further Action/Comment

URCA has therefore decided that the code length for service specific services will be 3-digits.

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

BTC and SRG responded to this question.

BTC

BTC referred to its detailed answer to question 13, suggesting that the 1XX and 9XX ranges offer adequate capacity for reasonable demand for short access codes. BTC also urged the regulator from taking precipitous action in allocating individual codes before there is specific demand. They suggested that both 1XX and 9XX codes should be treated as a common pool of short access codes.

BTC also pointed out that the Consultation Document does not consider what codes should be used for CICs. It was noted that the NANP distinguishes between CICs and Carrier Access Codes (CACs). They noted that CACs are a 7-digit prefix dialed by end users to access alternative networks. They noted further that the CACs should be as short as possible, while the CIC should be long enough to uniquely identify all possible operators.

BTC suggested that two digits for CICs will be more than sufficient, providing up to 99 CIC codes. They noted further that the PUC will need to agree an *Adjunct to the INC Carrier Identification Code (CIC) Assignment Guidelines for the administration of CICs in The Bahamas*, similar to what was done in Canada for the 2-digit format.

BTC suggested creating a four digit CAC prefix for end users to dial, commencing with 92XX, creating a 4-digit CAC prefix rather than the 7-digit format used in the USA.

SRG

SRG suggested that the use of 1XX be service provider specific.

URCA's Proposed Further Action/Comment

URCA acknowledges the responses from SRG and BTC, as well as the elaboration given by BTC to include Carrier Access codes.

URCA has not received any strong opinions on the use of 1XX other than SRG stating that its use should be service provider specific and BTC advising caution prior to making any assignment in the 1XX range.

URCA therefore has therefore decided that its decisions as stated in response to 13 and 14 should stand. No consideration is given at this time for assignments in the 1XX range.

Question 40: The PUC invites comments on the identification of any other number range for the use of service identification or access.

BTC was the only respondent to this question.

BTC

BTC repeated its earlier response to the that the existing 1XX, 9XX and N00 ranges provided sufficient capacity for short access codes and the necessary service identification such as Toll Free, Shared Cost, Shared Revenue / Premium, etc.. They stated that no other number ranges need to be used for these services.

URCA's Proposed Further Action/Comment

URCA therefore has decided that no other number ranges would be identified to be used for service identification or access.

Question 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?

URCA notes that there were no responses to this question. It appears as though this may have been an oversight especially as question 41 was omitted from the Consultation document summary of questions. The question was however properly placed in the body of the document.

The topic of "public interest", "common Interest", and "service provider specific" category of codes was discussed in section 6.8.12 of the Public Consultation document. In all of the responses URCA saw no objection to the structuring of codes into the three categories. BTC noted that they made two categories by combining "common Interest" and Service provider specific" into a single category. They noted however that they saw no material difference in having the two or three categories.

The industry and the public would have a further opportunity to offer comments when this statement of results is published.

Question 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 and SRG responded to this question. As noted in URCA's comment in the previous question, SRG responded to this question as question 41, while BTC responded correctly to it as question 42.

BTC

BTC welcomed the proposal to develop and publish clear Guidelines regarding number assignments within The Bahamas as this would provide the industry with important certainty regarding the use and assignment of the numbering capacity.

BTC expressed the view that the PUC will need to revise the proposed Guidelines in consideration of the responses received.

BTC offered some proposed revisions to the draft Bahamas Central Office Code Assignment Guidelines as follows:

- (1) Cellular should be included Section 3.7 that refers to geographic NPAs;
- (2) "projected home and neighboring NPAs" is not relevant to assignments from The Bahamas National Numbering plan.
- (3) "any codes allocated or assigned for special purposes such as 555 for information services, 950 Feature Group B Access, 976 for local pay per call services , and Local Plant Test Codes (i.e., 958 and 959)" in Section 3.7 are not relevant to the assignments from The Bahamas National Numbering Plan;
- (4) The current wording of Section 4.3 limits the PUC's intentions for Code Holders to assign numbers to VNOs;
- (5) Section 6.2.3 should have an obligation on all code holders to activate assigned Central Office Codes in their networks within established timescales, except for short access codes assigned as 'on-net';
- (6) Sections 6.1, 6.2.1, 6.3.1, 6.6, 7.1 and Appendix A Part 2 Forms Page 1 makes the Code Holder responsible for inputting data into RBDS and BRIDS (including rating data) is in contradiction to Section 6.8.8 of the PUC's proposal;
- (7) Appendix F (Aging Guidelines) was omitted from the Public Consultation document so BTC was not able to offer comments; and
- (8) The PUC should have included in The Bahamas National Numbering Plan an administrative process for operators to appeal PUC decisions. These issues may become more complex with full liberalization. They stated that numbering issues are administrative in nature and not legal issues and are not adequately covered by Section 7 of the Telecommunication Act.

SRG

SRG appears to have agreed with the proposal and stated that the Guidelines would have to be amended in line with the comments.

URCA's Proposed Further Action/Comment

URCA has considered the responses to this question. SRG's comments are noted and the guidelines will be amended according to the determination made based on the consultation process. It is noted that BTC also indicated that the Guidelines would have to be amended in accordance to any new determinations. They however made specific references as to where they thought these changes should be made.

The following are in reference to each BTC's response related to the Central Office Code Assignment Guidelines:

- (1) URCA interprets references to central office codes as being a reference to both fixed and mobile networks.
- (2) URCA sees no harm in keeping this provision to future proofing the guidelines.
- (3) URCA offers the same comment as in (2) above.
- (4) This section in the guideline provides for the code holder to assign telephone numbers to a VNO.
- (5) Code activation time lines are addressed in Appendix C of the CO code guidelines.
- (6) These sections will be amended based on the determinations made by URCA in response to the consultation process.
- (7) URCA will rectify the omission. It is noted however that the guidelines are the standard guidelines that are available on NANP and INC web sites
- (8) There are established procedures available to all service providers to appeal decisions made by URCA.