Proposal to Open Standard Spectrum Bands Currently Specified as 'Closed' in the National Spectrum Plan 2014-2017 (ECS 03/2014)

Consultation Document

ECS 18/2017

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CONTENTS

1. INTRODUCTION

Under section 29 of the Communications Act, 2009 (the "Comms Act"), the Utilities Regulation and Competition Authority (URCA) has exclusive right to manage, allocate and assign all frequencies in the radio spectrum in The Bahamas.

BACKGROUND

URCA published the National Spectrum Plan 2014-2017 (ECS 03/2014) (the "NSP") on 10 April 2014. Appendix D of the NSP states which spectrum bands are open and are available for issuance and which spectrum bands are closed and are not available for issuance. In section 5.3 of the NSP, URCA stated that the catalyst for opening new spectrum bands would be growth in demand for new or existing wireless electronic communications services. Since the publication of the NSP Plan, URCA has observed that both domestic and global trends have shown exponential growth in industry demand for spectrum. URCA expects that this trend will continue. Moreover, URCA is of the view that it can effectively address this trend by proactively opening additional spectrum bands to satisfy the growing demands for spectrum and facilitate the evolution of new technologies and electronic communications services as required under the Comms Act[1]. Consequently, URCA proposes to open the standard spectrum bands, specified as 'Closed' in its NSP for The Bahamas.

URCA, therefore, issues this public consultation document to solicit views of the general public and interested parties on the proposed opening of the radio spectrum bands currently designated as 'Closed' in the NSP.

OBJECTIVES

The objectives of this consultation document are as follows:

I. Identify the spectrum bands designated as 'closed' in the NSP;
II. Propose a method of opening the 'closed' spectrum bands;
III. Seek comments from interested persons, regarding URCA's proposed opening of the 'closed' spectrum bands; and
IV. Open the "closed" bands based on the public's interest and feedback from the industry.

[1] See Comms Act section 32

RESPONDING TO THIS CONSULTATION DOCUMENT

Responses to this document should be submitted to URCA by 5:00 p.m. on 8 December 2017. Persons may submit their written responses and comments to the Chief Executive Officer, either:

- by hand to URCA's office at Frederick House, Frederick Street, Nassau; or
- by mail to P. O. Box N-4860, Nassau, Bahamas; or
- by fax to (242) 393-0153; or
- by email to info@urcabahamas.bs.

URCA's preferred format for the written responses is as follows:

- Respondent's name;
- Name of organisation (state whether you are a consumer or licensee);
- Email address or other address of respondent; and
- Any other matters that respondents feel URCA should consider under this consultation process.

URCA reserves the right to make all responses available to the public by posting responses on its website at www.urcabahamas.bs. If a response is marked confidential, reasons should be given to facilitate URCA evaluating the request for confidentiality. URCA may publish or refrain from publishing any document or submission at its sole discretion.

Unless comments and submissions are of a general nature, they should refer to the related question number or the particular section of the document. URCA will review the responses received and publish a Statement of Results on the consultation, and simultaneously issue its Final Decision within thirty (30) calendar days of the closing date for receipt of comments.

STRUCTURE OF THE REMAINDER OF THIS DOCUMENT

The remainder of this consultation document consists of the following parts:

- Section 2 describes the legal framework for opening the new spectrum bands;
- Section 3 provides procedural context for opening new spectrum bands;
- Section 4 outlines URCA's proposed method for opening the bands;

- Section 5 identifies the proposed new spectrum bands;
- Section 6 contains a summary of the consultation questions; and
- Section 7 discusses next steps following this consultation.

2. LEGAL AND POLICY FRAMEWORK

The Legal and Policy Framework for the proposed opening of spectrum bands is mainly set out in the documents listed below:

- The Communications Act, 2009;
- The Electronic Communications Sector Policy, 2009 (the "ECSP");
- The National Spectrum Plan 2014-2017; and
- Guidelines for Opening New Spectrum Bands (ECS 11/2011) (the "Guidelines").

COMMUNICATIONS ACT, 2009

In section 4 of the Comms Act, the Government of The Bahamas (the "Government") affirmed that electronic communications perform an essential role in promoting the economic and social welfare of The Bahamas and set out the primary objectives of electronic communications policy. Those main objectives include, inter alia, furthering the interests of consumers through promoting competition by:

i. enhancing the efficiency of the Bahamian electronic communications sector and the productivity of the Bahamian economy;
ii. promoting investment and innovation in electronic communications networks and services;
iii. encouraging, promoting and enforcing sustainable competition; and
iv. promoting the optimal use of state assets, including radio spectrum.

Further, the Comms Act gives the Minister and URCA various functions and powers in relation to the management, allocation and assignment of spectrum. In particular, section 29 of the Comms Act gives URCA exclusive rights to manage, allocate and assign all frequencies within the radio spectrum bands for The Bahamas. However, the Comms Act provides that the Minister shall be responsible for deciding the method of allocating frequencies in the Premium Spectrum Bands. URCA is required under section 31(1) of the Comms Act, to formulate a Spectrum Plan that explicitly states which spectrum bands are to be designated as Premium Spectrum Bands and Standard Spectrum Bands. The remaining sections of Part V requires that URCA manages the radio spectrum in a manner that is open, objective, transparent and non-discriminatory, economically efficient and facilitates the evolution of new technologies and services. Also, Section 34(2) of Comms Act sets the requirement that URCA *"shall conduct public inquiries and consult with electronic communications service providers and network operators in The*

Bahamas about the use and management of radio spectrum" which is of particular relevance to this consultation process.

NATIONAL SPECTRUM PLAN

Under section 31(1) of the Comms Act, URCA is required "*to publish a spectrum plan, which is consistent with any applicable international treaties, commitments or standards including without limitation those of the International Telecommunications Union (ITU) and shall take into account relevant international recommendations."* Consistent with this requirement, URCA published the NSP on 10 April 2014. As part of that NSP, URCA also included as a requirement under section 31(3) of the Act, spectrum classification as being either "Premium" or "Standard" spectrum.

In the development of the National Spectrum Plan, URCA sought to:

i. implement administrative cost recovery for spectrum management and administration;
ii. conduct a systematic review of current spectrum license fees; and
iii. establish information systems that anticipated future spectrum management needs, improve business processes and enhance access to wireless electronic communications services.

URCA's public consultation on the Review of Spectrum Pricing published on 28 January 2016 effectively addressed the first two issues. URCA is now seeking to establish information systems that anticipate future spectrum management needs, improve business processes, and enhance access to wireless electronic communications services by making spectrum resources available for wireless electronic communications services.

ELECTRONIC COMMUNICATIONS SECTOR POLICY

Section 5 of the Comms Act requires that all policy measures, decisions, and laws to take effect in the Electronic Communications Sector (ECS) in The Bahamas should be made with a view to implementing the electronic communications sector policy objectives as set out in section 4 of the Comms Act. Through this consultation process, URCA seeks to fulfil the electronic communications policy objectives to promote the optimal use of state assets, including radio spectrum, promote investment and innovation in electronic communications networks and services and encourage, promote and enforce sustainable competition.

GUIDELINES FOR OPENING NEW SPECTRUM BANDS

URCA published the Guidelines For Opening New Spectrum Bands document (the Guidelines) on 27 May 2011. The Guidelines sets out the processes and procedures to be applied by URCA when opening new spectrum bands to the market. URCA will aim to implement those Guidelines in a manner that effectively progresses the ECSP objectives. Further, in administering the procedural steps established in the Guidelines, URCA will seek to:

i. adopt a fair, transparent, non-discriminatory and proportionate approach to the opening of new spectrum bands and the process for awarding spectrum;

ii. encourage its economically efficient use, facilitating the evolution and introduction in The Bahamas of new technologies and electronic communications services;

iii. implement a technology-neutral approach when opening new bands and awarding spectrum, in that, URCA will not dictate the technology choice for licensees. However, where URCA undertakes a competitive process for the award of the spectrum, URCA may consider the efficiency of the proposed technology as a factor in determining the final award of the spectrum. As indicated below, URCA will also consider available technologies when determining the optimal amount of spectrum to be awarded; and

iv. encourage the use of spectrum in a manner which facilitates the achievement of the ECS Policy Objectives.

OTHER ACTS, POLICIES, AND GUIDELINES

URCA is aware of other Acts, Policies, and Guidelines that are relevant to the opening of new spectrum bands and will make reference to those other regulatory measures where necessary.

Question # 1

In opening the proposed spectrum bands designated as closed, do you agree that URCA should consider available technologies when determining the optimal amount of spectrum to be awarded? If not, please provide specific reasons as to why URCA should not consider available technologies.

3. CONTEXT FOR THE OPENING OF NEW SPECTRUM BANDS

The Guidelines require that when URCA proposes to open new spectrum bands on URCA's own volition, URCA must consider the following factors:

i. Exhausted capacity;
ii. Increased competition;
iii. Increased consumer demand; and
iv. Sector observation by URCA

URCA's consideration of the above factors is set out below.

EXHAUSTED CAPACITY

As previously mentioned, radio spectrum is a finite resource, and the efficient management of this resource depends on policies that promote an effective means to ensure optimization in the utilization of the radio spectrum and to facilitate equitable sharing among users. According to the Guidelines, where the capacity in an existing band for a particular service or type of service is nearing exhaustion, URCA proposed to take the necessary proactive measures to consult on opening a new spectrum band.

URCA is aware that the increasing demand for cellular mobile spectrum has resulted in the near exhaustion of premium spectrum. For example, the Government's Request for Proposals to Operate a Cellular Mobile Network and Cellular Mobile Service in The Bahamas (the "RFP") was issued on 12 November 2014, led to licensing of the country's second cellular mobile provider on 30 June 2016 and consequently, the issuance of one-half of Premium Spectrum available at that time. The RFP provided that the new cellular mobile provider would have an equitable assignment as the incumbent provider, and thus, as it relates to spectrum, URCA ensured a level playing field. That being stated, URCA advises that more than seventy-five percent (75%) of the available cache of opened premium spectrum, as notified in the NSP, have been issued.

In addition to the growth in demand for Premium Spectrum, URCA has observed an increase in the demand in some of the Standard Spectrum Bands including FM Broadcasting Band, the 2500 MHz, and 3500 MHz bands. Studies have forecasted significant increases in the demand for RF spectrum,

especially in the spectrum bands below 3 GHz[2]. Moreover, URCA like many other regional and global telecommunication regulators recognises a need to ensure the availability of radio spectrum to facilitate existing IMT-Advanced technologies, future International Mobile Telecommunications–2020 (IMT-2020) technologies and the evolution towards the Internet of Things (IoT)[3] and other "Smart Cities"[4] initiatives. However, URCA have noted that these technologies require spectrum in bands currently designated as "closed" in the NSP. Although those "closed" bands are reserved for future growth, spectrum that is classified as "closed" must be opened by means of a public consultation process before it can be assigned to a prospective licensee. Under normal conditions, the duration of the related public consultation process is at best an eight months process, which can be a significant barrier to entry for potential electronic communication service providers and hinders the growth and competitive response of existing licensees. By opening the bands designated as "closed" in the NSP on its own volition, URCA can remove any perceived or actual barrier to entry and promote growth and competitiveness in the sector. In essence, by opening the spectrum currently designated as "closed" in the NSP, URCA can be responsive to industry demands for such spectrum in a timelier manner.

INCREASED COMPETITION IN THE SECTOR

In accordance with the Guidelines, where there is significant growth in the sector consequential to competition for the provision of services requiring new spectrum, URCA has proposed to consult on opening new spectrum bands. Following the full liberalization of the ECS, URCA has seen a significant growth in the level of competition. Under the ECS licensing regime, URCA need only issue licenses for networks and services which require:

i. an Individual Operating License (IOL);

ii. an Individual Spectrum Licence (ISL);

[2] (Rysavy Research 2011; ITU 2006)

[3] *The Internet of Things (IoT) has been defined in Recommendation ITU-T Y.2060 (06/2012) as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies* retrieved from http://www.itu.int/en/ITU-T/gsi/iot/Pages/default.aspx

[4] *A smart sustainable city is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects*. Retrieved from http://www.itu.int/en/ITU-T/focusgroups/ssc/Pages/default.aspx

iii. a Class Operating License Requiring Registration; or

iv. a Class Spectrum License Requiring Registration.

URCA's analysis of this growth indicates that since 2009 there has been a 43% increase in Individual Spectrum Licences, 200% increase in Individual Operating Licences, 242% increase in Class Spectrum licenses (Requiring Registration) and 10% decrease in Class Operating Licences (Requiring Registration). Therefore, URCA is satisfied that the market is more competitive than it was when it published the first NSP and that there is significant justification for regulatory intervention at this stage to make new spectrum readily available.

INCREASED CONSUMER DEMAND

URCA has received an overwhelming interest from prospective licensees to offer wireless communication services in bands that are presently closed. In addition to the demand from prospective licensees, current licensees also require more spectrum to expand wireless broadband and ancillary services. This need for additional spectrum is made evident by the rapid growth of traffic volume on mobile broadband networks consequential to increased consumer demand.

URCA is aware that the growth in demand for spectrum is mainly driven by consumer demand for high-speed broadband services such as streaming media, rich media gaming, video conferencing, and other services because data throughput and quality of service is a function of spectrum bandwidth. Moreover, service providers are seeking to offer consumers the opportunity to utilize the full capability of their smart devices by delivering new and upgraded services to their user base using advanced technologies that operate in spectrum bands that are currently closed. Also, the growth in demand for spectrum is also fueled by an increase in per-subscriber data usage which causes an increase in aggregate traffic volumes.

URCA believes that making additional spectrum available can help service providers respond to competitive pressures. As it relates to spectrum in The Bahamas, the introduction of competition in the cellular mobile market resulted in the assignment of over seventy-five percent of the available Premium Spectrum. Indeed, URCA has seen an increasing demand for both premium and standard spectrum needed to support the expansion of Long-Term Evolution (LTE) Networks and emerging IMT-2020 technologies. Further, since 2009, URCA has also observed sufficient take-up of FM Broadcasting services in New Providence and an increased take-up on the Family Islands which has resulted in a

robust and well-diversified FM broadcasting market. Globally, there has been a significant increase in competition in satellite services. URCA has granted a substantial number of earth station assignments to cruise ships traversing Bahamian waters. URCA has also experienced growing demands for spectrum from international airlines as a result of increased competition in the international air transportation industry.

URCA believes that the increasing and growing demand for spectrum is a direct indication that URCA should provision new spectrum bands for issuance to existing and prospective licensees.

SECTOR OBSERVATION BY URCA

URCA has closely monitored the ECS to determine global, regional and local trends, and also the development of innovative technologies that operate in spectrum bands that have not yet been opened.

The Bahamas is taking an active role in the debate on spectrum requirements for emerging and evolving wireless technologies and services regionally through its membership with the Inter-American Telecommunications Commission (CITEL) and internationally through its membership with the ITU. URCA, in its capacity as the regulator for The Bahamas for the ECS, is supporting several worldwide initiatives including provisioning spectrum for additional IMT-Advanced Technologies, new spectrum for IMT–2020 technologies and for systems that will improve safety of life and property for world citizens including citizens of The Bahamas, such as the global flight tracking system, public safety and distress communications systems, automotive radars and future fixed satellite system. URCA believes that the provisioning of spectrum for these critical wireless electronic communications should undoubtedly advance the social and economic welfare of the people of The Bahamas.

Additionally, unless URCA can make new spectrum resources available for the expansion of the ECS effectively and more efficiently, service providers and the consumers of electronic communications services and systems in The Bahamas will lack the resources needed to capitalize on rapid technological advancement that is currently transpiring across the globe. The inefficiencies inherent in the existing spectrum opening process are discussed briefly in Section 4 of this paper.

URCA also recognizes a need to commence its preparations to provision spectrum to fulfil its international obligations and align itself with international best practices. While in attendance at the World Radio Conference in November 2015 (WRC 2015), URCA was made aware of the ITU's initiatives

to commence implementation of several relevant key ITU Resolutions, which were the outcome of the previous World Radio Conference in 2012 (WRC 2012). In this regard, URCA proposes to open new spectrum bands for the following:

i. Additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) to facilitate the development of terrestrial mobile broadband applications;
ii. Broadband public protection and disaster relief (PPDR), in accordance with Resolution 648;
iii. New allocation to the amateur service on a secondary basis within the band 5250 - 5450 kHz in accordance with Resolution 649;
iv. Fixed-satellite service not subject to Appendices 30, 30A and 30B for the control and non-payload communications of unmanned aircraft systems (UAS) in non-segregated airspaces, in accordance with Resolution 153;
v. Fixed-satellite service (Earth-to-space and space-to-Earth) of 250 MHz in the range between 10 GHz and 17 GHz in Region 1;
vi. Fixed-satellite service (Earth-to-space) of 250 MHz in Region 2 and 300 MHz in Region 3 within the range 13 - 17 GHz;
vii. Review the use of the band 5091 - 5150 MHz by the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in accordance with Resolution 114;
viii. Earth stations located on board vessels (ESVs), based on studies conducted in accordance with Resolution 909;
ix. Possible new allocations to the fixed-satellite service in the frequency bands 7150 - 7250 MHz (space-to-Earth) and 8400 - 8500 MHz (Earth-to-space), subject to appropriate sharing conditions;
x. The possibility of allocating the bands 7375 - 7750 MHz and 8025 - 8400 MHz to the maritime-mobile satellite service and additional regulatory measures, depending on the results of appropriate studies;
xi. Additional spectrum allocations for the mobile-satellite service in the Earth-to-space and space-to-Earth directions, including the satellite component for broadband applications,

including International Mobile Telecommunications (IMT), within the frequency range from 22 GHz to 26 GHz, in accordance with Resolution 234;

xii. Primary allocation for the Earth exploration-satellite service (Earth-to-space) in the 7 - 8 GHz range, in accordance with Resolution 650;

xiii. Allocation to the Earth exploration-satellite (active) service in the frequency band 9300 - 9900 MHz by up to 600 MHz within the frequency bands 8700 - 9300 MHz and 9900 - 10500 MHz, in accordance with Resolution 651;

xiv. Spectrum demands for onboard communication stations in the maritime mobile service in accordance with Resolution 358;

xv. New Automatic Identification System (AIS) technology applications and potential new applications to improve maritime radiocommunication in accordance with Resolution 360;

xvi. Aeronautical allocations, to support Wireless Avionics Intra-communications (WAIC), in accordance with Resolution 423; and

xvii. Allocation to the radiolocation service for automotive applications in the 77.5 - 78.0 GHz frequency band in accordance with Resolution 654.

Having considered the spectrum requirements of the above mentioned emerging technologies and services, URCA believes it must continue the work of making spectrum available for prospective users and services. In URCA's view, this work begins with opening the remaining bands designated as "closed" and thereafter adopt and/or design appropriate band plans, as there is no apparent justification for the bands to be closed.

4. PROPOSED METHOD OF OPENING NEW SPECTRUM BANDS

As outlined in the Legal Framework, the Guidelines set out the processes and procedures to be applied by URCA when opening new spectrum bands to the market. In particular, the Guidelines set out a seven (7) step process for opening new spectrum bands. The following stages of the process are outlined below:

- Step 1: Submission of Expressions of Interest (60 days)
- Step 2: Assessment of Expressions of Interest (30 days)
- Step 3: URCA to prepare draft policy for that band (60 days)
- Step 4: Consultation on the draft policy (30 days)
- Step 5: Finalizing the policy (30 days)
- Step 6: Implementation of the policy (7 days)
- Step 7: Licence award (30 days)

Notwithstanding the procedure outlined above, the Guidelines provides that URCA, on its volition or consequential to a specific request by an operator, can determine whether or when to open a spectrum band. In cases where URCA decides to open spectrum on its own volition, Steps 1 and 2 becomes redundant and thus the time required to complete the process can be substantially shortened as shown below:

- Step 1: URCA to prepare draft policy for that band (60 days)
- Step 2: Consultation on the draft policy (30 days)
- Step 3: Finalizing the policy (30 days)
- Step 4: Implementation of the policy (7 days)
- Step 5: Licence award (30 days)

Having considered the reasoning set out in Section 3, URCA is minded to open the new spectrum bands on its own volition.

Question #2
Do you agree with URCA's proposal to open the remaining spectrum bands on URCA's own volition? If not, please provide comments indicating reasons and any recommendations for URCA to consider.

5. PROPOSED NEW SPECTRUM BANDS

In keeping with best practices, URCA in its NSP formulated and issued the National Frequency Allocation Table (NFAT) that sets out the allocations which are applicable in The Bahamas for each spectrum band. The allocations shown conform to the recommendations contained in the International Table of Frequency Allocations published in the most recent version of Article S5 of the International Telecommunication Union Radio Regulations (ITU-RR 2016). URCA confirms that the allocation for each spectrum plan will remain as stated in the NSP. However, URCA proposes to open the bands designated as "closed" in Appendix D of the NSP and identified in Table-1 below as "URCA Proposes To Open".

Table 1: Frequency Range Including the List of Bands URCA Proposes to Open

Frequency Range (MHz)			Classification	Identification of Bands URCA Proposes to Open
0.003	-	6.765	Standard	Open
6.765	-	13.553	Standard	Open
13.553	-	26.957	Standard	Open
26.957	-	41	Standard	Open
41	-	380	Standard	Open
380	-	400	Standard	URCA Proposes to Open
400	-	470	Standard	Open
470	-	698	Standard	URCA Proposes To Open
698	-	806	Premium	Open
806	-	824	Standard	Open
824	-	849	Premium	Open
849	-	851	Standard	Open
851	-	869	Standard	Open
869	-	894	Premium	Open
894	-	902	Standard	URCA Proposes To Open
902	-	928	Standard	URCA Proposes To Open
928	-	960	Standard	URCA Proposes To Open
960	-	1395	Standard	URCA Proposes To Open
1395	-	1427	Standard	URCA Proposes To Open
1427	-	1500	Standard	URCA Proposes To Open
1500	-	1559	Standard	URCA Proposes To Open
1559	-	1625	Standard	URCA Proposes To Open
1625	-	1661	Standard	URCA Proposes To Open

Frequency Range (MHz)			Classification	Identification of Bands URCA Proposes to Open
1661	-	1710	Standard	URCA Proposes To Open
1710	-	1755	Premium	Open
1755	-	1785	Standard	Open
1785	-	1805	Standard	Open
1805	-	1850	Standard	URCA Proposes To Open
1850	-	1915	Premium	URCA Proposes To Open
1915	-	1930	Premium	Open
1930	-	1995	Premium	Open
1995	-	2025	Standard	URCA Proposes To Open
2025	-	2110	Standard	URCA Proposes To Open
2110	-	2155	Premium	Open
2155	-	2200	Standard	URCA Proposes To Open
2200	-	2305	Standard	URCA Proposes To Open
2305	-	2320	Premium	Open
2320	-	2345	Standard	URCA Proposes To Open
2345	-	2360	Premium	Open
2360	-	2400	Standard	URCA Proposes To Open
2400	-	2496	Standard	Open
2496	-	2500	Standard	Open
2500	-	3400	Standard	Open
3400	-	3800	Standard	Open
3800	-	5725	Standard	URCA Proposes To Open
5725	-	5875	Standard	Open
5875	-	10700	Standard	URCA Proposes To Open
10700	-	12700	Standard	Open
12700	-	24000	Standard	URCA Proposes To Open
24000	-	24250	Standard	Open
24250	-	40500	Standard	Open
40500	-	43500	Standard	Open
43500	-	61000	Standard	URCA Proposes To Open
61000	-	61500	Standard	Open
61500	-	122000	Standard	Open
122000	-	123000	Standard	Open
123000	-	244000	Standard	Open
244000	-	275000	Standard	Open

ALLOCATION OF SPECTRUM

The services allocated to specific frequency bands are listed in Appendix A of the National Frequency Allocation Table (NFAT) of the NSP. Service allocation refers to the type of radiocommunication services permissible within a given frequency band. Therefore, the services permitted in the band(s) will be consistent with the service(s) allocated to the band(s) in the NFAT, and that results in the harmonization of spectrum usage with adjacent countries for specific services thereby fostering effective coordination between countries.

Question #3
Do you agree with URCA's proposal to open the spectrum bands in the radio frequency spectrum designated as "closed" in the NSP and Table-1? If not, please provide comments indicating reasons and any recommendations for URCA to consider.

Question #4
With regards to the spectrum bands referenced in this document designated as "closed", are there any bands that you feel should be prioritized for special type services outside of the services for which the bands are allocated? If yes, please provide details including the reason(s) why they should be of particular interest.

SPECTRUM BAND PLANNING

In Section 5 of the NSP, URCA sets out the policy considerations for Spectrum Band Planning. A band plan signifies that adequate, measures are in place to facilitate the efficient use of spectrum bands. In accordance with the NSP, URCA will formulate spectrum band plans which are national in effect and are designed to coordinate and harmonize the use of the relevant band within national borders. Additionally, as stated in the NSP, URCA considers it essential to coordinate and harmonize the use of a spectrum band by multiple users. The spectrum band plans will ensure the coordinated and harmonized use of the spectrum and will contain technical standards which identify appropriate operating thresholds for the following parameters:

- Centre frequency
- Bandwidth
- Guard band

- Spectral mask
- Modulation

Decisions regarding the appropriate threshold for the parameters listed above will be made with due regard to national allocation of services, relevant international standards and the geographic characteristics of the territory covered by the applicable spectrum licenses. Therefore, URCA proposes to design and where necessary adopt spectrum band plans that conform to international standards for all open spectrum bands and grant spectrum assignments in The Bahamas in conformity with the relevant band plans, with a view of:

i. ensuring harmonized spectrum access conditions which enable interoperability and economies of scale for wireless equipment;
ii. working towards more efficient use of the radio spectrum; and
iii. improving the availability of information and communications technologies throughout The Bahamas.

In proposing new band plans, URCA will take into account the costs and implications on spectrum users. In particular, URCA will aim to maximize the implicit and explicit economic benefits that can result by harmonizing band plans within significant international markets.

Question #5
In consideration of URCA's proposal to open all of the remaining spectrum bands designated as "closed" in the NSP and Table-1, are there any other criteria, interest or views URCA should be aware of or consider outside of what is being proposed? If yes, please provide information for URCA's consideration.

6. SUMMARY OF QUESTIONS

Question #1

In opening the proposed spectrum bands designated as closed, do you agree that URCA should consider available technologies when determining the optimal amount of spectrum to be awarded? If not, please provide specific reasons as to why URCA should not consider available technologies.

Question #2

Do you agree with URCA's proposal to open the remaining spectrum bands on URCA's own volition? If not, please provide comments indicating reasons and any recommendations for URCA to consider.

Question #3

Do you agree with URCA's proposal to open the spectrum bands in the radio frequency spectrum designated as "closed" in the NSP and Table-1? If not, please provide comments indicating reasons and any recommendations for URCA to consider.

Question #4

With regards to the spectrum bands referenced in this document designated as "closed," are there any bands that you feel should be prioritized for special type services outside of the services for which the bands are allocated? If yes, please provide details including the reason(s) why they should be of particular interest.

Question #5

In consideration of URCA's proposal to open all the remaining spectrum bands designated as "closed" in the NSP, are there any other criteria, interest or views URCA should be aware of or consider outside of what is being proposed? If yes, please provide information for URCA's consideration.

7. CONCLUSION AND NEXT STEPS

URCA invites responses on this Consultation Document, from interested parties. Subsequent to receiving responses on or before 5 p.m. on 8 December 2017**,** URCA will**:**

i. issue a Statement of Results responding to all comments and representations received to this Consultation Document; and

ii. issue the Final Decision of its conclusion within thirty (30) calendar days of the closing date for receipt of comments.