



November 16, 2010

Mr. Usman Saadat,
Chief Executive Officer,
Utilities Regulation & Competition Authority,
UBS Annex Building,
East Bay Street,
Nassau.

Dear Mr. Saadat,

Re: Public Consultation on Opening New Spectrum Bands ECS 23/2010 (the “Consultation”)

Please find below the comments of Systems Resource Group Limited (“SRG”), d.b.a. IndiGO Networks[®] (“IndiGO”), with respect to the above Consultation.

Question 1

Do you agree with URCA’s proposal of factors to consider when it initiates the process to open new spectrum bands upon its own volition? If not, please provide additional or other factors that should be considered.

SRG is of the view that it should only be on rare occasions that URCA would use its discretion to open spectrum bands on its own volition, perhaps most notably as a result of changes in government policy with respect to premium spectrum and/or markets that are in high demand, such as mobile speech.

It is undeniable that regardless of interest from the general public¹, or indeed global trends², actual utilisation of spectrum in the Bahamian market that will result in deployment of services to the public can only come about through investment by the private sector. By raising the opening of spectrum on its own volition, irrespective of sector demand, URCA risks encouraging:

1. The introduction of under funded and poorly planned service offerings.
2. The potential for existing licensees with deep pockets to express interest in the spectrum proposed by URCA with no other purpose than either:
 - a. speculatively sitting on it for future use; or
 - b. acting as a spoiler to prevent future competition.

¹ Consultation, Section 3.2 (iii)

² Consultation, Section 3.2 (iv)

Whilst SRG agrees that exhausted capacity on bands that are already open³, and increased competition in the sector⁴ are valid reasons for opening new spectrum, SRG would respectfully submit that both such reasons will give rise to sector demand as existing or potential licensees request availability of spectrum to be able to expand existing services or introduce new competitive services.

For the aforementioned reasons, SRG therefore believes that in nearly all cases demand should come from existing or potential licensees in the sector before URCA takes action to open spectrum. Such action would meet demand with a reasonable expectation of private sector investment, and preserve spectrum for future opportunities.

Question 2

Do you agree that URCA should also consider specific demands from the industry? If not, please indicate what should stimulate URCA to consider initiating the process to open new spectrum bands.

As stated above, SRG believes that bona fide demand from the sector should be the primary driver for URCA in deciding whether to open new spectrum bands. In such cases, URCA should also consider whether there is alternative spectrum available in existing bands that, based on global trends, could be a substitute for the services proposed by the applicant.

Question 3

Do you agree with URCA's proposal that licensees should only be awarded an optimum amount of spectrum licences for services to be provided in a territory? If you disagree, please provide a framework for URCA to consider when determining the optimum amount of spectrum bandwidth to award each potential licensee.

SRG has consolidated its answer to question 3 with its answer to question 4, below.

Question 4

Do you agree that URCA should not award the entire capacity of a spectrum band to a single operator unless the applicant could prove an exception to best practices?

If not, please provide details to guide URCA in considering the award of an entire band to a single operator to the exclusion of others.

SRG respectfully submits that the wording of each of questions 3 and 4 is pejorative, since the questions themselves seek to reinforce a predetermined conclusion by URCA; that award of an entire band to a single operator is not in line with "best practices" or an "optimum" use of spectrum.

SRG notes that URCA's predecessor with responsibility for telecommunications regulation, the Public Utilities Commission ("PUC"), itself considered this same question in its Public Consultation on

³ Consultation, Section 3.2 (i)

⁴ Consultation, Section 3.2 (ii)

Licenses for Wireless Networks in September 2000, in which it sought public comments with respect to the opening up of ten new spectrum bands, including the MMDS band.

With respect to the MMDS band, the PUC proposed as follows in section 2.2(b)(i) of its consultation document:

“Spectrum licenses will be awarded for specific service areas so that greater efficiency can be realized in the management of the radio frequency spectrum, which is a limited resource. With such an arrangement, the reuse of frequencies will be achieved more effectively.

It is, therefore, proposed to designate the islands of New Providence, Grand Bahama and Abaco as service areas for the purpose of wireless data network licenses. Other geographical areas will be designated as service areas at a later date depending on the circumstances and needs.”

As can be seen from the above, the PUC factored the licensing of spectrum in different service areas into its decision making with respect to optimum or efficient use of spectrum. It is unclear from the Consultation how URCA intends to treat licensing across multiple islands, and whether when considering its position on optimum use of spectrum or award of spectrum to single or multiple operators, URCA has done so based on a nationwide award of spectrum in discrete territories. SRG believes this to be a material consideration.

In the same section 2.2(b), the PUC went further in considering two alternatives for assignment of spectrum in each territory, either:

1. assignment of all or a major portion of the spectrum to a single operator in each service area; or
2. assignment of the spectrum in one or more blocks of 6MHz channels to several operators in each service area.

In its discussion of the above in Section 3.2, the PUC stated as follows:

“The USA and Canada have both adopted the policy of authorizing one system licence in the MMDS band per service area. This policy was based on, among other factors, considerations of the limited amount of spectrum available to meet the demands in those countries, and the desire to minimize potential sources of interference with multiple licensees in the same area. Whichever system is adopted, careful coordination is required to minimize or avoid interference at service area boundaries. However, The Bahamas is a much smaller country and these factors determining single or multiple operators per service area may not apply. The single licence option per service area would facilitate the development of a major network [with] the advantage of economies of scale. ... Under the multiple licenses per service area option, there would be several small to medium size networks initially, each operating independently. While this would give several applicants the opportunity to establish networks, economies of scale could be lost, and sources of interference will have to be managed and controlled carefully.”

SRG believes that the position put forward by the PUC for comment by the public when opening new spectrum applies equally as well today, as it did at the time it was written.

Eight entities submitted comments to the PUC with respect to the above, and according to the PUC's Statement of Results dated August 2001, "the respondents were more or less divided on the issue of single or multiple licenses per service area." In section II(2) of its decision, the PUC stated as follows:

"The PUC is committed to consumers being provided with "more choices and lower prices" as a result of robust sustainable competition. However, because some customer premises equipment may be system specific, competition among wireless data network operators with "individual licenses" will be minimal or non-existent. It is, therefore, of great importance that the licence granted enable operators to build systems on a scale that will facilitate meaningful competition with incumbents. The PUC is of the view that there should be a single licence per service area based on the results of a market study carried out for the PUC."

SRG respectfully submits that industry stakeholders must be able to have confidence that the past decisions and positions taken by the regulator, whether or not its predecessor, will survive. SRG agrees with the general principle applied by the PUC that in addition to reviewing the practices of other jurisdictions, consideration should be given to commercial and technical factors that are unique to either a spectrum band or the Bahamian market when considering allocation of spectrum. Factors that SRG believes should be considered include:

- Whether business opportunity exists that would allow the creation of sustainable competition, in accordance with section 4(a)(iii) of the communications act 2009 (the "Act"), for multiple operators in the same band, i.e. size of market, economies of scale, consumer demand, availability of capital, etc.?
- Can other spectrum, whether already allocated or not, be considered competitive to the spectrum that is being opened up, thereby reducing the competitive need for multiple operators in the same band?
- Whether radio interference between the equipment of multiple operators in the same band in such small geographic areas can be effectively managed, particularly in the case of point to multi-point ("PtMP") networks?
- Will the potential for deployment of different technologies in the same band complicate interference issues? For example, if both TDD and FDD technologies were to be deployed, interference problems will arise without frequency offset or other mitigation measures.
- What is the breadth of services to which the spectrum will be put, and the effective frequency demand from necessary bandwidth, i.e. will PtMP and point to point ("PtP") need to co-exist in the same band? What bandwidth is required at the edge of the PtMP network?
- What is the anticipated evolution of technology in the spectrum and its impact on bandwidth? For example, wireless broadband technologies have evolved in just the last few years from 5 MHz channels to 20 MHz channels simply to meet demand for broadband services from the consumer.
- Will allocations of spectrum be the same for all territories, or will it be reflective of the fact that New Providence requires significantly more bandwidth than other islands?

In consideration of the above, SRG submits that predetermination of a "one size fits all" model and establishment of a predetermined position is inappropriate. As was determined by the PUC with respect to the MMDS band, SRG agrees that it is only when all factors are considered on a case-by-

case basis that decisions can be made in the best interest of the Bahamian sector and the consumer, both with respect to optimum use of frequency and single versus multiple operators. SRG respectfully submits that implementation of a process that takes the above into account could then be said to represent best practices.

Question 5

Do you agree with URCA's proposal on the information to be provided when requesting a new spectrum band to be opened? If not, please provide amendments or a new proposal for consideration.

SRG would again refer to the PUC's above referenced consultation when itself opening new spectrum bands. In section 2.3.3 of that consultation, the PUC required the following of applicants:

- (a) "Applicants are required to file detailed submissions including the proposed system technical details and the services to be provided.
- (b) The submissions will be evaluated by the PUC based on the following general criteria:
 - (1) **Demonstrated Competencies**
Institutional, financial, economic and technical capabilities that support the establishment and operation of the proposed facilities.
 - (2) **Business and Financing Plan**
The extent to which the business plans demonstrate a thorough consideration of market opportunities, implementation strategies, competitive strategies, economic benefits, system coverage and demonstrated competencies, and the ability to finance the project.
 - (3) **Efficiency in the Use of Frequency Spectrum**
The extent to which the services to be provided represent an efficient use of the frequency spectrum applied for and the availability of frequency spectrum."

SRG notes that URCA has listed in sections 3.2 & 3.3 of the Consultation the same technical and frequency re-use information to be provided by applicants, however little consideration has been given by URCA to the commercial elements that were of equal importance to the PUC.

Whilst SRG does not believe that URCA should be in the business of stifling entrepreneurship, under section 4(a) of the Act URCA has a duty "to further the interests of consumers by promoting competition". In particular:

- In subsection (ii), to "promote investment in ... electronic communications networks"; and
- In subsection (iii), to "promote ... sustainable competition".

To fulfil the above, SRG is of the view that URCA will need to walk a fine line between encouraging entrepreneurship and ensuring that the consumer is not harmed by a proliferation of failed business ventures. For that reason SRG respectfully submits that, in cases where services will be offered to the consumer, commercial factors behind an application will merit some level of consideration by URCA, and should therefore be included in the information required.

Question 6

Do you agree with URCA's proposal on guidelines on how to configure and open new spectrum band and award licenses? If not, please provide amendments or a new proposal for consideration.

SRG does not believe that invitations of Expressions of Interest ("EI") should be included in a public consultation with respect to the opening up of spectrum. Operators cannot provide a definitive statement of interest in the absence of, at the very least, a final band plan and known costs. The inclusion of EI within the initial consultation will simply encourage conditional EI by operators, which may then be later withdrawn when the final band plan and costs are known. Such a situation is not helpful to URCA when attempting to gauge the true level of interest in spectrum and the optimum means of assignment.

SRG is of the view that the initial consultation should stand on its own, and that EI should only be sought from the sector when the final band plan, costs and territories have been specified in the results of the consultation.

SRG would further comment as follows:

1. Past practice with respect to spectrum allocation to the Bahamas Telecommunications Company ("BTC") appears not to have adhered to the same requirements as those applied to other operators. Specifically, in the past it would seem that the PUC apparently awarded spectrum in 1900 MHz and 3.5 GHz to BTC without any public consultation or other transparent process. SRG believes that BTC should be required to adhere to the same set of rules as all other operators with respect to allocation of radio spectrum.
2. URCA has made no comment with respect to an EI arising from a non-Bahamian entity. SRG is of the view that an EI should only be accepted by URCA if received from an individual or organisation that is legally entitled to conduct business in The Bahamas. Failure to adhere to such a policy might create a situation where a foreign entity would have an allocation of spectrum but be unable to obtain the necessary approvals to establish itself as doing business in The Bahamas.
3. In section 5.4 of the Consultation URCA has stated that respondents to its invitation for an EI in the 700 MHz band should "provide sufficient details for URCA to evaluate their suitability for the award of spectrum". However, it is unclear whether respondents that have submitted an EI will need it to be approved by URCA for them to be subsequently invited to make a formal application. In SRG's view, the approval process should be a function of the final application rather than the initial EI:
 - a. In Section 3.5(vii), URCA has stated that it may close its process without opening any spectrum. In such cases, the time and expense incurred by respondents in preparation of a detailed EI for consideration by URCA would have been wasted.
 - b. Similarly, if there were to be a subsequent auction due to the level of interest shown, suitability would then become a function of a financial bid rather than an application, making approval by URCA under an EI irrelevant.
4. Section 3.5(viii) states that where demand exceeds the capacity of the band URCA will introduce a competitive bidding process, however URCA has not described what would happen

were, say, demand to exceed capacity in Block A but not in Block C. Presumably that would result in a competitive bidding process for Block A only, and an award of a license to the applicant for Block C? SRG requests clarification on this point.

5. URCA is to use the receipt of EIs to judge whether to embark on a competitive bidding process, but there is nothing to gauge the sincerity of the EIs that have been received. URCA might consider introduction of an application fee to act as a disincentive to the frivolous filing of EIs. The fee would need to be refunded in the following circumstances:
 - a. URCA chooses not to open up the spectrum; or
 - b. the respondent makes a bid or an application that is subsequently denied.
6. Although it may be difficult to prevent, the process may be open to abuse by larger operators with deep pockets.
 - a. New entrants, or first movers, may request the opening of new spectrum and develop a business plan, only to find that in response to the subsequent public consultation an incumbent submits an EI simply to frustrate new competition.
 - b. Incumbent operators may simply apply for spectrum and then sit on it as a spoiling tactic.
7. SRG believes that although the names of interested parties should be published, the details behind any application should be considered confidential. Since consultation responses are always in the public domain, this would become easier to manage were the EI to be separated from the spectrum consultation, as recommended above.

Question 7

Do you agree with URCA's proposal to split the 700 MHz band into a Lower band and an Upper band as discussed? If not, please state reasons why the band should not be divided and offer other suggestions to structure the spectrum band.

SRG has consolidated its answer to question 7 with its answer to question 9, below.

Question 8

Do you agree with URCA's proposal that the 700 MHz Upper should be reserved for future use? If not, please give reasons, providing details for the band to be used otherwise at this time.

SRG has consolidated its answer to question 8 with its answer to question 9, below.

Question 9

Do you agree with the proposal to maintain a 6 MHz RF channel structure in the 700 MHz spectrum Band? Do you further agree with the proposal to split one or more of the 6 MHz blocks into smaller sub-blocks to offer licences with smaller bandwidths? If not, please propose another structure for consideration.

It is instructive to look at technology deployment in the 700 MHz spectrum to provide an analysis of the optimum band plan and channel structure.

Mobile operators around the world are facing exponential demand for mobile broadband services to smart devices that their existing 3G, and even 3.5G, networks cannot meet. Long Term Evolution (“LTE”) is a standards-based, all IP data-optimised technology with an air interface that supports very high speed mobile broadband services. LTE has been embraced by many operators as the technology of choice to which their existing networks must be migrated.

LTE is designed to succeed current 3G WCDMA/HSDPA/HSUPA technology, and whilst the current version of the standard is considered to be 3.9G technology, it is a stepping stone towards full 4G technology on subsequent release of what will become LTE Advanced.

In brief, LTE supports the following:

- Bandwidth in 1.4MHz, 3MHz, 5MHz, 15MHz & 20MHz.
- Peak download rates in excess of 300Mbps (utilizing 20MHz of spectrum).
- Low latency.
- Co-existence with legacy networks.
- Very high performance mobility characteristics.

With their existing data networks running out of steam, the business case for mobile operators to move to LTE is seen as compelling, but the gating factor is available spectrum. Fortunately, however, LTE contains support for a wide array of frequency bands, so with differing legacy use of spectrum across the globe operators are able to deploy LTE in suitable frequencies that become available in their jurisdictions. In the United States, many mobile operators have been driven towards 700 MHz, because spectrum in that band was made available by the Federal Communications Commission (“FCC”) for commercial operation as it was reclaimed from use by analogue television service.

The auction of 700 MHz in the United States was heralded as the last prime real estate for mobile communications for some time to come, with the added advantage of being substantially below the 800-850 MHz and 1900 MHz frequencies already in use for mobile phones. The lower frequency 700 MHz signal propagates better, spreads further, penetrates buildings more easily and therefore reduces network build costs. As expected, the result was significant interest in the spectrum by existing mobile operators, with Verizon Wireless and AT&T Mobility picking up the lion’s share of the available spectrum. The auctions in 2008 yielded in excess \$19 billion, with Verizon paying \$4.74 billion for 22 MHz of spectrum.

The move to LTE by operators is well underway, but remains very much a work in progress. Amongst others:

- The world’s first publicly available LTE service was available from TeliaSonera in December 2009 in Stockholm and Oslo;
- AT&T Mobility has stated that they intend to upgrade to LTE in 2011;
- Rogers Communications has announced testing of LTE in Ottawa;
- Telefonica has selected Spain, the UK, Germany, the Czech Republic, Brazil and Argentina as sites for field testing of LTE;
- Telecom Italia has announced pre-commercial testing;

- Verizon Wireless has completed testing of LTE and will commence deployment through the remainder of 2010, with system wide deployment to be completed in 2013; and
- Sprint/Nextel has announced testing of LTE.

When making available the 700 MHz spectrum in the United States, the FCC was constrained by the historical use of the band and the analogue TV 6 MHz channels that became available. URCA, of course, has no such constraint in making 700 MHz available in The Bahamas. Whilst it is tempting to allocate blocks and channels in the same manner as the FCC, the groundswell of LTE adoption suggests that much would be gained by The Bahamas allocating the spectrum in a way that optimises adoption of technology that is designed to meet today’s demand for mobile broadband access.

SRG would make the following comments:

1. There is no need for The Bahamas to adopt a lower and upper band, simply to replicate the United States. URCA can achieve its objective of reserving spectrum for future use without reference to an upper band, and SRG notes that in developing its own band plan for 700 MHz, ECTEL reserved 710-728 MHz and 800-806 MHz.
2. As adopted by ECTEL, use of 6MHz channels has the neatness of replicating the United States historical model, but it does not fit as neatly into the supported bandwidth of modern broadband technology. It is noteworthy that in the FCC’s 2008 auction the most prized bandwidth available was not in 6 MHz channels, but the paired 2 x 11 MHz channels won by Verizon, and SRG submits that a favourable alternative might be to adopt a band plan that encompasses the frequency bands of LTE, using FDD, under its e-UTRA air interface:

| e-UTRA Operating Band | Uplink Operating Band BS Receive UE Transmit | Downlink Operating Band BS Transmit UE Receive | Pairing | Channel Bandwidth (MHz) |
|-----------------------|--|--|------------|-------------------------|
| 12 | 698 MHz to 716 MHz | 728 MHz to 746 MHz | 2 x 18 MHz | 1.4, 3, 5, 10 |
| 13 | 777 MHz to 787 MHz | 746 MHz to 756 MHz | 2 x 10 MHz | 5, 10 |
| 14 | 788 MHz to 798 MHz | 758 MHz to 768 MHz | 2 x 10 MHz | 5, 10 |

Adoption of the e-UTRA operating bands, or a similar alternative based on those bands, would have the following advantages:

- a. Operators would have sufficient bandwidth to be able to meet the ever increasing bandwidth demands of the mobile consumer, bearing in mind that to achieve LTE maximum data rates requires 20 MHz of spectrum, and 10 MHz is a level below which broadband operators would not want to fall.
- b. Due to the same consumer bandwidth demands, SRG does not believe that allocation of bandwidth that is less than 5 MHz of spectrum would be helpful for LTE. However, it is possible that some operators may wish to introduce other types of services that utilise alternative technology and require less bandwidth. In that eventuality, URCA could assign 1.5 MHz or 2 MHz channels in the range 798 MHz to 806 MHz.
- c. URCA could reserve 716-728 MHz and 768-777 MHz for future use.

In summary, it seems to SRG that rather than simply replicate the historical model of the United States, there is an opportunity for The Bahamas to design a 700 MHz band plan and channel structure that is optimised for future ultra-fast mobile broadband services in The Bahamas.

Question 10

Do you agree with URCA's proposed interim pricing for the 700 MHz band? If not, please state reasons why and offer other suggestions.

SRG has concerns with URCA's approach with respect to interim pricing.

SRG is of the view that in opening new spectrum, it should be a requirement that all interested parties have a clear idea of the following:

1. What the spectrum will cost.
2. The territories that are accommodated.
3. Restrictions that will be placed on the licence. Of particular relevance to the 700 MHz spectrum is the position regarding BTC's mobile speech monopoly, since the technology available for deployment is specifically designed for mobile.
 - a. The cost of constructing a network is not less simply because the regulations in The Bahamas favour BTC's monopoly in mobile speech, and a highly important factor for interested parties will be whether mobile speech will be permitted under the spectrum licence at the end of BTC's monopoly period.
 - b. In the event that BTC were to successfully bid for 700 MHz spectrum, what would be the regulatory position regarding BTC's own use of the spectrum for mobile speech? After all, were BTC in a position to utilise an allocation in 700 MHz for mobile speech, they would be handed a significant competitive advantage in the event that other 700 MHz operators were denied that same right.

In the absence of the above, it is difficult to picture how any party can make an informed decision with respect to their interest in the spectrum, or whether a sound business case exists for developing a network and introducing services.

In Section 1.5 of the Consultation, URCA has stated that it will be undertaking a "forthcoming review of the existing spectrum fee table ... to address any anomalies in pricing across bands as well as address national, territorial and local use of spectrum and the fees associated with such uses". SRG respectfully questions the timing of URCA's proposal to open the 700 MHz band prior to the above review, and believes that a strong argument exists for introducing a delay in the opening of the spectrum:

1. LTE technology is still in its infancy, and is yet to even be commercially introduced in the United States.
2. LTE is mobile technology, and yet BTC has a mobile monopoly that does not yet have a finite end date.

3. Operators will be loath to commit to investment in the absence of clear direction surrounding BTC's mobile speech monopoly and the services to be permitted under the available licenses.
4. Interest in the spectrum, and therefore fees to be collected by the Treasury, will be much higher once the technology is fully established, fees are accurately known, and permitted services are properly understood.

SRG respectfully submits that the sector may be better served by delaying the opening of the 700 MHz spectrum until such time as URCA's review of spectrum fees has been concluded, there is a known end date for BTC's mobile speech monopoly, and a decision has been made with respect to the position regarding mobile speech in 700 MHz (and other spectrum bands) following the end of the monopoly period.

Expression of interest in 700 MHz

For the aforementioned reasons, SRG believes that it is premature for URCA to invite expressions of interest in the 700 MHz band:

1. The band plan is yet to be confirmed.
2. Territories are unknown.
3. Costs are unknown.
4. Current and future license parameters are unknown.

In the circumstances, SRG does not intend to file an expression of interest in 700 MHz for the following reasons:

- SRG's existing spectrum licence restricts SRG from the provision of mobile speech services.
- It is expected that licenses in the 700 MHz band will similarly restrict the provision of mobile speech services.
- SRG anticipates that at expiration of BTC's monopoly, all licensees will be treated fairly and without discrimination, and all licenses, including that of SRG and those in 700 MHz, will transparently be open to modification that lifts such restrictions.

SRG has no advance indication with respect to the regulatory position at expiration of BTC's mobile speech monopoly. In the event that URCA issues guidance with regard to the 700 MHz spectrum that assures respondents of the future ability to be able to provide mobile speech services, and URCA does not issue the same guidance to SRG with respect to its own spectrum licence, then SRG expressly reserves the right to submit an expression of interest for the 700 MHz spectrum at such time.

Proposal to open the 11 GHz spectrum band

SRG notes URCA's comment in section 4.4 of the Consultation that with respect to the 11 GHz spectrum it has received "no detailed information ... proposing a band plan for the use of this spectrum". SRG would draw URCA's attention to its letter dated October 20, 2008 addressed to the

then Executive Director of the PUC, in which SRG proposed the opening up of the 11 GHz band for the purposes of carrier grade, high capacity backhaul solutions for network operators and service providers, as follows:

- The 11 GHz spectrum (10.7 GHz – 11.7 GHz) is licensed by the FCC as a high capacity band, with 40 MHz channels allowing data transfer at 3 x DS3 or OC3.
- The 11 GHz spectrum is divided into two groups designated as Band A, and Band B. Within each band there are 6 channels giving a total of 12, as follows:

| Band | ID Number | TxLow (GHz) Centre Frequency | TxHigh (GHz) Centre Frequency |
|------|-----------|------------------------------|-------------------------------|
| A | 1 | 10.735 | 11.225 |
| A | 2 | 10.775 | 11.265 |
| A | 3 | 10.815 | 11.305 |
| A | 4 | 10.855 | 11.345 |
| A | 5 | 10.895 | 11.385 |
| A | 6 | 10.935 | 11.425 |
| B | 7 | 10.975 | 11.465 |
| B | 8 | 11.015 | 11.505 |
| B | 9 | 11.055 | 11.545 |
| B | 10 | 11.095 | 11.585 |
| B | 11 | 11.135 | 11.625 |
| B | 12 | 11.175 | 11.665 |

- According to the frequency allocations in its license, the Bahamas Telecommunications Company does not use, and has no assignment, in the 11 GHz frequency. Adoption of the 11 GHz spectrum will provide major carrier separation by technology and spectrum and allow multiple operators to apply for and utilize separate channels in the 11 GHz band for backhaul.
- Adoption of the latest breakthrough antenna designs that meet the FCC part 101 Category A requirements, with very narrow beam width and high front to back signal rejection, affords a very high degree of frequency reuse. In addition to the positive cost impact, smaller antenna diameters lead to lighter tower loading and streamlined site negotiations.
- The 11 GHz spectrum can support multiple carriers or hundreds of smaller entities with close management and oversight by the regulator on the location, frequency and direction of the individual PtP links.

By inclusion in its response to the Consultation, SRG resubmits the above band plan proposal and repeats its request for spectrum allocation as detailed in its aforementioned letter of October 20, 2008.

ISM and U-NII bands

SRG would draw URCA's attention to use of the following bands in The Bahamas:

1. The industrial, scientific and medical ("ISM") bands as defined by the International Telecommunications Union, specifically as adopted by the FCC in part 18 and part 15, subpart B of its rules with respect to unlicensed operation in 2.400-2.450 GHz and 5.725-5.875 GHz.
2. The Unlicensed National Information Infrastructure ("U-NII") radio band, specifically the U-NII Worldwide 5.47-5.725 GHz band adopted by the FCC in part 15 subpart E of its rules.

SRG notes that in URCA's National Radio Spectrum Plan ECS 06/2010:

- The ISM band 2400-2450 MHz is not cross referenced by Bah#6 to signify its exemption for spread spectrum, low power, Ptp and PtMP applications.
- The U-NII Worldwide band 5470-5725 MHz is not specified as being exempt or subject only to operation under a class license.

Equipment and services in the above bands are in widespread international deployment and SRG requests URCA's clarification with respect to the regulatory position regarding deployment in the above bands in The Bahamas.

Yours sincerely,



Paul Hutton-Ashkenny
President