



Statement of Results: Consultation on Draft Policy for New Spectrum Bands – 700 MHz, 11 GHz, 12 GHz and 42 GHz

ECS 08/2012

Issue Date: 23 March 2012

UTILITIES REGULATION & COMPETITION AUTHORITY

UBS Annex Building, East Bay St | P.O. Box N-4860 Nassau, Bahamas | T 242. 393. 0234 | F 242. 393. 0153

www.urcabahamas.bs

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1. Introduction

On 16 January, 2012, URCA published a “Draft Policy for New Spectrum Bands – 700 MHz, 11 GHz, 12 GHz and 42 GHz”, ECS 1/2012 (the “Consultation Document”) seeking comments on proposals for the opening of each of the subject bands, based on the results of its previous consultation on the Opening of New Spectrum Bands (ECS 23/2010). This Statement of Results contains the comments and views received from stakeholders on the Draft Policy, and URCA’s decisions and reasoning in respect of those comments.

1.1 The Consultation Document

The Consultation Document contained, in addition to URCA’s responses on certain outstanding questions from the previous consultation, the following:

- URCA’s proposals for interim spectrum licence fees to be charged for new bands opened, pending a full review of Spectrum Fees to be undertaken during 2012;
- URCA’s proposed interim policies for geographical licensing of new spectrum bands, which sought to regularise the categories of licences issued for any particular band; and,
- a draft Policy for each of the 700 MHz, 11GHz, 12 GHz and 42 GHz bands.

The Consultation Document asked six specific questions based on the matters addressed, and URCA invited comments to be submitted by 20 February, 2012, on those questions.

The Consultation Questions were as follows:

Consultation Question #1:

Do you agree with URCA’s proposals for interim pricing of newly opened standard spectrum bands? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

Consultation Question #2:

Do you agree with URCA’s approach to the geographical categories for licensing of newly opened spectrum bands? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

Consultation Question #3:

Do you agree with URCA's proposals for licensing the 700 MHz band? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

Consultation Question #4:

Do you agree with URCA's proposals for packaging, pricing and licensing the 11 GHz band? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

Consultation Question #5:

Do you agree with URCA's proposals for packaging, pricing and licensing the 12 GHz band? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

Consultation Question #6:

Do you agree with URCA's proposals for packaging, pricing and licensing the 42 GHz band? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

Five (5) companies, which are listed below in order of receipt, responded to the Consultation Document:

- ❖ Digicel Group (DG)
- ❖ Bahamas Telecommunications Company Ltd. (BTC)
- ❖ IP Solutions International Ltd (IPSI)
- ❖ Peace Holdings Co. Ltd (PHL)
- ❖ Cable Bahamas Ltd., Caribbean Crossings Ltd. and Systems Resource Group Limited (CBL)

The full text of each response can be found at www.urbahamas.bs in the Publications section.

1.2 Process for Opening New Spectrum Bands

URCA's Guidelines for the Opening of New Spectrum Bands (ECS 11/2011) describe the procedures URCA will follow to allocate standard spectrum. Interested persons will note that the Guidelines envisage that URCA will follow a seven (7) step process for opening new spectrum bands.

Step 1: Submission of Expressions of Interest

Step 2: Assessment of Expressions of Interest

Step 3: URCA to prepare draft policy for that band

Step 4: Consultation on the draft policy

Step 5: Finalising the policy

Step 6: Implementation of the policy

Step 7: Licence award

An Invitation for Expressions of Interest in specific spectrum bands having been issued in document ECS 23/2010 (Step 1), the Consultation Document summarised URCA's assessment of the Expressions of Interest received (Step 2), and set out and invited comments on URCA's Draft Policy for each of the relevant bands (Steps 3 and 4).

URCA, having reviewed and considered the comments received, now issues in this document its decisions and reasoning for those decisions. Those decisions have informed the Policy for each band (Step 5) which URCA has published separately as ECS 09/2012.

2. Responses to Consultation Document

In this section, URCA sets out the responses received and its responses and decisions on each issue.

2.1 General Comments

The following general comments, not specific to any consultation question, were submitted by respondents.

BTC

BTC was generally in agreement with URCA's approach set out in the Consultation Document save for specific matters which BTC felt URCA should take into account in finalising the policy, as set out under its response to specific questions.

BTC also made the following specific recommendations regarding URCA's proposed review of spectrum prices, noting that URCA should continue to set prices which cover spectrum management costs in the standard bands, and for premium bands URCA should pursue a course which will result in cost based prices for premium spectrum. BTC opined that too high a price would depress the market and result in inefficient use of spectrum, and also represent a "sector specific tax" on communications to the detriment of the economy. However, BTC felt that too low a price would result in a first-come, first-served approach which would be economically inefficient. BTC therefore felt that URCA should seek to achieve prices for spectrum which cover administrative costs, and if such prices were felt to be too low, URCA should attach universal service requirements to the use of spectrum rather than pushing the spectrum price up. BTC considered that such an approach would be in the best interests of the Bahamian economy and society, and will ensure that there is no "digital-divide" by ensuring that all areas have access to good high-speed broadband services.

BTC submitted that too high a price for spectrum would depress the market for spectrum and hence for services which utilise the spectrum, and this would be inefficient with spectrum lying idle.

BTC argued against high prices for spectrum whether by means of spectrum fees or through auction payments, which exceed the costs of administering the spectrum. BTC noted that it already paid taxes in the form of Business Licence and Communications fees, and any additional

payment is, in effect, a sector specific tax which is not paid by other industry sectors, and therefore distorts the economy.

CBL

CBL made general comments relating to the opening of the 700 MHz band. CBL argued that what it described as *“the continuing imposition of an unconstitutional monopoly on cellular telephony”* meant that the electronic communications market is faced with idiosyncrasies that the modern world has left behind. On that basis, CBL felt that having considered the URCA proposed policy coupled with the imposition of the burdens, the opening of the 700 MHz band should be postponed until all operators can be treated equally. CBL indicated that it could only support the opening of the 700 MHz band if there are significant amendments and principally if BTC was made ineligible for an award in this band. CBL argued against what it perceived as protectionism in the electronic communications sector made evident by the proposed draft policy for newly opened spectrum bands.

PHL

PHL noted in its response, and URCA acknowledges, that PHL had submitted an application in 2010 for specific blocks of 700 MHz spectrum, which was acknowledged by URCA in March 2011, but not addressed in the Statement of Results on Expressions of Interest in the 700 MHz band.

URCA’s Comments

URCA notes BTC’s comments regarding spectrum pricing generally, which go beyond the scope of this consultation. As noted in the Consultation Document, URCA will be commencing a review of spectrum prices later in 2012 which will involve detailed consultation on pricing matters. BTC is invited to submit these comments as part of the consultation on that process. URCA will not comment substantively at this stage as to do so might prejudice the considerations under that process, save to note that URCA is aware of other relevant considerations not addressed by BTC’s comments, and that all relevant considerations will be addressed by URCA in its review of spectrum prices.

URCA notes CBL’s comments regarding BTC’s monopoly in the provision of mobile services in The Bahamas, and in particular CBL’s contention that the monopoly is unconstitutional and has no place in modern society. URCA notes that section 114 of the Communications Act, 2009 (as amended by the Communications (Amendment) Act, 2011) establishes the terms and conditions of BTC’s monopoly, and that no decision has been made in legal proceedings which demonstrates that the provisions imposing the monopoly are unconstitutional or otherwise unlawful. While URCA accepts that such monopolies are increasingly rare, there are several

international precedents for the imposition of legal monopolies by Governments, where to do so is reasonably determined by the Government to serve legitimate national interests. As such, URCA presumes the constitutionality and legality generally of the BTC monopoly, as a feature of the overarching legislation that establishes URCA's powers to regulate the Electronic Communications Sector (ECS).

URCA therefore rejects the argument that it should (or that it could legitimately) apply the provisions of the Comms Act, or the ECS Policy in a manner designed to thwart, undermine, or compensate other providers for, BTC's monopoly in the provision of mobile services (itself a provision of the Comms Act). URCA believes that CBL's suggested courses of action would require URCA to rely upon a consideration which is inappropriate, having regard to the presumed legal validity of the monopoly and its establishment by the Comms Act.

URCA notes CBL's suggestion that URCA should delay the opening of the 700 MHz band until "*all operators can be treated equally*". URCA is, however, of the view that it would be improper for URCA to further deny the public in The Bahamas the benefit of the new services that would be possible using 700 MHz spectrum.

2.2 Responses to Consultation Questions

2.2.1 Interim Pricing for Newly Opened Spectrum Bands

Consultation Question #1:

Do you agree with URCA's proposals for interim pricing of newly opened standard spectrum bands? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

DG

DG expressed general agreement with URCA's proposed interim pricing for the 700 MHz, referring to the likely cost of a 2 x 10 MHz block to a mobile services operator.

BTC

BTC expressed its pleasure with the recommended interim pricing for the newly opened standard spectrum bands.

IPSI

IPSI agreed with URCA's interim proposals for pricing of newly opened bands, as applicable to the 11 GHz, 12 GHz and 42 GHz bands. However, IPSI noted that the pricing of the 700 MHz band for paired frequencies between 704 MHz and 787 MHz was appropriate in light of the availability and pricing of equipment for those frequencies. IPSI felt that spectrum outside of that range should be priced at a lower level, more in line with the 11 GHz and 12 GHz bands.

PHL

PHL disagreed with URCA's proposals for interim pricing of newly opened spectrum bands. PHL argued that section 93 of the Comms Act required URCA to prove that fees are necessary at all for spectrum to ensure optimal use of spectrum. PHL argued that detailed reasoning and supporting evidence ought to be provided. PHL noted that URCA also proposed to add "use or lose" conditions, spectrum auditing, roll out requirements and a rigorous selection process, and argued that in the light of these conditions spectrum fees seemed unnecessary.

PHL also argued that spectrum fees to recover the economic value of spectrum are not legal, and suggested that government fees, especially those based on the economic value of spectrum, are a "stealth tax".

PHL suggested that in any instance where fees might be needed to ensure optimal use of spectrum then the effectiveness and fairness of those fees would be relative to the size of the organisation paying them. PHL argued that low or no fees creates more competition and is better for consumers.

CBL

CBL noted URCA's intention to review the wider spectrum policy issues that will impact demand, efficiency of use and the value of spectrum licensed in The Bahamas. CBL expressed the hope that URCA would collect data from the industry so as to diminish reliance on anecdotal evidence. CBL requested clarification that the description of the prices as "interim" does not mean that when the Review is completed that there would be retroactive charging of prices, CBL disagreed with any retroactive pricing for spectrum.

CBL disagreed with URCA's pricing proposals for the 700 MHz band. It reiterated its disagreement with the allocation of any spectrum in the 700 MHz band to BTC, but indicated that it felt that the price differential between mobile and other uses did not accurately reflect the opportunity cost difference between the uses.

CBL suggested that the interim price for restricted mobile services should be the same as the spectrum fee for other restricted mobile bands currently open, and proposed lower prices for bands in the Family Islands.

CBL felt that the blocks allocated for non-mobile services should be priced at \$800 per MHz for New Providence, with discounts on the New Providence price as follows: 40% for Grand Bahama, 12.5% for Abaco, and 8% for remaining Family Islands.

URCA's Responses and Decisions

URCA notes DG and BTC's agreement with the proposed interim pricing for newly opened spectrum bands.

Dealing firstly with PHL's comments, URCA does not agree with PHL that it would be appropriate to licence valuable spectrum without the payment of spectrum fees. URCA believes that PHL's interpretation of section 93 of the Comms Act is inappropriately narrow. The spectrum fees imposed "*must reflect the need to ensure the optimal use of radio spectrum*" however, that does not establish the purpose of spectrum fees, but rather sets parameters for the amount of such fees.

In any event, economic theory and URCA's research clearly demonstrate that spectrum fees which are too low promote inefficiency and sub-optimal use of spectrum. A zero fee, would therefore be highly undesirable. While other methods proposed by URCA, and mentioned by PHL, would assist to achieve efficient use, appropriate pricing levels are an essential tool in promoting optimal use. URCA cannot itself ensure optimal use of spectrum without incurring disproportionate costs in assessing the relative efficiency of technologies, market demand for particular services relative to others and several other factors (which costs would have to be borne by the electronic communications sector) and therefore it must ensure that there are other drivers which encourage operators to apply for, obtain and use spectrum efficiently. Setting prices which incentivise efficient use of spectrum, by ensuring that the licensee is encouraged to maximise the return on its investment by finding most cost effective technologies to deliver the most valuable (to end-users) services, is critical to achieving optimal use of spectrum. While URCA does not believe that the current interim prices proposed necessarily reflect such "ideal" pricing, it is clear to URCA that a price that is too low (or one that is too high for that matter) would also lead to inefficiencies. URCA therefore proposes current prices that are on par with those currently charged for similar spectrum already licensed, as an interim measure pending a comprehensive review of prices.

PHL suggests that the Spectrum Licence Fee is akin to a tax. URCA is the custodian of a valuable resource owned by the Commonwealth of The Bahamas, namely the radiofrequency spectrum. URCA is responsible to account for its management of that resource, and a part of that

accounting must include obtaining adequate value from licensees for their use of that national resource. This is not a form of taxation, but more akin to payment for the use of valuable property owned by The Bahamas. It is inaccurate to suggest that there is no difference between a company in another economic sector which uses no spectrum, and a licensee in the electronic communications sector, which has allocated to it spectrum which must then be denied to any other person by virtue of the licence granted.

In response to CBL's comments regarding the 700 MHz prices proposed, URCA repeats arguments made in relation to PHL's comments. URCA must, in pricing spectrum in this band both seek to set a price which is not too high or too low in comparison to the economic value of the spectrum. CBL will note that URCA has (under question 2 below) proposed to permit per island licensing to include New Providence and Grand Bahama, in order to permit licences for frequencies above 2.6 GHz in any single island of The Bahamas. In that regard, URCA also accepts CBL's proposal that the prices should be set to reflect (on a general basis) the differences in revenue potential and costs of establishing networks in the various islands. On that basis, URCA has decided to establish a scale for per island pricing (for the higher bands only) similar to that proposed by CBL. URCA reiterates that 700 MHz spectrum and other bands 2.6 GHz and below, will not be licensed on a per-island basis.

URCA has reviewed population, economic and geographic statistics for the islands of The Bahamas, and based on its review, has adopted discounted pricing for single island licences, which (see below) will be available in bands above 2.6 GHz.

URCA notes the contention by CBL that the 75% fee proposed for the Mobile Services Restricted Spectrum may be too high. URCA has reviewed relevant revenue statistics from The Bahamas, and has also reviewed information from a number of other jurisdictions which publish statistics for mobile and fixed revenues, both for data and voice applications¹. On the basis of the information gained there is no clear evidence, particularly in relation to comparisons between mobile and fixed data services, which conclusively supports the contention that there is significantly greater earning potential from mobile services over fixed. However, a recent OFCOM study does show that the rate of growth for mobile data revenues is faster than for fixed data².

While the information relating to The Bahamas is confidential, URCA considers that it demonstrates that fixed data remains a significant current and potential source of revenue

¹ URCA has reviewed statistics from Trinidad and Tobago, the US and several EU jurisdictions.

² <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr11/international/6.20>

which justifies the relative level of charging proposed by URCA in the consultation document. URCA has therefore decided to maintain its position that the Mobile Services Restricted 700 MHz Spectrum interim pricing should be 75% of the price proposed for Mobile Spectrum allocations, i.e. \$6,000 per MHz per annum. URCA repeats that this is an interim price, which will be reviewed once URCA conducts its comprehensive review of all spectrum prices. At that time, further opportunity will be afforded to stakeholders to comment on any pricing proposals, and more detailed benchmarking and other analyses can be performed. URCA confirms that the implementation of an “interim” price is not intended to suggest that URCA will apply any form of retroactive adjustment upon the introduction of new prices.

In relation to IPSI’s suggestion that 700 MHz spectrum outside the range 704 MHz to 787 MHz should attract a lower fee, URCA notes the reasons given but considers that the fee proposed is sufficiently low, particularly in comparison to other similar bands and having regard to the discount for the Mobile Services Restricted Blocks, to enable operators to compensate for any differences in equipment cost and availability.

In accordance with the discussion above, URCA has revised the interim spectrum fee proposal to adopt the following pricing for single island licences, which will be available in bands above 2.6 GHz:

- New Providence – 100% of the annual spectrum fee for The Bahamas;
- Grand Bahama – 20% of the annual spectrum fee for The Bahamas;
- Any other island – 10% of the annual spectrum fee for The Bahamas.

2.2.2 Geographical Licensing

Consultation Question #2:

Do you agree with URCA’s approach to the geographical categories for licensing of newly opened spectrum bands? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

DG

DG indicated that it felt The Bahamas to be too small to adopt a geographic licensing approach, and urged countrywide licences only.

BTC

BTC noted URCA's proposed "nation-wide" approach to licensing the 700 MHz band and agreed with this approach.

BTC highlighted the benefits to nation-wide allocations, particularly in the 700 MHz band, but also at the higher frequencies (below 3.4 GHz) as proposed by URCA.

However, BTC felt that similar arguments would apply to the 11 GHz and 12 GHz bands, and felt that per-island or per-region licences were not practical from an economic standpoint. BTC felt this would require additional spectrum coordination and impose an additional burden on URCA without resultant benefit. BTC therefore suggested that for commercial use, nation-wide allocations or assignments should be used for the 11 GHz and 12 GHz band as well as the 700 MHz band.

IPSI

IPSI agreed with URCA's proposal to nationalise the geographic licensing of spectrum, on the basis that a reasonable time would be allowed for deployment of services in those geographic areas throughout the country as indicated in URCA's proposed schedule.

PHL

PHL indicated that it did not agree with much of URCA's approach to the geographical categories for licensing of newly opened spectrum bands.

PHL suggested that operators should have the choice whether to serve or not to serve nationally. PHL said that some operators would find it favourable to focus on managing a complex and crowded network on more populated islands without trying to maintain a much smaller and widespread network at the same time. Conversely, companies and entrepreneurs may want to focus exclusively on delivering service to a small island or group of small islands without trying to compete in the more populated areas. PHL argues that URCA's approach will force certain Bahamian enterprises perhaps prematurely to become national service providers rather than letting a healthy free market mix of national, regional and local providers develop.

PHL suggested that URCA should let the free market thrive instead of trying to manage the market.

CBL

CBL suggested that the approach to geographical licensing in the newly opened bands should be based on the convenience to operators rather than the challenges that URCA faces. CBL

suggested that URCA should not charge the same in New Providence where there is demand, as in Family Islands. CBL noted that URCA should adhere to market and competition principles, and noted that there are additional backhaul requirements and access to infrastructure issues which pose difficulties in the Family Islands. CBL believed that URCA's concern about cherry picking is addressed by universal service obligations. CBL suggested that the requirement for a national licence for spectrum in a restricted mobile services block is particularly unattractive since there appears no viable business case to recover the cost of a Family Island build.

URCA's Responses and Decisions

URCA notes agreement by BTC, DG and IPSI on its proposed geographical categories for spectrum below 3.4 GHz. URCA does not agree with BTC (if it is suggested) that it should restrict the 11 GHz and 12 GHz bands to national licensing. These bands are in considerably less demand and are not as useful for ubiquitous coverage as the lower bands, and URCA believes it would be disproportionate and unreasonably costly to require an operator to cover the entire country using higher spectrum bands. In addition, the use of the 11 GHz band for point to point links makes a national licensing requirement impractical and inefficient. URCA stresses, however that while it considers it inappropriate to require national coverage of the 11 GHz and 12 GHz bands, it is willing to permit national licensing of specific channels in the 11 GHz band at the request of applicants (national licensing was already proposed for blocks in the 12 GHz band) while also permitting single link licences. URCA has established a price for such a licence which is equivalent to ten (10) links of the selected bandwidth. It should be noted, however, that this does not imply that URCA will licence the 11 GHz band for point-to-multipoint use, but merely that it will permit a licensee to have exclusive use of specific channels, thereby removing the need for coordination of link locations between licensees.

This is in contrast with the lower bands in which URCA considers that it is necessary to maximise coverage within The Bahamas, rather than permit licensees wanting licences for single or a group of islands to deny blocks of spectrum to licensees which might wish to provide national coverage, by using a block in only a part of The Bahamas. For example, an operator who takes the A block of the 700 MHz band, and uses it to cover a single island, prevents another operator who may have used the same block to cover the whole country. This results in the block being unutilised in the majority of The Bahamas due to licensing in one island. URCA's position is that single island coverage could cost-effectively be achieved using the higher bands, while leaving the lower bands with better coverage to be used for national coverage.

URCA repeats the points made in the paragraph above in response to CBL's and PHL's contention that URCA should permit operators to decide on an island by island basis where they wish to deploy the 700 MHz spectrum blocks. Apart from this, URCA's experience and its research suggest that most licensees would choose to cover the most densely parts of the country (where the cost per connection is far cheaper, particular in a country as vast as The

Bahamas where the population is concentrated in a few islands, and particularly concentrated in New Providence). While URCA does not intend to remove the ability for smaller entities to obtain and use 700 MHz spectrum licenses, URCA believes that the spectrum bands with the widest possible reach should be used to provide services across the widest practicable cross section of The Bahamas. URCA agrees that the 700 MHz band is an ideal band for rural and wide coverage, and that licensees should be required to use those characteristics for the benefit of as much of The Bahamas as is possible.

URCA does not agree with CBL's suggestion that a universal service obligation addresses the concern of cherry picking. Cherry picking not only denies service to remote and less economical areas (which universal service can address) it also skews competitive pressures by allowing some operators to provide service at far lower costs per customer than others. This is particularly relevant for fixed service (as opposed to mobile where the mobility makes wide coverage a relative necessity) in a country such as The Bahamas where large portions of the population are concentrated in highly urban areas, with large swathes of land left sparsely populated. An operator who covers 10 islands across the whole country is likely to have a far higher cost per customer than one that covers New Providence only. Therefore, the smaller operator may, notwithstanding economies of scale and scope available to the larger, be able to offer a far lower rate. This cannot be addressed by universal service obligations.

URCA therefore does not accept the suggestion that it should allow the lower bands, including the 700 MHz band, to be licensed on a per-island basis.

Notwithstanding these points, URCA accepts that there is merit in comments made by PHL regarding the possible barriers to entry by small operators that may be created by URCA's requirement that licensees use the lower spectrum bands to serve the whole of The Bahamas. URCA considers that it would be appropriate to reduce any such barriers by making more spectrum available on a "per island" basis so URCA has decided to relax the requirements somewhat in two respects to allow greater flexibility for licensees and to lower any perceived barriers to smaller operators:

- URCA has narrowed the first category of spectrum for geographical licensing purposes from the proposed level (up to 3.4 GHz) to now apply to spectrum up to 2.6 GHz. This will permit additional spectrum bands to be licensed on a per-island basis. URCA considers that this provides adequate scope for operators to obtain good access spectrum for tailored use in specific islands of The Bahamas, while still retaining the spectrum bands with the greatest potential for wide coverage to be used for national coverage.

- URCA has relaxed the restriction on single island licensing, by revising the “Single Family Island” category to be “Single Island”, thereby including New Providence and Grand Bahama as possible single island geographic areas.

URCA has revised the geographical categories in accordance with decisions made above.

2.2.3 700 MHz Spectrum Band

Consultation Question #3:

Do you agree with URCA’s proposals for licensing the 700 MHz band? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

DG

DG recommended that URCA adopt the US scheme for packaging the 700 MHz band.

BTC

BTC noted its interest in the 700 MHz band and its commitment to offering public access service in the band, should it be granted a relevant spectrum licence.

BTC noted that with its relatively small population, The Bahamas has to intelligently follow the technology paths established by industry leaders in the big markets in North America, Europe or Asia.

BTC noted that URCA had proposed a band plan for 700 MHz based on a 6 MHz raster which provides for mostly paired FDD carriers, with a smaller amount of spectrum set aside for TDD operation. BTC felt that the plan was somewhat outdated and inefficient, given that leading modern wireless technologies typically operate on a 5 MHz raster.

BTC provided a comparison of the URCA proposed plan with the US, Trinidad and Tobago, ECTEL and the band plans contained in 3GPP’s LTE standard. BTC highlighted the differences, but noted positive overlaps. BTC felt that most importantly, the URCA plan aligned well with the 4G/LTE standard band plan, in that the channel edges are coincident. However, BTC noted that due to the 6 MHz raster proposed by URCA, the 10 MHz and 15 MHz bandwidths for LTE, will be contained in 12 MHz and 18 MHz bandwidths respectively. BTC felt that this was outdated and inefficient, and BTC noted that it would prefer to see an architecture that is more reflective of modern technology, with block sizes of 5 MHz in line with international norms for modern mobile broadband communications technologies systems.

Despite its reservations, BTC noted that the URCA plan would provide some benefits in terms of controlling interference between blocks, particularly since URCA was proposing a technology neutral approach. BTC expressed a desire to see more information regarding how URCA proposed to address interference between adjacent blocks and users. BTC specifically suggested that URCA consider the use of “*spectrum masks*” as the means for controlling harmful interference between spectrum users whilst allowing technology neutrality. BTC noted that the particulars of the spectrum mask used will impact the way that the spectrum can be used for network deployment.

BTC also noted that URCA’s proposed limitation to two blocks will preclude any operator from making use of the 3GPP 4G/LTE band #14 (which has a bandwidth of 15 MHz). This would preclude any operator from realising the full benefits of higher spectral efficiency and increased data throughput rates that this wider band would offer. BTC recommended that URCA consider allowing an operator the option to acquire the three blocks of A, B and B’. BTC noted that the technical solution proposed would support URCA’s published plans for the two operator model in The Bahamas.³

Overall, BTC indicated that it supports URCA’s proposed band plan, whilst having some reservations around the 6 MHz raster (in terms of spectrum efficiency) and interference management (in terms of its impact on network development).

BTC also noted and commented on URCA’s proposals for key licence terms and conditions. BTC indicated that it supports the terms and conditions with a reservation regarding URCA’s proposal to limit the use of the band to public access networks, with backhaul use being secondary and incidental only. BTC felt that URCA should adopt a service neutral approach to licensing the band, and allow the market to determine what services would be provided. BTC expressed its agreement with the remaining terms and conditions proposed, including the nation-wide licensing, and the requirement for use within 18 months.

BTC expressed its agreement with URCA’s proposed application procedure, and urged URCA to commence licensing as soon as possible.

BTC agreed with URCA’s proposal for interim licence fees of \$8,000 per MHz for blocks permitting mobile use, and \$6,000 per MHz for all other blocks. BTC presented research which suggested that the URCA fee was toward the lower end of international pricing, which it felt was appropriate having regard to the size, population and geographic characteristics of The Bahamas.

³ URCA has not, at any time, indicated a preference for a “two operator model” for mobile services market in The Bahamas.

IPSI

IPSI noted and disagreed with URCA's reservation of certain blocks of spectrum for mobile operators only, on the basis that IPSI and other operators would wish to use those blocks for non-mobile services such as service through Fixed Wireless Terminals. IPSI reiterated that it proposed to provide those services using equipment manufactured only for the B, B', E, E', F and F' blocks.

IPSI also expressed its concern that BTC was allowed to reserve the entire "prime" spectrum in the 700 MHz as the only mobile operator to the disadvantage of other licensed operators.

PHL

PHL disagreed with URCA's proposals for licensing the 700 MHz band.

PHL noted that URCA should be careful in establishing rules for a non-liberalized Bahamian market based on free market trends in more liberalized markets. PHL noted that it is perfectly viable and highly beneficial for fixed and nomadic broadband wireless services to be provided using LTE technology and there are several such operators internationally.

PHL suggested that URCA's proposal would not allow for up to six operators, with a maximum of two blocks each, but that the non-mobile operators among the six would only have a single block. PHL strongly disagreed with URCA's proposal, which PHL says gives BTC up to four times the bandwidth of other operators. PHL also strongly disagreed that 48 MHz of spectrum should be taken off the market for future providers when there is demand from existing providers right now. PHL noted that assuming BTC would still get 24 MHz, there would be 72 MHz available now for perhaps up to 6 operators.

PHL noted that the Upper C block in the US (which corresponds to URCA's E and E' blocks) are required to allow open connectivity to wireless broadband services and hence there is scope for a wide range of devices not locked to particular networks. PHL indicated that this band should not be provided to a carrier like BTC as it wastes the potential for desirable business model for other smaller operators. PHL noted that as BTC has already launched its 4G services with its existing spectrum, it should not require 700 MHz spectrum to do so. PHL noted that URCA's proposal gives BTC a two year exclusive monopoly on *"the most anticipated and potentially profitable frequency for data services from which it will establish a significant market share without any competition"*.

PHL also noted that CBL, the other Significant Market Provider recognised under the Comms Act, already has the entire 2.5 GHz frequency which is used in the US for WiMAX broadband networks. PHL argued that CBL has no real need for 700 MHz spectrum either.

PHL noted that the information to be submitted by applicants for 700 MHz spectrum indicates that URCA has an expectation that companies applying for 700 MHz spectrum should be sizable. PHL argued that this is indicative of intent by URCA to give BTC a major share of the 700 MHz spectrum and keep others out.

PHL proposed that 96 MHz of the 700 MHz spectrum should be made available now allowing for 8 applicants at 12 MHz each. If more than 8 parties are interested the applicants should meet reasonable, not excessive eligibility criteria which should be put out to consultation before coming into effect. PHL felt that URCA should let applicants apply and select their preferred blocks, where there are no conflicts blocks should be allocated and conflicts resolved through sharing or negotiation.

PHL also felt that operators should be free to decide whether or not they want a nationwide or island by island allocation, and that spectrum fees should be avoided to reduce consumer expense and to accelerate market efficiencies that spur competition.

CBL

Allocation

CBL felt that URCA's proposal for licensing the 700 MHz band gives an unfair advantage to BTC. CBL noted that BTC is already protected in the cellular mobile market and the earliest realistic opportunity for competition is 2016. CBL also stated that BTC has the spectrum already assigned for mobile services in the 800 MHz and 1900 MHz bands. CBL stated that "BTC has already announced the deployment of '4G' services and therefore, there is no compelling reason why BTC with allocations in the 800 MHz, and 1900 MHz should be given more frequency."

CBL stated that considering the coverage of Verizon Wireless and AT&T networks in the United States, it makes the likelihood of a significant number of U.S. tourists visiting The Bahamas wanting to use their 4G cell phones so infinitesimal that the corresponding competitive harm outweighs this convenience.

CBL noted that there is precedent for prohibiting incumbent operators from participating in the allocation of spectrum, citing the examples of the United States in 1994, and suggested that this precedent could be useful given the "protectionism afforded to BTC". CBL proposed that to mitigate the deleterious effect on competition that BTC's monopoly poses, URCA should make BTC ineligible for spectrum in the 700 MHz until 2 years after the award of the cellular mobile licence. CBL stated that this is a means to level the playing field for operators.

Licence Terms and Conditions

CBL opined that the licensing of the spectrum on a national basis only seems to be contrary to the initiative to reduce barriers to entry and encourage competition. CBL noted that the

attractiveness of the 700 MHz (as with all bands in the lower frequencies) is that there are considerable cost savings available in terms of infrastructure deployment. CBL noted that it seems axiomatic for URCA to insist on national licensing thereby diminishing a new entrant's opportunity.

CBL felt that the 18 month timeframe for putting spectrum into commercial use was aggressive given that there are no requirements for infrastructure sharing and the infrastructure will have to be imported and access to public lands obtained.

CBL also felt that the roll out schedule was too aggressive and not reasonably achievable given the absence of requirements for infrastructure sharing and the need to import materials. CBL opined that the proposed roll out schedule would reward inefficiencies and unwarranted investments which would then translate into higher costs, with ramifications on retail pricing mechanisms. CBL believed that the pricing of the spectrum should be the real incentive which will result in the roll out of services. CBL stated that *"in a monopoly market roll out requirements are necessary, since an incumbent may see incentive in delaying roll out into new service areas or of new service or products because it may cannibalize similar or existing services or products. However a new entrant is likely to have an incentive to aggressively market any new product or services propelled by a need to make a return on investment."* CBL summarised that for restricted mobile services awards there should be no roll out schedule, but that if a roll out schedule was necessary a five (5) years build out would be reasonable for New Providence, Grand Bahama and Abaco.

CBL requested an explanation of the term "commercial electronic communications services".

Selection Process

CBL reiterated that BTC should not be eligible for an award of the 700 MHz band until 2 years after the award of the cellular licence. In the absence of this CBL indicated that the process should be deferred. CBL felt that if URCA was minded to proceed with opening the 700 MHz band, all allocations should be restricted from mobile services, regardless of the licensees entitlement.

Licence Fees

CBL reiterated that the interim price for 700 MHz spectrum for mobile services should be the same as for other mobile bands currently open. There should be a lower price for bands in the Family Islands.

URCA's Responses and Decisions

URCA notes DG's comments regarding the US band plan. URCA addressed in the first part of the Consultation Document (in its responses to the previous consultation document) the reasons why it has not proposed the wholesale adoption of the US band plan, which has significant idiosyncrasies specific to the US market. URCA considers the plan proposed to have adequate compatibility with the US plan to obtain the benefits without the challenges.

URCA notes BTC's comments regarding URCA's proposal to adopt a 6 MHz channelling arrangement, rather than the 5 MHz arrangement proposed by the 3GPP 4G/LTE band plan. URCA considers that the plan as presented has the benefit of allowing operators total compliance with the 3GPP 4G/LTE plan, without limiting the operators to that plan. URCA is also cognisant of the benefits of its approach with regard to the management of interference due to the additional spectrum available to an operator who operates using the 3GPP 4G/LTE bands. A 5 MHz plan compliant with the 3GPP proposals would result in a significant amount of spectrum which either could not be allocated or would be allocated in unusably small blocks. URCA therefore proposed the 6MHz channelling arrangement as its preferred option, and has decided to retain that arrangement.

BTC has also suggested that URCA should relax the two (2) block maximum proposed primarily to permit a mobile operator acquiring the B and B' blocks to acquire the A block, in order to make possible a 2 x 18 MHz allocation (which would enable a 2 x 15 MHz deployment of LTE technology). URCA notes that while the larger spectrum allocation may provide enhanced services, BTC has not provided any information which suggests that the demand for such enhanced services exists in The Bahamas, or would be likely to exist in the near future. In fact, URCA notes that BTC's expression of interest in the 700 MHz band submitted in response to URCA's request expressed interest in a 2 x 12 MHz allocation. In any event, URCA notes that to accede to BTC's suggestion would further limit the spectrum available for non-mobile services, and would also create an imbalance between the mobile operator granted the B and B' blocks, over the operator obtaining the other mobile only blocks (which would remain at a 2 x 12 MHz allocation). As indicated above, **URCA wishes to clarify that it has not, at any time, published a preference for a "two operator model" for mobile services market in The Bahamas as suggested by BTC.**

URCA notes BTC's comments regarding the imposition of spectrum masks to address interference between adjacent licensees and agrees that it is necessary to ensure that adequate and appropriate arrangements are in place, particularly in a technology neutral environment. However, URCA prefers not to adopt any single solution without having detailed knowledge of the planned systems to be implemented by licensees. This is particularly relevant when a large part of the spectrum to be allocated may not be used immediately; it is not certain the extent to which (if at all) different technologies will be used by adjacent licensees; and there is the

possibility for natural “guard bands” to exist due to the 6 MHz channelling arrangement. URCA therefore proposes to adopt a general requirement that each licensee take steps, in coordination with adjacent licensees, to avoid harmful interference, with URCA intervening only if necessary. URCA will engage the relevant licensees at the time of licensing to adopt systems which are most effective and cost efficient to address any likely interference between their allocations.

BTC has also suggested that URCA should adopt a service neutral approach to licensing the 700 MHz band. While URCA believes that it should not, and does not propose, to dictate specific services that must be provided, URCA is concerned and anxious to ensure that this band is, at least in the short to medium term, used to provide services to the Bahamian public rather than as backhaul support to other bands. This is because of the significant impact that the 700 MHz band can have in terms of coverage and access by Bahamians to necessary services. URCA therefore proposes to retain this limitation, subject to its ability to remove the condition should and when circumstances change.

URCA notes that IPSI, PHL and CBL have all complained about the reservation of certain bands for operators authorised to provide mobile services. URCA is conscious of the need to make spectrum available on a fair basis and is conscious of the limited amount of spectrum that would be available for other operators in competitive markets, in favour of reservations of spectrum for eventual competition in a currently non-competitive market. URCA is also cognisant of comments made regarding the availability and cost of equipment internationally in the bands which URCA proposes to reserve for mobile services, as opposed to those which the proposed plan will make available for non-mobile services.

URCA is mindful of the need to ensure that competition in the mobile services market is able to occur on a fair basis between eventual competitors, and a part of this is the need to make available equivalent spectrum allocations for the provision of mobile services. URCA reminds respondents that the availability of suitable bands for mobile services is significantly more restricted than fixed service bands (although this is gradually changing). URCA has reviewed the Comms Act provisions relevant to the restriction on provision of mobile services and specifically URCA has reviewed its position based on the likely period of time which will elapse before a third mobile provider will be legally permissible in The Bahamas (i.e. not before 2016). URCA has considered whether the need to reserve 700 MHz spectrum for that possibility may be outweighed by the current demand for that spectrum in the market.

URCA believes that the immediate need for spectrum by non-mobile operators warrants greater consideration, particularly in light of possible technological and market changes that may occur before 2016, and the fact that other bands, which are already reserved for mobile services, are able to accommodate LTE technology. Accordingly, URCA has reconsidered its approach and adopted a revised band plan which will make available an additional 24 MHz of spectrum for

non-mobile operators, by reserving spectrum for only two (2) mobile operators, rather than the three (3) mobile operators for which URCA reserved spectrum in the draft Policy. In response to arguments made by PHL regarding the likely wider availability of equipment in URCA's proposed E and E' blocks due to the US licensing decisions (the upper C band in the US), the E and E' blocks in URCA's plan will be made available on a Mobile Services Restricted basis to other operators. The blocks will be renamed to de-link the two blocks, thus making it possible for them to be awarded as 24 MHz to a single operator, or as two 12 MHz (2 x 6 MHz) blocks to separate operators.

URCA notes other comments by PHL regarding the access by BTC and CBL to additional spectrum allocations having regard to their significant market power positions and their existing spectrum allocations, which are ironically similar to comments made by CBL regarding access by BTC to additional spectrum, having regard to its mobile monopoly and its existing spectrum allocations. URCA does not agree with the suggestion that either CBL or BTC should be barred from the award of further spectrum in any band, based solely on the current spectrum allocations held by them, for the following reasons:

- Not all spectrum bands are the same. URCA's view is that the spectrum allocations already held by BTC and CBL should not be relevant to an application for 700 MHz spectrum, unless the spectrum already held is unused or underused, and can be used to provide the same services. URCA's processes must provide for development of the ECS which must include migration of spectrum allocations and the introduction of new and additional services and the gradual disuse of existing spectrum allocations and outdated services. URCA considers it reasonable for BTC, CBL or any other existing spectrum licensee to be able to make plans which involve obtaining spectrum to provide new services and gradually retiring or repurposing existing spectrum assignments.
- URCA's understanding of BTC's interest in the 700 MHz band is that it can be used to upgrade its existing 4G services from the current technology (which is provided using BTC's existing spectrum allocation) to LTE technology, offering faster speeds and more and better services to its mobile customers⁴. URCA does not consider it appropriate to deny the public in The Bahamas the benefit of those services or to delay their introduction because BTC is, by law, the only company entitled to provide mobile services, and it may offer them a head start against their competition at the point when that market is opened.

⁴ URCA's research shows that an upgrade 4G LTE could offer BTC's "4G" customers theoretical peak data rates that are more than 6 times the rates offered by the current (HSPA+) technology being used. (*"The Benefits of Using LTE in Digital Dividend Spectrum"* by 4G Americas at page 24).

- URCA has already noted that it is not persuaded by the assertion that BTC’s monopoly is unconstitutional, and in the absence of a decision by a competent Court it does not consider that it is appropriate for URCA to regulate the sector in a manner which attempts to offset any competitive advantage which BTC may enjoy as a result of that monopoly. URCA has, however, taken steps to ensure that any new entrant has the opportunity to obtain a comparable spectrum assignment in the same band with which to offer equivalent services and compete on an even basis, as it would be imprudent not to allow facilities for robust competition and service delivery by any new entrant(s).
- URCA considers that the Comms Act has adequate provisions to address any situation in which URCA believes that any licensee is holding spectrum which is excessive or not in efficient use, which URCA will apply in appropriate circumstances.

PHL has also suggested that URCA should make the entire 700 MHz spectrum available now, without reserving any of it for mobile services. URCA disagrees with this suggestion noting that CBL has highlighted the importance of mobile services by noting that its rate of growth is considerably higher than fixed services. This is to be expected due to the flexibility offered, as well as the larger number of likely subscribers due to the individual nature of the product (as opposed to a “household” market as is more likely with fixed services). LTE using 700 MHz spectrum is one of the fastest growing mobile data technologies in the world, and as such URCA considers that it would be irresponsible for it to allow this spectrum to be released without permitting its use for mobile services now, as well as reserving an appropriate portion for likely future mobile operators.

URCA also disagrees with CBL’s suggestion that the roaming and other advantages to having compatible spectrum allocations with the US are irrelevant. URCA notes that several regional jurisdictions have made similar decisions regarding 700 MHz spectrum, citing the same reasons advanced by URCA. The Bahamas’ higher proportion of US tourists relative to other regional jurisdictions, suggests that URCA’s consideration of this issue is likely to be of significant relevance.

URCA has already addressed comments regarding making available per island licensing of the 700 MHz band.

CBL has stated that it considers an 18 month timeframe for the launch of services to be aggressive, as is the requirement to roll out services across the country within a 5 year period. URCA notes that its proposed roll out conditions are similar to those adopted in other

countries⁵, and that the timeframes are comparable to the roll out timeframes for existing services being provided both in The Bahamas and elsewhere. CBL suggests that a reasonable roll out schedule would involve the launch of services in New Providence, Grand Bahama and Abaco only within five (5) years. URCA is surprised at CBL's suggestion that it is unreasonable for residents of Eleuthera, the Exumas, Long Island or any other populated island in The Bahamas, to expect to obtain access to a service within five (5) years of it first being offered in Nassau. URCA notes that the respondents other than CBL and PHL considered the proposed timeframes to be reasonable.

URCA also disagrees with CBL's comments which suggest that roll out arrangements are inappropriate in a competitive market. URCA notes that roll out requirements are more relevant to geographical and population issues than they are to competition, and has included the roll out requirements to ensure that most of The Bahamas benefits from service. URCA notes that CBL's suggestion that the roll out requirement should extend service to New Providence, Grand Bahama and Abaco in five (5) years is indicative of profit maximising decision making, and underscores URCA's decision in ensuring roll out requirements to at least 10 islands within a reasonable period of time. URCA is concerned to ensure that operators do not choose to cover only those parts of The Bahamas which are most lucrative, to the detriment of social development across The Bahamas.

Notwithstanding the foregoing, for licensees granted non-mobile blocks, URCA has modified the schedule to add an additional six (6) months to the first milestone so that it coincides with the "use or lose" clause, and allows a slightly longer period for build out. This also results in a corresponding delay to the other milestones identified.

While URCA believes that the roll-out schedule proposed in the Consultation Document is appropriate for licensees granted blocks restricted from providing mobile services, URCA has reconsidered its position regarding licensees granted blocks in which mobile services are permitted. Having reviewed the comments submitted, URCA believes it is appropriate to require a more aggressive roll-out timeframe for mobile networks, based on the greater revenue earning potential, and the likely faster rate at which such revenues would be realised in a mobile network context (particularly in the context of the limitations on the number of persons that are authorised to provide mobile services).

URCA also considers that it is appropriate from a policy context, that networks using 700 MHz spectrum should be used to bring services as rapidly as possible in the more sparsely populated areas in The Bahamas.

⁵ Some examples of countries with roll-out targets include the majority of the EU in relation to 3G networks, Morocco, India, the Philippines, Pakistan, Hong Kong, Nigeria, South Africa, Uganda, Trinidad and Tobago. See also, *ICT Regulation Toolkit, Module 4* by ITU and InfoDev, at section 2.4.1.

As such, URCA has decided to adopt a shorter roll-out timeframe for licensees that are granted 700MHz spectrum blocks in which mobile services are permitted. The revised schedule for mobile services is set out below.

URCA has already addressed suggestions regarding BTC's participation in the 700 MHz licensing process, and the issue of pricing of the band.

Finally, URCA clarifies for CBL's benefit that "commercial electronic communications services" refers to electronic communications services offered to the public or other operators (as opposed to services which are being tested).

URCA has decided to require the following roll-out of services for licensees granted spectrum in blocks B, B', G and G', which are not restricted from the provision of mobile services:

- Within 18 months of grant of Licence – Spectrum to be put in active service on at least New Providence, Grand Bahama, Abaco and Eleuthera with at least 75% population coverage;
- Within 30 months of grant of Licence – Roll-out on at least two additional Family Islands with at least 75% population coverage and achieve 99% population coverage on New Providence, Grand Bahama, Abaco and Eleuthera;
- Within 42 months of grant of Licence – Roll-out on at least two additional Family Islands with at least 75% population coverage; and
- Within 54 months of grant of Licence – Roll-out on at least two additional Family Islands with at least 75% population coverage.

2.2.4 11 GHz Spectrum Band

Consultation Question #4:

Do you agree with URCA's proposals for packaging, pricing and licensing in the 11 GHz band? Please provide detailed reasons for your response, including if appropriate, alternative proposals.

DG

DG had no comment on this consultation question.

BTC

BTC agreed with URCA's proposals for the 11 GHz band, but suggested that the band should be available for licensing on a national basis.

IPSI

IPSI agreed fully with URCA's proposals for the 11 GHz band.

PHL

PHL indicated that certain elements of its response to Questions 1, 2 and 3, are relevant to URCA's proposals for the 11 GHz band.

URCA's Responses and Decisions

URCA addressed PHL's concerns within its responses to Questions 1, 2 and 3 above and these are not repeated in this section.

URCA will adopt the proposals in the Draft Policy for the 11 GHz band, save that provision will be made for specific channels to be licensed nationally, or for a specific island, as well as on a per-link basis.

2.2.5 12 GHz Spectrum Band

Consultation Question #5:

Do you agree with URCA's proposals for packaging, pricing and licensing the 12 GHz band?
Please provide detailed reasons for your response, including if appropriate, alternative proposals.

DG

DG had no comment on this consultation question.

BTC

BTC indicated moderate interest in the 12 GHz band, and supported URCA's plans, save for the suggestion that licensing should be on a national basis.

IPSI

IPSI agreed fully with URCA's proposals for the 12 GHz band.

PHL

PHL indicated that certain elements of its response to Questions 1, 2 and 3, are relevant to URCA's proposals for the 12 GHz band.

URCA's Responses and Decisions

URCA addressed PHL's concerns within its responses to Questions 1, 2 and 3 above and these are not repeated in this section.

URCA will adopt the proposals in the Draft Policy for the 12 GHz band.

2.2.6 42 GHz Spectrum Band

Consultation Question #6:

Do you agree with URCA's proposals for packaging, pricing and licensing the 42 GHz band?
Please provide detailed reasons for your response, including if appropriate, alternative proposals.

DG

DG had no comment on this consultation question.

BTC

BTC supported URCA's proposals for the 42 GHz band.

IPSI

IPSI agreed fully with URCA's proposals for the 42 GHz band.

PHL

PHL indicated that certain elements of its response to Questions 1, 2 and 3, are relevant to URCA's proposals for the 42 GHz band.

URCA's Responses and Decisions

URCA addressed PHL's concerns within its responses to Questions 1, 2 and 3 above and these are not repeated in this section.

URCA will adopt the proposals in the Draft Policy for the 42 GHz band.

3. Next Steps

URCA has, simultaneously with the issuance of this document, published the Policy for New Spectrum Bands: 700 MHz, 11 GHz, 12 GHz and 42 GHz (ECS xx/2012), thereby formally opening these spectrum bands for licensing.

The process for licensing in each of the newly opened bands, as set out in more detail within the policy for the relevant band, is as follows:

700 MHz Band

The 700 MHz band, in accordance with the Policy, will be licensed in accordance with a **competitive process**. URCA has issued a Request for Application document (RFA), ECS XX/2012, and applications for spectrum in this band will be accepted only, and strictly, in accordance with the RFA. Therefore interested parties must submit applications within the deadlines provided for by the RFA, and providing all of the information and responses requested in the RFA. Only applications submitted in accordance with the RFA will be considered by URCA, without exception.

The process for award of licences will be a qualitative evaluation of all applications submitted in response to the RFA, in which each applicant will be scored on the basis of the published criteria. In order to be eligible for an award of spectrum, the applicant must first meet the minimum criteria established by URCA as set out in the Policy and the RFA. Licences for 700 MHz spectrum will then be issued to the highest scored eligible applicant first (having regard to the applicant's eligibility for particular blocks) and then in descending order until all available blocks of spectrum have been licensed or all eligible applicants licensed.

11 GHz Band

In accordance with the Policy for the 11 GHz Band, this band will be licensed on a **first come, first served** basis using URCA's existing criteria for licensing. Applications may therefore be submitted at any time following the publication of the Policy.

12 GHz Band

In accordance with the Policy for the 12 GHz Band, this band will be licensed on a **first come, first served basis** using URCA's existing criteria for licensing. Applications may therefore be submitted at any time following the publication of the Policy.

42 GHz Band

In accordance with the Policy for the 42 GHz Band, this band will be licensed on a **first come, first served** basis using URCA's existing criteria for licensing. Applications may therefore be submitted at any time following the publication of the Policy.