



**RESPONSES TO QUESTIONS ON THE  
INFORMATION MEMORANDUM**

**LICENSING THE 700 MHz BAND  
(Channels 54 – 69 i.e. 698 - 806 MHz)**

**May 8, 2013**

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## **GENERAL COMMENTS**

The Spectrum Management Authority (SMA) and the ICT Division within the Ministry of Science, Technology, Energy and Mining (MSTEM) wishes to thank all respondents for their interest in and responses to the Information Memorandum (IM) – Licensing the 700 MHz band published on April 15, 2013. The comments have provided invaluable information concerning the requirements of the market. The questions and answers are presented without reference to the respondents and all references to specific names of companies within questions have been removed.

The Government of Jamaica (GoJ) is keen to ensure the efficient use of the spectrum, as such the Ministry with responsibility for telecommunications and the SMA stands ready to work closely with successful bidders as they seek to provide affordable, quality telecommunications, and in particular mobile broadband, services. Being mindful of the differing requirements (long and short term) of parties who may be interested in the 700 MHz spectrum, the SMA, within the context of the relevant constraints, will employ a flexible, technology neutral approach to the licensing of this band, thereby providing an equal opportunity to all who may want to participate in this dynamic market.

The comments received in response to the IM will be taken into account as we seek to fulfill the objectives of the GoJ for the benefit of the people of Jamaica.

## Questions and Answers

1. The Authority states that “Prior to August 2011, the Jamaican mobile landscape was one of the most vibrant in the Caribbean”, but goes on to imply that this is no longer the case because there are now two (2) mobile operators instead of three (3). Is it the Authority’s considered view that the mobile landscape in Jamaica is no longer competitive and vibrant?

As per the policy objectives outlined in the IM at page 5, the GoJ is seeking to have greater diversity and competition in the market than what obtains currently.

2. Given the large reserve price for the spectrum and the potential risk that this creates for investors, what is the reason that the Authority did not seek to paint a more accurate picture of the mobile landscape by obtaining and publishing more up to date data?
3. Does the Authority have any current data on mobile broadband usage in Jamaica as this would have been useful information for inclusion in the IM? Does the Authority have any data on how the launch of new services since 2011 has impacted demand?

### Response to Questions 2 & 3

Having regard to the fact that each investor will be interested in different information, the IM sought to provide an overview of current **confirmed** data. Therefore, as indicated in the IM, each interested party must make its own independent assessment of the potential value of a licence, after making such investigation as it may deem necessary, in order to determine whether to participate in the award process.

4. The Office of Utilities Regulation (OUR) has a critical role in determining which application(s) are accepted or rejected for entry in the auction. Should the OUR be mandated to consult on the criteria on which it will rely to make its decision(s)?
5. How can the process be considered fair and transparent if this approach is not taken?

### Response to Questions 4 & 5

For clarity, the OUR does not have a critical role in determining which applications are accepted or rejected for entry into the auction. An applicant for a Mobile/Broadband Wireless Spectrum Licence must be the holder of and/or eligible for the grant of a Carrier or Service Provider Licence which are issued by the Minister with portfolio responsibility for telecommunications on the recommendation of the OUR. The criteria to qualify for these telecommunications licences are well established in keeping with the Telecommunications Act, 2000. Therefore, consultation is not deemed necessary as there will be no deviation from these established licensing criteria. In any event, as provided for in the Act, the OUR will provide notice of each application and members of the public will have thirty (30) days to provide comments.

6. Does the proposed aggregate cap include mobile and non-mobile spectrum?
7. What spectrum should be considered when making the calculations for the applicability of the cap, for example should it include the WiMax spectrum?

## Questions and Answers

### Response to Questions 6 & 7

The aggregate cap will only apply to bands currently designated for mobile services. These are the 700, 850, 900, 1800 and 1900 MHz bands.

8. What will the approach be where an operator's current spectrum holding exceeds the spectrum cap? Will the operator be allowed to participate in the auction? Will the operator be required to give an undertaking that it will surrender "excess" spectrum as a precondition for entering the auction? Will operator be compensated for surrendered spectrum?

As indicated in the IM at section 3.1(a), page 15, the aggregate spectrum cap represents the maximum amount of spectrum that may be held by any one party in total. Therefore, in the event an incumbent wishes to acquire additional spectrum **above** the proposed aggregate cap, the incumbent may only do so if it relinquishes other spectrum with similar technical characteristics (i.e. low band for low band or high band for high band). Such incumbent would only be required to relinquish spectrum if it takes part in the licensing process and is a successful Applicant/Bidder. An incumbent seeking spectrum above the cap would not be required to relinquish spectrum prior to participation in the auction process. However, by virtue of participation in the auction, such incumbent will be deemed to undertake to relinquish additional spectrum above the established cap.

Regarding compensation, where frequencies are to be relinquished in accordance with the aggregate cap limitation, it is proposed that the pro-rated value of the spectrum being relinquished is offset against the spectrum price to be paid by the Successful Bidder. The pro-rated value would be based on the licensing fee paid at the time of acquisition of the spectrum being relinquished and the validity period remaining on the Spectrum Licence being relinquished.

9. What happens if the operator does not participate in the auction process, but is over the cap? Will it be required to surrender spectrum, such that it will comply with the spectrum cap?

The aggregate spectrum cap will be applicable to all operators and as such will determine the maximum mobile spectrum an operator is permitted to hold.

10. What is meant by spectrum with "similar technical characteristics"? If an operator has 850 and 900 spectrum, and successfully bids for 700 MHz spectrum, which frequency band will they be required to give up? The 850 or 900 MHz band? Who will make this determination?

The general technical characteristics of the GSM bands are: (a) cell site coverage area per base station, (b) in-building signal strength and (c) robustness. Based on these, the low band spectrum referred to in the IM are the 850/900 MHz bands and the high band spectrum referred to are the 1800/1900 MHz bands. The determination of which spectrum will be relinquished if an incumbent exceeds the cap will be a joint decision between the SMA and the operator upon due consideration of its current network design, services offered and utilization of the spectrum.

## Questions and Answers

11. What is the desired efficient outcome contemplated that will justify variation of the cap? What are the specific circumstances that would justify the Minister varying the cap?

The imposition of spectrum caps has been used internationally in an effort to help to ensure the development of effective competition in mobile markets and to preclude spectrum hoarding. The goal is to prevent operators from gaining positions, through large holdings of spectrum, which by nature may be anti-competitive, or which they might exploit anti-competitively. Therefore, given that the mobile market is dynamic, the necessity and effectiveness of any cap imposed would be evaluated at intervals based on the development and changes in market conditions.

12. What are the reasons (technical and non-technical) for the total aggregate spectrum cap being set at 80 MHz?
13. What was the method and rationale used by the Authority in arriving at an aggregate spectrum cap of 80MHz and a 700MHz spectrum cap of 24MHz?
14. In order to arrive at a spectrum cap based on actual data the Authority would have needed to estimate the network capacity needed and the spectrum required based on a typical network topology, on a forward looking basis. Research indicates that to fully utilize the capabilities of both LTE and HSPA+ technologies a high amount of spectrum is required. As a comparison, most European operators have access to in excess of 130 – 140 MHz and many as much as 160 – 170 MHz. In fact Ofcom in the UK suggests that 80MHz is the minimum spectrum holding for Hutchison for example to remain a credible competitor in that market and it also suggests a spectrum cap of 2x105MHz as an overall cap and a cap of 2x27.5MHz sub 1GHz (excluding both 700MHz and 2.1 GHz frequencies from the cap).

Further, where spectrum is being limited the Authority would need to work out the amount of additional infrastructure required where more traffic has to be delivered over limited spectrum, and then to take into account the subsequent cost of that additional infrastructure and the impact on investment and prices. Can the Authority therefore provide any calculations or detailed considerations that have been used to arrive at the caps proposed, including but not limited to the effect such caps would have on service quality (e.g. network roll-out and bandwidth) and Foreign Direct Investment?

### Response to Questions 12, 13 & 14

The reasons influencing the proposed aggregate cap are *inter alia*: the necessity to ensure equity in the mobile market, the need to minimize the possibility for the entire or majority of the spectrum being available to only one service provider, and the possibility of a new entrant(s) in the market. Note that low band access mobile spectrum is a scarce resource in any country which facilitates competition. In Jamaica, it has been demonstrated, based on global standardized mobile technologies (GSM, IMT-2000 *et al*), that for reasonable roll-out using access spectrum in the 850, 900, 1800, 1900 MHz bands an average of 2x10 MHz of access spectrum in each band is sufficient. Therefore, if a player has 2x10 MHz spectrum in all the captioned bands, i.e. 2x40 (80) MHz, then in order to preserve competition this is considered a reasonable benchmark for a cap in mobile access spectrum.

## Questions and Answers

### *(Response to Questions 12, 13 & 14 cont'd.)*

As outlined in the IM, the primary objective in packaging the spectrum is to ensure the most efficient use in deployment of mobile broadband while taking account of requirements for these services. For the 700 MHz spectrum the 6 MHz channel grid subdivision was previously designated for analog television broadcasting. In the re-designation of this band for Mobile Broadband Wireless Access it was recommended that the current subdivision of 6 MHz be maintained, which can accommodate both Time Division Duplex (TDD) and Frequency Division Duplex (FDD) technologies. This is consistent with international best practices.

Further, the SMA reiterates its commitment to ensuring efficient use of the available spectrum and as such operators are expected to carry out their independent evaluations of *'best of breed'* technologies and to determine their expected capacities in terms of coverage, service, and customer acquisition **based on the spectrum that is available**.

Please note as well that the spectrum caps applied in some countries within the ITU designated Region 2, of which Jamaica is a part: Trinidad & Tobago – 50MHz (cellular mobile:850 and 1900 MHz bands) and 24 MHz (broadband wireless:700 MHz band), Argentina – 50 MHz, Brazil – 80 MHz, Chile – 60 MHz, Columbia – 40 MHz and Peru – 60 MHz.

15. How does the Authority's proposed 700MHz reconcile with a commitment to provide high speed broadband services given that the maximum data speeds are roughly proportional to the amount of spectrum needed, and that the maximum LTE data speeds require 40MHz of spectrum to be allocated to an operator?
16. Generally, how does the Authority propose to manage the imbalance created by the spectrum cap versus the large growth in data traffic that is anticipated?

### **Response to Questions 15 & 16**

Based on the proposed 700 MHz band plan, 72 MHz out of a possible 96 MHz of spectrum would be allocated for use. Therefore, in light of the GoJ's desire to encourage competition in the market by way of attracting a third operator, and in the interest of equity, the cap per operator is set at 24 MHz.

It should be noted that while the bandwidth impacts the data speed there is no direct proportionality between the data speed and the bandwidth. Advanced technologies such as multiple-input multiple-output (MIMO) antennae systems along with the use of higher order digital modulation schemes such as 32 QAM and 64 QAM can enable higher data speeds in the same band. Further, as it relates to the bandwidth requirement for LTE, the 40 MHz suggested for LTE does not have to be contiguous spectrum based on the fact that LTE is capable of using carrier aggregation (i.e. carriers from different frequency bands e.g. 1800 MHz, 2.5GHz etc).

Again, the SMA reiterates its commitment to ensuring efficient use of the available spectrum and as such operators are expected to carry out their independent evaluations of *'best of breed'* technologies and to determine their expected capacities in terms of coverage, service, and customer acquisition **based on the spectrum that is available**.

## Questions and Answers

17. Why are the packages designed to disincentivize incumbents from participating in the auction, while rewarding new entrants?
18. Why should incumbents be required to meet or exceed the stipulated reserve price, when they will not have the same opportunity to be assigned 1800 or 1900 MHz spectrum for a 15 year term?

### Response to Questions 17 & 18

One of the auction's main objectives is to increase competition in the provision of telecommunications services through the entry of a new player. The package is therefore designed to incentivize new entry.

19. Given that mobile broadband is critical to mobilizing Jamaica's economy, why is a new entrant being given an additional three (3) years to roll out its network, should it take up the offer of a fibre optic cable licence?
20. What are the reasons for the significant disparity between the roll out obligations required of incumbents versus new entrants?

### Response to Questions 19 & 20

Regarding the fibre optic cable licence, the standard roll-out period is two (2) years **from the grant of licence**. However, as same is being provided as an incentive and having regard to the fact that a new entrant would be simultaneously rolling out its 700 MHz network, an extended rollout period of three (3) years total (i.e. standard two (2) years + one (1) year) is being granted.

Further, it should be noted that the take-up by a new entrant of the fibre optic cable licence is optional.

As it relates to the Spectrum Licence, there is no significant disparity between the roll-out obligations required of incumbents versus new entrants as it relates to the 700 MHz. As outlined in the IM at section 4.5, incumbents and new entrants will be required to achieve at least 90% population coverage within 48 months and 60 months, respectively. Therefore, new entrants will only be allowed an additional one (1) year to roll-out services on its 700 MHz network.

The important measure of consideration is that the licensee is able to comply with the commitments in the terms and conditions agreed in the licence or is able to demonstrate reasonable progress towards the meeting of those commitments. Both the SMA and the OUR have always been flexible in working with licensees in order to meet the overarching goal of providing good quality wireless communication services to the Jamaican populace.

21. What is the scope of the proposed fibre optic cable? Is it a national licence to roll out a fibre-based fixed network? Or is it, as suggested by the Minister in previous public statements, a license to land a fibre optic sub-sea cable? In either case, how will the normal licence application rules and qualification criteria be applied? How does successful bidding in the 700MHz auction qualify the successful bidder to operate an optical fibre network?

## Questions and Answers

The proposed licence will be to land a fibre optic sub-sea cable. The holder of a fibre optic cable licence will be licensed to own and operate facilities, to include cable landing stations, satellite earth stations including VSATS, submarine fibre optic cables in Jamaican waters, terrestrial fibre cables in Jamaica, telecommunications points of presence, co-location facilities, transmission towers, telecommunications cable landing points and buildings and conduits to house these facilities, under the following terms and conditions:

(i) Such facilities comprising a network for the provision of all specified services to other carriers or service providers licensed under Section 13 of the Telecommunications Act, including, for the avoidance of doubt, subscription television operators and licensees, to or from:

- (a) anywhere in Jamaica; and/or
- (b) anywhere outside Jamaica, provided that such foreign locations have not been proscribed by the GOJ.

(ii) Applicants will have to demonstrate that they have the financial and technical capabilities to build, own and operate the facilities and that they are likely to be granted the requisite landing permit in any proposed territory outside of Jamaica.

(iii) Applicants will also need to seek approval from the National Environmental Planning Agency (NEPA) and other local authorities for aspects of their project proposals and to receive the relevant permits from those bodies for inter alia: the use of the seabed and for any construction on the fore shore. In this regard, applicants will be required to demonstrate as part of their applications that they are aware of and have commenced the process to obtain the relevant permits from NEPA and any other relevant body.

The successful bidder for the Spectrum Licence will be given the opportunity to apply for a sub-sea fibre optic cable licence. This will be evaluated separately from the application for the Spectrum Licence.

22. Why has it been proposed that Band 14 should not be made available at this time?

Band 14 will not be available for commercial take-up at this time, as the GoJ is in the process of considering initiatives which may require use of that portion of the spectrum.

23. To accurately price the 700 MHz packages offered in the auction a bidder needs to plan its long term technology and service road-map. It can only do this with an understanding of the availability of all spectrums that could be used for mobile broadband or mobile services. Will the SMA publish, before the 700 MHz auction commences, details (including frequency packages and timing) of the allocation of all spectrum that could be used for mobile broadband services?

24. What plans does the Authority have to make additional mobile broadband spectrum available outside the 700MHz band, as that could affect the value of the 700MHz spectrum?



## Questions and Answers

### Response to Questions 23 & 24

Noted below is the quantum of spectrum currently unassigned in the bands allocated for mobile and broadband services:-

1800 MHz band – 66 MHz

1900 MHz band – 92 MHz

2.5 GHz band – 130 MHz

Notwithstanding, the SMA is committed to assigning the finite resource of the Radio Frequency Spectrum for use in the most efficient manner consistent with international best practices. Therefore, consideration will be given to the assignment of additional spectrum in keeping with market demand.

25. Is it the policy that the successful bidder(s) for the 700 MHz spectrum can only use it to offer mobile broadband services? Does this include voice over IP?

As indicated in the IM, the Cabinet approved the licensing of the upper portion of the UHF TV band (channels 52 (698 MHz) – 69 (806 MHz)), to accommodate mobile broadband wireless services/International Mobile Telecommunications - Advanced (IMT-Advanced) based on the decision taken at the International Telecommunications Union's (ITU) World Radiocommunication Conference 2007 (WRC-07).

For clarity, the Telecommunications Act defines 'voice service' to include services referred to as voice over the internet and voice over IP. Therefore, the 700 MHz spectrum may be used to provide such services provided the services are being accessed on mobile devices.

26. Given that the terms and conditions of the licence directly correlate to the bid price, when does the SMA propose to share the details of the proposed terms and conditions of the 700 MHz spectrum licences on offer?

The terms and conditions of the proposed licence will be provided in the Request for Proposal.

27. Please explain what the Authority means by "Regulatory Fees will be proportional to the spectrum licensed". As we understand it these are annual administrative fees, we would expect these fees therefore to relate only to the cost of administering the spectrum allocated. Can the Authority confirm our understanding and/or clarify the reference made to proportional license fees?

The reference to '*proportional*' in relation to Regulatory Licence fees means that fees will be charged based on the amount of spectrum acquired within the context of the SMA operating costs. For example, the amount of Regulatory Fees for 2x6 MHz will be less than the fees applicable for 2x12 MHz.

28. Clarification is required as to why the process outlined in Stage 1 – Invitation, does not reference the consultation process described in the "Timetable" to be published on May 15, 2013?

## Questions and Answers

Following the response to questions and comments related to the IM, the Ministry/SMA will conduct a formal consultation and thereafter Stage 1-Invitation will commence with the issuance of the Request for Proposals.

29. It is incongruous with the publicly acknowledged importance of 700MHz that the consultation phase limited to only one week, namely May 15 – May 22, 2013, what is the reason for these short timelines.

The timelines provided in the IM for the consultation are indicative and therefore consideration will be given to extending same based on the comments received in response to the IM.

30. Does the SMA intend to issue a response to the Public consultation before issuing its “Request for Bids/RFP? If not, is the process of serving robust technical and non-technical feedback truly transparent?

Yes.

31. How does the SMA plan to use this information and how will it impact on the company being accepted to enter the auction process?

The information from the consultation process will be used to inform policy.

32. How much time will be granted from the award of a 700 MHz spectrum licence to the requirement to provide network/site details to the SMA, such that it will form a part of the Schedule of the Licence?

No site details will be required to form part of the schedule for the 700 MHz licence. However, as outlined in the IM at section 3.5, access to additional spectrum for the purposes of, *inter alia*, transmission and backhaul falls under the terms of a separate licensing process for which network details would be required upon application.

33. There is a proposal to provide a bank guarantee or bond at the rate of 50% of the proposed bid. This creates great concerns with respect to confidentiality as that information would be enormously valuable to a competitor. Does it make more sense to have a fixed sum guarantee in place to avoid any risk that access to this information could be compromised?
34. What will happen if the participant bids more than its bank guarantee or bond? How will this impact other participants in the bid process?

### Response to Questions 33 & 34

The same level of confidentiality which has been applied by the SMA to all previous applications and the management of licences/licensee information will be applied to the guarantee or bond and all other confidential information required as part of the auction application process e.g. business, financial and technical data.

## Questions and Answers

### ***(Response to Questions 33 & 34 cont'd)***

In relation to question 34 please note as follows:

- in the event a participant bids more than its bank guarantee/bond and is unable to pay the balance in the requisite period as outlined in the IM at section 5.4, the bid would be invalidated and the next highest bidder would be provided an opportunity to complete the transaction

OR

- in the event a participant bids more than its bank guarantee/bond and is able to pay the balance in the requisite period as outlined in the IM at section 5.4, the bid will be accepted and the licence issued.

35. How will the data submitted be used to determine which companies are qualified to enter the auction and those that are not?
36. Will the SMA share its selection criteria with the Public? Why has the SMA not consulted with the Industry on the minimum pre-qualifying criteria?

### **Response to Questions 35 & 36**

Data submitted will be evaluated against the established criteria. The SMA will provide details of the selection criteria in the Request for Proposals. This is the standard criteria utilized by the SMA in assigning/awarding mobile/broadband spectrum licences. Therefore, consultation is not deemed necessary as there will be no deviation from this process.

37. In the event that an applicant is considered unqualified to enter the auction, what recourse is available to such a company? Can it appeal to the SMA and/or Minister for reconsideration?

In the event an Applicant is not considered qualified to participate in the auction the Applicant may appeal to the SMA or to the Tribunal established pursuant to the Telecommunications Act. (See sections 60(4) and 62 of the Telecommunications Act, as amended).

38. How will the fact that the Applicant or any connected person, holds a licence or authorization to operate a telecommunications network in other countries impact the Applicant's participation in the Auction? What is the relevance of this information?

Information regarding the operation of an applicant's telecommunications network in other countries will be used as part of the evaluation of whether the applicant is '*fit and proper*' to operate a telecommunications network in Jamaica.

39. The auction rules directly impact the number of parties that will participate in the auction and the amount that they will bid, when will the details of the auction rules be made available to the Industry players?

## Questions and Answers

The Auction Rules will be made available in the Request for Proposal which will be released on a date to be announced. It should be noted that provision will be made for the submission of questions in relation to the Rules.

40. Having regard to the SMA reserving the right to exclude parties that do not conduct themselves in a “fair, open and transparent manner”, can the SMA explicitly indicate conduct that would fail to meet this stated criteria. Does the SMA accept that ambiguity or lack of information (regarding, for example, auction rules, license conditions, evaluation criteria) in this high stakes auction will undermine the intent of the rule?

It is our view that conduct which would fail to meet the stated criteria is sufficiently outlined in the IM and additional details will be provided in the Request for Proposal.

Further, there should be no ambiguity as details regarding the auction rules, licence conditions, and evaluation criteria will be provided in the Request for Proposal.

41. What number constitutes the required numbers of approved Bidders? Page 26 of the IM states that - “If there are less than the required numbers of approved Bidders, the SMA reserves the right to abort the process”. This required sum is not however set out anywhere in the document.

The SMA requires more than one (1) bidder for the auction to be considered valid.

42. Why was this auction design chosen?

In considering the auction design, three (3) options were considered:

- Multiple Round Ascending Bids
- Sealed Bids
- Hybrid (combination of both)

Given that there will be costs associated with using a multiple bidding round process, both for the SMA and the interested parties, the SMA has opted to keep the process as simple, cost effective and transparent as possible.

43. If all bids are below the reserve price, will the SMA accept the highest bid, or is the SMA mandated to abort the auction in its entirety?

In the event the reserve price is not met, the SMA is mandated to abort the auction.

44. In the event the SMA deems it appropriate to make changes and reasonable adjustments to the auction process, will the Industry be consulted on these changes before they are accepted and implemented?

Best efforts will be made to consult with the industry prior to making changes and/or reasonable adjustments to the auction process.

## Questions and Answers

45. How did the SMA arrive at the reserve price?
46. A survey of 27 European telecommunications/communications regulators demonstrated that in their combined view the largest barrier to supply side delivery of broadband services were concerns about a low return on investment. Would it be accurate to state that the Authority does not share this view as the reserve prices set out in the IM are not indicative of such a position?
47. Following on question above, what therefore was the process for determining reserve prices of US\$45,000,000 and US\$40,000,000 respectively?

### **Response to Questions 45, 46 & 47**

The reserve prices were determined by the Ministry after consultation with the SMA. Deliberations regarding the reserve prices were guided by a recent survey conducted by the Turks and Caicos Islands (“TCI”) Telecommunications Commission (the “Commission”) within the Caribbean region. The survey revealed that the average annual 700 MHz spectrum licence fee in the surveyed jurisdictions is 6.2¢US/MHz/pop. Based on the differences between countries, prevailing economic conditions in Jamaica, and the desire to encourage competition and promote development in the industry, Jamaica decided to offer a reserve price (starting point) at a price point of approximately 4.63 and 4.12¢US/MHz/pop, using an estimated population of 2.7 million people.

48. What would determine the timing and the methodology for the assignment of unsold 700MHz spectrum?

As indicated in the IM at section 5.3.12, any spectrum not awarded on completion of this process may be awarded at a future date, in a manner to be determined by the Minister in consultation with the SMA.