

## **SmarTone's Response to CA's Consultation Paper**

### **Arrangements for the Frequency Spectrum in the 900 MHz and 1800 MHz Bands Upon Expiry of the existing Assignments for Public Mobile Telecommunications Services and the Spectrum Utilization Fee**

SmarTone Mobile Communications Limited ("SmarTone") welcomes the opportunity to provide comments on the consultation paper "Arrangements for the frequency spectrum in the 900 MHz and 1800 MHz bands upon expiry of the existing assignments for public mobile telecommunications services and the spectrum utilization fee" (the "Consultation Paper") issued by the Communications Authority ("CA") on 3 February 2016.

SmarTone would like to provide its comments on the questions set out in the CA's Consultation Paper as follows.

#### **Responses to the questions in the Consultation Paper**

***Q1: Given the CA's views that there are likely to be competing demands for the 900/1800 MHz Spectrum, is there any overriding public policy reason for the CA to consider not adopting a market-based approach pursuant to the Spectrum Policy Framework and to favour the full-fledged administratively-assigned approach (Option 1) for the Re-assignment of the 900/1800 MHz Spectrum?***

1. In Hong Kong, the CA has adopted a technology neutral approach to licensing and accordingly, the spectrum in the 900/1800 MHz bands though awarded originally for 2G was allowed to be re-farmed for 3G (and utilised more latterly also for 4G) when the 2G licences were renewed in 2005/6. The merger of two mobile network operators in 2014 has resulted in spectrum over-concentration in Hong Kong of their holdings especially in the 1800 MHz band. This means that the 4 operators currently holding spectrum in the 900/1800 MHz bands have asymmetric holdings with the merged entity holding almost half the spectrum in the 1800 MHz band.
2. Over-concentration of spectrum has been widely recognized by regulators as a concern which may harm competition in the industry:

Ofcom's Strategic Direction and Priorities for Managing Spectrum over the next 10 Years, April 2014

*“However, our experience over the past 10 years suggests that there can be an important and complementary role for us to play, particularly, when major changes in spectrum use are contemplated. In these cases there are a number of reasons why market mechanisms alone are unlikely to deliver a value enhancing change..... Implications for competition in relevant markets: regulation may be required to prevent the concentration of key spectrum assets causing competition concerns in downstream markets.”*

Industry Canada - Framework Relating to Transfers, Divisions and Subordinate Licensing of Spectrum Licences for Commercial Mobile Spectrum, June 2013

*“Undue concentration of spectrum among a small number of wireless service providers can be detrimental to competition.”*

*“Spectrum concentration should be considered on a number of different levels. Overall spectrum concentration across commercial mobile spectrum bands is key to assessing the availability of spectrum for competitors. In-band concentration should also be considered, as each band can possess unique characteristics that are not or cannot be replicated in other bands. Thus, spectrum concentration within the band may influence competitors' ability to offer comparable services.”*

3. About 49% of the spectrum in the 1800 MHz band (72.8 MHz of 148.8 MHz currently assigned) and 45% of the 900/1800 MHz band (89.4 MHz out of 198.6 MHz) is currently held by one mobile operator. This spectrum concentration in the 1800 MHz band had been recognised but not addressed in the course of the Consultation on the proposed acquisition in 2014.
4. The CA did recognise, and discuss, in its Final Decision<sup>1</sup> on the proposed acquisition of CSL by HKT issued in April 2014 that due to spectrum concentration in the merged entity, the merged entity would have a long term radio access network capacity in excess of the estimated long term data demand (Para 67 of Decision). In the London Economics consultancy report commissioned for the CA, one of the four scenarios for spectrum allocation was that in addition to only holding 2 x15 MHz of spectrum in the 1.9/2.2 GHz band, the merged entity should give up 2 x 10 MHz of 1800 MHz spectrum with that spectrum roughly shared between the other 3 MNOs (Para 66 of Final Decision and footnote 48).
5. In the event the CA decided only to require the merged entity to divest 30 MHz of spectrum in the 1.9-2.2 GHz band but not a further 2 x 10 MHz in the 1800 MHz band as suggested by a number of respondents to the Consultation including SmarTone. The failure by the Government in 2014 to address the amount of 1800MHz spectrum

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<sup>1</sup> Final Decision of the CA on Application for Prior Consent under Section 7P of the TO in respect of the Proposed Acquisition of CSL New World Mobility Limited by HKT Limited issued on 2 May 2014.

in particular held by the merged entity, which is significantly larger than the other mobile operators, has perpetuated the asymmetric holdings of this spectrum by the merged entity.

6. In light of the above, it is our view that to maintain the status quo by adopting Option 1 would prevent rationalization of spectrum in the 900/1800 MHz band, which is long overdue in view of the over-concentration of spectrum after the merger in 2014.
7. Accordingly, we would submit that Option 1 is not a viable option since this would preserve the current asymmetry of spectrum holdings in particular that of the merged entity and that Option 3, the hybrid option between administratively-assigned and market-based approaches, is preferable.

***Q2: What are your views on whether the full-fledged administratively-assigned approach (Option 1) would achieve the four identified objectives in the Re-assignment of the 900/1800 MHz Spectrum?***

8. Given the current over-concentration of spectrum in the 900/1800 MHz band, Option 1 is unable to meet all the identified objectives, namely, i) efficient spectrum utilization; ii) promotion of effective competition and iii) encouragement of investment and promotion of innovative services.
9. The only possible objective that may be met under Option 1 is “ensuring customer service continuity”. In any event, any benefit would be outweighed by the adverse consequences of the continued over-concentration of spectrum in the band. Adopting a hybrid option of administratively-assigned and market-based approaches would also meet the objective of customer service continuity and the other three objectives as well.

***Q3: Do you have any concerns about the continuity of customer services, in particular as regards the provision of 2G voice services, to local users and inbound visitors if the full-fledged market-based approach (Option 2) were to be adopted for the Re-assignment of the 900/1800 MHz Spectrum?***

10. We submit that ensuring the continuity of customer services is a major stumbling block to adopting Option 2 just as it was in the 3G Consultation in 2013. We wish to point out though that emphasis on provision of 2G voice services is misplaced if this is regarded as the key consideration of customer services continuity.
11. Customer services continuity is not just concerned with 2G voice services over the GSM network. Given the use of spectrum is technology neutral, it is 3G and 4G data

service continuity which utilises most of the 900/1800 MHz bands and which concerns most mobile users nowadays. A substantial proportion of the spectrum in the 900/1800 MHz bands has now been deployed for 3G and 4G services, thus the adoption of Option 2, which we do not support, would have a far greater impact on mobile data services, which is of far more concern to consumers, than 2G voice services.

12. It is suggested that 3G and 4G data service continuity may not be a concern at least in the MTR given the upcoming deployment of 4G services utilising 2.3 GHz and 2.5/2.6 GHz spectrum in MTR stations.
13. We would make the following points in relation to the deployment of such spectrum in MTR for CA's consideration:
  - (1) 4G mobile services in MTR primarily depend on 900 and 1800 MHz spectrum. 4G services would be substantially affected if the existing operators are unable to obtain a reasonable amount of spectrum preferably at least 2 x 15 MHz in the bidding. Reliance on 1.9 – 2.2 GHz band would lead to operator's systems being unable to cope with the huge demand of mobile broadband services in the MTR and might even cause overloading of the 3G network in the MTR. The consequence is that it is likely that both 3G and 4G services in the MTR would be substantially affected;
  - (2) As regards the timing and expectation of network rollout in the MTR, it should be noted that it will take 3 years for MTR to rollout 2.3 GHz and 2.5/2.6 GHz coverage in just 8 stations (due to be completed in mid 2018). The timeline is therefore extremely tight to ensure there will be full 2.3 GHz and 2.5/2.6 GHz coverage at all MTR stations (of which there are more than 70 stations) by 2020 and it is likely to be impossible to achieve full such coverage within that timescale; and
  - (3) If the frequency allocated in the new assignment is different from that which is supported in existing POIs in MTR and common antenna systems ("CAS"), there will be a need for change in POIs which has a substantial lead time and will cause service disruption.

***Q4: What are your views on the full-fledged market-based approach (Option 2) in achieving the four identified objectives in the Re-assignment of the 900/1800 MHz Spectrum?***

14. As mentioned above, it is our submission that the continuity of mobile data services particularly in the MTR will be a key concern under Option 2.

15. We would also point out that the fully-fledged market-based approach was not pursued beyond the First Consultation Paper in the 3G Consultation. The Government conceded that it *"is aware of the possible adverse impact that such fully-fledged changes in frequency assignment could have on the quality and continuity of service"*<sup>2</sup>.
16. OFCA carried out an assessment of loss of spectrum by an incumbent including the reconfiguration work in the case of 3G involving hundreds of existing integrated radio systems installed to provide 3G services indoors citing as examples MTR lines and stations. Given that reconfiguration could not be carried out until expiry of the existing frequency assignments, degradation and in some cases entire loss of 3G service indoor coverage might be experienced for a transitional period of 2 to 3 years<sup>3</sup>.
17. In our view, many of the same issues of degradation possibly loss of service for 3G and 4G mobile data will occur if there is a wholesale re-allocation of spectrum in conjunction with a full market-based approach. In such case there is a likelihood of the need for operators to relocate their service to new blocks of frequency taken up in the auction with the consequent need for a migration strategy. Most of the implementation and verification activity cannot actually take place until the expiry of the existing licences.
18. At paragraph 20 of the Consultation Paper, it is suggested that since the spectrum holdings are fragmented this is not conducive to optimal utilisation of spectrum and that larger bandwidth is required for 3G and 4G services. The CA proposes therefore to consolidate the 900/1800 MHz spectrum prior to re-assignment into uniform 2 x 5 MHz blocks.
19. Such a re-organisation if carried out in conjunction with Option 2 would cause significant disruption as each carrier which was not successful in retaining at least 2 x 5 MHz in its current assigned spectrum in 900 MHz and its 2 x 10 MHz block in 1800 MHz would then have to reconfigure its 900/1800 MHz network entirely.
20. The impact of this needs to be assessed by the CA, as it did for 3G, if it intends to continue with Option 2. In our submission, if Option 2 is predicated on the consolidation into even 2 x 5 MHz blocks of existing assignments of spectrum, then this alone militates against Option 2 and in favour of Option 3 where operators can retain at least some of their spectrum holding and so mitigate the effect of service disruption.

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<sup>2</sup> Second Consultation Paper on Arrangements for the Frequency Spectrum in the 1.9-2.2 GHz Band upon Expiry of the Existing Frequency Assignments for 3G Mobile Services at para 22.

<sup>3</sup> Ibid at paras 25-26

**Q5: What are your views on the hybrid approach (Option 3) in achieving the four identified objectives in the Re-assignment of the 900/1800 MHz Spectrum?**

21. It is considered that, in the current market situation, Option 3 is the option that best meets the identified objectives with its combination of RFR spectrum and Re-Auctioned spectrum. In contrast to Option 1, Option 3 provides the long-needed opportunity to address the issue of over-concentration of spectrum particularly in the 1800 MHz band. It also gives the opportunity for both the existing operators and any other interested parties to obtain spectrum via bidding, which will promote efficient use of spectrum, effective competition and investment.
22. However, as discussed in the following section, mobile data service continuity will still be an issue under Option 3 if only 2 x 5 MHz of the 900/1800 MHz spectrum is set aside as the RFR spectrum for each MNO. We suggest that the RFR spectrum be increased up to 2 x 15 MHz in the 900/1800 bands consistent with each MNO's holding of spectrum in each of those bands.

**Q6: Would you consider the proposed arrangement to set aside 2 x 5 MHz of the 900/1800 MHz Spectrum as the RFR Spectrum for each of the four MNOs to ensure continuous provision of 2G services during the first three years of the new spectrum assignment term too much, too little or about right? Is there any arrangement other than the provision of RFR Spectrum to each of the four MNOs [which] would also ensure continuity of 2G services for a reasonable period of time in the new 15-year spectrum assignment term?**

23. We do not consider that setting aside a total of 2 x 5 MHz in the 900 or 1800 MHz bands is sufficient to ensure mobile data service continuity and the adoption of such a low holding will give rise to significant disruption costs given the need to reconfigure the 3G and 4G mobile data services. The Government is focusing on continued provision of 2G services when it is aware that a substantial portion of the 900/1800 MHz band is currently being utilised to provide 3G/4G data services. Instead, up to 2 x 15 MHz in the 900/1800 MHz bands is the minimum amount of spectrum that should be set aside as the RFR spectrum for each MNO where it already holds spectrum in each band.
24. 900/1800 MHz are the key bands for providing 4G services both from a handset and network perspective. Further, the basic building block of 4G service in Hong Kong is based on a combined holding of 2 x 15 MHz in the 900 MHz and 1800 MHz bands (including service in the MTR). Significant network congestion is likely to result if only 2 x 5 MHz is subject to RFR.

25. If RFR is restricted to 2 x 5 MHz, the Government is underestimating the service interruption by focusing on 2G services instead of the effect on 3G and 4G services which utilise the majority of the frequencies, especially in the MTR and CAS. Taking as an example, the 2100 MHz network cutover in MTR which only involves 2 x 15 MHz spectrum and for which there is no new POI equipment to be installed. The cutover is from one MNO to two MNOs which will take more than 3 months to complete for all MTR stations, no matter how well executed are the cutover plans. It is estimated that the cutover for 900/1800 MHz would be a good deal more complicated since more spectrum will be involved, additional POI equipment will need to be installed and all MNOs will be affected, hence a much longer lead time will be required.
26. The need to avoid service disruption was a factor which the operators previously expressed concern in the Consultation in connection with the re-assignment of the 3G spectrum in 2013. In its options for the 3G spectrum, the Government proposed and ultimately accepted that each operator be given the opportunity to retain 2 x 9.9 MHz of its then assigned spectrum. Adopting in this case, a RFR of 2 x 10 MHz for 4 MNOs in 1800 MHz plus 2 x 5 MHz for 3 MNOs in 900 MHz would result in 110 MHz being retained as RFR spectrum, with 90 MHz remaining for auction (20 MHz in the 900 MHz band and 70 MHz in 1800 MHz band). Further, allocating as RFR spectrum only 2 x 5MHz in the 900 MHz band to the 3 current operators in that band leaves the opportunity for acquiring spectrum in this sub-1G band via auction.
27. Relying on the 2.3 GHz & 2.5/2.6 GHz bands to provide 4G services in the MTR may not be able on its own to mitigate the disruption caused by reassignment of existing spectrum. In fact, MTR needs 3 years to rollout 8 stations (by mid 2018) and another year to rollout a further 10 stations (by mid 2019). Hence, a full rollout of the 2.3 GHz and 2.5/2.6 GHz bands to more than 70 MTR stations will definitely take a much longer time and be completed well beyond 2020.
28. Significant re-allocation of spectrum could occur if, as CA presently proposes, 160 MHz of the spectrum is to be allocated purely by market forces, particularly if the fragmented nature of the current spectrum blocks were to be re-aligned into more uniform 2 x 5MHz blocks. This as explained earlier would only add to the difficulties involved and the costs, all of which would ultimately be suffered by consumers, particularly the potential service disruption.
29. To set aside more than 2 x 5 MHz as RFR spectrum, it is therefore critical to ensure that mobile data services would not be adversely affected, especially in MTR. In this regard, it is our submission that 2 x 5 MHz in the 900 MHz band and 2 x 10 MHz in the 1800 MHz band should be set aside as RFR spectrum to each operator currently holding spectrum in those bands.

30. This proposal would have a number of key benefits. All 900 MHz and 1800 MHz incumbents would retain the minimum portion of the core spectrum building block for 4G services which is 2 x 10 MHz of their original 1800 MHz spectrum and 2 x 5 MHz of their original 900 MHz spectrum. This will ensure that the existing 4G mobile data services, especially in MTR, would be largely unaffected. The disruption cost would also be minimized.
31. There would still be 90 MHz of spectrum in the 900 and 1800 MHz bands respectively available for assignment through a market-based approach. It will allow the incumbents and any new entrants a fair opportunity to bid for a contiguous block of spectrum in either band.
32. Concerning the proposed requirement that the incumbents who take up the RFR spectrum must continue to provide 2G services for 3 years from 2020, we submit that it is against the principle of technology neutrality and efficient use of spectrum to require this. Whether to continue to provide 2G services beyond 2020 should be a commercial decision for the operators.
33. For example, in approving a request from the operators that 2G services be discontinued from April 2017, the regulatory authority in Singapore has required the MNOs concerned to ensure that existing 2G subscribers can transition smoothly to 3G services. In so approving, the regulator took into account the evolving technology and the fact that consumers had migrated largely to 3G and 4G services and technology. At the date of the approval in 2015, the number of 2G subscribers had fallen to 250,000 or 3% of total mobile subscriptions in Singapore. Whilst there may be a higher percentage of subscribers in Hong Kong using 2G devices at present, this is likely to fall significantly by 2020.
34. As for overseas visitors using 2G handsets, in a competitive market, market forces will determine whether 2G services will continue to be offered. Not stipulating such a requirement to continue to offer 2G services would ensure that a scarce resource, in this case the 900/1800 MHz spectrum, would be put to the best use. Indeed this use of a scarce resource was singled out by the Singapore regulator when announcing that 2G networks would close from April 2017 stated that "*The retirement of the 2G networks will allow more efficient use of the scarce radio frequency spectrum to provide the more advanced 3G and 4G services which will better meet user's demand for rich multi-media content*".<sup>4</sup>
35. It should also be noted that an incumbent would be disadvantaged by the proposed requirement compared to a new entrant, if any, who would not be subject to such requirement.

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<sup>4</sup> Press release of IDA dated 15 June 2015.



RFR spectrum should not be assigned at a percentage of individual MNOs' current spectrum holding

36. The amount of RFR spectrum should not be proportionate to the amount of spectrum currently held by an incumbent. Preserving in effect the status quo of the current asymmetric holdings of operators is not in accordance with any of the stated policy aims of the Spectrum Policy Framework. We submit that a sufficient amount of spectrum should be set aside as RFR spectrum from the holding of each incumbent to maintain mobile data service continuity. If operators wish to obtain more spectrum according to their business needs, such as to gain an advantage in spectrum holding or to obtain a larger market share, such demand or need of spectrum should be handled through a market-based approach, i.e. via spectrum bidding.
37. Since the 900 MHz band was amongst the first spectrum bands available for mobile telephony, it has tended to be in the hands of the first operators to build out networks. We do not advocate that the 3 current holders of 900 MHz spectrum keep all their holdings but just 2x 5 MHz each leaving 20 MHz for bidders. As for the 1800 MHz band, the merger in 2014 has resulted in a single entity holding 72.8 MHz in this band, almost half the available spectrum. To perpetuate the asymmetry in this band would give the merged entity unmatched advantages associated with such a large holding notwithstanding it has the largest mobile subscriber base. It should also be noted that the market share of the various operators may well change in such a dynamic and competitive market as Hong Kong. We therefore suggest that each holder of 1800 MHz spectrum has a uniform holding of 2 x 10 MHz as RFR leaving 70 MHz over to market forces.
38. Allocating RFR spectrum should be done on as uniform a basis as possible, taking account of which band the operator has existing spectrum, and not on a percentage basis or market share basis. To do otherwise could stifle effective competition.
- Q7: Among the four hybrid sub-options, what is your preference and why? Do you have any other variants to the hybrid option you would like to suggest, and if so, what are the details and the justifications?***
39. We submit that there are a number of principles which should apply in the designation of RFR spectrum. The purpose of RFR spectrum is to maintain service continuity to existing customers. In this case, it will be necessary to look ahead and project demand at least 4 years to 2020 and beyond. RFR spectrum should fall within the existing spectrum holding of the incumbents and be based on the existing spectrum block or blocks held by each incumbent.

40. Different operators have different spectrum needs based on their own commercial and technical considerations. Market forces ensure that the choice of RFR spectrum would maximize spectrum efficiency and the interest of consumers. Hence the decision on which part of their holdings in each existing spectrum band should be designated as RFR spectrum should be vested in the operators.
41. In the light of the above, none of the Options 3A-3D is an exact fit since all are premised on only 2 x 5 MHz being designated as RFR spectrum. Option 3B comes closest but given that our suggestion is based on each operator having up to 2 x 15 MHz in the 900/1800 MHz bands as RFR spectrum, subject to having sufficient holding in either band, each operator should only be able to choose the RFR spectrum from its existing spectrum blocks in the 900/1800MHz bands.

***Q8: What are your views and comments on the principles and methods of setting the SUF as proposed in paragraphs 64 to 75 above?***

42. Before commenting on paras 64-75 of the Consultation Paper, we should address the suggestion that there should be two sets of SUF and that the SUF for 900 MHz should be set higher than that for 1800 MHz. Ascertaining the relative band values depends on the treatment of results from spectrum auctions in other jurisdictions where there may have been factors at play which are not present or relevant to Hong Kong in determining the relative band value between 900 and 1800 MHz spectrum. Whilst, sub-1GHz spectrum is generally acknowledged to be more valuable than 1800 MHz spectrum, there is a paucity of empirical and reliable data to establish the precise relative band values between the two bands in the Hong Kong context. We would urge the Government to make available prior to the second round in this Consultation, any report or data which it intends to rely on to set the relative band values.
43. Our comments below relate to Option 3 and, by association, to Option 2 on Re-Auctioned Spectrum and to Option 1 on RFR Spectrum.

#### Reserve Price for Auctioned Spectrum

44. It is proposed in the Consultation Paper that the reserve price for the Auctioned Spectrum should be set at levels which would minimize the possibility of an unreasonably low SUF due to strategic bidding behaviour of the operators. It is further proposed that SCED will make reference in setting the reserve price to the levels of SUF of spectrum in frequency bands with similar propagation characteristics as determined by auctions conducted in recent years.

45. Given that the final SUF for the Auctioned Spectrum will be decided in a competitive auction, we do not see how operators could possibly manipulate or control the bidding result so as to produce an unreasonably low SUF. With reference to previous spectrum auctions, there would be no restriction for any new entrants to participate in the bidding. Also, any bidders, whether they are new entrants or existing operators, would be subject to the bidding rules which strictly prohibit any collusive behaviour among the bidders. It will be highly unlikely that the participants in a competitive auction could artificially deflate the final auction price.
46. Furthermore, it would not be always appropriate to utilise as a benchmark, previous auctions of similar spectrum for the setting of the reserve price. For example, while the 900 MHz spectrum has more superior propagation characteristics to achieve better geographical coverage and indoor penetration as compared to the 1800 MHz spectrum, hence its market value is normally higher, there would be a significant challenge to determine the reserve price based on previous auctions as no two auctions are the same.
47. At the auction of the 850/900 MHz band conducted in March 2011, there was only 20 MHz of spectrum available for bidding. As the market value of the spectrum is determined by market forces (i.e., supply and demand) in a competitive bidding, the very limited supply of the 850/900 MHz spectrum during the auction in 2011 has resulted in a relatively higher level of SUF. The respective auction outcomes for the two bands should have been very similar given the relatively similar propagation characteristics of the two bands yet the 900 MHz block achieved around 20% higher bids than the 850 MHz spectrum. The result of such auction should not be used as a reference in the setting of reserve price for the upcoming auction because not only the supply of spectrum would be different, the market environment will have changed which would affect the market value of the spectrum.
48. It is also worth noting that although the reserve price for the 850/900 MHz spectrum in the 2011 auction was set at HK\$30 million for 2 x 5 MHz, the final auction prices for the spectrum were \$875 million and \$1,077 million for the two 5 MHz paired spectrum blocks. This has clearly shown that the key determining factor in a competitive bidding is market forces instead of the reserve price. By setting a high reserve price, the regulator runs the risk of unnecessarily intervening in the operation of market forces and thereby affects the outcome of the bidding.

#### Cap for RFR Spectrum

49. We agree that there should be a cap for the SUF of the RFR Spectrum in each of the 900 and 1800 MHz bands so as to provide certainty to the existing operators when they make the decision on RFR Spectrum. However, it should be noted that if the cap

is set too high then it will lose the function of providing certainty to existing operators.

50. Further, if the cap is set too high, it will also give the wrong signal to the industry which may cause unnecessary speculation as to the value of the spectrum and affect the bidding of the Auctioned Spectrum.

#### Minimum SUF for RFR Spectrum

51. Under Option 3, it is proposed that the levels of minimum prices in respect of the RFR Spectrum should be set higher than the reserve prices for the Auctioned Spectrum. The reason for such proposal as stated in the Consultation Paper is as follows:

*“The setting of minimum prices will militate against incumbent spectrum assignees from adjusting their bids for the Auctioned Spectrum with a view to paying a lower SUF for the RFR Spectrum while enjoying the right of first refusal.”*

52. As mentioned above, we do not believe that the participants in a competitive bidding would have the ability to artificially deflate the final auction price. What is more, the proposal of setting the minimum prices for the RFR Spectrum higher than the reserve prices for the Auctioned Spectrum would unduly discriminate against those operators taking up the RFR spectrum and favour any new entrants participating in the spectrum auction. This is against the principle of providing a level playing field for existing operators and the successful bidders of the Auctioned Spectrum.

#### Payment method of SUF

53. The Consultation Paper sets out that the SCED considers it appropriate to require the assignees in the coming assignment exercise to pay the lump sum SUF upfront (instead of paying the SUF by annual instalments).
54. Before the grant of licences for 3G spectrum in 2001, no SUF was payable for frequency bands assigned to 2G licensees. From 2001, SUFs were set by auction apart from some spectrum which was administratively assigned. The SUF for the frequency bands, 1.9-2.2 GHz, assigned to the 3G licences was structured on a hybrid basis being a minimum sum for first 5 years and then an annual payment on a royalty basis, but in each case SUF was payable on an annual basis over the 15 years of the 3G licence. The Information Memorandum of the 3G spectrum auction in 2001 specifically mentioned that the annual SUF royalty payments were tax-deductible.<sup>5</sup>
55. In 2007, an auction was held for the 850MHz band for CDMA purposes. The TA (as it was then known) decided to change this arrangement to a one off SUF lump sum

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<sup>5</sup> At para 4.9.

payment on the basis that it was "*simpler, quicker and easier to administer than the royalty based scheme adopted for 3G licensees*".<sup>6</sup> Most subsequent SUF payments have all been on a one off, up front lump sum payment basis, but not for example for the auction of 900/1800 MHz spectrum in 2009 where there was an annual variable component and a lump sum.

56. However, the considerations for this change in frequency of payment, which seem to have been purely administrative, had nothing to do with the nature of the payment which is a revenue payment nor any change in what the licensee was paying SUF for which was, and remained, payment for the use of the frequency bands on a continuous basis throughout the term and not for its assignment.<sup>7</sup>
57. Given that the underlying nature of the payment of SUF is unchanged, the change in payment frequency from annual to one off seems to have resulted incorrectly in the IRD in some cases wrongly seeking to treat the nature of the SUF payment as non-recurrent, rather than considering the nature of the payment, and hence no longer deductible as a revenue expenditure for certain operators. It is possible that all operators may be ultimately affected by the changed tax treatment of the SUF payment and this has for some operators already resulted, and will no doubt for the rest result, in additional tax liability (subject to the right to dispute such assessment by IRD) that would inevitably have to be passed on to consumers.
58. In this regard, we would request SCED or OFCA to obtain formal written confirmation from the IRD, and so advise the industry before the assignment of the 900/1800 MHz bands, that any SUF, whether it is payable on annual basis or as a lump sum, will be regarded by IRD as revenue expenditure and hence tax-deductible.

**Q9:** *Do you agree that in devising the band plan, priority should be given to frequency slots of 2 x 10 MHz each for spectrum in the 1800 MHz band? Do you agree that the band plan in the 900 MHz band should be restructured into frequency slots of 2 x 5 MHz each?*

59. We agree with the proposal that priority should be given to frequency slots of 2 x 10 MHz and 2 x 5 MHz each in the 1800 MHz and 900 MHz band respectively, as it is in line with the principle of promoting efficient utilization of spectrum.
60. In addition, we submit that the band plan should be designed to be compatible with the frequency range supported in existing POIs in MTR and CAS, thus reducing the

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<sup>6</sup> Licensing of Spectrum in the 850MHz band to enable the provision of CDMA2000 Service: Statement of telecommunication Authority issued on 27 April 2007 at para 35.

<sup>7</sup> As prescribed by S.32I (1) of the TO.

need for change in POIs and minimizing the disruption time and costs. The band plan should allow as many contiguous blocks as possible.

***Q10: Do you agree that the Auctioned Spectrum should be open for bidding by all interested parties, including the incumbent spectrum assignees and new entrants?***

61. We do not have any particular view on this matter at the moment.

***Q11: What are your views on the proposal to impose a spectrum cap and the proposed cap level of 90 MHz?***

62. Consistent with our view that the problem of spectrum over-concentration in the 900/1800 MHz band should be addressed, we support the proposal of imposing a spectrum cap in the band. However, we submit that the spectrum cap should be lowered to 80 MHz i.e. 2 x40 MHz instead of 2 x 45 MHz as currently proposed.

63. Such an amount (i.e., 2 x 40 MHz) is already 40% of the 900/1800 MHz spectrum, or double the current amount of 1800 MHz spectrum held by a typical operator in Hong Kong. We do not consider that there is a case for setting a spectrum cap higher than that, or it would run the risk of setting a spectrum cap that is too high to prevent spectrum over-concentration, which is already harmful to competition in the market. It is also consistent with setting a sub-cap of 40% for the 900 MHz spectrum.

64. Furthermore, the 900/1800 MHz spectrum is critical to the market as there is no other similar spectrum available in the short term. It is difficult to reverse the problem of spectrum over-concentration after assignment of the spectrum and hence any adverse impacts occasioned by spectrum over-concentration on the relevant markets and consumers would be long-lasting.

***Q12: Do you consider it necessary to introduce a sub-cap for the 900 MHz spectrum within the overall spectrum cap of 90 MHz? If the answer is yes, is the proposed sub-cap at 20 MHz suitable?***

65. We agree to the proposed sub cap at 20 MHz (equivalent to 40% of the 900 MHz spectrum) due to scarcity of 900 MHz spectrum.

***Q13: What are your views on the proposed arrangements to align the 15-year term of the new assignments for the spectrum in the 900 MHz band to commence on 12***

*January 2021, and to have the new 15-year assignment term for the spectrum in the 1800 MHz band to commence on 30 September 2021?*

***Q14: Do you agree that the SUF for the extended period of assignments shall be determined in accordance with the method as set out in paragraph 88 above?***

66. We have no objection to the proposed arrangements.

***Q15: What are your views on the network and service rollout obligation and performance bond requirement proposed to be imposed on the assignees of the 900/1800 MHz Spectrum in their provision of public mobile telecommunications services under the new term of frequency assignments?***

67. To prevent spectrum hoarding and to ensure effective competition and efficiency use of the spectrum, we agree with the proposal to impose a 90% minimum population coverage requirement on 900/1800 MHz spectrum that is newly acquired (by new entrants or incumbents) or the requirement not already met for existing spectrum held by incumbents.

***Q16: What are your views on the proposal in paragraph 95 concerning the re-assignment of spectrum for the provision of mobile coverage in the country parks and remote areas?***

68. We have no objection to the proposed arrangement.

18 May 2016