

**Consultation Paper on “Arrangements for the Frequency Spectrum in the 900 MHz and 1800 MHz Bands upon the Expiry of the Existing Assignments for Public Mobile Telecommunications Services and the Spectrum Utilisation Fee”**

Response by Hutchison Telephone Company Limited

Executive Summary

1. OFCA’s proposal to take back 80% of the operators’ current assignments of the 900/1800 MHz Spectrum and to put it out to auction would seriously risk harming continuity and quality of 3G and 4G services.
2. The possible loss of spectrum (under Option 2 and Option 3) by the existing operators would reduce their ability and incentive to invest in innovative services for consumers. The disruption to customer services and business continuity will cause substantial damage to Hong Kong’s international reputation for high quality, low cost mobile services.
3. Option 1 (licence renewal) would ensure customer services continuity and encourage continued long-term business investment and innovation.
4. If Option 1 were not adopted, we propose a new Option 4 (which also meet CA/SCED’s stated objectives) where 80% of the 900/1800 MHz Spectrum should be divided equally between the four existing operators, and the remaining 20% should be auctioned.
5. With one of the highest penetration rate in the world at about 228% in 2015, mobile communication is essentially a necessity in Hong Kong. The grossly excessive SUF increases the financial burden of consumers and will ultimately harm the public. It is against the interests of mobile users to seek to maximise Government revenues via collection of high spectrum fee. The Government should make it clear whether such exorbitant spectrum fee is a type of spectrum tax/ Government levy.
6. The change in the SUF payment mechanism from annual payments to a one-off upfront payment has not changed the fundamental nature of the spectrum, and hence the SUF should be tax deductible.
7. The proposed obligation to provide 2G services for a period of 3 years after re-assignment is unnecessary, and contradicts OFCA’s traditional, publicly-stated “technology-neutral” approach.

1. Hutchison Telephone Company Limited (“**HTCL**”) welcomes this opportunity to respond to the public consultation on “Arrangements for the Frequency Spectrum in the 900 MHz and 1800 MHz Bands upon the Expiry of the Existing Assignments for Public Mobile Telecommunications Services and the Spectrum Utilisation Fee” (“**CP**”). In the main body of this submission we highlight and explain our views on the main issues raised in the CP. Appendix I contains our answers to the specific questions contained in the CP: reference can be made to the main body of the submission for further explanations of these answers.
2. HTCL is very concerned that the Communications Authority (“**CA**”) and the Secretary for Commerce and Economic Development (“**SCED**”) are proposing to put the four mobile operators at risk of losing up to 80% of their current holdings of frequency spectrum in the 900 MHz and 1800 MHz bands (“**900/1800 MHz Spectrum**”) in an auction. Such loss of spectrum, by even one operator, could have a severe adverse impact on the Hong Kong market and consumers. In particular, customer service continuity, effective competition, and encouragement of investment and innovation (i.e. most of the CA/SCED’s stated objectives in spectrum re-assignment) would suffer. Efficient spectrum use may also suffer.
3. The proposed choices of Option 2 and Option 3 appear to rest on several misconceptions and have substantial negative impacts:

#### Disruption to Customer Services

- 3.1 First and foremost, it is stated in the CP that “the continuity of 3G and 4G services in indoor areas, including those at MTR stations and along MTR lines, is unlikely to be an area of concern when assessing the options [for re-assignment]”<sup>1</sup> The CP implies that operators have sufficient spectrum holdings outside the 900/1800 MHz Spectrum to compensate for the loss of the 900/1800 MHz Spectrum in an auction, and thereby to ensure customer service continuity. This is simply incorrect. The 900/1800 MHz Spectrum has already been extensively re-farmed from 2G services to 3G and 4G services, as the CP itself acknowledges. HTCL has re-farmed most of its 900 spectrum and virtually all of its 1800 spectrum for 3G and 4G use respectively.

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<sup>1</sup> Para. 16.

- 3.2 Indeed the 900/1800 MHz Spectrum is particularly well-suited to deployment for indoor coverage. The 900/1800 MHz Spectrum will continue to be critical to providing service in indoor areas, especially with the continuing rapid growth of mobile data services and the lack of new spectrum availability in the foreseeable future. We will be happy to provide supporting evidence to demonstrate the above (including figures) in discussions with OFCA and its consultants. An auction would therefore seriously risk harming continuity and quality of service in respect of 3G and 4G services, especially along the MTR lines.

#### Reduced Data Speed

- 3.3 The CP acknowledges that the 900/1800 MHz Spectrum is of “fragmented nature”<sup>2</sup> and proposes consolidation of the spectrum before re-assignment in order to achieve spectral efficiency. However, the proposed introduction of new entry would make the 900/1800 MHz Spectrum even more shared and fragmented, causing existing mobile service users to suffer from reduced data speed. Against the background of huge growth in mobile data traffic, interruption to data sessions would be unavoidable.

#### Uncertain Business Environment

- 3.4 Substantial loss of spectrum by one or more operators could severely hamper their ability to compete effectively, and thereby harm market competition. The CP rightly states, in its opening sentence, that “Hong Kong has one of the most competitive markets in the world,” but this competitiveness would be severely jeopardised if one or more operators were to lose a substantial amount of their current holding of 900/1800 MHz Spectrum. The CP speculates that an auction would provide the potential for new entry. However, with four existing operators serving a population of only 7.3 million, the Hong Kong market, by international standards, is already crowded. Such speculation that new entry might occur should not prevail over the strong likelihood that the existing competitiveness of the market will be damaged by an auction.
- 3.5 By reducing the competitiveness of the Hong Kong market, such spectrum loss would also reduce the ability and incentive of operators to invest and innovate in new services. In a broader sense, it would effectively be penalising investment and innovation previously made by the operators, not encouraging it. The result of causing such disruption to customer services and business continuity would ultimately damage Hong Kong’s international reputation for being one of the most advanced, sophisticated and cheapest telecommunications markets in the world.

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<sup>2</sup> Para. 43.

## Spectral efficient

3.6 The CP states that an auction is the best mechanism to guarantee that the spectrum is used efficiently<sup>3</sup>. This assertion assumes that, unless a high price is paid for spectrum, it will not be used efficiently, an assertion which is not borne out by the facts. In the highly competitive market which the CP acknowledges Hong Kong is, there is no reason to suppose that operators are using spectrum inefficiently. The scarcity of spectrum, and the clear evidence of operators re-farming their spectrum to put it to better use, demonstrate the opposite, namely that appropriate incentives are already in place to ensure efficient use of spectrum, and that spectrum is indeed being used efficiently. The reality is that an auction would add nothing to spectral efficiency, and may even reduce spectral efficiency, if it results in spectrum “hoarding” by an operator which is prepared to pay a very high price for spectrum with no immediate use for it, other than to exclude competitors. This is evidential in the case of 21 ViaNet Group Limited, a new entry to the mobile telecommunications market in Hong Kong, which successfully bid for 30 MHz of unpaired spectrum in the 2.3 GHz band in February 2012, but ended up not utilising the spectrum to establish a mobile network for the provision of mobile services.

## Our Preferred Option

4. In the premises, the huge uncertainties from Option 2 and Option 3 would result in serious service disruption, especially along the MTR lines, and substantially reducing investments in mobile network infrastructures. On the contrary, Option 1 would have the necessary certainty to both services and business continuity, with the existing operators continuing to invest in advanced technology and hence bringing better services to consumers.
  
5. The CP refers to the Government’s Radio Spectrum Policy Framework of 2007, which states that there is no legitimate expectation that there will be any right of renewal or right of first refusal upon the expiry of a spectrum assignment.<sup>4</sup> However, the mere fact that the Government has stated that there is no legitimate expectation does not mean that there is none. When HTCL re-farmed its 900 spectrum and 1800 spectrum for 3G and 4G use respectively, it would expect that the investment would pay off enabling it to further invest in other advanced technology for the benefits of the company, its business partners, and mobile users

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<sup>3</sup> Para. 44.

<sup>4</sup> Para. 10 and 11.

as a whole. Without a legitimate expectation for a stable business environment, it would be extremely difficult, if not impossible, for investors and management to make sound business decisions and would ultimately affect the customers' experience on overall mobile services.

6. The CP states that one of the “unacceptable effects” of Option 1 is that it would not enable the CA to ensure efficient allocation and utilisation of spectrum through the CA’s proposed consolidation of the 900/1800 MHz Spectrum before re-assignment. This is correct, if Option 1 means only (as it does, according to the CP) a renewal of the current assignments, without any adjustment to the operators’ current spectrum holdings. We agree that the proposed consolidation, and elimination of the fragmentation of spectrum which currently exists, before the re-assignment takes effect, is a worthwhile objective.
  
7. If Option 1 were not adopted, we propose another option, not put forward in the CP, which would enable this consolidation to be achieved, while satisfying all of the objectives stated in the CP. We shall call this “Option 4”. Under Option 4, once the spectrum has been consolidated in the way the CP has suggested, the proposed treatment of the 20% “RFR Spectrum” for 2G purposes, namely sharing equally amongst the four operators, would be extended to 80% of the 900/1800 MHz Spectrum. Ideally, it should be extended to all of the 900/1800 MHz Spectrum. However, there is an extra (fifth) block of 2 x 5 MHz Spectrum in the 900 MHz band, and an extra 2 x 15 MHz block in the 1800 MHz band (assuming the 1800 bandwidth is divided into 2 x 15 MHz blocks) which means that all of the 900/1800 MHz Spectrum cannot be divided equally between the four operators. This extra block of 900 MHz and extra block of 1800 MHz are the only blocks which should be subject to an auction. This configuration is shown graphically in Appendix II. This solution would create a level-playing field amongst the operators in the supply of a scarce and essential “raw material”, enable the proposed prior consolidation of spectrum to take place, and achieve all of the CP’s objectives. It would also have the virtue of simplicity.

#### 2G Services beyond 2020

8. Under its proposed Option 3, the CP is proposing a requirement that operators which have taken up the RFR Spectrum continue to provide 2G services during a three year transitional period from the commencement of the new assignment term. The CP is self-contradictory in this respect. The proposed requirement contradicts paragraph 19, which states:

“The CA will continue to adopt its technology-neutral approach when considering the views of the industry on the technology to be adopted in the provision of public mobile telecommunications services, as well as the types of mobile services to be provided using the radio spectrum which may be assigned to the MNOs. Accordingly, the CA considers that the decision on whether, and if so when, the 2G networks will be switched off in Hong Kong should be determined by the MNOs based on their assessment of the demand for 2G services, so long as they ensure that the impact on the affected customers would be kept to the minimum through reasonable transitional arrangements and affordable migration plans.”

The proposed three year requirement contradicts this “technology neutral” approach that the CA has traditionally adopted, even if it is for a limited three-year term, and would also be contrary to the Government’s traditional preference for “letting the market decide”. We see no need for such a requirement to be introduced. The operators should be left free to meet market demand, and should not be prevented from encouraging customers to migrate to 3G or 4G services, or putting their spectrum to more efficient uses, even during the initial three-year period.

At this juncture, we would like to clarify a figure in the CP which was cited from the Annual Report 2014 of Hutchison Telecommunications Hong Kong Holdings Limited (“**HTHKH**”), a holding company of HTCL. The CP states that “the revenue generated from the 2G voice services is very attractive when one takes into account revenue generated from the lucrative inbound roaming business. Information in the public domain shows that non-data roaming services contributed to about 16% of MNOs’ revenue from mobile services.”<sup>5</sup> [Emphasis added] The CP implies that the 16% revenue was derived from our 2G voice services, and thereby operators have incentive to maintain their 2G networks to meet the market demands. However, we would like to clarify that the 16% revenue of HTHKH’s mobile service was not solely derived from the 2G voice services. Rather, it covered the roaming non-data (including voice, messaging, content and related services) revenue from both 3G and 4G services as well.

#### Grossly excessive Spectrum Utilisation Fee (“**SUF**”)

9. The Government’s charge for using the spectrum has been grossly high and excessive. We note that maximising the price that can be extracted from the operators for the use of the spectrum is not stated to be one of the CA/SCED’s

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<sup>5</sup> Para. 36.

objectives in deciding which option to adopt. It should not therefore be a relevant factor as to whether an auction should be held. In the auction of spectrum in the 2.5/2.6 GHz band, the average SUF was HK\$30.8 million per MHz, which, according to OFCA's press release dated 19 March 2013, was "about 80% higher than that obtained in the auction of the same frequency band held in 2009." In the latest auction of spectrum in the 1.9-2.2 GHz band held in December 2014, the average SUF jumped up to around HK\$49.2 million per MHz. It is stated in the CP that in determining the fixed price for the 900 MHz spectrum reference will be made to the level of SUF of spectrum in the 850/900 MHz band as determined by the auction held in March 2011<sup>6</sup>, which indeed hit a record high of around HK\$97.6 million per MHz. We strongly object to such reference as the 850/900 MHz band put to auction at that time was in a very limited amount and for specific re-farming purpose.

10. Extremely high SUF are against the interests of consumers, whether because those costs are passed on to consumers in the form of higher prices, or because less funds are available for operators to invest in new and innovative services (which the CP states is one of the CA/SCED's objectives). With one of the highest mobile penetration rates in the world at approximately 228% in 2015, and the continuing enormous growth in mobile data traffic, the funds should be further invested in advanced technology and innovation to satisfy the public demands in this intensively competitive Hong Kong market. Such additional investments would lead to corresponding increase in the GDP of Hong Kong. Hence, the current transfer of financial resources from operators to the Government through grossly excessive SUF is unreasonable and irrational in the circumstances, as if the Government is levying a consumer tax on using mobile telecommunication service which essentially is a necessity nowadays. Such Government levy increases the financial burden of the operators and the general public, severely hampering the operators' ability to provide competitive tariff plans to consumers. We urge the Government to make it clear whether such absurdly high level of SUF is a type of Government levy.
  
11. In our view, the SUF should be set on the basis of the costs of managing the spectrum and at a minimum level. As a report by GSMA and the consultancy CEG has stated: "Given the risks of investment being deterred or even valuable spectrum being left idle, regulators should set spectrum charges conservatively".<sup>7</sup>

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<sup>6</sup> Para. 65.

<sup>7</sup> "Best Practice in Spectrum Licence Renewals," P 19.

## Tax treatment

12. As regards the payment method, the CP states 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 installments).”<sup>8</sup> We noted that there has been a change in the SUF payment mechanism from annual payments in 2001 to a one-off upfront payment in 2009; yet the fundamental nature of the spectrum remains unchanged. Like any other operating costs of HTCL, spectrum is essential for the mobile operators to provide telecommunications services and generate taxable income, and hence the SUF payments should be tax deductible. Indeed, the Information Memorandum issued by OFTA (the predecessor of OFCA) for the 2001 3G spectrum auction clearly stated that the SUF as determined in the first phase of the auction is tax deductible. However, the tax treatment of the SUF payment has become ambiguous in the recent years. In our view, the change in the tax treatment and disallowance of tax deductibility for SUF will have a significant adverse financial and tax impact on the mobile operators and on the services and tariffs we provide to the general public. HTCL does not object to the change in payment mechanism to facilitate earlier cash collection by the Government, provided that it is tax deductible. SUF payments should be tax deductible regardless of the payment mechanism on the basis that the SUF is incurred by the mobile operators for the use of spectrum which is directly relating to the production of assessable profits. In the premises, we urge the Government to clarify the tax treatment with the Inland Revenue Department.

13. In conclusion:

- Option 1 is the option which satisfies the CA/SCED’s stated objectives. It is also more straightforward and efficient than the other options proposed. If Option 1 were not adopted, our proposed Option 4 is the next best option.
- Spectrum prices should be set on the basis of OFCA’s costs of managing the spectrum and at a minimum level.
- No requirement to offer 2G services for a three year transitional period should be imposed.

Hutchison Telephone Company Limited

18 May 2016

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<sup>8</sup> Para 76.



## **APPENDIX I**

### **ANSWERS TO SPECIFIC QUESTIONS IN THE CP**

*Question 1: Given the CA's views that there are likely to be competing demands on 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?*

There are overriding public policy reasons why an auction should not be held. Please refer to paragraphs 3 to 7 of our submission above. Option 1 would guarantee customer service continuity and quality of 2G, 3G and 4G services. If Option 1 was not adopted, our Option 4 is the next best option which also achieves all of the stated objectives of re-assignment listed in the CP.

*Question 2: 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?*

See answer to Question 1 above.

*Question 3: 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?*

Yes. An auction as proposed under Option 2 would threaten continuity and quality of customer service for 2G, 3G and 4G services. Please refer to paragraphs 3 to 7 of our submission above.

*Question 4: 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?*

Option 2 would not serve to achieve any of the four identified objectives. It would threaten customer service quality and continuity for 2G, 3G and 4G services. It would neither ensure spectrum is used efficiently, increase competition, nor encourage investment and innovation, and indeed is likely to do the opposite. Please refer to paragraphs 3 to 7 of our submission above.

*Question 5: 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?*

By putting operators at risk of losing up to 80% of their current 900/1800 MHz Spectrum in an auction, Option 3 would harm customer service quality and continuity for 3G and 4G services. It would also harm competition, and the operators' incentives and ability to continue to invest and innovate in new services for the benefit of consumers. Our Option 4 would serve all of the CA/SCED's objectives, while still enabling the proposed prior consolidation of spectrum to take place. Please refer to paragraphs 3 to 7 of our submission above.

*Question 6: 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 would also ensure continuity of 2G services for a reasonable period of time in the new 15-year spectrum assignment term?*

80% of the 900/1800 MHz Spectrum should be shared equally between the operators under our Option 4, and operators should be free to use the spectrum for 2G, 3G or 4G services according to market demand, and in accordance with the CA/SCED's stated "technology-neutral" approach. Please refer to paragraph 8 of our submission above.

*Question 7: 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?*

Given our strong view that Option 3 should not be adopted, it is not appropriate to answer this question.

*Question 8: What are your views and comments on the principles and methods of setting the SUF as proposed in paragraphs 64 to 75 above?*

No auction should be held for 80% of the 900/1800 MHz Spectrum. The SUF should be set at a level based on the costs of managing the spectrum and be tax deductible. Please see our comments in paragraphs 9 to 12 of our submission above.

*Question 9: 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?*

Yes, to both questions.

*Question 10: Do you agree that the Auctioned Spectrum should be open for bidding by all interested parties, including the incumbent spectrum assignees and new entrants?*

Yes, for the 20% we recommend under Option 4 be subject to all auction. No auction should be held for the other 80% of the 900/1800 MHz Spectrum – see answer to Question 1 above.

*Question 11: What are your views on the proposal to impose a spectrum cap and the proposed cap level of 90 MHz?*

Under our Option 4, a spectrum cap would be appropriate, but it should be set at 60 MHz. This would prevent any operator from acquiring more than 2 x 20 MHz of 1800 MHz spectrum, thereby maintaining a level playing field.

*Question 12: 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?*

No – see answer to Question 11.

*Question 13: 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?*

We agree with the proposed alignment of licence terms and the proposed commencement dates. However, in the interests of reducing costs and promoting a stable environment for investment, licences should be of indefinite duration, subject to withdrawal on grounds of systematic and serious (a) non-compliance or (b) inefficient spectrum use. This reflects the trend in other jurisdictions such as the UK.

*Question 14: 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?*

No: see answer to Question 8 above.

*Question 15: 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?*

No comments.

*Question 16: 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?*

No comments.

## APPENDIX II

### 900 MHz/ 1800 MHz Spectrum Allocation (Recommended – after consolidation)

- 900 MHz : 25 MHz in total, 20 MHz @ **RFR (80%)**, 5 MHz @ **Auction (20%)**
- 1800 MHz : 75 MHz in total, 60 MHz @ **RFR (80%)**, 15 MHz @ **Auction (20%)**

*For example*

#### 900 MHz (2 x 25 MHz)

RFR - 1 5 MHz	RFR - 2 5 MHz	RFR - 3 5 MHz	RFR - 4 5 MHz	Auction 5 MHz
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#### 1800 MHz (2 x 75 MHz)

RFR - 1 15 MHz	Auction - 1 5 MHz	RFR - 2 15 MHz	Auction - 2 5 MHz	RFR - 3 15 MHz	Auction - 3 5 MHz	RFR - 4 15 MHz
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