



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

SUPPLEMENTARY SUBMISSION

Introduction

1. Hong Kong Telecommunications (HKT) Limited (“**HKT**”) and other interested parties submitted their written responses in respect of the captioned consultation (“**Consultation Paper**”) in mid-July 2012. On 30 July 2012 China Mobile Hong Kong Company Limited (“**CM**”) made a subsequent submission. If the Secretary for Commerce and Economic Development (“**SCED**”) and the Communications Authority (“**CA**”) are minded to consider CM’s unauthorized submission, then HKT would request that it also take into account this response to CM’s submission.¹ HKT briefly addresses below the various arguments raised by CM in its unauthorized submission. HKT incorporates by reference its earlier representations and will not repeat them below to the extent possible.

Option 1 is very much consistent with a “market-based approach”

2. CM’s first argument (paragraph 1) is that the SCED and the CA are required to adopt a market-based approach in regard to spectrum management and that only a pure auction (i.e. Option 2) meets that requirement.² However, CM misunderstands how markets operate and what it means to have a “market-based approach”. CM has mis-read both the SPF and the Consultation Paper, and has ignored both Hong Kong precedent and global best practices.

3. A “market-based approach” is one that gives pre-eminence to markets while keeping regulatory intervention at the minimum necessary to facilitate their healthy operation. Within this, it is recognized (indeed it is a trite principle of economics) that markets require regulatory stability and certainty to promote investment and innovation (i.e. technological progress).

¹ HKT would note that based on the 12 written submissions that have been published on the CA’s website, there is overwhelming support for Option 1 from both telecommunications service providers and equipment vendors in the industry.

² This ‘market-based’ approach comes from the *Radio Spectrum Policy Framework* published by the Commerce and Economic Development Bureau (“**CEDB**”) in April 2007 (“**SPF**”).

4. Article 118 of the Basic Law (which CM misconstrues in support of some arbitrary notion of "fairness"), gives constitutional protection to this principle in Hong Kong. It states: "The Government of the Hong Kong Special Administrative Region shall provide an economic and legal environment for encouraging investment, technological progress and the development of new industries."

5. This is also reflected in:

(i) The 2003 consultation on expiry of the 2G licences:

The Telecommunications Authority ("TA") stated in response to industry suggestions that a decision be made as soon as possible: "The TA agrees that the future licensing arrangements should be addressed as early as possible to provide the greatest regulatory certainty. This will enable industry players ... to make their long term investment and business plans".³ [Emphasis added]

In the TA's analysis of comments received in the consultation, the TA observed: "The present regulatory framework is designed to encourage and facilitate interested parties to invest in telecommunications infrastructure and the provision of telecommunications services".⁴ [Emphasis added]

In the TA's decision dated 29 November 2004 by which 2G spectrum was re-assigned to the existing spectrum holders, the TA clearly regarded as a key factor the need to provide "a stable investment environment" (along with the important public policy concern to ensure continuity of customer service).⁵

³ See paragraph 3 of the TA's Consultation Paper on *Licensing of Mobile Services on the Expiry of Existing Licences for Second Generation Mobile Services* dated 1 August 2003. See also paragraph 4, which listed choice of services and a stable investment environment as key criteria.

⁴ See paragraph 14 of the TA's Statement *Licensing of Mobile Services on the Expiry of Existing Licences for Second Generation Mobile Services: Analysis of Comments Received, Preliminary Conclusions and Further Consultation*, dated 19 March 2004.

⁵ See paragraph 6 of the TA's Statement on *Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services* issued on 29 November 2004.

(ii) The 2006 Radio Spectrum Policy Framework consultation:

For example, the Government's SPF Consultation Paper highlights the need for a “stable investment environment” to encourage investment by providing an “open, transparent, objective and non-discriminatory policy and regulatory framework”.⁶ Consistent with this objective, the consultation paper identifies limited grounds for regulatory interventions to reallocate spectrum and states:

*There are economic justifications for giving renewal rights for spectrum assignments. A more certain and renewable spectrum right should help spectrum assignees to avoid facing the uncertainty whether or not to make new investments for facilities or services close to the expiry of their current spectrum assignments when there is a justifiable need to do so.*⁷

The SPF's guiding principle is to adopt a “market-based approach in spectrum management”⁸, and a market-based approach requires certainty, so as to encourage investment.

(iii) The May 2012 GSMA report:

For example:

*Licensing Authorities should ensure that the overall licensing framework offers stability and transparency to reduce regulatory risk and promote investment.*⁹ [Emphasis added]

*Uncertainty about the future rights to spectrum can lead to operators reducing or delaying investment in upgrading their networks and deploying new services ... As such, authorities should be alert to the real danger that their investment incentives can be undermined by uncertainty over future rights.*¹⁰ [Emphasis added]

⁶ See the Government's *Consultation Paper on Proposed Spectrum Policy Framework*, dated October 2006 (“**SPF Consultation Paper**”) at paragraphs 22 and 23.

⁷ See paragraph 43 of the SPF Consultation Paper.

⁸ See paragraph 8 of the *Legislative Council Brief: Proposed Spectrum Policy Framework – Outcome of Consultation* issued on 24 April 2007 [Ref: CTB(CR) 7/4/16(06)] (“**LegCo Brief on the SPF**”).

⁹ See recommendation 3 on page 4 of *Licensing to Support the Mobile Broadband Revolution: a report for the GSM Association*, dated May 2012 (“**GSMA Report**”).

¹⁰ See the first paragraph on page 6 of the GSMA Report.

6. CM fails to distinguish between the initial spectrum release to the market and subsequent spectrum reassignment or re-farming. An initial spectrum release to the market may, consistent with a market-based approach, be undertaken through an open, competitive bidding process. However, once released to the market, there is a need, under a market-based approach, for certainty as to the continuing ability to access that spectrum. This certainty is essential in order to encourage investment in the necessary infrastructure to fully and efficiently use the spectrum (some of which necessarily requires long-term investments) so that investments that have been made by the spectrum holders are not undermined or stranded. As the GSMA Report observes:

*Re-auctioning spectrum at the end of the licence should be limited to situations where there has not been evidence of substantial investment ... or situations where an existing licensee decides to reject a licence renewal offer.*¹¹ [Emphasis added]

7. When the 3G Spectrum was first made available to the market in October 2001, it was allocated to the present 3G mobile operators via auction. Subsequently, the use of the spectrum has been driven by market forces and those operators have made very substantial investments to support and maximize the use of their spectrum rights. There can be no debate that the market is hyper-competitive and such competition has driven operators to efficiently utilize spectrum. CM has presented no credible evidence of a lack of investment or that the market has failed to ensure efficient use of the spectrum that was allocated to the four Incumbent 3G Operators in October 2001. Indeed, CM cannot point to any market failure.

8. Even if there were such evidence, the "market-based" solution would be to introduce spectrum trading. Now that the 3G Spectrum in the 1.9-2.2 GHz band has been auctioned into the market, the regulator should not be trying to second guess the market by "picking winners". As the SPF Consultation Paper noted:

To make the "right" decisions under the command and control approach, the spectrum manager should have full and timely knowledge ... In reality, it is extremely unlikely that a spectrum manager has all the information and market data he needs to make the "right" decisions in determining the highest value use of spectrum from time to time. Therefore, some advanced economies [notably the United States, Canada,

¹¹ See page 6, Recommendation 11 in the GSMA Report.

United Kingdom, Australia and New Zealand] *have in recent years moved towards adopting market-based approaches for spectrum management, on the belief that the market is more capable of making the "right" decisions regarding spectrum use than the spectrum manager, and that any "wrong" decisions would similarly be "remedied" by market forces.*¹²

9. It is no coincidence that the advanced economies that have adopted a "market-based" approach recognize the need (except in the most exceptional circumstances) to renew spectrum rights as and when licences come up for renewal, so as to maintain investment incentives and avoid stranding investment costs.

10. Regulatory uncertainty as to whether a licensee's spectrum allocations will be maintained and interventions to prefer one competitor over others fundamentally undermine the operation of markets. If an operator loses its spectrum, this can strand investments that have been made (thereby undermining private property rights and creating a deadweight loss to society). Such uncertainty and chilling of investment incentives also dampens innovation, to the ultimate detriment of consumers.

11. The SPF makes it clear that it is establishing a more transparent regime which relies on market forces to ensure the efficient use of spectrum as a public resource. It does not, as suggested by CM, mean that spectrum must be allocated to operators via an auction process when it comes up for renewal. Indeed, if CM's argument was correct then Options 1 and 3 could not be considered. Previous consultations and consultancy reports make it clear that a re-auctioning in such circumstances would be entirely inconsistent with a market-based approach. Moreover, the SPF itself contains a clear public policy exception, highlighting the need to avoid service disruption. Hong Kong precedent and global best practices provide strong support for Option 1 (i.e. a right of first refusal approach). Accordingly, CM's argument that Option 1 (and implicitly Option 3) cannot be considered and that Option 2 is consistent with a market-based approach is without merit.

Option 1 is fair and is consistent with the Basic Law

12. CM's second argument (paragraphs 3-6) is that Option 1 is "unfair". Again, CM's argument is that only a pure auction (i.e. Option 2) would be fair.

¹² Paragraph 12 of the SPF Consultation Paper.

CM then states that Option 1 would open SCED and OFCA to charges of government and business collusion (paragraph 5) and would be a breach of Article 118 of the Basic Law (paragraph 6). CM also appears to threaten a judicial review filing (paragraph 5).

13. It is extremely disappointing to see CM raise the government–business collusion allegation. This allegation is baseless. As the SPF Consultation Paper notes:

*In Hong Kong, the Government does not invest in facilities for the provision of public telecommunications services. Instead, the private sector makes the investments and provides the services in accordance with commercial principles. Because telecommunications facilities are capital intensive, service providers prefer a stable investment environment to make such investment. While service providers generally accept the inevitable technology risks and market risks that they would face in investing in the fast evolving telecommunications market, they consider that policy and regulatory risks should be minimised by the Government in order to allow them to plan ahead and make informed investment decisions.*¹³

14. It is surprising, to say the least, that CM might regard actions the Government takes to provide a stable investment environment an act of "collusion".

15. The telecommunications industry has invested billions of dollars in networks and services. The market is characterized by innovation, competition and more competition. The resulting consumer benefits are widely recognized as ‘global bests’. HKT is aware that CM would prefer Option 2 so that it may employ its deep pockets to acquire spectrum regardless of the impact on other licensees and consumers. However, CM already has substantial spectrum holdings and may obtain additional spectrum via future spectrum releases, MVNO and resale arrangements, and hopefully future spectrum trading transactions, on a win-win basis between willing buyers and sellers without disrupting the provision of services to millions of consumers. It does the industry no good for a party unhappy with the weight of the evidence to claim collusion. There is no basis for the government-business collusion allegation to

¹³ See paragraph 22.

be associated with the telecommunications sector, the licensees or the regulator.¹⁴

16. As to CM's Basic Law argument, CM misconstrues its reading of Article 118. It does not introduce some arbitrary notion of "fairness" that can be called on by parties wanting the regulator or the Hong Kong Government to create regulatory structures that favour them. Rather, it requires the Hong Kong Government to ensure: "an economic and legal environment for encouraging investment, technological progress and the development of new industries". CM had every opportunity to bid for the spectrum when it was auctioned into the market and has options to obtain necessary spectrum now. And for reasons given above, CM's proposal will do anything but create a stable environment for investment.

17. Notably, in trying to draw on the Basic Law to support its position CM also ignores Article 105 of the Basic Law. This requires the Government to protect the rights of individuals and companies to the acquisition, use, disposal and inheritance of property and the right to compensation for lawful deprivation of their property. If CM's proposal is adopted, there is every risk of significant investments that have been made by existing spectrum rights holders being stranded, depriving them of legitimate property rights. It is perhaps for this reason that CM has not highlighted this provision.

18. The reality is that under existing economic policies and laws the four Incumbent 3G Operators have invested billions of dollars, have brought leading state-of-the-art and global best technologies to the market, and have developed the market into one creating world recognized consumer benefits. Indeed, it is Option 1 and only Option 1 that is consistent with Article 118 and a market-based approach. The Consultation Paper recognizes at multiple places the weaknesses of Options 2 and 3 in regard to continued investment, innovation and technological progress (see paragraphs 18, 19, 24, 36 and 48).

19. As to CM's general plea for fairness, and its desire for 3G spectrum, CM is not measuring fairness by reference to what is in the interests of Hong Kong, the telecommunications industry or consumers. It is measuring "fairness" by what is in its best interests given that it did not secure an allocation of this spectrum when it was originally auctioned (despite having the opportunity to do so) and chose not to take the significant commercial risks that the 4 incumbents

¹⁴ The irony of a state-owned enterprise from a closed market making such a claim should not be lost.

took investing billions of dollars to build up networks around that spectrum to serve Hong Kong customers.

20. In any event, CM's desire for a "fair" system for operators to manage their spectrum, including 3G spectrum can, and should (to be consistent with a market-based approach), be addressed via adopting spectrum trading as soon as possible. Resale, MVNO, M&A and other options also exist. Further it is noted that CM has more spectrum than HKT or SmarTone, and can acquire more spectrum next year and more spectrum again via the digital dividend in 2014/2015 (i.e. before the subject 3G Spectrum would be made available). If any licensee were to make a fairness plea, it would be those with less spectrum.

21. CM apparently has no 'fairness' concerns when it comes to inconveniencing Hong Kong users or stripping an Incumbent 3G Operator with less deep pockets of 3G spectrum. CM also apparently has no 'fairness' concerns when it comes to asymmetrical roaming agreements. Finally, CM alleges that Hong Kong's core value of fairness "will definitely be destroyed" unless Option 2 is adopted. The obvious lack of merit of the allegation is clear.

The current assignment of 3G Spectrum is already very efficient and producing substantial consumer benefits

22. CM's third argument is that spectrum is not being used efficiently and thus Option 2 must be the way forward (paragraph 7). In support of that statement CM cites paragraphs 20 and 21 of the Consultation Paper. But upon a closer examination this language is of no assistance to CM. CM quotes the following (at paragraph 20):

[...] the TA is not certain whether the existing assignment of the 120 MHz of 1.9 – 2.2 GHz spectrum among the four incumbent 3G operators has already delivered the optimal consumer benefit [...] [Emphasis added]

23. It is possible that the TA is not and cannot be 100% certain (of anything). But 100% certainty is neither the legal test nor what can pragmatically be required. OFCA and the SCED can very well be confident, almost 100% sure or substantially sure that consumer benefits in the mobile market today are at a very high level and indeed are global best. The TA and the CEDB recognize in multiple places in the Consultation Paper (and elsewhere) that the Hong Kong market is extremely competitive, rich in investment and innovation, and producing world beating consumer benefits. "Optimal consumer benefit" is

being obtained, unless of course that term refers to the most theoretical situation unrelated to the actual marketplace.

24. CM then quotes the Consultation Paper at paragraph 21:

It may be possible to attain higher spectrum efficiency [...] [Emphasis added]

25. Anything “may be possible”, but in real world markets producing world recognized consumer benefits it is disingenuous to suggest that the fifth mobile operator’s acquisition of a bit of spectrum in the 1.9 – 2.2 GHz band would bring Nirvana to Hong Kong consumers. Indeed, breaking up the existing spectrum bands into smaller bands would (as a scientific fact) adversely affect spectral efficiency (i.e. spectrum fragmentation actually lowers spectrum efficiency) and be disruptive to consumers. Thus, Options 2 and 3 could lower spectrum efficiency, not increase it.

26. Public policy cannot be safely made on theoretical “possibilities” (i.e. “it is not certain” and “it may be possible”) that are not backed by any real evidence and a comprehensive analysis. On the other hand, the dangers of re-auctioning any part or all of the 3G Spectrum (i.e. service discontinuity, service degradation, network congestion, a decline in investment and innovation, less competitive pressures and increasing customer complaints) are very real and are frankly acknowledged in the Consultation Paper. Option 1 ensures the continuation of a global best regime. Option 1 avoids these very real adverse consumer outcomes.¹⁵

27. In any event, for reasons given above, the regulator is not well placed to decide whether the current spectrum use is efficient. The market is deciding that and, to the extent that the regulator wants to give the market even more flexibility to make those decisions, spectrum trading should be introduced. Withdrawing the spectrum from the current incumbents and re-auctioning it, with the associated costs, uncertainties, chilling effect on investment and disruptions to consumers is not an "efficient" outcome by any measure.

28. CM suggests that this is "anticompetitive". However, Hong Kong's telecommunications markets are fully liberalized and the spectrum was

¹⁵ The lack of evidence and analysis supporting Options 2 and 3 are fully described in HKT’s earlier submission. See, for example, the sections entitled: “The analysis supporting Options 2 and 3 is appallingly superficial” (paragraphs 32 to 43) and “Options 2 and 3 must be rejected” (paragraphs 94 to 98) as well as the main body of HKT’s submission.

auctioned into the market in a process that CM had every option to participate in. The role of competition law is not to pick winners or to re-engineer the results of successful competition in the market simply because one of the competitors believes (in hindsight) that it "misplayed its cards".

A low Spectrum Utilization Fee (“SUF”) level should increase the public welfare

29. CM’s fourth argument (paragraphs 10-12) is that only an SUF determined via auction (i.e. Option 2) will reflect the market price and ensure an appropriate return to taxpayers. CM therefore rejects all other SUF options, including LCA and benchmarking, and other options presented in the various filings.¹⁶

30. It is clear that pricing of the spectrum is a separate issue from how to allocate the spectrum. As to pricing, multiple approaches are possible and they are noted in the Consultation Paper. The question as to SUF is what is best for consumers, not what is best for CM with its very deep pockets (or most punitive to the incumbent spectrum holders). Investment, innovation, competition and end user benefits are already being maximized in this hyper-competitive market. A high SUF in a market with a mobile penetration rate exceeding 200% will just become an unnecessary tax on users. This won’t help consumers or the economy, nor will it facilitate investment, innovation, competition or Hong Kong’s status as a communications hub. While high spectrum fees may assist the Treasury, this is not within the scope of the CA as defined in the Communications Authority Ordinance (“CAO”) or the stated mission of the CEDB.¹⁷ In short, an auction as suggested by CM is unnecessary, would harm the public interest and simply be an additional tax.

CM is wrong in suggesting that Option 2 will have no impact on the Incumbent 3G Operators or users

31. CM’s fifth argument (paragraphs 14-27) is that the Incumbent 3G Operators who lose some or all of their spectrum will not be disadvantaged (and their customers will not be inconvenienced). This argument is weak on several fronts. First, it ignores OFCA’s statements as to service continuity and customer complaints. Second, an operator that may lose spectrum or will lose

¹⁶ The various SUF options are discussed in HKT’s submission at paragraphs 122 to 130.

¹⁷ See Section 4(4) of the CAO and the Mission Statement of the CEDB: <http://www.cedb.gov.hk/ctb/eng/about/mission.htm> It may be that if any Article 118 argument existed, it would exist if an auction occurred.

spectrum must rationally limit its future investment as an adequate return will not be earned. This investment decline over a 2 or 3 year period directly impacts innovation and the level of competition, having an adverse impact on consumers. Third, knowing that spectrum will be lost in the near future by itself does not equate to the creation of a seamless or painless transition plan. Spectrum is being efficiently used and spectrum hungry data applications are increasing almost exponentially. There is no magic way to avoid network congestion and service degradation if a substantial amount of capacity is lost. Fourth, customers who are forced to migrate to spectrum that is already efficiently employed will likely face network congestion and service degradation problems. Consumers may also need to acquire new handsets. In addition, the customers utilizing the spectrum in which the existing 3G customers will be migrated to will face the exact same congestion and degradation issues. Confusion and complaints would be the norm.

32. CM acknowledges these problems but then suggests that spectrum swapping should be adopted. Spectrum swapping/trading should be adopted to allow willing sellers and buyers to address the issues. But spectrum trading between auction winners as suggested by CM is very different from the forced loss of spectrum under an auction regime. Losers have nothing to swap. Congestion, degradation, less investment, less innovation, less competition, a decline in consumer benefits and ultimately an increase in consumer complaints are inevitable. CM further suggests re-farming. But this is not available to all operators and could not prevent network congestion and degradation. Indeed, in reality these options are available to CM and could be employed by CM without causing the industry and consumers to go through the pains of an auction for spectrum renewal.

33. CM's sixth argument (paragraph 22) is that even Option 1 cannot (100%) "guarantee" service continuity. It is clear from the Consultation Paper and the submissions that Option 1 creates the best guarantee of service continuity. It is equally clear that Option 2 has the worst prospects as to guaranteeing service continuity. No option can ensure a 100% guarantee, but that isn't the test. Service continuity is a very important policy consideration. Option 1 best ensures continuity and customer satisfaction. The Consultation Paper makes this point at paragraph 24. The PMRS spectrum renewal¹⁸ and 2G spectrum renewal precedents in Hong Kong also make the same point: service continuity

¹⁸ This refers to the exercise to licence digital Public Mobile Radiotelephone Services in which spectrum previously used to offer analogue services would be re-assigned for digital mobile services.

and consumer interests are best served via a right of first refusal approach for spectrum renewals.

34. CM's seventh argument (paragraph 24) is that even Option 1 cannot (100%) "guarantee" that the existing levels of investment and the promotion of innovative services will continue. As above, this is similar to CM's argument above regarding continuity of service. It is widely accepted (even by CM) that Option 1 best ensures the highest possible levels of investment and innovation. This is the logical result of certainty and predictability, and continued high levels of competition. The Consultation Paper at paragraphs 19, 23, 37 and 49 makes this clear.

35. CM's eighth argument (paragraphs 25-27) is that Option 2 will not adversely impact service continuity and consumers. CM suggests that the Incumbent 3G Operators will have at least three years to plan ahead, providing some sort of panacea.

36. CM's argument fails in two areas. First, CM ignores the clear relationship between losing spectrum on the one hand and less investment, less innovation, less competition and declining consumer benefits on the other hand.

37. Second, prior notice, while of course useful, cannot solve the congestion and degradation issues as an MNO actually starts to migrate its customers from one spectrum band to another. The extent of the problem would depend on whether the receiving frequency band has sufficient capacity to accommodate the customers being migrated.

38. Service disruption is most likely to be felt in indoor areas where equipment may need to be physically replaced in order to allow an existing operator to continue providing service after relinquishing part or all of its 3G Spectrum. For instance, in the MTR, HKT understands that the existing cabling systems are not presently able to support services operating in the 2600 MHz band (i.e. 4G LTE services). Therefore, an operator who is forced to migrate its 3G customers to 4G LTE will firstly need to construct a new cabling system within the MTR network to support the 2600 MHz band. This is estimated to take between three to five years, even before taking into account the amount of time needed to negotiate the construction and leasing arrangements with the MTRC.¹⁹ In the meantime, if customers are forced to migrate to 4G LTE

¹⁹ The success of any handover will in reality be in substantial part outside the control of the operators. Landlords, BMOs, etc. will play a role. Building access issues have not been resolved in decades; there is no basis to assume solutions will appear overnight. For instance,

services, they will experience service interruption while travelling on the MTR. Unfortunately, therefore, any option involving a switch of network (i.e. Options 2 and 3) will inevitably lead to service discontinuity lasting perhaps for several years depending on the location in question.

39. The only solution that seems to be proposed by CM is that large numbers of users should migrate to the auction winners at the end of their existing contracts during the transition period. This will of course, even if it did occur, only create the congestion and degradation problem sooner and, in any case, does not resolve the problem of indoor coverage.

40. It is very difficult to see how CM could say with any credibility that such disruptions, unnecessary costs and inevitably dampening of investment incentives could increase the efficiency of Hong Kong's already very competitive markets.

Option 1 is consistent with the SPF, precedent, global best practices and the public interest

41. CM's ninth argument (paragraph 2) is that there is no basis to renew the 3G Spectrum licences under the SPF's public policy exception. While CM states that Option 1 is at odds with a market-based approach, it provides no further analysis. In any event, CM is simply wrong.

42. The SPF's language is clear. First, a public policy exception exists. Second, it is particularly relevant in cases of renewals. Third, the public policy exception analysis will follow the 2004 approach when the 2G spectrum was renewed on a right of first refusal basis.

43. Interestingly, CM in its January 2007 comments on the SPF, supported granting incumbent spectrum holders a right of first refusal. In its submission CM stated at page 3:

[CM] agree that there should be no legitimate expectation for renewal after expiry of a spectrum assignment. However, if the licensee is utilizing the spectrum in an efficient way to serve customers, the licensee

mobile operators have traditionally had difficulty gaining access (or have been subject to extortionate terms) to provide service in the MTR, private tunnels and properties which are owned by companies affiliated to one of the competing telecommunications operators. This factor is likely to contribute to the extent of any service interruption arising from a transfer of frequency bands necessitated by a spectrum auction.

should be given a Right of First Refusal to a renewal of its spectrum assignment. [Emphasis added]

44. The comments made by CM in 2007 support a right of first refusal approach. CM's about-turn in 2012 is inconsistent and self-serving, and hence should be given little weight.

45. In the same submission, CM stated at page 2 as to factors to be considered in creating a SPF:

[CM] suggests that the TA add 'consumer interests' to the considerations. Sometimes, there may be overriding consumer interests which are more important than investor interests.

46. Giving consumer interest due consideration would of course favour Option 1 due to its high level of benefits for consumers in terms of investment, innovation, competition, service continuity and efficient spectrum usage.

47. As to the public policy exception, the SPF at paragraph 3.1 states:

The policy inclination is that a market-based approach in spectrum management will be used for spectrum wherever TA considers that there are likely to be competing demands from providers of non-Government services, unless there are overriding public policy reasons to do otherwise.

48. Paragraph 17 of the LegCo Brief on the SPF is particularly relevant in assisting the operators understand how the SPF is to be applied in the assignment and renewal of spectrum, and the circumstances under which public policy considerations would apply:

We maintain our view that, at this stage, there should be no legitimate expectation for renewal at the end of spectrum assignments and have made this clear in paragraph 4.2 of Annex A. The TA should decide whether a new spectrum assignment, with the same or varied radio frequencies, should be given to the licensees. To provide greater transparency, we make it clear in the policy framework that the spectrum policy objectives and public interest grounds should be considered when the TA makes such decisions. Indeed, the TA considered, among other factors, public interest grounds when he decided to offer the "right of first refusal" to 2G mobile carriers whose licences expired in 2005 or 2006. Since public interest would have to be considered in each case, we

do not deem it appropriate to give existing spectrum assignees, as a matter of course, the right of first refusal. We accept that the absence of automatic right of renewal may affect the value of spectrum when auctioned, and potentially hamper the effectiveness of spectrum trading and spectrum liberalisation as possible market tools. Once spectrum trading and/or spectrum liberalisation is implemented, the issue of spectrum rights at the end of a spectrum assignment should be revisited.
[Emphasis added]

49. From the above, it is clear that the TA considered public interest grounds when granting a right of first refusal for the 2G spectrum renewals, and that these public interest grounds are the same public interest grounds that would be considered under the SPF public policy exception. The SPF therefore fully embraces and is consistent with the PMRS and 2G spectrum renewal precedents. Based on these precedents, and as described below, the actions of the Incumbent 3G Operators (in terms of investment, innovation, satisfactory service provision, efficient use of spectrum, etc. as well as the need to ensure service continuity) require a renewal of their 3G Spectrum on a right of first refusal basis.

50. Two spectrum renewal cases exist in Hong Kong. Both decisions adopted a right of first refusal approach. The SPF and global precedents support this approach. These cases are described below.

51. In the November 1990, regarding the renewal of the PMRS spectrum, the *Consultative Paper on Licensing of Digital Public Mobile Radiotelephone Services in Hong Kong* issued by the Telecommunications Branch of the Hong Kong Post Office (the forerunner of OFTA) (“**Consultative Paper on Digital Mobile Services**”) recognized that, although there was no obligation for spectrum to be re-assigned back to the existing holders after expiry of the assignment term, there would be strong and valid practical reasons why it might be preferable for the incumbent licensees to continue using their allocated frequency bands. The Consultative Paper on Digital Mobile Services states:

10. [...] Under the existing licences for the operation of analogue PMRS, the operators do not have an automatic right to convert their systems to digital PMRS. Existing licences also contain a note to the effect that the licences may not be renewed after 30 June 1995. However, there would be great difficulty for a block of spectrum occupied by an existing operator to be taken over by another operator for operations (sic) digital PMRS. Moreover, the existing operators have a wealth of

expertise and experience through setting up the infrastructure for the operation of PMRS in Hong Kong. As long as the operators are providing a good and satisfactory service, it would be unreasonable not to renew their licences after 30 June 1995. [Emphasis added]

52. In 2004, in regards to the renewal of 2G spectrum, the TA made a decision not to conduct an auction in spite of the fact that this spectrum was sought after by other mobile operators because of its coverage capabilities compared to spectrum in the higher frequency ranges. The 2G spectrum was re-assigned to the existing spectrum holders on the basis that they had made efficient use of the frequency in the past and they had been providing satisfactory service to their subscribers with continuous investment and improvements. In this decision dated 29 November 2004, the TA recognized the need to provide a stable investment environment and ensure continuity of customer service:

In the Consultation Papers, the TA proposed to grant the “right of first refusal” to the nine incumbent GSM and PCS licensees who had been making efficient use of the frequency spectrum assigned to them in the past years. The TA also took into account the importance of providing a stable investment environment and ensuring continuity of customer service. It was also recognized that the nine incumbent GSM and PCS licensees had been providing satisfactory service to their subscribers with continuous investments and improvements.²⁰ [Emphasis added]

53. In paragraph 13 of the consultation paper in the same proceeding dated 19 March 2004, the TA provided his justification for proposing a re-assignment of the 2G spectrum to the existing spectrum holders:

The TA is aware of the consideration to provide a stable investment environment and to ensure continuity of customer service. At present, there are more than 7 million mobile customers in Hong Kong. Discounting the relatively small number of customers subscribing to the CDMA and TDMA services, the GSM and PCS services have become a general commodity penetrating all walks of our society and affecting every aspect of our daily life. The existing GSM and PCS licensees have been providing a satisfactory service with continuous investments and improvements. They have also been making efficient use of the scarce

²⁰ See paragraph 6 of the TA’s Statement on *Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services* issued on 29 November 2004.

frequency spectrum assigned to them. If they were not allowed to continue offering their services to their customers, there would be severe service interruptions, causing confusion and inconvenience to the public. The social consequence would not be acceptable to society as a whole.
[Emphasis added]

54. The market conditions and public interest considerations which the TA took into consideration when he re-assigned the PMRS spectrum and the 2G spectrum remain relevant for the 3G Spectrum. Today, the market has become more competitive, substantially greater investment has been made²¹, there is more service innovation and prices have continued to drop. The operators are providing a good and satisfactory service to almost eight million 3G consumers. Spectrum is being used efficiently and more efficient use is driven by innovation, investment, user requirements and competition.

55. For example, the mobile operators have invested billions of dollars to meet the growing data requirements of users. The volume of mobile data per month has grown from 2 terabytes in December 2004 (the year in which 3G services were first introduced in Hong Kong) to 5,045 terabytes today (March 2012), representing a staggering two and a half thousand fold increase over the space of less than eight years. By OFTA's own analysis in the Consultation Paper, mobile data usage expanded by 124% in 2011 alone, with usage per customer rising by 72% year-on-year to 509 megabytes per month at the end of 2011.²² Continued investment in the network is therefore critical and needs to be supported by regulatory policies in order to sustain the exploding growth in use of mobile data services. Proposals that are disruptive should not be considered.

56. Consumers at large are doing very well, enjoying global best benefits. Per OFCA's website, as at March 2012, there were approximately 7.9 million 3G customers in Hong Kong, and this number is expected to continue to grow in view of the increasing use of smartphones. At the same time the mobile penetration rate is over 200%. With the growing complexities in the services provided (and handsets used), there is no need to risk service disruptions,

²¹ HKT estimates that, so far, it has already invested at least 30% more in its 3G network compared to its 2G network, and this investment is continuing.

²² The latest figure per OFCA's website stands at 588 megabytes per customer (March 2012). Further, in a presentation made by Cisco at the Mobile Asia Expo 2012 in June 2012 entitled: *Mobile Networks in a Zettabyte World – Trends from Cisco's Visual Networking Index*, Cisco forecast that global mobile data traffic would increase 18X from 0.6 exabytes per month in 2011 to 10.8 exabytes per month in 2016.

customer confusion and inconvenience to the public all with substantial social consequences.

57. Given the circumstances under which the PMRS spectrum and the 2G spectrum were re-assigned back to the incumbent operators without going through an auction process, clear precedent already exists to do the same regarding the 3G Spectrum. Further, the Incumbent 3G Operators have never been warned by the TA that there is any concern about inefficient use of spectrum, nor have they been told that the service they are providing using the 3G Spectrum is or was in any way unsatisfactory. In fact, under the terms of their licence, the Incumbent 3G Operators are required to “operate, maintain and provide a good, efficient and continuous service in a manner satisfactory to the Authority”, and HKT does not recall any of the Incumbent 3G Operators having infringed this licence condition.²³ There is no basis, given the amount of investment they have made in their networks and the improvements over the years, for depriving the Incumbent 3G Operators of their legitimate rights of first refusal.

58. As to the SPF issued in 2007, the renewal of the PMRS spectrum in the early 1990’s and the 2G spectrum renewal in 2004 on a right of first refusal basis would simply be examples of the SPF’s “public policy reasons” being implemented consistent with the market-based approach. Paragraph 17 from the LegCo Brief on the SPF is clear and indeed the 2004 2G spectrum renewal is cited as an example of the public policy exception. As described above, better reasons exist today than in 2004 for this approach to be maintained, and the two precedents would require an exception for the 3G Spectrum renewal.

59. At the same time, global best practices strongly support a right of first refusal consistent with the market-based approach. Australia, Canada and the UK are but three examples (see paragraphs 103 to 115 of HKT’s July submission).

²³ The one exception is the recent SmarTone network outage, but this reflects a one-off short term event, not a systemic issue.

Conclusion

- **CM's submission presents several allegations but contains no analysis and is not convincing.**
- **Option 1, and only Option 1, best serves the public interest and is consistent with the market-based approach mandated by policy.**

**Submitted by
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