
Why re-issue of spectrum licences to incumbent mobile operators is crucial to the public, the telecommunications industry and Hong Kong

12 July 2012

A response by

Hutchison Telephone Company Ltd

**to a consultation paper dated 30
March 2012 on arrangements for
1.9-2.2 GHz band spectrum**



Three.com.hk

Contents

Description	Page
Executive Summary	1
1. Introduction	3
2. Renewal of the Licences satisfies the decision-making criteria in the Consultation Paper itself	3
3. International Expert Opinion is in favour of Licence Renewal	6
4. Options 2 and 3 would damage consumers, the telecommunications industry and Hong Kong	7
5. Option 3 is contrary to spectrum policy	13
6. Opportunities for new operator(s) to acquire spectrum	14
7. Legitimate expectation	16
8. The Communications Authority must consider factors in the Communications Authority Ordinance	17
9. Spectrum charging under Option 1	18

Executive Summary

- **The Consultation Paper (CP) emphasizes repeatedly the successes of the Hong Kong mobile communications market in delivering benefits to the Hong Kong public. For example, it recognises that Hong Kong has “one of the most competitive mobile telecommunications markets in the world”, that “the volume of mobile data traffic has been growing in leaps and bounds in recent years” and that new applications “are expected to fuel the growth in mobile data traffic”. We fully agree. But the key question in this consultation is how best to allow this success story to continue: is it better to allow the mobile network operators (“MNO”) to continue to deliver these benefits to Hong Kong by renewing their licences, or to threaten their ability to do so by removing all or part of their spectrum allocation? The answer to this question is self-evidently the former.**
- **The CP itself supports this conclusion. It expressly acknowledges that a re-auction process for all or part of their spectrum would deter further investment and innovation for the benefit of Hong Kong consumers, and cause extensive customer disruption. These serious effects in themselves should be enough to decide in favour of licence renewal. This conclusion is also supported by international expert opinion and precedent. A decision to proceed with re-auctioning all or part of the spectrum would therefore be irrational, and contravene the statutory duties of the Communications Authority. It would also (contrary to the assertion in the CP) breach the MNOs’ legitimate expectations, based on previous public policy decisions on spectrum renewal.**
- **There is no evidence to suggest that re-auctioning all or part of the spectrum would increase the keen competition which already exists, or increase the efficient use of spectrum. On the contrary, the CP itself (as noted above) acknowledges that the Hong Kong mobile communications market is one of the most competitive in the world, and that competition drives the efficient use of spectrum. There is no rational basis for damaging existing competition, innovation and investment, in the speculative and unrealistic hope of generating more competition and efficiency in the future.**

- **If the Government wishes to allow scope for even greater efficiencies to be realised in the future, the solution is to enable spectrum trading, not to engage in an inefficient re-auction process which might simply serve to appropriate resources from the MNOs which could be used to satisfy the public's continuous demands for high quality, high value services. Allowing the MNOs to continue to compete, innovate and invest, while allowing them to trade spectrum where appropriate, would be consistent with the "market-based" approach the Government has publicly espoused. Re-auctioning spectrum in a market which is already highly competitive and delivering such obvious public benefits would not. On the contrary it would amount to a highly interventionist, and dangerously speculative, attempt to "re-engineer" a market which is already working extremely well for Hong Kong and its citizens.**

1. Introduction

1.1 Hong Kong has one of the most, if not the most, technologically advanced and competitive mobile communications markets in the world. Mobile network operators (MNOs) constantly strive to outdo each other in satisfying the demands of ever more sophisticated and demanding consumers. The Government and Communications Authority (CA) now seem to be considering putting this success story at risk, by engaging in a process which would (as acknowledged in the CP itself) damage the MNOs' incentives to invest and innovate for the benefit of consumers, cause customer disruption, and potentially deprive one or more MNOs of the ability to continue to compete in the market. This is nothing short of astonishing.

1.2 As this paper will demonstrate, it is not only the MNOs who would suffer from the risk of losing the ability to compete: consumers would also be losers. Through dampening the competitive process, MNOs would no longer be able to satisfy consumers' demands for better and cheaper products and services. Consumers might ultimately have no option but to change their choice of supplier, against their will.

1.3 It is precisely these considerations which led the Australian government, in February this year, to decide in favour of renewing the 3G licences of the existing MNOs, rather than going through any new auction process.

1.4 The Minister responsible was quoted as saying:

“These are important services for Australian businesses and consumers. Re-issue of licences will provide certainty about the continuity and operation of mobile and wireless communications networks.”¹

This makes it all the more astonishing that the Government and CA are contemplating going in the opposite direction, by putting all or part of the spectrum out to a new auction. Clearly, renewal of the existing licences is the only rational policy choice in Hong Kong.

2. Renewal of the Licences satisfies the decision-making criteria in the Consultation Paper itself

2.1 The Consultation Paper (CP) states that the option which will be chosen is the one which best meets the multiple objectives of ensuring:

- Customer service continuity;

¹ “Renewal decision provides certainty for mobile consumers”, 10 February 2012, available at http://www.minister.dbcde.gov.au/media/media_releases/2012/015

- Efficient spectrum utilisation;
- Promotion of effective competition; and
- Encouragement of investment and promotion of innovative services.²

2.2 The CP (correctly) does not identify maximizing public revenue from a limited public resource as a relevant factor in making the decision. With one of the highest mobile penetration rates in the world at approximately 210% (in December 2011),³ and the continuing enormous growth in mobile data traffic, the Hong Kong public have given a very clear signal as to how they wish this public resource to be used. To remove resources from the MNOs in the form of a bidding process under Options 2 or 3 would prevent those resources from being used by MNOs to continue to invest and innovate to satisfy demonstrated public demands for services. To do so in the name of satisfying other, unidentified public purposes with no demonstrable demand would seem illogical and unreasonable.

2.3 Hutchison Telephone Company Limited (HTCL) submits that Option 1 clearly satisfies all of the stated objectives in the CP, whereas Options 2 and 3 clearly do not. Moreover, this submission is supported by the reasoning in the CP itself, as noted below. We deal with each of the criteria in turn.

Customer Service Continuity

2.4 Under Option 1 (licence renewal), the MNOs would have the necessary certainty to invest and innovate in order bring even better services and greater choice to consumers. Moreover, there would be no disruption to customer service and customers' contracts with MNOs from an operator losing all or parting of their current spectrum allocation.

2.5 By contrast, under Options 2 and 3, the prospect of losing all or part of the current spectrum at the end of the licence would discourage MNOs from continuing to invest in enhancing their networks, and consumers may be forced to change their service provider, against their will.

2.6 The CP itself recognises that under Options 2 and 3, MNOs would be deterred from investing, and customer service continuity would be disrupted.⁴ It is therefore remarkable that the Government and CA are even contemplating making a decision which they themselves have recognised would lead to these serious consequences. As noted above, it was precisely to avoid these consequences that the Australian government has recently decided to renew the spectrum licences.

2.7 The adverse effects on investment, and consumers, resulting from the threat of loss of spectrum are spelt out in more detail in section 4 below.

² Para 16.

³ See "Hong: the Facts- Telecommunications" available on the Government's website at <http://www.gov.hk/en/about/abouthk/factsheets/docs/telecommunications.pdf>

⁴ Paras 36, 38, 48 and 50.

Efficient Spectrum Utilisation

- 2.8 The CP itself recognises that keen competition in the mobile sector (as exists in Hong Kong) drives the efficient use of spectrum:

“In a keenly competitive market for mobile services, it is incumbent upon MNOs to utilise their spectrum efficiently in order to stay competitive and maximise their return on investment.”⁵

However, the CP goes on to hypothesise that there could be scope for even greater spectral efficiency if the current arrangements are changed. This hypothesis directly contradicts the (correct) statement in the CP that the keen competition which exists in the Hong Kong mobile communications market drives efficiency.

- 2.9 In any event, the hypothesis that greater efficiency might be possible is clearly not sufficient, on any rational basis, to outweigh the definite harm to investment, innovation and consumers which the CP itself acknowledges would result if Options 2 or 3 were adopted.

- 2.10 The CP also contains the erroneous statement that an auction “will ensure that the successful bidders which value the spectrum the most will obtain the spectrum by paying the highest SUF, and as a result they will put the spectrum to the most productive uses”.⁶ Paying a high price for spectrum does not necessarily guarantee efficiency, especially in the absence of the ability to trade spectrum. It has been known for bidders to pay high amounts for spectrum, and for it to be inefficiently used. It is keen competition which drives efficiency. The CP itself (correctly) recognises this (see above), and therefore the CP is self-contradictory in this respect. In the absence of evidence of poor or inefficient use of spectrum, and with good reason to believe that spectrum is being used efficiently, reallocation of spectrum through an auction would impose massive transaction and other costs in return for no, or very little, public benefit. If the Government wishes to maximize the possibility for even more efficiencies to be generated in future, it should introduce the possibility of spectrum trading, not engage in a wasteful and inefficient auction process.

Investment

- 2.11 Clearly, as the CP itself acknowledges, the certainty which Option 1 would provide would encourage further investment and innovation, whereas the uncertainty from Options 2 and 3 would dampen it. The fact that (as the CP concedes) the threat of one or more of the MNOs losing all or part of their current spectrum would harm the incentives of MNOs to invest and innovate, and cause customer disruption, should be enough in itself to conclude that Option 1 is the only sensible and rational option for Hong Kong. This was certainly case for Australia when it decided to renew the spectrum licences in February 2012, rather than re-auction any of the spectrum. Nevertheless, we

⁵ Para 18.

⁶ Para 34.

demonstrate below how the other two decision-making criteria cited in the CP- promotion of competition and efficient use of spectrum- also clearly favour Option 1 as the only rational choice.

Promotion of Competition

- 2.12 As the CP repeatedly recognises,⁷ the Hong Kong mobile communications market is already highly competitive. With the certainty of licence renewal, there is every reason to believe that this will continue to be the case, and no reason to believe it would not. Again, as with efficiency, the CP puts forward a hypothesis which contradicts its factual finding that the market is keenly competitive, namely that the market might be made more competitive if one or more new players entered the market.⁸ It is not clear whether the CP is referring to substitution of an existing player with a new one, or the addition of one or more new players. Clearly, if it is substitution, there would be no rational basis for supposing that substituting an existing vigorous competitor by an untested new one would produce greater competition, in circumstances where the market is already (by the CP's own acknowledgement) highly competitive. If it is referring to the addition of one or more players, this also does not necessarily lead to a healthier market than the fiercely competitive market which currently exists. Too many competitors unnecessarily replicates many kinds of investment which, in an intensely competitive market like Hong Kong, is clearly not justified or offset by any scope for a new competitor to bring about further value or quality of services. Indeed the trend in other geographical markets such as the UK and Australia has been towards greater consolidation amongst existing players, not the addition of new ones.
- 2.13 What is certain is that failing to renew the existing licence would dampen the competitive process, by deterring new investment and innovation – as the CP again recognises.⁹ In effect, therefore, to announce that licences will not be renewed and that spectrum will be re-auctioned would be to sacrifice the certainty of continued vigorous competition, for the uncertain and highly dubious possibility of generating future competition in the long term. This would clearly be absurd and irrational.
- 2.14 In short, it is clear, even according to the criteria set out in the CP itself, that Option 1 is the only logical and rational one.

3. International Expert Opinion is in favour of Licence Renewal

- 3.1 In a very recent report issued in May 2012, a renowned group of competition and regulatory economists – the Competition Economists' Group – recommended that there should be a presumption in favour of licence renewal "to encourage long-term investment and minimise the risk

⁷ For example at para 1, 23, 37 and 49.

⁸ E.g. para 37.

⁹ Paras 36, 48.

of service disruption to customers”.¹⁰ Spectrum should only be re-auctioned in exceptional cases, namely where the spectrum is to be utilised for purposes other than mobile communications, there is repeated non-compliance with licence conditions (neither of which are at issue here), the auction would increase competition, or the existing spectrum allocated to a particular operator has been poorly (i.e. inefficiently) used. The CP cites the last two of these criteria- promotion of competition and increasing efficiency – as two of the four factors determining which option will be chosen. It is clear from the analysis above, and the CP itself, that renewal of licences is the option which would best fulfill these criteria, and there is no reason, or evidence, to show that an auction would serve either of these objectives.

3.2 The CP refers to the Government’s general policy inclination to use a “market-based approach” for spectrum.¹¹ The Government has defined “market-based approach” as “methods relying on market forces to ensure the efficient use of spectrum as a public resource”.¹² Market forces – i.e. the keen competition which exists in the Hong Kong mobile communications market – is already driving the efficient use of spectrum, as the CP itself recognises (see 2.8 above). According to its own policy statement, the Government should rely on these market forces to ensure efficient use of spectrum, and there is no reason for changing the *status quo*. A market-based approach would allow this competitive process to continue to deliver efficiency and benefits to consumers, by renewing MNOs’ existing licences, not interfere with and disrupt the competitive process by announcing that one or more operators may lose the facility to compete, thereby deterring investment and innovation. It would also allow for spectrum trading, to maximize the possibility of generating even more efficiencies in future.

3.3 Even if, when spectrum is first allocated, the Government may prefer to allocate it by means of an auction, totally different considerations apply when the issue of licence expiry is at stake. As noted above there should be a strong preference for, or presumption in favour of, licence renewal, and only in exceptional cases should licences not be renewed, none of which apply here.¹³

4. **Options 2 and 3 would damage consumers, the telecommunications industry and Hong Kong**

Introduction – an alert to consumers

4.1 Option 2 and 3 are unprecedented and untested, as these options amount to taking away the entire, or a substantial part of, frequency spectrum, which is being heavily utilised for 3G services. Having considered the phenomenal growth of mobile data usage, the relevant frequency spectrum is expected to be further heavily utilised. By taking away spectrum, assuming one or more of the

¹⁰ “Licensing to support the broadband revolution” section 4.6, available at http://www.gsma.com/publicpolicy/wp-content/uploads/2012/03/gsma_licensing_report.pdf.

¹¹ Para 7.

¹² “Radio Spectrum Policy Framework”, April 2007, footnote to para 3.1.

¹³ Para 3.1 above.

incumbent MNOs decide to remain in the market using much-reduced spectrum, this will impose even greater pressure on that spectrum and jeopardize quality of service.

4.2 HTCL has conducted extensive study on the impact on consumers of each of Options 2 and 3. HTCL cannot guarantee or expect that the current excellent services provided to consumers would continue under Options 2 or 3. Due to the unprecedented and untested changes that either of these options would involve, there could be prolonged network disruptions or stoppages. HTCL would of course seek to reduce such serious impact on customer service continuity, but it cannot be responsible for the Government's decision.

4.3 In the circumstances, MNOs might have no option but to alert the public that a decision by the Government to adopt the unprecedented and untested Option 2 or 3 would likely result in a number of serious damaging effects on consumers, which could include prolonged network disruptions or stoppages. Due to the interconnected nature of telecommunications networks, if a mobile network fails, it is possible to cause disruption or stoppage to other mobile or fixed telecommunications networks.

Consumers would suffer

4.4 In addition to the prolonged network disruptions or stoppages outlined above, this sub-section outlines further serious effects on consumers should the Government decide on Option 2 or 3.

Consumers would pay higher prices for services

4.5 The huge uncertainties created under Option 2 or 3 would likely result in consumers paying higher prices for services, due to the following reasons:

(a) MNOs would be likely to stop taking new customers on fixed-term contracts from as early as 2013, as the MNOs might not have sufficient spectrum to serve these customers beyond October 2016. This would reduce competition among the MNOs, and result in higher prices for consumers.

(b) Likewise, MNOs would be likely to stop offering their existing customers who are on fixed term contracts any new or additional services from as early as 2013. This would also result in higher prices for these consumers.

(c) MNOs would have little option but to focus on maximising revenue in the short term rather than investing for the long term, either to conserve financial resources to bid in an auction, or in anticipation of the possibility of losing the licence. This could also result in higher prices for consumers.

Consumers would experience poorer quality of service

- 4.6 3G MNOs have been investing in network infrastructures in order to continuously improve users' experience (in terms of data speed, latency, drop calls, availability, etc). The huge uncertainties from the unprecedented and untested Options 2 and 3 would result in MNOs stopping or substantially reducing such investments in network infrastructure. Consumers would therefore experience poorer service quality which would be further aggravated as demands for data usage continue to increase. There is much evidence to support the fact that reducing investment in network results in poorer service service quality for consumers. For example, there is poorer data service on the MTR as a result of restrictions on telecommunications network investments in MTR railway tunnels.
- 4.7 The poorer service would result in numerous consumer complaints, and MNOs would have no option but to explain to their customers that the poorer service is a result of the Government's decision to adopt Option 2 or 3.

Consumers would not have advanced and innovative services

- 4.8 Hong Kong consumers have in the last decade been enjoying advanced and innovative mobile communications data services at very competitive prices. Under the huge uncertainties created under Option 2 or 3, MNOs would have to stop or substantially reduce investments in developing advanced and innovative mobile communications services. Consumers' enjoyment of mobile communications services would certainly reduce as a result of the disappearance of, or reduction in, advanced and innovative services.

Consumers would be compelled to migrate to 4G

- 4.9 If the Government adopts Option 2 or 3, the huge damage outlined above (network disruption, higher prices, bad services, etc) would compel at least some consumers to migrate to 4G against their will, even if they were happy with the services previously provided.
- 4.10 As a result of a Government decision to adopt Option 2 or 3, the present excellent 3G services would no longer be provided to consumers. This is very much against public policy. Consumers should be free to choose between 3G and 4G services, and not be forced to choose 4G when they are happy with 3G services.
- 4.11 MNOs cannot of course compel 3G customers to migrate to 4G. However, MNOs might have to notify their customers that any decision of the customers to migrate to 4G, and to pay higher prices for 4G service, is due to the Government's decision on adopting Option 2 or 3, not MNOs' lack of commitment to continue to invest and to provide excellent 3G services at competitive prices.

Consumers' choices would be limited

- 4.12 The huge uncertainties created under Option 2 or 3 would likely result in reducing choice for consumers as MNOs would may have to adopt a strategy of selecting customers and reducing the number of new customers (particularly of those on fixed-term contracts). This strategy would be intended to reduce the very substantial impact on the businesses of the MNOs should they fail to achieve the desired outcome under Option 2 or 3. In short, the numerous choices of 3G services currently enjoyed by consumers would be seriously limited should the Government adopt Option 2 or 3.

Consumer contracts would be disrupted

- 4.13 Under Option 2 or 3, it is possible that some MNOs would not be able to continue to provide satisfactory 3G services to their customers. The MNOs would have little option but to enter into various arrangements, for the purpose of minimising the serious impact on their consumers. Such arrangements might include those relating to novation, assignment and/or termination of the relevant customer contracts. It is expected that the consumers would find all these arrangements disruptive.

Unemployment in the telecommunications industry

- 4.14 For the reasons set out in this response, adopting Option 2 or 3 would have substantial adverse effect on investments in infrastructure, services, profits, etc. All of these would lead to significantly lower demands by the MNOs for labour, resulting in more unemployment in the telecommunications industry. In addition, the huge uncertainties created under Option 2 or 3 would encourage MNOs to take short term decisions, which are contrary to the long term investment incentive under Option 1. For example, they might seek to reduce their costs by further conducting their business (e.g. engineering services) from places outside Hong Kong. This would further aggravate the unemployment problems. MNOs would not, of course, wish to make their employees unemployed, but they might be compelled to do so should Option 2 or 3 be adopted.

MNOs stop or substantially reduce investments

- 4.15 The huge uncertainties from the unprecedented and untested Option 2 or 3 would, as the CP itself acknowledges, result in MNOs stopping or substantially reducing investments in network infrastructures. This stoppage or substantial reduction in network investments would hurt both the MNOs and consumers.

Substantial reduction in revenue results in further reduction in investments

- 4.16 The damage to consumers and Hong Kong as outlined in this section would likely result in lower revenue for the MNOs. MNOs' investments into the network infrastructures will be further constrained by such reduction in revenue.

Substantial costs to the industry from a new network operator

- 4.17 Given the keen competition which already exists in the Hong Kong mobile communications sector, the possibility of successful new entry seems highly unlikely. However, even if adopting Option 2 or 3 did give rise to a new 3G MNO, this will result in very substantial costs to both the new 3G MNO, the incumbent 3G MNOs, and ultimately to consumers:

- (a) Many systems of the incumbent 3G MNOs would require substantial work to accommodate a new entrant. Such systems include common antennae systems (CAS), integrated radio systems (IRS) and the distributed communications system (DCS) in the MTR.
- (b) The new 3G MNO would have to spend a substantial sum to establish a 3G infrastructure in Hong Kong, with incumbent MNOs and other parties (such as MTRC, shopping mall operators and building managers, etc) also spending substantial sums to accommodate a new 3G network.
- (c) part of, or an entire, mobile communications network of an incumbent MNO might have to be discarded, resulting in an enormous waste of Hong Kong resources. The discarded network elements could include equipment working solely within designated frequency bands. Moreover, the possibility of selling any network elements would be very limited due to, for example, the legal prohibition against assigning rights relating to network equipment software.

Consumers, and Hong Kong generally, will likely indirectly bear the above enormous costs, over a number of years. Any benefits arising out of a new 3G MNO are therefore highly questionable and remote. However, even if the Government and CA decided, for whatever reason, to go down the route of trying to introduce new entry into an already highly-competitive market, there are other ways for new entrants to gain spectrum without removing it from one or more of the existing 3G MNOs. These are set out in section 6 below.

Substantial costs to the industry if MNOs are assigned with different frequency bands

- 4.18 If incumbent MNOs were, under Option 2 or 3, assigned with frequency bands which are different to their existing bands, they would also incur very substantial costs in seeking to ensure that their

respective 3G networks could work in the new spectrum bands. Such substantial costs include those relating to:

- (a) revamping and rebuilding network equipment which is frequency dependent and reconfiguration of all network elements; and
- (b) the MNOs turning off their services for an uncertain duration of time, in order to make changes in the network and equipment which is frequency dependent (this would also result in stoppage or interruption to the entire 3G services in Hong Kong for an uncertain duration of time).

4.19 Again consumers and Hong Kong would likely indirectly together bear the above substantial costs, over a number of years.

Hong Kong business would suffer

4.20 All of the harm caused to individual consumers outlined above will likewise apply to business customers if Option 2 or 3 is adopted. Businesses (such as investment banks and international law firms) frequently require telecommunications service of very high quality. Unfortunately, the current excellent mobile communications services provided to these corporate customers cannot be maintained under Options 2 or 3.

4.21 Again, for the reasons set out above, it would be responsible and prudent for the MNOs to alert business customers that a decision by the Government to adopt the unprecedented and untested Option 2 or 3 would likely result in a number of serious damaging effects including prolonged network disruption or stoppage and poor service level.

Hong Kong as a whole would suffer

4.22 The excellent competitiveness of Hong Kong ranked by a number of international organisations has been a result of assessing Hong Kong against a number of areas including its legal system, its infrastructures (such as transport and telecommunications infrastructures) and services (such as financial, professional and telecommunications services).

4.23 For the reasons outlined in this response, the damage caused by Option 2 or 3 would significantly reduce the competitiveness of Hong Kong.

5. **Option 3 is contrary to spectrum policy**

A contiguous band of 3 x (5 x 2) MHz spectrum will be required in 2016

- 5.1 A contiguous band of 3 x (5 x 2) MHz spectrum will be required in 2016, based on similar technical reasons rightly identified in the CP.
- 5.2 Paragraph 44 of the CP states that: *“incumbent 3G operators will be able to maintain the current dual carrier design and optimise the utilisation of their frequency assignments.”* This technical requirement is based on the Release 8 technology dual carrier (DC) HSPA+ requirements of an international organisation, the 3rd Generation Partnership Project (3GPP).
- 5.3 This technical consideration is also consistent with a spectrum policy objective set out in the Government’s Radio Spectrum Policy Framework, April 2007, that is, to *“achieve technically efficient use of spectrum to facilitate the introduction of advanced and innovative communications services and strengthen Hong Kong’s position as a telecommunications and broadcasting hub”*.
- 5.4 According to the 3GPP’s technology evolution roadmap, the 3GPP Release 10 technology “multi carrier HSDPA” will very likely to be ready and mature for commercial deployment in 2016 or 2017. This advanced feature allows each MNO to use 3 or 4 adjacent carriers in the same band, that is, 3 x (5 x 2) MHz or 4 x (5 x 2) MHz spectrum, respectively providing peak downlink data rates up to 63 Mbps and 84 Mbps.
- 5.5 Based on the technical reasons rightly identified in the CP and the above objective of Government policy, each MNO must be able to continue to use the current 30 MHz frequency spectrum (that is, 3 x (5 x 2) MHz) from October 2016.
- 5.6 If the Government adopts Option 3, it is very possible that each incumbent MNO will only have the 20 MHz spectrum band, not the required 30 MHz spectrum, to provide the peak downlink data rate up to 63 Mbps under the 3GPP Release 10 technology “multi carrier HSDPA”. In addition, the adoption of Option 3 would be in breach of a number of Government Spectrum Policy Objectives under the April 2007 Radio Spectrum Policy Framework.¹⁴
- 5.7 In short, it is essential for each incumbent MNO to continue to use 30 MHz spectrum from October 2016, based on a similarly sound technical consideration agreed by the CA.

¹⁴ The Government’s Spectrum Policy Objectives which will be breached under Option 3 are *“(a) facilitate the most economically and socially efficient use of spectrum with a view to attaining maximum benefit for the community; (b) achieve technically efficient use of spectrum to facilitate the introduction of advanced and innovative communications services and strengthen Hong Kong’s position as a telecommunications and broadcasting hub; (c) fulfill Hong Kong’s regional and international obligations relating to the use of spectrum”*

6. Opportunities for new operator(s) to acquire spectrum

6.1 Paragraph 13 of the CP states that “*there is clear indication that the spectrum under review is much sought after by the five incumbent MNOs ... and other aspiring parties.*” The objective of Option 3 (and Option 2) is to provide any interested parties with an opportunity to acquire spectrum.

6.2 Given the factors described above, and the keen competition which already exists in the mobile communications market (and which will continue in the absence of Government interference) it is highly questionable whether an attempt by the Government to “engineer” new entry into the market would be successful. On the contrary, it seems likely from the evidence that this would do more harm than good for Hong Kong. Nevertheless, even, in spite of this, the Government was keen to be able to offer spectrum in the hope of attracting new entry, the following are alternatives to removing spectrum from one or more of the incumbent MNOs, with the harm to innovation, investment and consumers that this would involve:

Release of the CDMA 2000 spectrum in the 800 MHz band

6.3 The current low utilisation of the 2 x 7.5 MHz spectrum in the 800 MHz band which is solely for CDMA 2000 technology should be made available for acquisition by the interested parties, without limiting the use of the spectrum to specific technology.

6.4 The use of the spectrum limited to CDMA 2000 technology is contrary to the well established government policy of adopting a technology neutral assignment for frequency spectrum. , There are no justifiable reasons for not releasing the CDMA 2000 spectrum in the 800 MHz for acquisition by interested parties.

Investment in, or acquisition of, existing MNOs

6.5 Although the history of public digital mobile communications in Hong Kong is relatively short, a number of investments in, or acquisitions of, existing MNOs has occurred to date. Such investments or acquisitions include those relating to P Plus, Pacific Link, Sunday, Hong Kong Telecom, Peoples Telephone, CSL and New World. Similar investment or acquisition opportunities will continue to be available if an interested party is of the view that it is more efficient or competitive than an existing MNO. Examples of acquisitions of, or investments in, existing MNOs are as follows:

- (a) acquisition of P Plus by SmarTone;
- (b) acquisition of Pacific Link by Hongkong Telecom CSL’
- (c) acquisition of Hong Kong Telecom by PCCW;

- (d) acquisition of Sunday by PCCW;
- (e) acquisition of CSL by Telstra;
- (f) merger between CSL and New World; and
- (g) acquisition of China Resources Peoples Telephone by China Mobile.

Auctions for new spectrum

6.6 Interested parties have a number of opportunities to acquire frequency spectrum by way of auction. A spectrum auction was recently held in February 2012 and the next spectrum auction is expected to be held soon. With the technology neutral approach to the use of frequency spectrum, interested parties had, and according to the Government's publications will continue to have, a number of opportunities to acquire frequency spectrum by way of Government's auction.

6.7 The following are spectrum auctions held by the Government to date:

- (a) 2.3 GHz Band Licensing (auction held in February 2012)
- (b) 850 MHz, 900 MHz and 2 GHz Bands Licensing
- (c) Mobile TV Radio Spectrum Licensing
- (d) 1800 MHz Band Licensing
- (e) Broadband Wireless Access Licensing
- (f) CDMA2000 Licensing
- (g) 3G Licensing

6.8 According to the Government's Spectrum Release Plan for 2012 – 2014, spectrum for public telecommunications services including those in the 2515 to 2540 and 2635 to 2660 MHz frequency bands are expected to be available soon by auction. Additional spectrum (relating to television) for public telecommunications services may also be available in 2015/2016.

6.9 In short, interested parties have had, and will have, a number of opportunities to acquire frequency spectrum by way of Government auction.

Spectrum trading

- 6.10 If an interested party is of the view that it is more efficient or competitive than an existing MNO in respect of a certain band of frequency spectrum, buying and selling of the right to use frequency spectrum would occur in a market economy. Spectrum trading would be consistent with the Government's stated preference for a market-based approach.

Spectrum trading does not affect the obligations of the buyer under, for example, its telecommunications licence and the Telecommunications Ordinance. The current prohibition against spectrum trading damages competition and the efficient use of spectrum. Having regard to the considerable benefits arising out of spectrum trading, there is no justifiable reason for prohibiting it.

7. **Legitimate expectation**

- 7.1 The CP refers to Government's Radio Spectrum Framework of 2007 which states that "there is no legitimate expectation that there is any right of renewal or right of first refusal of any licence" on expiry. However, the mere fact that the Government has stated there is no legitimate expectation does not mean that there is not one: the question is whether there is:¹⁵

- (a) a regular and consistent practice that can be reasonably expected to continue or a promise or representation; and
- (b) detrimental reliance on that practice.¹⁶

- 7.2 In the last decade, CA's predecessor, the Telecommunications Authority, has had a regular and consistent practice of offering a right of first refusal to the incumbent MNOs to continue to use the relevant frequency spectrum bands. This regular and consistent practice includes the following spectrum licence renewals:

- (a) the use of spectrum for GSM900, expiring on 11 January 2006 was renewed to the same incumbent MNO, Hong Kong CSL Limited;
- (b) the use of spectrum for DCS1800, expiring on 29 September 2006 was renewed to the same incumbent MNO, Hong Kong CSL Limited;

¹⁵ *R v North and East Devon Health Authority Ex p. Coughlan* [2001] QB 213

¹⁶ per Peter-Gibson LJ in *R v Department for Education and Employment, ex p. Begbie* [2000] 1 WLR 1115 at 1124: "It is very much the exception, rather than the rule, that detrimental reliance will not be present when the court finds unfairness in the defeating of a legitimate expectation."

- (c) the use of spectrum for GSM900, expiring on 19 November 2005 on was renewed to the same incumbent MNO, Hutchison Telephone Company Limited;
- (d) the use of spectrum for DCS1800, expiring on 29 September 2006 was renewed to the same incumbent MNO, Hutchison Telephone Company Limited;
- (e) the use of spectrum for GSM900, expiring on 3 January 2006 was renewed to the same incumbent MNO, SmarTone Mobile Communications Limited;
- (f) the use of spectrum for DCS1800, expiring on 29 September 2006 was renewed to the same incumbent MNO, SmarTone Mobile Communications Limited; and
- (g) the use of spectrum for DCS1800, expiring on 29 September 2006 was renewed to the same incumbent MNO, New World PCS Limited;
- (h) the use of spectrum for DCS1800, expiring on 29 September 2006 was renewed to the same incumbent MNO, People Telephone Company Limited; and
- (i) the use of spectrum for DCS1800, expiring on 29 September 2006 was renewed to the same incumbent MNO, Mandarin Communications Limited.

7.3 As the above regular and consistent practice has continued for a number of years, it is reasonable to expect that this practice will continue. Relying on the regular and consistent practice of the TA, HTCL has in recent years continued to substantially invest in its 3G telecommunications infrastructure, utilising the relevant spectrum. HTCL will suffer substantial loss and damage if Option 2 or 3 is adopted (under which HTCL could lose the right to use all or part of the relevant spectrum from October 2016).

7.4 Moreover, it is reasonable for MNOs to expect that the Government and the CA will take a decision which is rational, consistent with its stated policy objectives, fair and objective. For the reasons explained above, a decision not to renew the existing licences, but to re-auction all or part of the spectrum, would not satisfy these criteria.

8. **The Communications Authority must consider factors in the Communications Authority Ordinance**

8.1 In considering arrangements for assignment of the relevant spectrum, the CA must have regard to the factors listed in the Communications Authority Ordinance (CAO), not other factors (or referred to as policy objectives in the consultation paper or government documents) which are inconsistent with such factors.

Under section 4 of the CAO, the CA “*must have regard to such of the following as appear to it to be relevant in the circumstances:*

- (a) *the fostering of an environment that supports a vibrant communications sector to enhance Hong Kong’s position as a communications hub in the region;*
- (b) *the encouragement of innovation and investment in the communications market;*
- (c) *the promotion of competition and adoption of best practices in the communications market for the benefit of the industry and consumers; and*
- (d) *acting in a manner consistent with the provisions of the Hong Kong Bill of Rights Ordinance.”*

8.2 Given the critical importance of the relevant 3G spectrum to the telecommunications sector, the public and Hong Kong explained in this response, and the adverse consequences of adopting Options 2 or 3, it is clear that a proper assessment of these factors should lead the CA to adopt Option 1, not Options 2 or 3, for reasons explained above. For example, Option 1 is the only arrangement which will result in “*encouragement of innovation and investment in the communications market*”, a factor listed in section 4 of the CAO which the CA must have regard to. The CA is duty bound not to consider other factors which are inconsistent with this mandatory factor, for the purpose of supporting the adoption of Options 2 or 3.

9. **Spectrum charging under Option 1**

9.1 The CP rightly points out that Hong Kong has one of the most competitive mobile telecommunications markets in the world. Hong Kong is also one of the most advanced and innovative markets for mobile communications services. All of these services are available at very competitive, and amongst the lowest, prices in comparable developed economies.

9.2 This excellent achievement of Hong Kong, which greatly benefits consumers and businesses, can only continue and expand if the MNOs are allowed to continue invest their resources in further innovation to the fullest extent, rather than use those resources to increase revenue for the Government. This objective is very much in line with the multiple objectives stated in the CP (see section 2.1 of this response) and the matters to which the CA must have regard under section 4 of the CAO (see section 8.1 of this response).

- 9.3 As noted in paragraph 2.2 above, with one of the highest mobile penetration rates in the world at approximately 210% (in December 2011),¹⁷ and the continuing enormous growth in mobile data traffic, the Hong Kong public have given a very clear signal as to how they wish this public resource to be used. A bidding process through an auction would deprive MNOs of resources which could be better used to continue to satisfy the public's demonstrated demands. Exactly the same rationale applies to the concept of a spectrum utilization fee (SUF) under Option 1. Even if SUFs were appropriate at one stage of market development in Hong Kong, the transfer of resources from MNOs to the Government through SUFs, resources which could be used to fund further investment to satisfy demonstrated public demands in an extremely competitive market, would seem illogical and unreasonable in the current market environment. Such additional investments would lead to a corresponding increase (multiple times of the investment) in the GDP of Hong Kong. Consumers and the businesses would also continue to enjoy the most technologically advanced mobile communications services. HTCL therefore submits that in renewing the licences, SUFs should no longer be charged.
- 9.4 If, in spite of this, the Government, for whatever reason, insists on charging SUFs, the level of the SUF should be minimized, to allow MNOs to use their available resources to continue to invest, for the benefit of Hong Kong consumers, and to maintain Hong Kong's position as one of the most (if not the most) innovative and competitive communications in the world.
- 9.5 Given the keen competition which exists in Hong Kong, neither refraining from imposing SUFs, nor minimizing the level of the SUF, would result in improved profits for MNOs in a extremely competitive market economy, as the resources saved would be invested in for the benefit of consumers and Hong Kong generally.
- 9.6 We believe that whether an SUF should be charged, and if so at level, can and should be discussed further at a later stage, once the choice of option (i.e. Option 1) has been confirmed.

¹⁷ See "Hong: the Facts- Telecommunications" available on the Government's website at <http://www.gov.hk/en/about/abouthk/factsheets/docs/telecommunications.pdf>