



THE AMERICAN CHAMBER OF COMMERCE IN HONG KONG

Submission on the Second Consultation 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

Executive Summary

The American Chamber of Commerce in Hong Kong (AmCham) welcomes the opportunity to provide comments of its members to the Secretary for Commerce and Economic Development (CEDB) and the Office of Communications Authority (OFCA) in response to the current second consultation on the arrangements for the frequency spectrum in the 1.9-2.2 GHz Band upon expiry of the existing frequency assignments for 3G mobile services.

AmCham made an oral statement and supplemented a written submission on the subject matter to the Panel on Information Technology and Broadcasting of the Legislative Council on March 27, 2013.

OFCA is seeking consultation opinions regarding the license renewal of 3G mobile spectrum in the 1.9-2.2GHz band. While we are not experts in the technicality of spectrum allocation, we do represent a sizable business community here in Hong Kong that stands to be affected by possible decisions relating to the adverse re-allocation of the spectrum and we would like our opinions to be heard.

During the ongoing public consultation process, OFCA presented three options for consideration in the license renewal process:

- (1) Full license renewal on a Right of First Refusal (RFR) basis acknowledging the need to address new Spectrum Utilization Fees (SUF);
- (2) Completely re-auctioning all spectrum; and
- (3) “mixed” approach whereby a 1/3 of the existing operators spectrum would be seized and re-auctioned.

We believe that OFCA’s stated position in support of the mixed, or “spectrum seizure”, option would do more harm than good, and we are surprised that their position significantly differs from past precedence and international policy practices. It is our opinion that their proposal does not adequately consider past precedence involving license renewal decisions nor the adverse consequences and disruptions to the public should they implement their proposal. It is the Chamber’s opinion that the option which best aligns with our values is granting license renewal through Right of First Refusal.

While re-auctioning 1/3 of existing spectrum may result in new entrant operator(s), as mentioned by OFCA, it is unlikely to provide any substantial short-term business and consumer benefits in an already highly competitive market. In addition, there are other ways for the government to allow new mobile entrants to compete such as re-allocating “free to air” TV spectrum for mobile use and/or providing new spectrum auctions like the ones that took place over the last week.

We also believe that OFCA’s proposal will have adverse consequences and disruptions to the public by actually **reducing investment, innovation and growth while degrading the existing quality of service and increasing costs to consumers.**

Policy Precedence

Many governments view spectrum as a “public good” and are obliged to ensure that operators deliver benefits to the consumer. Once spectrum is assigned, most governments allow existing operators to renew their licenses as long as utilization and policy standards are met. Governments also recognize, and rightly so, that licenses may be repealed if services are sub-standard, or are insufficiently used. Here in Hong Kong, the spectrum policy objectives set out in the 2007 *Radio Spectrum Policy Framework* as well as the CEDB’s mission state that “spectrum decisions have strategic implications in shaping and **promoting investment, innovation and growth in telecommunications markets.**”

In 2006, Hong Kong licensed frequencies commonly known as “2G” were up for renewal. Ultimately, OFCA granted the renewal without spectrum change and listed five reasons for doing so:

- (1) The operators made efficient use of the spectrum;
- (2) OFCA’s desire to provide a stable investment environment;
- (3) To aid in customer service continuity;
- (4) They acknowledged satisfactory service was being provided; and
- (5) Continuous investment/improvements were being made.

These reasons still apply today yet we are baffled that the Authority is changing their precedence for the seemingly sole reason of “increased competition”. Recently, other governments have granted renewal “in perpetuity”, or through RFR in the US and Singapore (2008), in the UK (2011), and last year in Australia and Canada.

Adverse Consequences

While CEDB stated that promoting investment is important, the OFCA proposal and re-auction will actually create **investment uncertainty** for incumbents. They will stop investing well before the auction date as there is no fair return on new investment if spectrum is to be handed back in one or two years’ time. While lower reinvestment inherently diminishes a company’s capability to innovate and grow, the act of **reducing** a carrier’s overall spectrum will have the same effect. This will result in increased complaints due to network congestion and service degradation.

Typically, the single reason for governments to seize and reallocate spectrum has to do with efficient use of it. Under no circumstances has OFCA made a claim against any of the existing license holders that the spectrum was underutilized, under optimized or used inefficiently. The fact that there are no claims of spectrum inefficiency gives little reason for government intervention requiring re-allocation of spectrum.

In consideration of business and consumer objectives of AmCham, namely:

- Encouraging investment, innovation and growth,
- Conforming to international standards and norms, and
- Promoting quality of service and service continuity,

the 3G License Renewal option which best aligns with our members’ values is to grant license renewal through Right of First Refusal, not by seizing existing licensed spectrum and offering it to re-auction.

Information and Communication Technology Committee
March 28, 2013

AmCham Responses to the Second Consultation 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

The American Chamber of Commerce in Hong Kong (AmCham) welcomes the opportunity to provide comments of its members to the Legislative Council on the arrangements for the frequency spectrum in the 1.9-2.2 GHz Band upon expiry of the existing frequency assignments for 3G mobile services on March 27, 2013.

AmCham will make a submission to the Secretary for Commerce and Economic Development (CEDB) and the Office of Communications Authority (OFCA) in response to the current second consultation on the subject matter.

Summary of Issue

The 3G mobile spectrum licenses (1.9-2.2GHz) for CSL, PCCW (aka HKT), Hutchison and SmarTone will expire in October 2016 after a 15 year period from the initial spectrum auction in October 2001. At the time of auction, OFCA was silent about the future renewal process but generally followed global standards and precedence regarding telecom regulation, including a “market-based” approach, i.e. allowing the market itself to dictate solutions whereby minimizing regulatory intervention but ensuring that a shared resource and “public good” such as Radio Spectrum is adequately utilized and meets the needs of the users.

Regarding overall usage and utilization, Hong Kong **mobile data usage grew 450-fold** in the five years to end 2011, with total usage increasing 124% in 2011 alone. This is evidence that demand in Hong Kong continues to grow while, according to OFCA, we remain “one of the most competitive mobile telecommunications markets in the world”.¹

During the renewal consultation period last year, OFCA offered three options to be considered, namely: (1) license renewal for all spectrum license holders through Right of First Refusal (RFR), (2) completely re-auctioning all spectrum afresh, and (3) a “mixed approach”, re-auctioning one-third of each spectrum held by the licensee. In the consultation Paper,² OFCA recognized *Option 1* as being good for consumers. And that *Options 2 and 3* both involve the incumbent holder’s spectrum being re-auctioned, hence, may have adverse consequences.

In difference to the opinions of the 4 named mobile network operators above and most of the respondents to the consultation paper, OFCA, in the second consultation paper³ in December 2012, proposed *Option 3* as their preferred plan, reallocating expiring 3G spectrum via a hybrid or mixed-mode approach. It is our opinion that their proposal does not adequately consider the following:

- Precedence involving license renewal decisions in Hong Kong and in other “Tier 1” de-regulated telecoms markets, such as USA, UK, Australia, Canada and New Zealand,
- Government objectives previously stated in various policy statements⁴ including desire to minimize regulation, and
- Adverse consequences and disruptions to the public.

¹ http://www.coms-auth.hk/filemanager/common/policies_regulations/consultations/papers/cp20120330.pdf

² Ibid

³ <http://www.coms-auth.hk/filemanager/en/share/cp20121228.pdf>

⁴ http://www.coms-auth.hk/filemanager/common/policies_regulations/consultations/papers/cp20120330.pdf and <http://www.cedb.gov.hk/ctb/eng/legco/pdf/spectrum.pdf>

After reviewing the options presented, the impact to the business community as well as license renewal decisions taken in other similar markets, the Chamber opines that the 3G License Renewal option which best aligns with our members' values of fostering commerce that enhances Hong Kong's stature as an international business center, is to renew spectrum license through RFR, as outlined in *Option 1* in the consultation papers. No other option better meets the needs of the public and demonstrates precedence both within Hong Kong and in alignment with other Tier 1 markets as we will outline below.

Precedence

When spectrum is assigned, most governments usually allow existing operators to renew their licenses for individual spectrum holders, as long as certain criteria are met around utilization and standards related to services and experience. However, licenses of carriers may be repealed if services are not up to standard, as happened in Ireland,⁵ or are insufficiently used, such as the local CDMA spectrum in the last decade.

In 2006, Hong Kong licensed frequencies commonly referred to as "2G" expired and were up for renewal. Ultimately, the licenses were renewed without change to the licensee holders and the reasons OFCA gave for the renewal included: (1) operators making efficient use of the spectrum; (2) desire to provide stable investment environment; (3) customer service continuity; (4) satisfactory service being provided; and (5) continuous investment/improvements being made.⁶ These reasons should still stand today when it comes to the expiry of the 3G licenses. If operators were not allowed to continue providing service, this would have caused severe service interruption, confusion and inconvenience to the public.

On 2G spectrum license renewal precedence alone, a new 3G auction or re-allocation would not be called for, as long as there were alternatives for "new entrants" to acquire spectrum, which there are, namely: (1) participating as an MVNO, (2) Other M&A type activity of license holders, or (3) participating in new spectrum auctions provided by the government from time to time. In addition to the local 2G license renewal example, below are several countries spectrum license standards.

Other Telecom Market Precedence

United States – The Federal Communications Commission (FCC) established standards for general spectrum license renewal and has concluded that it will award a renewal expectancy if the licensee has (i) provided "substantial" performance, which is defined as "sound, favorable and substantially above a level of mediocre service just minimally justifying renewal," and (ii) complied with FCC rules and policies and the Communications Act. A majority of geographically licensed services, including PCS (another type of mobile transmission technologies) and AWS-1 licensees (sometimes referred to Wireless Broadband),⁷ also are afforded similar renewal expectancy. If renewal expectancy is awarded to an existing licensee, its license is renewed and competing applications are not considered. **All of U.S. Cellular's licenses which it applied to have renewed between 1995 and 2008 have been renewed.**⁸

United Kingdom (2011) – Perpetual licenses for 2G/3G unless revoked by The Office of Communication and the annual license fees for 900MHz and 1800MHz spectrum will be reviewed to reflect full market value. Government allowed spectrum holders to use spectrum indefinitely as long as there were no

⁵ [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/DGTP-002-07-quebecor-Study.pdf/\\$FILE/DGTP-002-07-quebecor-Study.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/DGTP-002-07-quebecor-Study.pdf/$FILE/DGTP-002-07-quebecor-Study.pdf)

⁶ http://www.coms-auth.hk/filemanager/common/policies_regulations/consultations/submissions/20120718/10.pdf

⁷ Clarification added

⁸ [http://www.wikinvest.com/stock/United_States_Cellular_\(USM\)/Licensing-commercial_Mobile_Radio_Service](http://www.wikinvest.com/stock/United_States_Cellular_(USM)/Licensing-commercial_Mobile_Radio_Service)

technical spectrum management reasons to take back the spectrum and the licensees did not breach any license conditions.⁹

Australia (2012) – 2G/3G licenses due to expire between 2013 and 2017. Government re-awarded licenses for another 15 years because the licensees were already providing service to a significant number of consumers or had built networks that were capable of providing service to a significant number of consumers. Senator the Hon Stephen Conroy, Minister for Broadband, Communications and the Digital Economy, noted the importance of continuity to mobile customers and operators:

“reissue of licenses will provide certainty about the continuity and operation of mobile and wireless communication networks ... This decision has involved a careful evaluation of how the public interest is served by allowing renewal of current licenses.”¹⁰

Canada (2011) – 2G licenses due to expire in 2011. Government introduced new policy whereby spectrum licensees will have their licenses renewed at the end of the spectrum term unless they have breached their license or a fundamental re-allocation of spectrum needs to be made to accommodate a new service or an overriding policy need arises. By granting long term licenses and renewals based on RFR process, the Government could “provide greater incentives for the industry to invest in developing network infrastructure, technologies and related innovations. It also found that longer terms would be consistent with modernized approach to spectrum management....”¹¹

Singapore (2008) – The Infocomm Development Authority (IDA) agreed to offer an RFR to incumbent licensees in the 900 MHz and 1800 MHz bands, even though the regulator decided that the spectrum allocations would be put to auction. IDA made this decision explicitly “to avoid unnecessary spectrum churn and more importantly, service disruption to end-users.”¹²

Current Hong Kong Spectrum Policy Statements

OFCA spectrum decisions over many years have brought about a regulatory environment conducive to the rapid growth of mobile services in Hong Kong with minimal regulatory intervention. From the Government’s perspective, the spectrum policy objectives set out in the April 2007 *Radio Spectrum Policy Framework*¹³ as well as CEDB’s mission state:¹⁴

It is clear that spectrum decisions have strategic implications in shaping and **promoting investment, innovation and growth** in telecommunications markets. In particular, it is crucial to ensure that sufficient spectrum is made available, allocated and priced in the appropriate manner, to meet technical requirements and **achieve both optimal spectrum use and market efficiency**.¹⁵

⁹ Ofcom, ‘Statement on variation of 2100MHz Third Generation Mobile Wireless Telegraphy Act Licenses’ (20 June 2011) <<http://stakeholders.ofcom.org.uk/binaries/consultations/2100-MHz-Third-Generation-Mobile/statement/statement.pdf>>

¹⁰ Media release of the Australian Government ‘Renewal decision provides certainty for mobile consumers’ (10 February 2012) <http://www.minister.dcbde.gov.au/media/media_releases/2012/015>.

¹¹ http://www.three.ie/pdf/NERA%20Final%20Report%20on%20Indefinite%20Term%20Licences_04%20October%202011.pdf

¹² IDA, ‘Decision and Explanatory Memorandum issued by Infocomm Development Authority of Singapore on the framework for the re-allocation of spectrum in the 900 MHz and 1800 MHz frequency bands’, 6-7 (18 January 2008)

<<http://www.ida.gov.sg/Policies%20and%20Regulation/20070628103037.aspx>>. The auction did not take place in any event due to insufficient initial offers being made in the two-stage clock-combinatorial auction process. IDA allocated the available spectrum lots based on the incumbents’ initial offers. No new entrant made an offer.

¹³ <http://www.cedb.gov.hk/ctb/eng/legco/pdf/spectrum.pdf>

¹⁴ <http://www.cedb.gov.hk/ctb/eng/about/mission.htm>

¹⁵ Emphasis added

Market Efficiencies

Demand for spectrum is growing especially as data traffic increases due to smartphone usage. If an incumbent operator loses one-third of its 3G spectrum (as proposed by OFCA), individual customers will experience lower speeds and/or congestion when they are web browsing or uploading/downloading documents at high traffic sites. To minimize service disruption/degradation, 3G users will have to move to 4G services using a different frequency band but operators cannot force users to upgrade to 4G services which are more expensive. This takes time, and if we reference the previous adoption rates from 2G to 3G,¹⁶ this will take months and possibly years which will have an adverse effect on the customer experience (also stated in the above paragraph), both in decreased coverage and increased customer complaints. In addition, the uptake of 4G services is heavily dependent on availability of suitable handsets at the right price further complicating the public experience (supply and demand).

Adverse Consequence to Public

As outlined above having to surrender the spectrum would result in network congestion, slower data speeds and consumers dissatisfaction – particularly in high-traffic areas (such as MTR stations) – the decision would also deter the operators from making the substantial investments in new 3G infrastructure required to support Hong Kong's surging demand for mobile data, which will also cause short and medium term impacts due to network congestion.

One very specific congestion issue has to do with the indoor antennae systems. The common antennae systems are designed to operate at specific frequency bands therefore any change in frequency bands will require the systems to be re-designed and re-deployed. Any re-allocation or distribution of existing spectrum will affect the way indoor systems will be allocated and deployed, translating to tangible impacts (time and money) on the (business) consumer. At the time of spectrum re-allocation, indoor coverage will be temporarily reduced or cut-off due to congestion and customer complaints and business disruptions are inevitable.

Lastly, as possible carrier to carrier migration issues occur due to re-allocation of spectrum from one carrier to another, so will increased customer complaints and increased costs due to forced migration, thus having the same tangible impacts (time and money) on the business community and experience in Hong Kong which does not align with promoting Hong Kong as a “premier digital city and telecommunications hub of Asia”.

Promoting Investment

Auctions will actually create investment uncertainty for incumbents rather than promoting investment. The OFCA proposal will create investment uncertainty as incumbent operators will stop investing well before the auction date just in case they are not able to regain their spectrum blocks. There is no fair return on new investment if spectrum is to be handed back in one or two years' time. Further impacts to reduced investment will delay the development of new services such as widely accepted high-speed data standard, Long-term Evolution (LTE), such as being deployed in other Tier 1 countries which will reduce Hong Kong's stature as an international business center.

¹⁶ http://pg.com.cuhk.edu.hk/pgp_nm/projects/2006/Astor%20Li.pdf

Innovation and Growth

While lower reinvestment contribution inherently diminishes a company's capability to innovate and grow, the act of reducing a carrier's overall spectrum will have the same effect. At the current rate of mobile data traffic growth (forecast by Cisco that monthly global data traffic will increase by 18 times between 2011 and 2016¹⁷), the incumbent 3G operators will face difficulty meeting demand with their current spectrum holdings, not to mention the effect of **having less spectrum**. If part of their spectrum is taken away, their mobile data service offerings would need to be reduced or downgraded, which is counter to their ability to innovate and grow.

Spectrum Use

Typically, the single biggest reason for government intervention resulting in spectrum re-allocation has to do with efficient use of it is treated as a "public good". Under no circumstances has OFCA made a claim against any of the existing license holders that the aforementioned spectrum was underutilized, under optimized or used inefficiently. As stated above, mobile data usage grew 124% in 2011 alone, and had monumental growth (450 times) in the five years to end 2011. It is evident that Hong Kong continues to grow with regards to mobile telecom. Notwithstanding evidenced growth, the fact that there are no claims of spectrum inefficiency gives little reason for government intervention requiring re-allocation of spectrum, in any manner, including seizure and re-auction.

While re-auctioning inevitably affects physical existing spectrum holdings (loss or change of spectrum), additional customer related issues can result such as: service discontinuity, degradation, dropped calls, decreased coverage and increased customer complaints. Furthermore, due to decreased economies of scale, carriers will face increased costs which, traditionally result in increased retail prices to the public. These issues are fundamental to maintaining service levels commensurate with Hong Kong being promoted by CEDB as a "premier digital city and telecommunications hub of Asia".

Overall Competition

Hong Kong has a population of just over 7 million people but accommodates five mobile network operators (MNOs) which service more than 15 million customer accounts. In addition to services provided by the MNOs, an unprecedented 11 mobile virtual network operators (MVNOs) provide services to more than a million customers.¹⁸ The Hong Kong mobile market has reached a saturation point with an extremely high penetration rate of 223% as of September 2012.¹⁹ There is stiff competition amongst the incumbent 3G operators, all of which own and operate their own networks and all are mature operators with several years' experience in the market. Hong Kong's mobile phone packages are comparably amongst the lowest in highly developed markets.²⁰

The possible incremental benefit suggested by the introduction of a new licensee, seems counter to the Law of Diminishing Returns based on the fact that the government already believes they have achieved a highly competitive telecom market as stated, "the pro-competition policy and pro-market approach [to telecoms] have been very successful in delivering the best consumer benefits".²¹

¹⁷ <http://newsroom.cisco.com/press-release-content?articleId=668380>

¹⁸ OFCA, Key Statistics for Telecommunications Services in Hong Kong – Wireless Services (3 July 2012) http://www.ofca.gov.hk/filemanager/ofca/common/media/data_stat/wireless_en.pdf

¹⁹ <http://www.gov.hk/en/about/about/hk/factsheets/docs/telecommunications.pdf>

²⁰ http://newamerica.net/publications/policy/an_international_comparison_of_cell_phone_plans_and_prices

²¹ <http://www.gov.hk/en/about/about/hk/factsheets/docs/telecommunications.pdf>

The fact that it takes significant build time for the new entrant to roll out its service after the license award, the contrary would hold true. Furthermore, diluting the spectrum offering across more operators will have an adverse effect by marginalizing Return on Investment by reducing the scale of reinvestment back into the network. It is through reinvestment that contributes to lower costs and helps ensure competition, not redistribution of already efficiently used and highly utilized spectrum.

Concluding Chamber Opinion

Consideration of social and consumer welfare objectives that will affect Chamber members actively or passively are:

- Promoting quality of service and service continuity through public impact;
- Encouraging efficient investment;
- Promoting innovation and growth;
- Promoting competition; and
- Maintaining conformity to international standards and norms.

From our viewpoint of fostering commerce that enhances Hong Kong's stature as an international business center, the OFCA proposal will actually reduce investment, innovation, and growth while degrading the existing quality of service in an already de-regulated and highly competitive market. While re-auctioning 1/3 of existing spectrum may result in new entrant operator(s), it is unlikely to provide any substantial business consumer benefits through marginally incremental competition.

In this consultation paper, the Chamber opines that the 3G License Renewal option which best aligns with the consumer welfare objectives above, and our members' values of fostering commerce that enhances Hong Kong's stature as an international business center, and other international standards and precedence is *Option 1*: license renewal for all spectrum license holders through Right of First Refusal. No other option better meets the needs of the public and demonstrates precedence both within Hong Kong and in alignment with other Tier 1 telecom markets.

AmCham is the largest international chamber in Hong Kong and one of the most dynamic and influential international business organizations in the Asia-Pacific region. It represents a broad and diverse near 2,000-strong membership covering 40 nationalities with large multinationals as well as small- and medium-sized enterprises. The Chamber adheres to its core values of free trade, the rule of law, and ethical business practices. Good corporate citizenship is a strong tenet of the Chamber and it speaks with collective authority on commercial and important public policy issues. It is committed to maintaining Hong Kong's status as "Asia's World City" and strengthening its role as a center for international business and finance.