Consultation paper: submissions on consultation paper: "Licensing of mobile services on expiry of existing licences for se [Hong Kong : Office of the
Consultation Paper - Submissions on Consultation Paper
"Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services"

<table>
<thead>
<tr>
<th>No.</th>
<th>Date of Submission</th>
<th>Submitted by</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15 September 2003</td>
<td>China Unicom International Ltd</td>
</tr>
<tr>
<td>2</td>
<td>23 September 2003</td>
<td>Mr Joseph Tsui, Symphonic InfoCom Limited</td>
</tr>
<tr>
<td>3</td>
<td>23 September 2003</td>
<td>Asia Pacific Broadband Wireless Communications Inc</td>
</tr>
<tr>
<td>4</td>
<td>29 September 2003</td>
<td>Motorola (China) Electronics Ltd</td>
</tr>
<tr>
<td>5</td>
<td>30 September 2003</td>
<td>Nortel Networks (Asia) Limited</td>
</tr>
<tr>
<td>6</td>
<td>1 October 2003</td>
<td>CDMA Development Group</td>
</tr>
<tr>
<td>7</td>
<td>2 October 2003</td>
<td>Ericsson (HK) Ltd</td>
</tr>
<tr>
<td>8</td>
<td>2 October 2003</td>
<td>Qualcomm International</td>
</tr>
<tr>
<td>9</td>
<td>2 October 2003</td>
<td>New World PCS Limited</td>
</tr>
<tr>
<td>10</td>
<td>2 October 2003</td>
<td>Wharf T&amp;T Limited</td>
</tr>
<tr>
<td>11</td>
<td>2 October 2003</td>
<td>Lucent Technologies (China) Co Ltd</td>
</tr>
<tr>
<td>12</td>
<td>2 October 2003</td>
<td>China Unicom Limited</td>
</tr>
<tr>
<td>13</td>
<td>2 October 2003</td>
<td>Peoples Telephone Company Limited</td>
</tr>
<tr>
<td>14</td>
<td>2 October 2003</td>
<td>Kowloon-Canton Railway Corporation</td>
</tr>
<tr>
<td>15</td>
<td>2 October 2003</td>
<td>Hong Kong Broadband Network Limited</td>
</tr>
<tr>
<td>16</td>
<td>2 October 2003</td>
<td>Consulate General of Canada</td>
</tr>
<tr>
<td>17</td>
<td>2 October 2003</td>
<td>The American Chamber of Commerce</td>
</tr>
<tr>
<td>18</td>
<td>3 October 2003</td>
<td>Consumer Council</td>
</tr>
<tr>
<td>19</td>
<td>3 October 2003</td>
<td>SmarTone Mobile Communications Limited</td>
</tr>
<tr>
<td>20</td>
<td>3 October 2003</td>
<td>PCCW-HKT Telephone Limited</td>
</tr>
<tr>
<td>21</td>
<td>6 October 2003</td>
<td>CSL Limited</td>
</tr>
<tr>
<td>22</td>
<td>7 October 2003</td>
<td>Hutchison Telephone Company Limited</td>
</tr>
<tr>
<td>23</td>
<td>9 October 2003</td>
<td>SUNDAY o/b Mandarin Communications Limited</td>
</tr>
</tbody>
</table>
China Unicom International Ltd

Submission made in response to the TA Consultation Paper dated 1 August 2003 regarding Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services

1. Because the spectrum is a limited and valuable resource and we must fully and efficiently utilize it, therefore we will support the TA using competitive bidding approach to allocate licences in the 800 MHz band.

2. As refer to other countries or region like China (includes Taiwan district), Japan, Korea and the USA, CDMA1x services have already been launched into the market, we highly recommend the TA to consider to issue at least one licence in 800 MHz for operator to provide and develop CDMA1x services in Hong Kong as soon as possible. Being an international telecommunications center, Hong Kong should adapt and follow the changes.

3. On the other hand, due to the fact that the number of GSM 850MHz users is very small, in order to ensure efficient use of the spectrum, we suggest that the TA should consider not issuing the GSM 850 MHz licence anymore. If the existing GSM 850 MHz users travel to Hong Kong, roaming problem can be solved by changing handsets.

4. Even if the new licensees allow licensees to provide both 2G and 3G services, as long as licensees are not offering 3G services under the new licences, we think that they should not be required to pay for SUF, as SUF should be imposed only on 3G services. However, when the licensee upgrades its 2G network to 3G network, then the licensee has to pay SUF as a 3G licensee. Therefore, the TA should remain the existing licences fees scheme for licensees providing 2G services under the new licenses.

China Unicom International Ltd
15th September 2003
I have a few points that I would like to share with you regarding the captioned subject:

Knowing that we have six Cellular Mobile Network Operators in Hong Kong competing in this relatively smaller marketplace, primarily on voice segment, obviously it is rather crowded to introduce additional Operators to offer voice services.

Moving forward, though it is still needed to be further educated and promoted, offering of data applications for both leisure, lifestyle and for business and services needs would probably the preferred trend for these various Cellular Mobile Operators.

With CDMA rapidly expanding in various parts of Asia and the US, (the second most popular technology, CDMA now has over 150M subscribers globally, namely in USA, Korea, Japan, China and Canada), I do anticipate that there will be quite a number of value added applications providers coming to the marketplace in due course by offering data, content and also services oriented business applications.

To my understanding, there are 52 CDMA2000 operators globally offering data applications up to 144K/sec on 1X and 2.4M/sec on EV-DO. Furthermore, the CDMA2000 operator's business model is primarily focused on data application and will not be possible to compete against GSM incumbents on voice. It definitely could create new business opportunity for local application developers and content providers. This opportunity can easily be expanded to China through Unicom as well.

Therefore, in order to allow both the end customers and various value added services/applications providers to be benefited from the CDMA technology, I do sincerely think that we should not limit our marketplace for just the European GSM/WCDMA, and we also need to allow at least two operators on each technology avoiding monopoly.
Office of the Telecommunications Authority  
29/F Wu Chung House  
213 Queen's Road Central  
Wanchai  
Hong Kong  

Sep. 23, 2003

Dear Sir,

Asia Pacific Broadband Wireless (APBW), a CDMA2000 operator in the 800 MHz band in Taiwan, appreciates this opportunity to provide comments to the Office of the Telecommunications Authority with respect to the August 1, 2003 consultation paper “Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services”. We have a strong belief that the decision resulting from this consultation will affect the ongoing deployment of CDMA2000 worldwide.

APBW is the mobile service sector of the Asia Pacific Telecom Group (APTG), the telecom unit of Taiwan Rebar Business Group. APTG, with a total capital of US$ 2,441 Millions, is an iron triangle of broadband telecom networks, providing the richest and most advanced broadband services in Taiwan. With a pragmatic management philosophy, APTG operates its broadband businesses by the principles of innovation, convergence, and speed.

The growth of CDMA2000 in the 800 bands is developing rapidly in worldwide, particularly in Asia. Hong Kong is both a regional hub and economic bridge for the region. As such, APBW recommends the Hong Kong government to adopt policies that will support roaming for CDMA2000 subscribers with 800 MHz terminals in Hong Kong.

Today, Hong Kong has two 800MHz wireless operators. They are Hutchison - CDMA 95B (license will expire on Nov 2005) and CSL - TDMA (license will expire on July 2005). We recommend that the Hong Kong government shall maintain its open competitive business environment to allow the continuum operation of the two 800MHz operators so that users can have better choice of services.

Sincerely your,

Dr. Chungmin Ah, Ph. D.  
CEO
Dear Sir / Madam

Re: Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services

Motorola commends OFTA for consulting the industry on the future licensing arrangements on expiry of the 2G licences in Hong Kong and we are pleased to offer the following comments.

4. The TA considers that the following considerations are relevant for deciding the future licensing arrangements for mobile services:
   - to ensure choice of services
   - to provide stable investment environment
   - to ensure efficient use of spectrum
   - to ensure continuity to customer service
   - to maintain technology neutrality

We find we agree with OFTA's positions on the above considerations, especially on the efficient use of radio spectrum and on maintaining technology neutrality. The radio spectrum is a finite resource that is vital to the radio industry and of strategic economic importance to Hong Kong.

Para 12 – Need for rationalizing the existing frequency allocations- non contiguous frequency blocks.

It is considered a good spectrum management practice to assign contiguous blocks of spectrum as it will reduce interference issues between networks. At the same time we recognize the need to reduce the impact of the exercise of merging separated blocks on subscribers.
Hong Kong's current bandplan for the frequency range 806-960 MHz is very much aligned with the generic bandplan for Asia Pacific and we believe it is in Hong Kong's best interest for the present bandplan to be in common with most of Asia.

The current designation of the bands 825-845 MHz paired with 870-890 MHz offers the flexibility of deploying both CDMA and GSM technologies and this is in keeping with the technology neutral position of OFTA. In terms of availability of 3G equipment this pair of frequency bands will be served earlier than the other 2G frequency bands in the same frequency range. This is because most 3G deployments are focused on the IMT-2000 core bands at 1920-1980/2110-2170 MHz and not on existing 2G bands.

Para 17

With respect to the 3G expansion band at 2500-2690 MHz, it is a suitable candidate band for new licenses. However at this juncture the channeling arrangement for this band is under consideration and furthermore it is the subject of an agenda item in WRC-07\(^1\). As such we do not expect its utilization before 2007.

---

\(^1\) Agenda item 1.9 - to review the technical, operational and regulatory provisions applicable to the use of the band 2500-2690 MHz by space services in order to facilitate sharing with current and future terrestrial services without placing undue constraint on the services to which the band is allocated.
Para 41 – Compliance with Mandatory Codes of Practice – Provision of Cell Broadcast Service (CBS).

Features such as Cell Broadcast Service (CBS) and MBMS are revenue generators to licensees and the decision to disseminate information to the public should be made on a commercial basis rather than in compliance with a regulatory requirement. The market should be allowed to decide the value of such a service.

Yours sincerely,

Eric Zhu
Senior Director - Government Relations
Motorola (China) Electronics Ltd
No 108 Jian Guo Road, Chao Yang District, Beijing, 100022, PR China

Phone: 86-10-65642880
Mobile: 86-13911795172
Fax: 86-10-65668464
Email: ericzhu@motorola.com
Nortel Networks Asia Ltd. (Nortel) values the opportunity in responding to the Office of the Telecommunications Authority in regards to the published consultation paper entitled 'Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services' dated 1st August 2003. As one of the global technology leaders in providing advanced telecommunication infrastructure and solutions, Nortel is proud in our contribution to the mobile market development in Hong Kong and the Greater China Region for more than 15 years. Nortel has a keen interest in the Telecommunications Authority’s (TA) policy as decisions resulting from this consultation will have significant impacts on the technology evolution, as well as the mobile market economic development in Hong Kong and throughout the region in long run.

Hong Kong is recognized as one of the most sophisticated and competitive telecommunications markets in the world. This strong overall performance is primarily achieved through Government’s adoption of an aggressive market liberalization and competition policy, with a strong focus on the facilitation of market forces\(^1\). TA’s pro-competition regulatory approach creates significant incentives for large-scale investment into the Hong Kong telecommunication industry and that leads to high level of consumer benefits. As a technology leader providing innovative mobile solutions in all major air interfaces and IP core, Nortel has a vision of a communication network that enriches personal and business experiences, enhances collaboration, and boosts productivity in an increasingly interdependent world; and considers its mission complementary to Hong Kong regulatory policy.

\(^{1}\) Report on the Effectiveness of Competition in Hong Kong’s Telecommunication Market: An International Comparison (June 2003)
In response to the consultation paper, Nortel agrees with TA’s deciding factors in the consideration of the future licensing arrangements for mobile services\(^2\). In particular, Nortel believes that TA will support open technology and competitive entrance into the marketplace and to remain technology neutral. In its policy, TA proposes\(^3\) to extend the “GSM Band” downwards to the 880-890 MHz / 925-935 MHz to accommodate operators using a specific technology platform. Nortel notes that the frequency band of 824-849 MHz / 869-894 MHz is the most widely used frequency bands globally, any pre-determined technology platform in this frequency band in Hong Kong will impact mobile market development and the roaming capabilities in Hong Kong with other regions. As such, Nortel recommends TA to not making any specific accommodation for one technology over another and remain technology neutral in its policy.

Nortel also agrees with TA’s proposition in the consultation paper to ensure efficient use of spectrum\(^4\). However, Nortel does not support TA’s proposal to partition the available spectrum into frequency blocks, with bandwidth in multiples of 2x5 MHz, to accommodate both the UMTS FDD and the CDMA2000 system\(^5\); and to extend the GSM band from 900 MHz to 800 MHz spectrum. While technically it is always possible to adopt a product of particular technology platform on any available spectrum, products of specific technology platform can only exist on certain spectrum(s) economically. Today no cdmaOne/CDMA2000 system exists in the 900 MHz spectrum in any of the markets worldwide. There is no discussion in the telecom market globally to create CDMA2000 system in the 900 MHz spectrum. Hence, having CDMA2000 product in the 900 MHz spectrum in the foreseeable future is very unlikely. Nortel is a manufacturer of both GSM/UMTS and cdmaOne/CDMA2000 systems and is technology neutral.

---

\(^2\) Licensing of Mobile Services on Expiry of Existing Licenses for second Generation Mobile Services: Consultation Paper, OFTA, 1 August 2003, page 2 paragraph 4.
\(^3\) Licensing of Mobile Services on Expiry of Existing Licenses for second Generation Mobile Services: Consultation Paper, OFTA, 1 August 2003, page 5 paragraph 14.
\(^4\) Licensing of Mobile Services on Expiry of Existing Licenses for second Generation Mobile Services: Consultation Paper, OFTA, 1 August 2003, page 2 paragraph 4.
\(^5\) Licensing of Mobile Services on Expiry of Existing Licenses for second Generation Mobile Services: Consultation Paper, OFTA, 1 August 2003, page 4 paragraph 11.
market dynamics dictate that it is unlikely to have products of both technology platforms in the 900 MHz spectrum. Since the only remaining spectrum in Hong Kong for which there is a cdmaOne/CDMA2000 product in the market is the 800 MHz spectrum, the extension of the 900 MHz GSM band into 800 MHz may lead to the belief that OFTA is promoting only GSM/UMTS while discouraging the development of cdmaOne/CDMA2000. This can possibly create the wrong perception that TA is favoring a particular technology. Nortel recommends TA to create a regulatory framework that supports multiple radio air interfaces across all advanced standards (CDMA1x, GSM/GPRS/EDGE, UMTS etc.), that maximize the effectiveness of the available spectrum.

Nortel supports regulatory frameworks that allow operators to respond to market demands by selecting the appropriate technologies. Nortel believes that it is also TA's intent not to favor any particular technology in its policy when allocating new licenses. The approaches in assigning particular mobile bands of radio spectrum to specific technologies, reserving selected bands for second-generation and third-generation wireless systems respectively, will render inefficiency from restricted competition, increased migration costs and delayed deployment of advanced systems in many countries.

To ensure Hong Kong remains the fore runner in the telecommunication markets in the region, Nortel believes TA will continue to formulate a framework which provides a level playing field in mobile communication services that promotes investment and competition, ensures efficient use of spectrum, provides consumer's choice of services, and maintains technology neutrality. As such, Nortel suggests that frequency spectrum should be allocated to accommodate the two dominant air interfaces, and there should be at least two licenses granted per interface to ensure open competition and broaden consumer choices.

As a major infrastructure provider offering end-to-end architectures for all major air interfaces and IP core, Nortel is committed to working with governments, regulators, customers and any interested parties to ensure optimal use of mobile radio frequency resources and networks investment; while at the same
time facilitating a graceful evolution to the next generation telecommunication solutions in Hong Kong and across the regions.

Patrick Yung
Director, Wireless Technology
Nortel Networks (Asia) Limited
The CDMA Development Group (CDG) appreciates this opportunity to provide comments to the Office of the Telecommunications Authority with regard to the August 1, 2003, consultation paper entitled Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services. The CDG and its members have a keen interest in the Telecommunications Authority's (TA) proceeding as many of the decisions resulting from this consultation will affect the ongoing deployment of CDMA in Hong Kong and throughout the region.

The CDG is a non-profit international consortium of over 100 companies, including the world's leading operators and manufacturers of digital cellular, personal communications services (PCS), and third-generation systems based on Code Division Multiple Access (CDMA) technology. The CDG's mission is to lead the rapid evolution and deployment of CDMA-based systems, based on open standards and encompassing all core architectures, to meet the needs of markets around the world.

CDMA is the fastest growing technology worldwide with over 164 million subscribers across all continents; more than 35 percent of these customers are based in Asia-Pacific. The growth of CDMA in the Asia-Pacific region has been very strong with the introduction of CDMA2000 (3G) in many markets throughout the region including China, Japan, Korea, Thailand, and VietNam. CDMA2000 1X was first launched by SK Telecom in October 2002, the first commercial deployment of an IMT-2000 system.

Today, there are 16 CDMA2000 1X and 4 CDMA2000 1xEV-DO commercial networks throughout the Asia-Pacific region. In Japan, KDDI has added over 10 million 3G subscribers since April 2002, an average 625,000 new users per month, and now controls nearly 98 percent of the 3G market in Japan. China Unicom added approximately 4 million CDMA subscribers in the first half of 2003 and projects it will have 20 million users by the end of 2003.

1 CDMA is a digital air interface that builds on the concept of employing a unique code to distinguish each call, enabling the most efficient use of a given spectrum range, and providing greater capacity over a wireless network. CDMA is a spread spectrum technology that allows many users to occupy the same time and frequency allocations in a given band. It is a basis of several International Telecommunication Union standards for third generation networks, i.e., CDMA2000, W-CDMA/UMTS, and TD-SCDMA.
The CDG recognizes the importance of Hong Kong as both a regional hub and economic bridge for the region, and we urge the TA to adopt policies that will support multiple radio air interfaces for the provision of mobile communications in Hong Kong. The CDG recommends that the TA adopt policies that will provide an opportunity for at least two operators to provide CDMA services in the 800 MHz spectrum in order to ensure the competitive provision of CDMA2000 services in Hong Kong.

The CDG supports this consultative process and we provide the following specific comments related to paragraph numbers from the consultation document.

4

The CDG agrees with the driving considerations identified by the TA for deciding future licensing arrangements for mobile services. Additionally, the CDG believes that the TA should consider the importance of ensuring roaming capabilities in Hong Kong for multiple mobile technologies. By recognizing the importance of roaming for various wireless systems in Hong Kong, the TA would reflect the status of Hong Kong as “a great world city”.

While recognizing that Hong Kong has one of the most competitive mobile markets in the world, the CDG also believes that the TA should include as a driving consideration the importance of competitive entry into the marketplace, particularly as the advancement of CDMA is creating growth and business opportunities throughout the region.

8

The CDG notes that the frequency band of 824-849 MHz/869-894 MHz, commonly referred to as the cellular band, is one of the most widely used frequency bands in the world. The cellular band is available in the United States, Canada, Latin America, Korea, China, Taiwan, and parts of the Middle East, Africa and Central Asia. Many countries, including the United States and Canada, permit the introduction of any technology within these bands. The CDG urges the TA to remain technology neutral in this proceeding and to not make specific accommodations for one technology over another.

11

The CDG would like to emphasize the efficiency of CDMA technology. As the TA correctly notes, CDMA2000 1X requires only a 1.25 MHz carrier channel. In comparison with other third-generation protocols, CDMA2000 1X is clearly the most spectrally efficient technology currently available. Each CDMA2000 1X channel has nearly twice the capacity of second generation CDMA systems and six times the capacity of non-CDMA second-generation systems, creating more capacity for data traffic and additional voice subscribers. This allows many operators to transition to third-generation services without increasing their spectrum requirements, thereby reducing pressures on limited spectrum resources and allowing for implementation of third-generation networks without significant reallocation of radio spectrum. However, these efficiency gains are only possible under a regulatory framework that permits flexible spectrum use.
The CDG urges the TA to consider the implications of establishing a minimum bandwidth requirement for each operator that is less than the existing allocation of 2G systems operating in Hong Kong. The TA's proposal may create a regulatory construct "requiring a frequency allocation with bandwidth in multiples of 2 x 5 MHz" that does not result in more efficient use of the radio spectrum but rather prolongs the use of less efficient technologies by forcing the TA to increase existing 2G allocations (e.g., 2 x 8.3 MHz to 2 x 10 MHz). It is clear that this is not the intent of the TA as it is noted in paragraph 4 that the TA seeks "to ensure efficient use of the spectrum".

The CDG does not support the TA's proposal to extend the "GSM band" downwards to 880 - 890 MHz/925 - 935 MHz to solely accommodate operators using a specific technology platform. Our comments on paragraph 11 are also relevant to this proposal. Hong Kong CSL is currently assigned 835.0 - 842.5 MHz/880.0 - 887.5 MHz. The CDG urges the TA to review the current use of this license after which the TA should consider, if appropriate, providing an opportunity for new and existing operators to acquire this spectrum on a technology neutral basis.

The CDG does not support the TA's proposal to assign 835 - 845 MHz/880 - 890 MHz for use by operators using a specific technology platform. Upon review of existing licenses, the TA may determine that unused or under-utilized spectrum should be returned to the Government. The CDG urges the TA to adopt an assignment process for vacated spectrum that will provide opportunities for both existing and new operators to acquire the license.

The CDG recognizes the need for a guard band in this specific case of adjacent blocks of spectrum between 800 MHz and 900 MHz systems since the adjacent blocks are used for downlink for the 800 MHz system and an uplink for 900 MHz systems. The CDG believes that there are options to address this matter upon review of the existing licenses.

The CDG believes that all operators should have an expectation of renewal of their licenses. The operator should be required to demonstrate to the TA that it has met the terms and conditions of the license. The CDG would suggest that the TA follow the same due process for all the license holders and permit review of these submissions by competitors and potential new entrants. With regard to providing additional radio spectrum assignments, the CDG believes that additional spectrum should be offered to both existing and new entrants to ensure that licensing is conducted on a technology neutral basis, advances efficient use of the spectrum, and supports a competitive market environment.
The CDG supports regulatory frameworks that allow operators to respond to market demands by selecting the appropriate technologies, rather than having government rules or fee structures overly influence business plans. In this era of digitalization and convergence, wireless operators must be empowered to consider all technology solutions, both existing and future, to better serve businesses and individual users. Flexible spectrum policies ensure that market incentives will determine not only the choice of technology for wireless services, but also the timing of the migration between systems. Spectrum flexibility ensures that operators with immediate needs for third-generation services can deploy them, but allows other operators to wait until market demand increases.

Approaches that assign particular mobile bands of radio spectrum to specific technologies, reserving bands for second-generation and other bands for third-generation wireless systems, have resulted in increased migration costs and delayed deployment of advanced systems in many countries.

The CDG urges the TA review its current spectrum utilization fee approach and also urges the TA to be technology neutral. The CDG believes that a fee structure based on technology classifications will not be optimal with the continued introduction of advanced wireless services and the use of multiple technology platforms by operators.

The CDG appreciates this opportunity to comment on TA’s consultation. We look forward to participating in this process. The CDG would be pleased to meet with TA officials to discuss our positions further and provide additional information that the TA may request in support of its inquiry.

Sincerely,

CDMA Development Group

Perry M. LaForge
Comments to OFTA’s Industry Consultation Paper

“Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services”

Issued 1st August 2003

Submitted by Ericsson (HK) Ltd.

2nd October 2003

Ericsson Limited welcomes this opportunity to comment on the details of OFTA’s proposed arrangement on existing 2G licenses and additional spectrum.

The Consultation Paper focuses on the proposed rules regarding spectrum utilization with an intention to promote technology neutrality, competition and ensure a well thought-out view for industry players to invest in the industry. Ericsson supports these goals and would advise OFTA to lay down clearer rules to obtain these results.

In response to the OFTA’s request, Ericsson makes the following specific comments:

- **Ubiquity** Global spectrum allocations are an essential step for continued development and deployment of a wide variety of products and applications. Therefore, it is critical that the OFTA take into account the international impact of its rules, in order to ensure benefits on a global scale;

  Ericsson encourages OFTA, as it analyzes a new band plan, to consider the global implications of whatever actions it takes. Global allocations of bands of this nature are critical to the continued development and deployment of a wide variety of products and applications. Global harmonization of policy is an important element of effectively achieving the benefits of roaming, reduced complexity of equipment, affordability of devices, and economies of scale. Before making any final decision on 5MHZ partitioning issue, we would advise OFTA to further monitor global market trends and 3GPP/3GPP2 standardization development which may take beyond 2005/06 timeframe to sort itself out.

- **Flexibility** Any regulatory scheme should be flexible enough to encourage licensees to develop their spectrum for novel and innovative uses, yet provide enough certainty to enable them to plan current and future uses of licensed spectrum.
• Availability of Equipment on Different Frequencies. Ericsson as a leading vendor in telecom market would consider adaptation of any frequency band for which there is a viable business plan, i.e. where there is interest from potential customers. However, we are of the view that common spectrum is better than county specific variation.

• Solving Existing 2G Problems. OFTA needs to urgently address capacity constraints experienced by some operators today by means of releasing spectrum either readily available or under-utilized. 2G operators, which have proven themselves successfully in the competitive marketplace, should not be penalized by the lack of spectrum that would affect the quality of services offered to the customers.

• Criteria for Extra Spectrum. Regarding additional spectrum to be awarded to 2G operators, Ericsson proposes OFTA to adopt a set of criteria that must be met before spectrum is granted. The criteria may consist of subscriber and/or traffic per MHz spectrum, existing level of spectrum utilization etc. OFTA should exercise a cautious approach before allocating any scarce resource like spectrum to any entity.

• Allocating Unused 1800MHz Spectrum. The PCS licensees in HK have each been allocated with 2x11.6MHz since 1996 and some operators have experienced commercial success to the point where spectrum becomes bottleneck of growing their business. To address the issue, OFTA could allocate the remaining 4.9MHz spectrum in the 1800MHz band. This amount of spectrum can in theory accommodate six operators each with 4 extra GSM carriers before 2005/2006.

• Planning of the EGSM Spectrum. One option available is to allocate certain bandwidth in the 900 E-GSM spectrum to GSM operators who need the extra frequencies while ensuring there is sufficient bandwidth available in the 850MHz band for operator(s) to offer mobile services based on GSM or other cellular systems. We believe this is the best option available and it also fulfills OFTA’s licensing directives on efficient use of spectrum and maintaining technology neutrality.

• EGSM Handset Penetration. Paragraph 14 mentions the need to extend the limit of the GSM bands and to make use of Extended GSM band (880-890MHz/925-935 MHz) for additional spectrum. We think that since this band is supported by handset and equipment vendors, it can be used for migration and expansion for existing 2G operators. EGSM band handset models have penetrated the HK market for several years, if this band were to be used beyond 2005/6, operators would not have to worry about users’ handset compatibility as illustrated by the forecast below.
### Planning of the 850MHz Spectrum

Globally, 850MHz band is widely used in the Americas and parts of Asia. In North America, it is quite common to find both GSM and CDMA networks that run on the 850MHz band. However, outside North America GSM850 network is a rare entity since most Asian countries that use the 850MHz band operate CDMA services. Indeed, the combination of GSM850 or GSM900/1800 is considered odd even though it is technically feasible for such combination to exist. For this reason, we recommend the allocation of this 850MHz spectrum to be used for mobile services based on a technology other than GSM (e.g. CDMA) so that OFTA’s licensing directives, as stated in Paragraph 4, can be fulfilled.

### Spectrum Utilization Fee

In principle, Ericsson is of the view that fees do not directly benefit consumers and competition. These operating costs would potentially be transferred to consumers either directly or indirectly. Excessive fees could only deter operators from investing into new technology that would inevitably thwart the mobile development in HK.

Nevertheless, since OFTA has decided to levy SUF on any 3G services by licensees, such SUF should be applicable to all such services regardless of frequency or technology adopted in the future. This would create a level playing field for 3G license holders. But then, OFTA needs to come up with a clear definition of what “3G services” are.

### Guard Band Requirement

In paragraphs 14 and 15, OFTA has proposed the use of Extended GSM (E-GSM) or GSM850 in order to make available 2 x 5MHz frequency blocks. The most critical issue when deploying these two frequency bands is co-existence since the downlink frequency of GSM850 (869-894MHz) overlaps with the uplink frequency of 900 Extended GSM (880-915MHz). In this case, one BTS is constantly disturbing/interfering another BTS (with high gain antennas). Therefore, a guard band must be put in if both frequency bands are to be used (for GSM or other cellular systems).

In addition, co-existence data between CDMA and GSM suggest that a 3 MHz (5 MHz recommended) guard band should be sufficient. When deploying 900 E-GSM

<table>
<thead>
<tr>
<th>Year</th>
<th>Phones Sold</th>
<th>Installed Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5 %</td>
<td>2 %</td>
</tr>
<tr>
<td>2</td>
<td>10 %</td>
<td>5 %</td>
</tr>
<tr>
<td>3</td>
<td>30 %</td>
<td>12-15 %</td>
</tr>
<tr>
<td>4</td>
<td>50 %</td>
<td>20-25 %</td>
</tr>
<tr>
<td>5</td>
<td>80+ %</td>
<td>50+ %</td>
</tr>
</tbody>
</table>

Note: Assuming a 2-Year Replacement Cycle
with this guard band, the cellular system using the 850MHz frequency band cannot go beyond 877MHz, meaning the spectrum available for 850MHz band is only 8 MHz (869 – 877 MHz).

An alternative is to use the 850MHz band on its own. When a guard band is put in for 900 P-GSM (890-915MHz), the spectrum available is 18MHz (869 – 887 MHz). A guard band may also be required at the other end of the spectrum since it is being used by other services.

- **Using 2500MHz as Downlink Capacity** As OFTA is aware, the 2000 World Radio Communication Conference identified the 2500-2690 MHz band, among other bands, for possible use by International Mobile Telecommunications-2000 ("IMT 2000") systems. Our proposal is that this spectrum could be used to pair with existing licensees for additional downlink capacity. This may be spectrum that the regulators would like to see for new entrants.

Generally, Ericsson encourages OFTA to keep unlicensed spectrum use segregated from licensed use. Ericsson believes that it is better to allocate the lower frequency bands for wide-area licensed applications and higher bands for unlicensed applications. Unlicensed products and applications, operated in the appropriately designated spectrum, are important to consumers and businesses alike because they contribute to increased efficiency and productivity. For similar reasons, devices and applications operating in licensed spectrum are also important. Accordingly, OFTA should balance its efforts to make both licensed and unlicensed spectrum available to ensure that the public has access to a full range of wireless products and services.
October 2, 2003

Office of the Telecommunications Authority
29/F Wu Chung House
213 Queen's Road Central
Wan Chai, Hong Kong

Attention: Senior Regulatory Affairs Manager (Economic Regulation) 3

QUALCOMM Incorporated would like to thank the Hong Kong Office of the Telecommunications Authority (TA) for the opportunity to comment on its consultation paper entitled Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services.

QUALCOMM is the primary developer of Code Division Multiple Access (CDMA), the world’s fastest growing wireless communications technology, which is used by more than 160 million subscribers worldwide. CDMA solutions are available for a number of communications applications, including mobile cellular, fixed wireless and satellite communications. QUALCOMM supports all members of the IMT-2000 standard that use CDMA, including both the CDMA Multi Carrier (CDMA-2000) and CDMA Direct Spread (WCDMA), which share a common underlying CDMA technology base.

In its consultation paper, the TA has identified five key considerations relevant for deciding future licensing arrangements for mobile services in Hong Kong: ensuring choice of service, providing a stable investment environment, ensuring efficient use of spectrum, ensuring continuity of customer service and maintaining technology neutrality.

Of these five points, all of which QUALCOMM agrees are important, we submit that ensuring choice of service and efficient use of spectrum and maintaining technology neutrality are the primary considerations in this proceeding that touch on many of the TA’s queries throughout the consultation document.
EFFICIENT USE OF SPECTRUM

CDMA is considered the most spectrally efficient wireless technology available today for wide area networks and provides a large variety of mobile voice and high-speed data services in a 1.25 MHz carrier. Second-generation CDMA operators can also easily transition to third-generation services in-band without requiring additional spectrum. This greatly reduces the need for reallocation of spectrum for third generation networks. A regulatory framework that permits flexible spectrum use is best poised to take advantage of these efficiency gains.

QUALCOMM advises the TA against implementing frequency allocations in multiples of 2 x 5 MHz. If the TA were to adopt such a requirement, the TA would place itself in the situation of having to automatically allocate additional spectrum to GSM/GPRS services that use the radio spectrum less efficiently and offer limited data capabilities. QUALCOMM believes that such additional assignment of spectrum for 2G services will further delay the widespread deployment of advanced wireless services in Hong Kong.

For example, in the case of an operator holding a 2 x 8.3 MHz block of spectrum, the TA would need to increase the operator’s frequency assignment from a 2 x 8.3 MHz to a 2 x 10 MHz block based upon a policy requirement rather than a commercial need. Existing 900 MHz 2G operators in Hong Kong have been assigned additional radio spectrum for the introduction of advanced wireless services (e.g., 3G). There is no indication that GSM operators will use the 900 MHz spectrum for 3G deployments in the foreseeable future. In addition, as technology continues to evolve it is hard to predict what future channel bandwidth requirements will be suitable for post-3G networks.

New License Conditions

QUALCOMM supports the idea that existing or new licensees should be made to accept new license conditions and that such conditions would help promote efficient spectrum use.

For example, QUALCOMM agrees with the imposition of some type of build-out requirement that would ensure the licensee is using its spectrum efficiently to provide coverage to all areas of Hong Kong. The TA may choose to specify certain areas of Hong Kong, however, QUALCOMM would urge the TA to wrap that requirement in the general requirement that an operator build-out and use the spectrum to its fullest capability. If the existing licensees refuse these conditions, the spectrum should be made available to operators who are willing to provide such services to the consumers of Hong Kong.

TECHNOLOGY NEUTRALITY

QUALCOMM notes and congratulates the TA on its history of technology neutral policies. QUALCOMM supports the TA’s continued attention to not inadvertently
adopting policies that would preference one technology over another. The frequency band of 824 - 849 MHz/869 - 894 MHz is one of the most used worldwide. This band is available in the United States, Canada, Latin America, Korea, China, Japan, India, Taiwan, and parts of the Middle East, Africa and Southeast Asia. In many of these countries any technology is permitted for use in this band.

In its consultation paper, the TA suggests extending the "GSM band" downward to the 880 - 890 MHz/925 - 935 MHz for use by operators to employ Extended GSM. QUALCOMM does not agree with the TA designating a particular portion of spectrum for use by a specific technology. It is contrary to the TA's well established technology neutral position. The TA should review the current use of the 835.0 - 842.5 MHz/880.0 - 887.5 MHz license. After reviewing the use of the existing license, the TA should consider, if appropriate, providing an opportunity for new or existing operators to acquire this spectrum separately on a technology neutral basis if it is being used inefficiently.

**CHOICE OF SERVICE**

The TA should consider the benefit of two operators in the 800 MHz band, in terms of service choice, differentiation and further, the ability to provide voice, multimedia messaging and data roaming services between Hong Kong and its neighboring countries. The TA should also consider the commercial availability of multi-mode, multi-band, mobile handsets next year that will break down the barrier of multi-network roaming and offer users the benefit of true global roaming.

The Asia Pacific region has been one of the key drivers for CDMA growth, representing 63 million CDMA subscribers. In the last year alone, the Asia Pacific region added nearly 20 million CDMA subscribers. Further, Australia, China, India, Indonesia, Japan, South Korea, Malaysia, New Zealand, Thailand, Taiwan and Vietnam have all deployed 3G CDMA2000 1X networks in the 800 MHz band. As of August 2003, there were more than 58 million CDMA2000 subscribers worldwide who had access to high-speed data services. According to the EMC Worldwide database, CDMA2000 subscribers account for more than 55 percent of mobile data users worldwide. These mobile data subscribers generate significantly higher revenue - up to 50 percent more - than 2G subscribers. Some operators report that data revenue from their CDMA2000 1xEV-DO subscribers has increased by as much as 1,100 percent compared to their 2G subscribers, which represents 30 percent of the total revenue generated by these 3G subscribers.

In this respect, Hong Kong lags behind its neighbors in the provision of revenue generating third-generation mobile data services. This delay also continues to hamper the growth of Hong Kong's local mobile applications industry. Since a new 800MHz entrant(s) would not be able to compete with 2G incumbents in the voice arena, their business model would target the high-speed data market. A new entrant focused on data would certainly create new business opportunities for the more than one-hundred local application developers in Hong Kong.
CONCLUSION

QUALCOMM appreciates the opportunity to comment on the Hong Kong Telecommunications Authority's consultation paper entitled *Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services*. QUALCOMM urges the TA to take into consideration in its decision making what is in the best interest of Hong Kong, its mobile operators and subscribers, as well as local application developers. The TA should continue to adopt policies that promote efficient use of spectrum, technology neutrality and choice of service.

Should you have any questions regarding the above or require additional information, I can be reached at 852-2537-1622.

Best regards,

[Signature]

Shawn A. Covell
Director, Government Relations, Southeast Asia

cc: Ming Li, President, QUALCOMM Hong Kong and Taiwan
NEW WORLD PCS LIMITED

Submission

on

Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Service

Consultation Paper

Dated 1 August 2003

2nd October 2003
Executive Summary

- "New World PCS Limited" ("NWPCS") appreciates the Telecommunications Authority ("TA") for taking initiatives to commence the consultation process about the 2G licences renewal. This approach provides regulatory certainty and confidence, thus enabling investors and operators to define a long-term plan.

- Regarding allocation of spectrum, NWPCS believes that the valuable spectrum should be allocated on an as-need basis. In addition, the TA should withdraw the spectrum of the TDMA and CDMA networks for re-allocation to GSM/PCS operators who can justify such need.

- We also agree that right of first refusal should be granted to existing GSM / PCS operators in order to avoid disruption to the industry and to minimize/avoid any adverse transitional impacts to the subscribers. Furthermore, we take the view that new licence conditions should only apply when the MNOs adopt and deploy 3G technology. Until then, the existing 2G licence conditions should continue to apply to 2G Services. Furthermore, there should not be a forced migration from 2G Services to 3G Services. Any migration from 2G to 3G Service should by phases. Since it is a phased migration, there should not be any minimum charge for SUF.

- NWPCS believes that Spectrum Utilization Fee ("SUF") should only apply to 3G Services, but not 2G Service. Since 2G Services are being evolved to provide higher data transmission rates to compete cost effectively with 3G using W-CDMA and CDMA 2000 technology, the TA should not artificially restrict the capability of 2G Services by limiting its date transfer rate to 144kbps. The TA should therefore review the demarcation of 2G Services and 3G Services as articulated in the current licence conditions.

- The provision of coverage in country parks should not be mandated as new licence condition unless the TA can solicit the approvals of the relevant government departments and other pressure groups.

- In addition, the TA should also review the entire regulatory regime so as to eliminate, or at least to minimize, any unfair regulatory concerns of the MNOs regarding unequal carrier status as compared to FTNS for building access, subsidization of the FTNS by MNOs of PNETS charges for both origination and termination charges, and subsidization of the FTNS by MNO dipping and porting charges.
1. **Background**

1.1 This written submission sets forth the position of NWPCS in respect of the Consultation Paper entitled *"Licensing of Mobile Service on Expiry of Existing Licences for Second Generation Mobile Services"* ("Consultation Paper") issued by the TA dated 1st August 2003.

1.2 In this submission, we will address the issues and concerns raised by the TA by following the same sequence of the Consultation Paper as follows:

- (1) Background
- (2) Spectrum Availability
- (3) Partitioning the Spectrum for Allocation
- (4) Licensing Arrangements
- (5) Spectrum Utilization Fee (SUF)
- (6) Licence Conditions

In addition, we will also discuss the additional concerns of the MNOs in Section (7).

1.3 We concur with the TA's view that the licensing arrangements should be addressed as soon as possible, even prior to the expiry date of the existing 11 public radiocommunications service ("PRS") licences. This enables the existing mobile network operators ("MNO") to formulate their long-term investment and business plans and to minimize any disruption to the market.

1.4 In addition, we share the TA's opinion that in deciding the future licensing arrangement for mobile services, all the 5 relevant licensing factors below are of equal importance:

- (1) to ensure choice of services
- (2) to provide stable investment environment
- (3) to ensure efficient use of spectrum
to ensure continuity to customer service
(5) to maintain technology neutrality

2. Spectrum Availability

2.1 In order to be consistent with the third relevant licensing factor (i.e., to ensure efficient use of spectrum), NWPCS opines that spectrum should only be allocated to any MNOs who are able to justify the need of such additional spectrum. Allocation of spectrum on an as-need basis will reward those MNOs using the spectrum efficiently.

2.2 In particular, NWPCS is of the opinion that spectrum should not be allocated by any of the following methods:-

- **On an "equal basis"**: Allocation of spectrum on an equal basis may not be efficient use of spectrum since some MNOs tend to have more subscribers than the others. Therefore, it would be wastage of scarce and valuable resources to allocate spectrum on equal basis without ascertaining whether the MNOs have such need.

- **By auction**: Allocation of spectrum by auction will only result in the spectrum being occupied by resource-rich MNOs, who may not deploy the spectrum efficiently and hence deter other from fair competition.

As a general rule, the TA should allocate spectrum to those MNOs who are able to justify the need of such additional spectrum. Allocation of spectrum should not be on an equal basis, nor by auction.

2.3 As identified by the TA in the Consultation Paper, in addition to the conventional 900MHz band GSM can also be deployed in the 800MHz band either as E-GSM or GSM 850. GSM 850, which is simply down-banded GSM, is predominantly used in the Americas as a replacement for TDMA/IS-136 networks whilst E-GSM is used in other world markets such as Europe and Asia.

---
1 Paragraph 8 of the Consultation Paper.
2.4 Currently, as shown in Annex 1 of the Consultation Paper, a TDMA network and an IS-95B CDMA network occupy the 800MHz frequency band. When compared to the existing GSM and PCS networks in Hong Kong, both the TDMA and CDMA networks support a small subscriber base, thus the allocated spectrum is not utilized efficiently. Furthermore, both the TDMA and CDMA network operators are also dual band GSM/PCS operators with the capability to support their existing TDMA and CDMA subscribers on their dual band networks.

2.5 As mentioned above in Paragraph 2.1, NWPCS proposes that additional spectrum should be allocated on an as-needed basis. To this end, NWPCS is of the view that the 800MHz frequencies should be cleaned up and made available for future expansion of GSM. The TDMA and CDMA operators in this band should be encouraged to migrate their TDMA and CDMA subscribers to their respective dual band networks. The 800MHz frequency band should be released for reallocation to the PCS operators, thus redressing their capacity and radio propagation constraints.

2.6 Currently, the PCS operators are most efficient in terms of frequency utilization, and have demonstrated the greatest need in terms of (a) current spectrum allocation and usage, (b) level of frequency reuse, (c) number of subscribers per MHz and traffic volume, and (d) subscriber and traffic growth. NWPCS' analysis of our historical customer complaint data reveals that majority of complaints on network performance are related to indoor coverage. This is not due to a lack of investment but rather due to the limitations of 1800MHz spectrum when compared to 900MHz spectrum at penetrating in building, as such, the PCS Operators are considered disadvantage to some of the dual band operators when considering similar number of subscriber base. Bearing this in mind, we urge the TA to attach highest priority to allocating 800MHz spectrum to PCS operators to allow the PCS operators to compete with other GSM operator on equal footing.

Regarding the different ways to re-deploy the existing 2G spectrum as mentioned in Paragraph 8 of the Consultation Paper, we propose that the 800MHz frequencies used by TDMA or CDMA should be cleaned up and made available for future expansion of GSM. Since the PCS Operators are the most
efficient at utilizing frequency, the TA should allocate the 800MHz band to PCS operators thereby enabling competition with other GSM Operators on equal footing.

2.7 Whilst it has been proposed by the WRC-2000 that 3G mobile services can also be deployed in the existing 2G spectrum, there is no contiguous vacant spectrum in the 800/900 MHz range which is larger than 2.5 MHz. Similarly, the widest contiguous spectrum in the 1800MHz band is only 2x4.9 MHz wide. This imposes significant challenges on the use of the 2G spectrum for 3G network deployment.

2.8 Furthermore, NWPCS has sought information from a selection of infrastructure and handset vendors to determine their roadmap for the availability of 3G infrastructure capable of operating in the 2G spectrum but the response so far has been muted. One possible reason is that the vendors are more focused on developing and delivering UMTS equipment to operate in the 2GHz band. Due to the lack of information regarding UMTS handset and infrastructure for operations in the 2G spectrum, NWPCS is of the view that it may be premature to consider the allocation of 2G spectrum for 3G network deployment.

With regards to the proposed deployment of 3G Service on 2G Spectrum as mentioned in Paragraph 8 of the Consultation Paper, NWPCS is of the view that the lack of contiguous vacant spectrum in 800/900 MHz range which is larger than 2.5 MHz and in 1800Mhz which is larger than 2x4.9MHz, and the lack of infrastructure and handset equipment impose significant challenges on the use of the 2G spectrum for 3G network deployment.

2.9 The unallocated TDD bands are insufficient to operate a commercial UMTS network. Additionally, the TDD mode technology has not been sufficiently developed to justify payment for the spectrum.

2.10 The other bands identified as other available spectrum are either reserved for mobile satellite services of IMT-2000 in some jurisdictions or the arrangement of how the spectrum is to be partitioned is yet to be finalized. If the satellite bands are used for terrestrial 3G Services in Hong Kong, the subscribers may be unable to roam to areas where these bands are used for satellite services thereby causing great inconvenience.
and loss of revenue for the concerned operator. Additionally, on a global scale, there is significant uncertainty surrounding the partitioning and allocation of the 2500MHz spectrum that has been reserved for 3G Services. Again, it may be premature to allocate this spectrum for any operators without there being a better perspective of how it will be partitioned and allocated on a global scale.

In response to the TA’s statement about additional spectrum available for deployment of mobile service under Paragraph 9 of the Consultation Paper, NWPCS is of the view that the unallocated TDD bands are insufficient to operate a commercial UMTS network and it may be premature to allocate the additional bands 2500MHz spectrum band for any operators.

3. Partitioning the Spectrum for Allocation

3.1 Whilst NWPCS applauds the TA for seeking to make additional spectrum available for 3G deployment, we also caution that it is advisable for the allocation and partitioning of any such spectrum to be in line with internationally accepted guidelines. This is the only way to ensure that Hong Kong subscribers can continue to benefit from the capabilities of GSM and UMTS on a truly global basis.

3.2 NWPCS agrees with the principle of allocating frequency in blocks of $2 \times 5\text{MHz}$ for UMTS deployment. As a minimum, the UMTS forum’s spectrum allocation guidelines recommends that each operator needs to be awarded at least 3 blocks of FDD carriers (i.e., $2 \times 15\text{MHz}$) for a viable UMTS network. This is in line with the quantity of spectrum already allocated to the licensed 3G operators.

Regarding Paragraph 11 of the Consultation Paper, we agree with the TA that allocation and partitioning of spectrum should be in line with internationally accepted guidelines and that frequency would be allocated in blocks of $2 \times 5\text{MHz}$ for UMTS deployment with a minimum allocation of $2 \times 15\text{MHz}$ per operator.
3.3 In principle, NWPCS supports the view that the existing frequency allocation should be rationalized, thus eliminating the inefficiencies and planning difficulties arising from the current fragmentation. However, prior to any rationalization exercise, a detailed study is required to define the migration procedure and determine the cost benefit of such defragmentation exercise. In the event that the rationalization exercise will result in undue financial burden for operators, then it may be prudent to avoid such an exercise.

3.4 It is recommended that OFTA proposes the rationalization plan for existing frequency allocation to the industry. A separate consultation process, industry forum or work group should be convened to handle this issue.

3.5 NWPCS agrees with and supports the technology neutral approach adopted by the TA. We believe that market forces will drive operators to select the most appropriate technology for their business.

We support the TA's view that the existing frequency allocation should be rationalized. However, the TA would avoid any frequency rationalization exercise which would result in undue financial burden. Separate consultation process should be initialized. Market forces will drive operators to select the most appropriate technology for their business.

3.6 On the issue of extending the lower limit of the GSM bands, it remains unclear if this is to be allocated for either 2G capacity expansion or 3G network rollout. NWPCS supports the view of extending the lower limit if this is to be used for 2G capacity expansion. However, if the extension is for 3G network rollout, NWPCS proposes that the TA synchronizes its position with regulators in other jurisdictions and consults the major equipment vendors. Otherwise, it could potentially be very difficult to secure equipment and handsets capable of operating 3G networks in this band.

We support the extension of lower limits of GSM bands for 2G capacity expansion as mentioned in Paragraph 14 of the Consultation Paper.

3.7 As mentioned earlier in Paragraph 2.3, the GSM 850 technology is usually deployed in the Americas mainly as a replacement for TDMA/AMPS networks. In some cases both
technologies co-exist and use handsets based on the GSM/ANSI-136 Integration Team (GAIT) specifications but this is mainly a transitional arrangement as the GSM 850 networks are being used to ultimately replace the TDMA. As Hong Kong is not faced with the need for such a complex transitional arrangement and the operation of GSM 850 is mutually exclusive with both EGSM and GSM 900 due to frequency overlap it can be concluded that GSM 850 is not the preferred approach for the Hong Kong market.

3.8 Regarding guard band requirement, as the number of subscribers using either of the TDMA or CDMA service is less than 100,000, this is not an efficient use of a scarce resource. In a highly competitive environment like Hong Kong, the spectrum will be better utilized if it is allocated to an operator demonstrating the greatest need as mentioned above in Paragraph 2.6. Considering the small volume of subscribers involved, the concerned operators should be encouraged to migrate their subscribers to their dual-band networks, terminate the services and return the spectrum to the regulator for re-allocation to operators who are in more need of the spectrum. The guard band should then be determined according to the radio characteristics of the services which are adjacent to each other.

| Regarding guard band requirement under Paragraph 16 of the Consultation Paper, NWPCS is of the view that guard band should be determined according to the radio characteristics of the services which are adjacent to each other. |

3.9 In respect of allocation of seed spectrum for service migration is as follows:

(a) The use and partitioning of the entire identified potential seed spectrum is shrouded in uncertainty. The 1980-2010 paired with 2170 – 2200 is reserved for mobile satellite services in some jurisdictions. In the event that mobile satellite services are launched in these jurisdictions, then 3G terrestrial subscribers of Hong Kong licensees operating in this band will be unable to roam to these locations. In addition, partitioning and allocation of the spectrum in the 2500 –
2690 band has been deferred until early 2005 in order to develop a better understanding of the development of the 3G market.

(b) Based on the current delay associated with the deployment and launching of W-CDMA networks, the existing licences should be renewed in a flexible manner enabling the continuation of 2G Services until such time as the operator is ready to deploy and migrate to 3G Services. This will be elaborated further in Paragraphs 4.6, 5.2 and 5.6 below.

Regarding the allocation of seed spectrum for service migration under Paragraph 17 of the Consultation Paper, NWPCS is of the view that the use and partitioning of the entire identified potential seed spectrum is shrouded in uncertainty.

4. Licensing Arrangements

4.1 Regarding Paragraph 20 of the Consultation Paper wherein the TA raises the issue as to whether Licences should be offered to existing 2G Licencees or to the New Licensees, NWPCS is of the view that no additional PRS Licence / Mobile Class Licence, either for 2G Services or for 3G Services, should be granted to new entrants due to the following reasons:

(a) There are eleven (11) 2G licences and four (4) 3G licences in Hong Kong as of today. There is no doubt that the market in Hong Kong is saturated when the existing population is taken into consideration. Any additional mobile licence may possibly result in another under-utilized mobile network, analogous to over-production in the manufacturing industry.

(b) Any investor who wishes to invest in the mobile service market may do so by acquiring the shares of the existing MNO. Most of the MNOs are either public companies themselves or are held by a public companies listed in Hong Kong Stock Exchange.
4.2 NWPCS concurs with the TA's view that right of first refusal ("RFR") should be granted to the existing 2G licencees (hereinafter, the licence being "Renewed Licences" and the licencee being "Renewal Licensees") as some of the MNOs are still in the process of recouping their investment.

4.3 Due to the low utilization of TDMA / CDMA frequency bands (i.e., 800MHz), NWPCS agrees that no RFR should be granted to the TDMA / CDMA operators. Furthermore, the existing 800 MHz spectrum used by TDMA/CDMA operators should be re-allocated to PCS operators for GSM capacity expansion (see Paragraph 2.6 above).

In response to Paragraph 21 of the Consultation Paper, NWPCS is of the view that no additional mobile service licence should be granted to new entrant. Right of First Refusal should be granted to existing GSM/PCS operators, but not TDMA/CDMA operators.

4.4 In addition, NWPCS is of the further view that the TA should be flexible and reasonable in imposing any licensing condition for Renewed Licences. Draconian licensing conditions may hinder investment incentives. This is especially true in light that the investors in Hong Kong have been very cautious in their investment during past few years due to economic downturn.

4.5 The existing licence conditions for 2G Services as set forth in the respective 2G licence of the existing MNOs, i.e. the PRS Licence 057 for NWPCS, should be intact and remain unchanged for the provision of 2G, 2.5G, or 2.75G Services (collectively, "2G Service"). It is only when the existing MNOs upgrade its network for provision of 3G Services that the new licence term, akin to that of existing 3G licences, shall apply.

4.6 There should not be a forced migration of 2G Services to 3G Services either directly (e.g. by TA's refusal to renew the existing 2G licence), or indirectly (e.g. renewing the existing 2G licence with harsh licence conditions). To ensure choice of service, ensure continuity to customer service and maintain technology neutrality, the subscribers who are satisfied with the 2G Services should be allowed to continue to use the 2G Services they like. The invisible hand of market force shall determine the product lifespan of 2G Services. Indeed, voluntary migration is consistent with the TA's existing stance towards
TDMA and CDMA mobile licence operators, both of which are allowed to continue the services until substantial amount of subscribers decide to migrate voluntarily to other mobile services. Any migration from 2G to 3G Service should by phases.

With regards to Paragraph 23 of the Consultation Paper, the existing 2G licence conditions should continue to apply to 2G Service. The new licence conditions should only apply to 3G Service. The invisible hand of market force will determine the product lifespan of 2G Service.

4.7 We are of the view that the existing licensing regime does not provide a level playing field to enable 2G Services to compete cost effectively with 3G Services by introducing 144kbps as the demarcation, as articulated in the TA's Statement dated 1st March 2002. The 2G Services have further evolved to provide higher data transmission rates and such evolution is considered independent of the WCDMA or CDMA 2000 band 3G Service development. To maintain the technology neutrality principle, the TA should not restrict the expansion of 2G Services by limiting its data transmission rate to 144kbps. It is conceptually and technologically erroneous to distinguish 2G Services and 3G Services by merely using 144kbps as the demarcation since both 2G or 3G Service can transmit 144kbps or above data transmission rate. As a matter of fact, NWPCS is not aware of adoption of similar demarcation by any other regulators in any part of the world. The TA should review the demarcation of 2G Services and 3G Services as articulated in the current licence conditions in order to eliminate any artificial restrictions on the development of 2G Service and to allow cost effective competition with 3G Service.

The demarcation of 2G and 3G Service shall not hinge on whether the data transmission rate is under or above 144kbps. Such demarcation will limit the continuous development of 2G Service and is not consistent with the technology neutrality principle.

4.8 NWPCS shares the TA's preliminary view that the Renewed Licences should be of the same licence period as the existing 3G licence, i.e., up to 21st October 2016. To renew the existing 2G licence only for 3 years would not provide a stable investment environment for the investors. NWPCS will have no objection to surrender our existing licence to the TA earlier than its expiry (i.e., by 29 September 2006), provided that
under the Renewed Licence to be issued before surrender, NWPCS would be allowed to
provide 2G Services at the same licence conditions as the existing one. Any
amendment and additional licence conditions to be imposed by the TA should be fair
and reasonable.

For Paragraph 24 of the Consultation Paper, we agree with the TA that the
renewed licence should be of the same licence duration as the other 3G
licences.

5. **Spectrum Utilization Fee (SUF)**

5.1 NWPCS is agreeable to continue payment of licence fee based on the number of
subscribers and base station set up by NWPCS for both 2G Services and 3G Services.

5.2 However, NWPCS considers it to be unfair for any SUF to be levied on 2G Services.
First, it poses a huge undue financial burden on the MNOs for the very competitive 2G
Services, which would be translated into inflating retail price to subscribers, thereby
caus[ing] market distortion. Secondly, the argument for providing a level playing field to
3G operators cannot sustain. At the time when the 3G operators were bidding for the
3G licences in 2001, the 3G operators were well aware and were willing to pay for SUF,
despite no SUF for 2G Services, for 3G Services which are considered as more
advanced technology with a leading edge than of the 2G Services. As such, it is totally
unfair for the 3G operators to argue for "level playing field" now after the 3G operators
have made such well informed decision.

5.3 NWPCS is of the view that SUF will only be payable by the Renewed Licensees if both
the following conditions are fulfilled:-

(a) Additional spectrum has been allocated to the Renewed Licensees; and

(b) The Renewed Licensees deploy 3G Services.
Regarding Paragraph 29 of the Consultation Paper, NWPCS disagrees with the TA that SUF should be applied to both 2G and 3G Service after a cut-off date. SUF should not apply to 2G Service and should only be levied if (a) additional spectrum has been allocated and (b) the licencees deploy 3G Service.

5.4 As for the amount of SUF to be levied, NWPCS is of the view that, since SUF is the cost for utilizing the spectrum and has no bearing of network turnover, the amount of SUF payable shall be based on amount of spectrum allocated to the Renewed Licencees, and shall not be the royalty rate of certain percentage of the network turnover.

In response to the TA’s position under Paragraph 31 of the Consultation Paper, NWPCS disagrees with the TA’s proposed calculation method of SUF, i.e., 5% of the network turnover. The quantum of SUF payable should depend on the amount of spectrum allocated, not as the royalty rate for network turnover.

5.5 However, since there should not be any forced migration as submitted above, the number of subscribers who wish to migrate to the 3G Services is uncertain. Under such circumstances, NWPCS disagrees for there be any minimum charge for the SUF. Likewise, the argument for “level playing field” for 3G licence cannot sustain since the 3G licensees were allowed to deploy and operate the 3G network since 2001, while those 2G renewal licensees can only start the process after it has upgraded its licences as contemplated in the Consultation Paper. The existing four 3G operators have the benefit of early deployment and additional 3G spectrum allocated, thereby enabling them to position their 3G Services as better coverage than any one of the Renewed Licensees. In light of different licence commencement dates, it would be unfair and unreasonable for the TA to mandate the existing 2G licences to accept the same 3G licensing conditions, including any minimum charge for SUF. Furthermore, the Renewal Licensees are obliged to provide the 2G Services which differentiates themselves from an ordinary 3G licensees.

For Paragraph 33 of the Consultation Paper, NWPCS disagrees with the TA for there be a minimum charge of SUF.

5.6 In response to the TA’s options for levying of SUF on the 2G Services as proposed under Paragraph 29 of the Consultation Paper, NWPCS reiterates its position that there
should not be any forced migration of 2G Services to 3G Services from which the 3G Service are expected to be provided. Accordingly, there should not be any mandatory cut-off date, whether 3 years or otherwise, from which 3G Services are expected to replace all the 2G Services. Forced migration or mandatory cut-off will limit the choice of customers and is contradictory to the TA's well-established policy and practice to maintain technology neutrality. In this connection, NWPCS firmly believes that the MNOs should be allowed to upgrade its network by phases. SUF will only be levied, if and when the Renewed Licensees deploy 3G Services, based on the amount of spectrum allocated to the Renewed Licensees. Since we do not recommend any mandatory cut-off date approach, the combined approach as mentioned in Paragraph 29(c) are not recommended either.

We disagree with the TA's proposed options for levying SUF under Paragraph 29 of the Consultation Paper, i.e., by a cut-off date, or by occurrence of an event, or by any combined approach.

5.7 With regard to the TA's proposed further fee (in addition to the fixed royalty fee of 5%) for the spectrum assigned under Paragraph 31(b) of the Consultation Paper, NWPCS reiterates its view that spectrum is scarce and valuable resources shall be used efficiently (i.e., on an as-need basis) for benefit of public at large. See Paragraphs 2.1, 2.5 and 2.6 above.

5.8 Regarding securing payment of SUF by the prescribed performance bond, NWPCS is of the opinion that it is unnecessary and should be waived since all the Renewed Licensees are not new start-up and have substantial asset and business to ensure performance of its licence obligations. In addition, in light of the fact that the TA has waived the need to submit performance bond by one 3G operator recently, it is self-evident that arrangement is not achievable.

We object the imposition of performance bond as security for performance of licence obligations.
6. **Licence Conditions**

6.1 NWPCS proposes that 3G licence conditions as set forth in the Mobile Class licences granted by the TA on 22nd October 2001 including the following:

(a) Opening up of 30% of the network capacity for MVNO and content providers,
(b) Disposal of Asset of more than 10% requiring consent by the TA,
(c) Interconnection with other service and network providers,
(d) Separating account for different service or business activities, and
(e) Compliance with the TA’s approved numbering plan and number portability.

shall only apply to the 3G Services provided by the Renewal Licensees, while the 2G Services shall be covered by the same licence conditions as the existing 2G licence before the renewal. Any additional licensing conditions imposed to the 2G Services will affect the MNOs existing offerings to the subscribers for 2G Services. In particular, the requirement for opening up of 30% of the network capacity for MVNO and content providers under Paragraph 6.1(a) above shall not apply to 2G Services, the capacity of which has been almost utilized.

In response to the TA’s position under Paragraph 37 of the Consultation Paper, NWPCS disagrees with the TA that new licence conditions should apply to all mobile services. We take the view that new licence conditions should only apply to 3G Services.

6.2 With regard to proposed imposition of new obligations to provide coverage to specified location, NWPCS’ is of the view as follows:

(a) NWPCS believes that providing coverage to less populated part of Hong Kong such as country parks will be technically challenging and financially burdensome. The total land area of Hong Kong is 1,082 km² and there are 23 country parks, covering 410 km² representing 37.5% of the total area. In the country parks, the terrain is either hilly or mountainous with steep slopes and deep valleys thus resulting in the most difficult environment for radio signal propagation. It is foreseen that a significant number of base stations are required to provide reliable
coverage. Additionally, this will impose significant financial and operational burden on operators.

(b) Furthermore, basic facilities such as power, transmission and access need to be in place at reasonable cost prior to setting up any base stations in country parks. Without these facilities being made available at a reasonable cost, building base station in country parks would not be a feasible arrangement.

(c) NWPCS believes that market competition would be the most natural and effective driving force to determine when coverage should be provided. Whenever there is demand from subscribers, operators would naturally consider providing coverage taking into account the service of its competitors. In order to maintain competitiveness in the marketplace, operators will be forced to provide coverage or lose customers to the competition.

NWPCS objects the TA’s adoptions of new licence conditions which requires the MNO to provide coverage to less populated parts of Hong Kong like country parks as mentioned under Paragraph 39 of the Consultation Paper. We consider it as technically challenging and financially burdensome. Market competition would be the most natural and effective driving force to determine when coverage should be provided.

(d) Assuming that the TA will impose licensing condition requiring the MNOs to provide network coverage at the country parks notwithstanding our objection above, the TA should make sure that the following 2 conditions will be fulfilled:-

(i) To provide coverage at the country parks, it is necessary for the MNOs to construct, maintain and operate some towers at certain strategic sites. To this end, the TA should ensure that the relevant government bodies (including Environmental Protection Department and Lands Department) and other environmental protection pressure groups would reach consensus for the construction of such towers at the country parks.
(ii) The TA should also facilitate the availability of basic facilities such as power, transmission and access. Based on NWPCS’ experience, the cost of such basic facilities are significant.

Before the TA imposes the licence conditions about network coverage to country parks, the TA should make sure that the governmental departments and other pressure groups would approve the construction of towers and that the basic facilities such as power, transmission and access will be available at reasonable cost.

(e) For deployment of coverage to tunnels and airport authority, NWPCS is of the view that the TA should assist in the negotiation of concluding a reasonable licence fee such that MNOs will only pay a reasonable licence fee to the tunnel companies and airport authority. Without the active involvement of the TA, the MNOs will be paying ransom rate or monopoly rent to the tunnel company and airport authority in light that the arbitration process under Section 14 (1A) of the Telecommunication Ordinance, as demonstrated in a recent arbitration between a tunnel company and a MNO, is proved to be ineffective and costly.

Before the TA imposes licence conditions for providing coverage at tunnels and airport, the TA should assist the MNO to finalize a reasonable licence fee.

6.3 With regards to the imposition of licensing obligations for compliance of Mandatory Code of Practice (CoP), NWPCS is of the view as follows:-

(a) NWPCS supports and applauds the TA on its valiant efforts to safeguard public interest and to protect consumer interest. This is an aspect that should ensure that consumer rights are not abused and subject to technical capabilities, the highest level of service quality are maintained. However, NWPCS believes that the current voluntary approach to dealing with the CoP has and is still working well thus we see no need to stipulate a mandatory CoP.

(b) On the specific issue of a mandatory CoP obliging licensees to provide Cell Broadcast Service ("CBS") for the dissemination of messages in public interest, NWPCS contends that the cellular network is definitely not suited to this task.
Such public service announcements are better disseminated by radio or TV broadcast as they can be relayed instantaneously and repeated frequently in a short period of time. On the contrary, if such messages are to be disseminated through CBS, the delay in reaching all subscribers is quite significant and could be a matter of days thus reducing the efficiency of the message. It should be noted that the primary bottleneck in 2G networks is on the air interface capacity and not the SMSC or fixed transmission.

In response to the TA’s position under Paragraph 45 of the Consultation Paper, NWPCS objects to the mandatory provision of CBS feature as it is not the most suitable mean for disseminating public announcement and for making other voluntary CoP mandatory. We believe that the current voluntary approach to dealing with the CoP has and is still working well.

7. Additional Concerns of MNOs

7.1 In light that some mobile licences are to be renewed soon, we consider that it is appropriate to address certain concerns of the MNOs with regards to the existing regulatory regime as follows which should be taken care of by the TA to remove the unfair situation of the regulatory regime and to facilitate effective competition in the entire telecommunications market:-

(a) **Interconnection Arrangement**: The existing interconnection regime involving MNOs should be reviewed as a whole. Given that both mobile and fixed networks are of equally importance in communications, the MNOs should have exactly the same carrier status as FTNS operators. Specifically, the MNOs should no longer subsidize the FTNS operators by paying interconnect charges for both terminating and originating calls on an “any-to-any” cost recovery principle under Statement No.7. Instead, by having equal carrier status as FTNS, MNOs should have the rights to collect termination charges from FTNS operators. Both the MNOs and FTNS operators have their respective obligations to deliver or terminate calls for and on behalf of its subscribers for the tariff they received from their subscribers. There is no reason why the MNOs should subsidize the FTNS operators to perform the FTNS Operators’ own obligation. Additionally, the fixed-mobile interconnect
pricing model should be same as the fixed-fixed interconnection model, i.e. applying the long run average incremental cost (LRAIC) based on forward looking cost model, rather than the existing fully distributed cost (FDC) based on historic cost.

MNOs should cease subsidizing FTNS by interconnection charges. Fair interconnection arrangement should replace the existing "any-to-any" cost recovery principle under TA Statement No. 7.

(b) Mobile Number Portability: As the mobile networks do not possess the Operator Number Portability ("ONP") platform, MNOs are currently obliged to pay porting and dipping charges to the FTNS operators for calls originated from the fixed networks and terminated at the mobile networks. These charges should be borne by the FTNS operators since they are part of the cost for delivering the calls for FTNS subscribers. Furthermore, the MNOs are required to compensate the FTNS operators’ costs including capital expense and operational expenses incurred from their support of dipping and porting. The MNP framework should be reviewed so that each operator should bear its own costs incurred from MNP, and MNOs should no longer cross subsidize the FTNS operators.

Cost Recovery under the MNP framework should be reviewed so that each operator should bear its own costs incurred from MNP.

(c) Equal Access Rights: NWPCS is of the view that the MNOs should have the same right as FTNS to access buildings for placing and maintaining radiocommunications installation. Currently, the FTNS operators enjoy free access to building under S14(1) of the Telecommunications Ordinance. Contrarily, the placing and maintenance of radiocommunications installation by the MNOs are subject to payment of licence fee. Such licence fee will be determined by commercial negotiation between the MNOs and landlord, failing agreement thereof, by arbitration process under S14(1A) of the Telecommunications Ordinance. The arbitration process is proved to be not cost effective and
administratively cumbersome in a recent arbitration between a MNO and tunnel company.

| MNOs should have the same right as FTNS to access buildings for placing and maintaining radiocommunications installation. |

We trust that we have addressed the issues of concerns from NWPCS together with those raised by the TA under the Consultation Paper and look forward to receiving views and comments from the TA.

Date this the 2nd day of October 2003.
Submitted by
New World PCS Limited
Wharf T&T Limited

Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services

Wharf T&T’s Response to the Consultation Paper from the Telecommunications Authority (TA) dated 1 August 2003

1. Introduction

1.1 Wharf T&T welcomes the Consultation Paper from the TA in relation to the licensing of mobile services on expiry of existing licences for second generation mobile services (2G).

1.2 We note the TA’s intention to conduct another round of consultation after considering all the comments received on this present consultation and would expect to conclude the consultation exercise and make a decision in the first quarter of 2004.

1.3 This submission sets out Wharf T&T’s response to the Consultation Paper. In order to promote sustainable competition in the mobile telecommunications market, it is important for the Government to define the correct licensing options, regulatory policy objectives and framework. Regulatory framework should be to encourage/facilitate ease of entry to the market, not to create barriers of entry.

1.4 This submission comprises Wharf T&T’s general comments on the proposed licensing arrangement and specific comments on specific issues raised in the Consultation Paper.

2. General Comments

2.1 Wharf T&T believes there is huge potential in the telecommunications mobile services market and the synergy and potential substitution with fixed lines services. However, Wharf T&T is very concerned that the general policy on licensing of mobile services upon expiry of the existing licences would create, discrimination or unfairness to the potential new entrants to the mobile market. This would certainly create regulatory barriers to entry and defeat the objective of competitive licensing. We believe the existing 2G mobile operators should not be given any undue advantage in order to ensure that the many different interests and to encourage potential domestic and foreign investors for the telecommunications sector.

2.2 In order for the TA to boast that it has encouraged and attracted investment in the development of mobile services, it has to set out the proper operating mechanisms and thoroughly consider the interests and the hardships that the potential new entrants would encounter in order to give them more confidence...
both on the financial and commercial levels before making such a sizable investment. To facilitate the entry of new operators would act as a catalyst to stimulate more investment from the existing operators and of course the new entrants. With that mindset, telecommunications technology would evolve even more rapidly and it would also stimulate the telecommunications market in Hong Kong to provide higher quality, more reliable and innovative services at reasonable costs to mobile consumers.

2.3 Wharf T&T proposes to the TA the measures and policy to encourage investments to include the setting forth of instruments, including:

(a) Direct offer of new licences to new entrants of market entry;

(b) Introduction of a glide path of waiver or substantial discounts on licence fees for new applicants;

(c) Removal of the consideration of the “right of first refusal” to be offered to the existing 2G licensees to give the potential to new entrants;

(d) Free choice of spectrum to be made available to the new entrants in order to ensure flexibility and induce more investment with positive features; and

(e) Spectrum which have been allocated previously and have not been actively deployed or marketed by existing licensees should be immediately withdrawn.

2.4 The overall strategy of the TA should be focused on maximizing consumer benefits by creating fair and non-discriminatory regulatory/licensing arrangements. It is considered that by creating the right environment and assisting the potential new entrants to build the fast track to catch up with the existing licensees would also create more investment opportunities which would benefit the equipment manufacturers and vendors, consumers and the general economy.

3. Specific Comments

Spectrum Availability

3.1 The TA has rightly pointed that the issues on the efficient use of the spectrum should be thoroughly considered and designed in order to make the proper future arrangements for the allocation of spectrum and issues of licences for mobile services after the current 2G licences expire.

3.2 The global development of the 2G spectrum is fully underway and the TA should follow the current and redeploy the existing 2G spectrum for mobile services. It would be ideal if the potential new applicants can enjoy a wider spectrum via availability of choice. Since the various licences will expire in around 2005 to 2006, the TA should take advantage of the time available and
explore means so as to redeploy the spectrum in a wider range of frequencies and how it should be partitioned in the next phase.

**Licensing Arrangements**

3.3 **Wharf T&T strongly objects** to the TA's consideration of offering the existing 2G licensees the "right of first refusal" for new licences operating on the existing 2G spectrum. It will be unfair to the new entrants if it is only when an existing licensee declines to obtain the new licence that the spectrum to be allocated to the licence will be made available for new entrants to apply. The arguments in favour of this option would in fact jeopardise every incentive for new entrants to take part and invest on new technology. It is also undemocratic for one to assume that the existing licensees are likely to utilize the allocated spectrum more efficiently than new entrants. With the right incentives, the new entrants will be able to pick up very quickly in the near term and make best use of the allocated spectrum.

3.4 In this light, Wharf T&T supports the TA's view that the argument for the "right of first refusal" to be considerably weakened for those bands, namely the bands in the 800 MHz, which have not been actively developed and the services not actively marketed. The TA is also right to point out that scarcity and value of spectrum and such resources should be efficiently utilized so as to derive the maximum benefit to the community. Therefore, the TA should be firm not just only not to make the "right of first refusal" offer to the two licences in the 800 MHz band but be steadfast and adamant not to offer the "right of first refusal" to existing 2G licensees so as to design a level playing field for the potential new entrants to join the mobile market.

3.5 Since the current licences will expire at different times between 2005 to 2006, Wharf T&T supports the TA that it will be desirable that all the existing licences to cease operation and new licences commence operation all at the same time to ensure efficient and unhindered reallocation of spectrum. This proposition of alignment of the date of new licences would promise equity to existing licensees as well as future new licensees who would be required to incur substantial investment in rolling out their networks and services.

**Spectrum Utilization Fee (SUF)**

3.6 Wharf T&T notes that all 2G and 3G licensees are required to pay licence fees based on the number of customers and base stations set up by the licensees. Wharf T&T also notes that the future new licensees for mobile services will likewise be required to pay the licence fees prescribed by the law. Yet, it would create a lot more incentive and motivation if the TA is prepared to introduce a glide scale for the new entrants as a waiver or discount of the entry fees.

3.7 Wharf T&T does not agree that in order to be fair to the 3G licensees, the new licensees should also pay the same level of fee to maintain a level playing fee in
the market. The 2G licensees are currently not required to pay any SUF and they have already enjoyed the waiver for at least 10 years. It would only be if the new entrants were allowed to enjoy at least the same period or even longer in order to compete with the existing operators. If the TA were keen to encourage sizable investments of this nature, the new licensees should not be required to pay any SUF or at least the TA should determine a lower level of the fee on the issue of new licences. Reason is simple, such inducement would install more confidence for the potential new entrants to take part and invest. It would also be an effective measure to examine the TA’s sincerity to welcome and facilitate the new entrants with business and financial support to start up the new business. This would promise the long-term benefits of the public and the general consumers.

3.8 Wharf T&T is used to performance bond as one of the FTNS operators. In the current licensing exercise, Wharf T&T agrees that such mechanism will serve to protect the government against serious default by a licensee. To ensure the efficient utilization of the allocated spectrum resources, Wharf T&T submits that for those existing licensees who have had a previous failure history to fully maximize the utilization and continue to do so, a civil penalty or consequence of some sort would be imposed in the undertakings.

Licence Conditions

3.9 Wharf T&T believes it to be fair that it is essential to provide an open environment for access by content providers to future mobile networks and that this condition should apply to the new licensees. Wharf T&T firmly believes that the new entrants would be dedicated to compete with the existing licensees and they would not want to be lagging behind in terms of quality and choice. Yet, that could not be easily achieved unless the TA is prepared to design the right facilitation policies for the new entrants to achieve that stage and sustain with further investments.

3.10 Amongst the list of the special conditions proposed and highlighted by the TA, Wharf T&T submits the most important of all is interconnection. The TA has to ensure that efficient interconnection could be achieved between the various licensees to interconnect their services and network among themselves and with the other telecommunications services and networks. This cannot be done unless and until the TA is prepared to actively participate and intervene promptly upon request of the licensees, especially made by the new entrants. If the new entrants could not sustain the fierce competition, it would be useless to keep continuing to issue new licences under the deregulation dynamics.

3.11 Where licensees are mandated to provide services where it is not economical to do so, there should be some sort of compensation as that seen in the form of or similar to the scheme and objective of universal services contribution in the fixed lines market. We urge OFTA to seriously consider such proposal.
4. Conclusion

4.1 The TA should be keen to see further innovative, efficient infrastructure and services competition and we trust the emphasis on pre-investment government seducements will assist with this. But until such competition exists effective access and licensing measures will be very important in promoting the long-term interests of end users and further investments. It is also important for the TA to monitor very closely the market conduct of the existing licensees in order to avoid the new entrants being “bullied” by the existing licensees.

4.2 On the basis set out in this submission, Wharf T&T respectfully requests the TA to implement attractive measures so as to facilitate the new applicants to join the mobile arena. Even though Hong Kong has earned a reputation of open market, it is important for the TA to maintain that and to formulate and promote competition so as to ensure economic vitality in the telecommunications market. Giving the existing 2G licensees the right of first refusal goes against the very concept of open market. It gives existing 2G licensees regulatory preference over everyone else which is clearly not justified. It also prohibits entry by new entrants which goes against the Government policy thus far seen in the telecommunications section which is to eliminate regulatory barriers.

Submitted by
Wharf T&T Limited

Date: 2 October 2003
Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services

Wharf T&T’s Response to the Consultation Paper from the Telecommunications Authority (TA) dated 1 August 2003
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>2. GENERAL COMMENTS</td>
<td>1</td>
</tr>
<tr>
<td>3. SPECIFIC COMMENTS</td>
<td>2</td>
</tr>
<tr>
<td>4. CONCLUSION</td>
<td>5</td>
</tr>
</tbody>
</table>
Dear Sir,

Re: The Consultation Paper of Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services

Lucent Technologies (China) Co. Ltd appreciates the opportunity to provide comments to the Office of the Telecommunications Authority with regard to the consultation paper mentioned above.

Headquartered in Murry Hill, N.J., USA, Lucent designs and delivers networks for the world’s largest communications service providers. Backed by the research and development of Bell Labs, Lucent relies on its strengths in mobility, optical, data and voice networking technologies as well as software and services to develop next generation networks.

Being Asia’s World City, it is important for Hong Kong to be a regional hub and economic center for the region. As such, Lucent Technologies urges TA to adopt policies that will support multiple standards, compatible with technologies deployed in the region and around the world.

The growth of CDMA in the Asia-Pacific region has been very strong with the introduction of CDMA2000 in many markets throughout the region including China, Japan, Korea, Thailand, and Vietnam. Currently, there are over 160 million CDMA subscribers with over 35 percent of these customers based in the Asia Pacific region and the region is in the forefront of deploying 3G services. China Unicom added approximately 4 million subscribers in the first half of 2003 and projects obtaining 13 million subscribers by the end of 2003.
Lucent supports this consultative process and we provide the following specific comments related to paragraph numbers from the consultation document.

4 We support TA’s technology neutral position. However, the way how TA allocates the spectrum will more or less dictate the technology used. For instance, if 880-890MHz paired with 835-845MHz, it will be CDMA. If 880-890MHz paired with 925-935MHz, it will be GSM.

8 Lucent would like to point out that one of the 3G radio interface standards can be applicable over the frequencies in the 800MHz bands, as it is not explicitly stated in the consultation paper.

Today, the CDMA2000 system is the most common 3G technology available. There are more than 50 million subscribers using the CDMA2000 system, and most of them are operating at the 800MHz spectrum band.

13 Lucent agrees with TA’s technology-neutral approach. However, with the consideration of other 4 points listed in paragraph 4, namely, (1) ensure choice of services, (2) provide stable investment environment, etc, it is important for Hong Kong, being one of the financial and economic centers in the world, to maintain an environment to make multiple wireless technologies available so to provide services to numerous business and leisure travelers who come from many parts of the world. As such, it is critical for Hong Kong to consider the balance the technology choices and their availability.

14 GSM operators and subscribers are overwhelmingly saturated in Hong Kong. Lucent suggests that it is not effective to allocate more spectrum to make use of the Extended GSM band.

To maintain the technology-neutral approach and to provide a stable investment environment, it is imperative for Hong Kong to maintain the entire 800MHz cellular bands for technologies that are compatible and applicable in this band.

22 Lucent notes that there are few subscribers on the two 2G operators operating in the 800 MHz band. Lucent believes it is due to the lack of marketing effort as well as the legacy of the system equipments used by those 2G operators.

The technologies (TDMA and IS-95 CDMA) as well as equipment are several years old and very little upgrades have been make, Lucent believes. Lucent suggests to make these two licenses available for bidding with a requirement to use the most up-to-date technologies (such as CDMA2000 and 1X-EV/DO) by the winning bidder.

Hong Kong is lagging behind its neighbors in the mobile data services. Local mobile application developers are not able to survive without a prosperous local market. CDMA2000 1X and EV-DO are mature technologies. Introducing data service will pull Hong Kong mobile industry out from today’s stagnant situation.
We thank you again for the opportunity to provide comment to your consultation paper and will be more than happy to provide further information if required.

Yours faithfully,

Catherine Leung
Vice President
Hong Kong
Lucent Technologies (China) Co. Ltd
October 2, 2003

China Unicom Limited would like to thank the Hong Kong Office of the Telecommunications Authority (OFTA) for the opportunity to comment on its August 1, 2003 consultation paper entitled Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services.

China Unicom Limited (UNICOM), a company incorporated in Hong Kong, is listed publicly both in the Stock Exchange of Hong Kong (0762: SEHK) and the New York Stock Exchange (CHU: NYSE). At present, UNICOM is the only integrated telecommunications operator in the PRC. Our scope of operation includes GSM and CDMA cellular communication businesses in 21 provinces, municipalities and autonomous regions, a nationwide radio paging business, international and domestic long distance telephone business, data communications, such as Internet and IP telephony business, and the provision of other related value-added services. With respect to our core cellular communications services, UNICOM is one of the two leading cellular operators in Mainland China. As of August 31, 2003 there were approximately 73 million customers for our GSM (approx. 61Mn) and CDMA (approx. 12Mn) services. Thus, in terms of customer numbers, UNICOM is the world’s second largest cellular operator with significant market presence.

While being one of the largest GSM operators in the world, UNICOM is also very supportive of the CDMA technology. We have completed the upgrade of our nationwide CDMA network from IS-95A (2G) to CDMA2000 1X (2.5G) in the first half of this year. UNICOM believes that CDMA 1X system, the most spectrally efficient wireless
technology available today, offers superior performance in the area of advanced data and video communications as compared with other technology standards currently available. With our current growth trajectory, UNICOM will become one of the largest CDMA operators in the world over the next few months despite the service have only been launched some 18 months ago. UNICOM is also considering upgrade the 1X system to the EV-DO or EV-DV advanced technology platform, thereby developing and offering even higher data speed and more sophisticated value-added services to our customers in the near future.

The growth of CDMA in the Asia-Pacific region has been one of the strongest in the world particularly with the introduction of the CDMA2000 (1X or EV-DO) services in markets such as China, Japan, Korea, Thailand, Vietnam, and Taiwan over the last 2 years. Currently, there are more than 160 million CDMA users with over 35 percent of these customers based in Asia-Pacific region. In Japan, for example, KDDI is adding on average 600K CDMA2000 customers a month while UNICOM has been adding more than 1 million each month for the last 2 months (July and August). Our projection is to add approximately 11 million customers in 2003 (21 Provinces).

UNICOM recognizes the importance of Hong Kong as both an international financial center and a regional hub for economic and trade developments. In order to achieve the goal of being the Asia's World City, Hong Kong (and OFTA) should adopt mobile communications provisioning policies that will support multiple and open radio air interfaces as well as compatible with key technologies deployed around the world. In addition, we believe that OFTA should create a framework that will allow CDMA users and operators the provision and usage of key services as well as roaming options within Hong Kong.

UNICOM also recommends that OFTA adopt licensing and spectrum allocation policies that will facilitate at least 2 operators to provide CDMA services in the 800MHz spectrum. With this in mind as well as that of technology neutrality, UNICOM does not support OFTA proposal to extend the "GSM Band" downwards to the 880-890 MHz/925-935 MHz to solely accommodate operators using a specific technology platform nor that of implementing frequency allocation in the multiples of 2 x 5 MHz.
UNICOM believes that the above comments are in line with OFTA stated objectives of ensuring choice of service, efficient use of spectrum, and maintaining technology neutrality as the key attributes to an effective mobile communications policy in Hong Kong. Last but not least, we also believe that the possible entry of new player(s) to an open and efficient market will not adversely impact its investment environment. On the contrary, new entrant(s) could generate new and incremental investment in a technology-driven and new service-oriented marketplace. Any new entrants, particularly that focus on data services, with choice of open technology platforms could also provide more market opportunities to the software and application development industry in Hong Kong.

UNICOM appreciates the chance to comment on the OFTA consultation paper and we believe that OFTA will take into consideration of what is best for Hong Kong, its mobile operators (existing and new), consumers, as well as related industries such as local content and application developers, to come up with a mobile communications policy which is both sustainable and value creating. UNICOM look forward to the next round of consultation as well as the opportunity to provide our views to OFTA in the near future.

Should you have any questions regarding the above or require additional clarification or information, please do not hesitate to contact the undersigned.

Best regards,

Dr. William Lo, JP
Executive Director
China Unicom Limited

c.c. Wang Jianzhou, Chairman & CEO, China Unicom Limited
Peoples Telephone Company Limited ("Peoples")

Response to
Licensing of Mobile Services on Expiry of
Existing Licences for Second Generation Mobile Services
Consultation Paper

Peoples appreciates the initiatives taken by the TA to address the future licensing arrangements for the 2G mobile services as early as practicable. We would like to submit our views to the Consultation Paper issued by the TA dated 1 August 2003.

Method to partition the frequency spectrum for allocation to the new licensees
(paragraph 19)

1. There are now six 2G licensees. Three licensees ("Single Band PCS Licensees") are using only 1800 MHz frequency bands to provide 2G mobile services while the other three licensees ("Dual Band GSM/PCS Licensees") are using both 900 MHz and 1800 MHz bands under 2 separate 2G licences (apart from other licences used to deploy TDMA and CDMA networks in the 800 MHz). As each Dual Band GSM/PCS Licensee is effectively using both frequency bands in a combined GSM network rather than two self-sufficient standalone networks, the frequency spectrum used by each Dual Band GSM/PCS Licensee (i.e. 2x 19.9 MHz) is much wider than the frequency spectrum used by each Single Band PCS Licensee (i.e. 2x 11.6 MHz). In order to ensure a fair competitive environment and ensure efficient use of spectrum resources among the licensees in the future, Peoples opines that the available frequency spectrum should be re-allocated in a way such that each licensee of 2G mobile services should have sufficient allocation on a basis of demonstrated needs. This will enable each licensee to overcome spectrum constraints in order to fulfill the capacity demand on equal basis.

2. As the Extended GSM band (880-890 MHz / 925-935 MHz) is already supported by the infrastructure suppliers as part of GSM 900 radio equipment and it is also supported by most current and upcoming handsets, it should be included in the available spectrum of GSM 900 band for re-allocation to the new licensees.
The three Single Band PCS Licensees should be allowed to become dual band (900/1800 MHz) network operators.

3. As pointed out by the TA, the existing frequency allocations for the 2G licensees are fragmented and not contiguous. This may justify the necessity of re-allocation of spectrum. In order to give the licensees the flexibility in choosing the technology to be deployed, it is desirable that the frequency is allocated with bandwidth in 5 MHz blocks. However, the implementation of a "reshuffling" will be a difficult task and it will require a sequential migration by various licensees in order not to deteriorate existing services to subscribers.

4. In Peoples' opinion, the most practical approach to partition the frequency spectrum is to allocate the EGSM band with higher priority to existing Single Band PCS Licensees. The radio equipment of Peoples can accommodate additional transceivers to use all the available frequency bands in the GSM900 band (including EGSM) and GSM1800 band.

5. There is also 4.9MHz of unallocated spectrum available in the dedicated 1800 MHz frequency band. It should be allocated to the existing Single Band PCS Licensees on a demonstrated needs basis for the remaining term of existing licence as they are already experiencing capacity constraints with available spectrum and demonstrating a utilization much higher than the Dual Band GSM/PCS Licensees.

**Basic approach in awarding the new licences (paragraph 25)**

6. Peoples agrees in principle to the approach of offering the existing 2G licensees the "right of first refusal" for new licences operating on the existing 2G spectrum apart from under utilized 800/850 MHz frequency bands. We agree to the view that the existing 2G licensees will utilize the allocated spectrum more efficiently than new entrants because most infrastructure making up the existing networks can be reused and/or enhanced in the revised frequency allocations. It will take considerable time for new entrants to build their networks to attain reasonable coverage, capacity and spectrum utilization efficiency. Additionally, direct offer of new licences to the existing 2G licensees will minimize the potential disturbance to existing consumers of 2G mobile services.
7. The TA has in the past awarded different class of 2G licences at different times, five PMRS licences in 1992/93 and six PCS licences in 1996. Upon the subsequent mergers and acquisitions between some of the licensees, the total of eleven licences for 2G mobile services are now held by six licensees. All the three Dual Band GSM/PCS Licensees have converted their respective GSM (900MHz) and PCS (1800 MHz) networks to become combined dual band networks. In other words, none of the Dual Band GSM/PCS Licensees is offering single band 900MHz or 1800 MHz mobile services on a standalone basis. As such, there will be no need to keep different class of new 2G licences (i.e. PMRS and PCS) for exactly the same type of mobile services. Each licensee should get only one licence to operate 2G mobile services.

8. As spectrum is a scarce and valuable public resource, Peoples supports the view that the "right of first refusal" should not be given to the licensees in the 800 MHz band for the mobile services that have not been efficiently utilized. Peoples strongly supports the need to utilize valuable spectrum in the most efficient manner. The 880-890MHz band falls into the EGSM band and it should be made available for GSM systems.

9. The TA has exercised its rights to extend the 2G licences for PMRS for three years. Peoples requests the TA that the existing PCS Licences should also be extended for three years. This is to keep a fair treatment to both PMRS and PCS class of 2G licences. A three year extension with current licence conditions should also be given to the PCS licences.

10. Peoples opines that if Peoples is requested to surrender its existing licence to the TA at a designated date earlier than the natural expiry date or extended expiry date (if applied), any additional fees payable under new licence term should only come into effect after the original expiry date of existing licence or the expiry date of any extension granted by the TA.

11. There would be difficulties for Peoples to surrender its existing licence to the TA earlier than the natural expiry date. As Peoples has entered into many commercial contracts with its business partners with validity directly tied to the existing licence, an early termination of the existing licence will involve considerable contractual implications.

12. The validity of the new licences should be fifteen (15) years due to the following
benefits of:

(a) allowing the licensees to deploy new technology using the 2G spectrum;
(b) providing continuous service to the customers; and
(c) securing investments made by the utility companies.

Issues relating to the levying of SUF (paragraph 34)

13. In general, Peoples opines that the Spectrum Utilization Fee ("SUF") applicable to 3G licensees should not be levied on the new licensees providing primarily non-3G services. The existing 2G licensees, upon award of new licensees, will be required to maintain the 2G services offered to the existing 2G customers. Any SUF levied, irrespective of whether 3G services are offered or not, will create additional financial burden and impact to the retail price and it will inhibit future investment in the networks.

14. If the TA decides to impose SUF on 3G services, the levy of such fees should not be applied to any preset cut-off date. Instead, the fees should only be triggered upon the occurrence of a milestone when the new licensees offers 3G services as defined in the Special Conditions of the 3G licence, i.e. 50% coverage of 3G services and a minimum of 144kbps for an individual customer.

15. On the grounds of fairness, considerations must also be given by the TA to the spectrum usable by the new 2G licensees to provide 3G services. Each of the 3G licensees has been allocated 2x 14.8 (paired) + 5 (unpaired) MHz bandwidth. If SUF is to be levied, it should be directly proportional to the amount of spectrum allocated to / usable by the new licensees to provide 3G services. The usable spectrum for 3G services should exclude the spectrum used purely for 2G services.

16. Peoples strongly objects to the need for a performance bond. Firstly, based on the existing customers base of the 2G licensees, the risk of serious default by the new licensees will be insignificant. Secondly, as the new licensees will be required to maintain 2G services to the large base of existing customers using the available but limited spectrum, inefficient utilization of allocated spectrum resources will not occur.
Licence conditions to be imposed on the new licensees for mobile services

17. The issue of 3G licences is for licensees to deploy new telecommunications networks from scratch while the issue the new 2G licences is to ensure continuity of services to large existing customer numbers. The special conditions set out in the mobile carrier licences issued on 22 October 2001 to the four 3G licensees should be considered one by one in the arrangements for new 2G licences.

18. One important special condition is the requirement to provide open network access. As the 2G networks are carrying large customers base with the existing spectrum and the Single Band PCS Licensees are already experiencing spectrum constraints, it is technically impossible to open up at least 30% of the network capacity for access by MVNO or content providers and therefore it should not be a condition to new licences.

19. Because of the already high utilization of spectrum by the 2G Licensees, the capacity requirement for 3G services, i.e. minimum coverage and bit rate for an individual customer, should not be applied to the new licences.

20. Peoples opines that there should not be any new conditions to expand or provide additional coverage or services at specific locations. The market for mobile communications in Hong Kong has one of the highest penetrations as compared to other developed countries. Any coverage or services enhancement is already driven by the market forces. As the competition among the various mobile operators is already very high, any additional coverage or services mandated by the licence conditions will create financial burden to the licensees and impact to the retail price.

21. In particular, the mandatory requirement for mobile coverage in country parks is not reasonable. Firstly, it should be at the cost of the government to enable effective communications in emergency situation for less populated and low traffic parts of Hong Kong. The financial burden should not be shifted to the licensees to engage in unprofitable business. Secondly, there is no need to have coverage by multiple mobile networks for emergency communications at each location. According to the current technology and industry practices, any mobile user can access the network of any operator for making emergency calls.

22. In case the TA decides to mandate mobile coverage at certain location, the TA
must assist the licensees to overcome all obstacles, including but not limited to, site access, transmission facilities, utilities, approval by other government departments and affordable costs, etc.

23. Peoples does not support to the mandatory compliance to codes of practice ("COP"). Given the MNP environment in Hong Kong, each mobile user encounters no cost and/or obstacle to choose the most preferred mobile service provider. Any COP should only be established either on a voluntary basis or based on majority support through industry consultation.

**Conclusion**
Peoples would like to summarize our views on the following major issues:
(a) The future licensing arrangement should be finalized as early as possible.
(b) The TA should ensure a fair and equitable allocation of frequency spectrum to operators on a demonstrated needs basis.
(c) The 4.9 MHz of unallocated spectrum available in the 1800 MHz band should be allocated to the existing PCS operators as soon as possible on a demonstrated needs basis.
(d) "First right of refusal" should be given to network operators which have demonstrated efficient use of valuable public spectrum resources.
(e) The validity of the new licences should be fifteen (15) years.
(f) There should be no Spectrum Utilization Fees to be levied on 2G mobile services.
(g) The licensees of 2G mobile services should not be required to open their network capacity for access by MVNO or content providers.
(h) There should not be any additional special conditions in the renewed licences.
Dear Sir/Madam,

OFTA's Consultation Paper

Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services

In response to OFTA's consultation regarding the licensing of mobile services on expiry of the existing 2G licences, KCRC is pleased to express our views below for the TA's consideration.

Licensing Arrangements

Offer of Licences to the Existing 2G Licensees vs Award of Licences to New Licensees

KCRC supports the approach of offering the existing 2G licensees the "right of first refusal" for new licences operating on the existing 2G spectrum. In addition to the TA's arguments in favor of this option, KCRC considers that the prevailing agreements between the mobile network operators (MNO) and the landowners, which subsist beyond the expiry of the existing 2G licences should also be accounted. Direct offer of new licences to the existing 2G licensees would minimize the disturbances to these agreements. In fact, TA may consider to apply this approach on the future expiry of any mobile services licences e.g. 3G.
For those bands, which have not been actively developed (bands in the 800 MHz), the TA may consider to further extend the licence until all agreements with the respective landowners expire.

KCRC agrees that the TA should require the existing 2G licensees to accept new licence conditions when offering the "right of first refusal" to the existing 2G licensees. Such licence conditions should also be imposed on any new licences to be issued by the TA.

New Conditions to be Imposed on the Existing 2G Licensees

_Obligation to Provide Coverage to Specified Locations_

KCRC advocates the imposition of new licence condition on all 2G operators, requiring them to provide mobile coverage to all existing or future railways, tunnels and airports or any extensions thereof.

In view of the public interest represented by the existing six million 2G customers and of the government’s stated objective of developing Hong Kong as a regional telecommunications hub in Asia, it is vital that ubiquitous mobile coverage be provided in all strategic parts of Hong Kong. The provision of such services to railways, tunnels and airports, where the public interest test can easily be justified, should therefore be an obligation of all 2G operators under the new licence with no exception. It is equally important that such coverage be available to all future railways, tunnels or airports on Day One of service commencement in those locations.

It has always been our intention to facilitate the provision of mobile coverage in our railway premises for the benefit of our commuters and all 2G customers. In order to reduce the huge project costs of building mobile infrastructure in our railway premises, due to the limited space available and more importantly to assure the continued safe operation of our railway, it is safer, more economic and technically more efficient for KCRC to build an integrated radio communications system for use by the MNO rather than having them to install their own systems in railway premises. This is particularly so in the case of new railways under construction, as the project cost of building a single integrated system is considerably less than individuals MNO installing their separate systems. It is also much safer as an integrated system can be, from the outset, designed
and built to operate safely together with the Corporation’s railway systems. It is economically more efficient because there is less chance of disruptions to construction works where one contractor is engaged in such works rather than the contractors of several MNO all seeking to co-ordinate their works with other numerous construction contractors. Similarly, in the case of an operating railway, there is less chance of disruption to railway services being brought about where there is a single system to be maintained and repaired than there would be with the separate systems of several MNO needing to be maintained and repaired. Such arrangement can only benefit the customers of MNO and the Corporation by going a long way towards ensuring Day One service mobile phone services be provided for new railways.

Without the proposed new licence obligations, the MNO may be reluctant to provide day one mobile phone coverage because of commercial considerations. Were that to be the case the public interest in the widest possible coverage for mobile phone services would be jeopardized, and KCRC would have to re-consider whether it would be commercially prudent to invest in such integrated systems. It should be noted that KCRC's core business is railway operation, it does not have the obligation under KCRC Ordinance to facilitate the provision of mobile phone services by the installation of integrated systems, nor does its Ordinance require it to subsidize the mobile infrastructure investment of MNO.

To ensure Day One mobile phone coverage is available on any new railway, all tunnels and at the airport, it is imperative that the MNO should be obliged to provide such coverage. Such an obligation is needed to correct a currently perceived commercial imbalance between property owners in the position of the KCRC and MNO caused by the requirements of Section 14(1A) of the Telecommunications Ordinance. Whereby the TA may order property owners to allow MNO to install their equipment in owners' premises, without a balancing obligation upon MNO to be required to install or connect to systems where owners wish them so to do. That provision gives a substantial commercial advantage to MNO.

It should perhaps be noted however that in the opinion of the Corporation, the existing legislation and special conditions contained in MNO’s licences provides the TA with an unambiguous power to order “interconnection” with systems such as those installed by the Corporation in West Rail and the East Rail Extensions.
Conclusion

The above paragraphs have spelled out our preliminary views on the Consultation Paper having regard to our experience with MNO in providing mobile coverage to the Corporation’s existing railway and new railways. We urge the TA to seriously consider our views on this Consultation Paper and extend the same to all your future generation mobile services licences.

Yours faithfully,

(Hester Cheung)
Senior Manager - Commercial

C.c. DPM
     GM-PS
     GM-FC
     CS-GC
     SLC
     EEM

HSYC/IC
Hong Kong Broadband Network Limited

Submission of Comment on “Licensing of Mobile Service on Expiry of Existing Licences for Second Generation Mobile Service”

Summary

1. HKBN welcomes the opportunity to submit comments on the consultation paper issued by the Telecommunications Authority dated August 1, 2003 titled “Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services”.

2. TA’s timely effort to study the future licensing arrangements for providing the greatest regulatory certainty enables industry players, including both existing and potential mobile network operators to make long term investment and business plans.

3. In view of current inefficient utilization of spectrum resources, HKBN supports the TA should review the existing utilization by the existing operators with a view to improve the efficiency of the current use of frequency spectrum being a public resource on one hand and to
maximize the number of licensees and accordingly choices to be available in the market on the other.

4. HKBN strongly believes that the introduction of new market players with commitment in exploring the high-speed, high capacity mobile data content service would undoubtedly stimulate growth of the market. This also helps to strengthen Hong Kong as a premier telecommunications hub for the development of innovative telecommunications services in the Asian-Pacific region.

5. HKBN, being one of the Fixed Telecommunications Network Services Operators with extensive wireless and a developing wireline network coverage in the territory, is very interested and committed to maximizing its resources for providing technologically advanced mobile ‘voice & data’ services at economical prices in the market.

6. In respect of the re-partitioning of the spectrum for mobile services, TA should maintain its “technology neutral” approach to allow free and unrestricted variety of technologies to have equal opportunity to grow and compete in the market.

7. In compliment of this ‘technology neutral’ approach, there should be a flexible policy in the allocation of spectrum so as to facilitate the use of various technology, so that more innovative services and applications could be deployed in the market.
8. HKBN strongly opposes to the proposal of offering a “right of first refusal” to the existing 2G licensees for new licences operating on the existing 2G spectrum. This right provides an unfair privilege in favour of the incumbent operators at the expense of the market as it would hinder other potential operators from entering into the market and thus stifles competition in the market. In line with Hong Kong’s hard-earned reputation for fair competition, a level playing field should be maintained for all operators, be they the incumbent operators or new comers.

9. HKBN supports TA’s view that all the existing licensees should surrender their licences and align with the new licensees to commence operation at the same time. The existing licensees should submit application for new licences with a comprehensive business plan to the Government showing merits which entitle them to a new licence. Thus, the award of new licences to the existing 2G operators should be evaluated equally together with the new entrant’s applications under the same selection criteria.

10. For the bands in the 800 MHz, which have not been actively developed or promoted in the market, the TA should mandate the 2G existing operators to return their unused or under-utilized spectrums to the Government for re-deployment to the other new licensees.
11. For the interests and benefits of the customers, HKBN insists that existing and potential operators should by all means be treated on equal footing. Given spectrum constraints, all mobile service licensees should be granted on merit basis, with the criterion of providing innovative data services and fast network rollout, with high quality and at reasonably low prices.

Current Mobile Service Market Situation

12. There is a saying that there is already an excessive level of competition and over-investment in Hong Kong's mobile service market as we have eleven PRS licensees comprising six mobile operators for the provision of traditional voice-based services as well as emerging value-added services. However, HKBN would like to stress that a majority of these existing mobile market players, other than basic voice service packages, have merely been focusing on the highly profitable but low-end international roaming service but not otherwise. In the absence of effective competition in the roaming market, the level of roaming charge remains at an unreasonably high level (e.g. ~HK$20/min. for making a roaming call from US to HK). It seems that the existing 2G operators are not particularly keen on putting efforts in exploring other technologically advanced telecom services. This explains why the development of those more technologically advanced services remains in a slow progress comparing with other Asian countries.
13. One might argue that over-reliance on the roaming market as the main source of revenue is the direct result of excessive competition in the local voice market. However, the reality is that the above mentioned lack of keen in exploring other data- and/or content- based services has suffered Hong Kong in lagging far behind its neighbors in the Asia Pacific region such as Korea, Japan and Taiwan in at least the mobile data applications. This unhealthy trend no doubt would hinder Hong Kong from becoming a leader in the telecommunications hub of the region.

14. Recently respective mobile operators have commenced providing bits and pieces of data- and/or content- based services such as WAP, MMS, SMS, etc, which are barely deemed high-speed products. However, in accordance with the global trend in mobile service development, high-speed and high-capacity mobile data & content services would be the focus, like real time video, Games, Infotainment, Transaction Service (M-commerce), location-based services, picture download. For those comparatively well developed mobile service markets such as Korea, Japan and Taiwan, the revenue stream and economic effect as brought by mobile data and content based services has been picking up a fast growing upsurge when compared with the more mature and steady voice services. In this respect, TA should no doubt be aware that the mobile data services only contribute about 3% of the total revenue of the existing 2G operators in Hong Kong; whereas in Korea and Japan, it has
already taken up as much as 15% of the total revenue stream in mobile service market.

15. Needless to say, investment opportunity that may be brought by an integration/convergence of voice and data application on the 3G platform would undoubtedly stimulate and create new players and new roles in the new market landscape. It is anticipated that application providers, network operators, portal operators, device manufacturers, content providers, application developers, network equipment manufacturers would create new supply chain/network and strategic partnership in a converged market.

16. Not only can this create new business opportunity, job openings, promote innovation, enhance service quality and provide best value for money, but also the ultimate benefit going to the consumers, who will be able to enjoy more choices of innovative data application services. Thus, the TA must address this issue if Hong Kong were to claim itself an advanced mobile service market.

Introduction of New Licence Stimulate the Mobile Service Market

17. We would not dispute the competition in the existing mobile voice market is intense. Considering the current low tariff of the mobile voice services, there seems no investment incentive or competitive edge for
the new entrants to further compete with the existing 2G mobile operators in the mobile voice market. However, by making reference to the fast-growing technology-advanced application being deployed in the Asia-Pacific region including Japan, Korea and Taiwan, there is great potential for new entrants to bring in new applications for data services. Thus, the current market situation is such that issuing new licences would not have adverse influence to the mobile voice market.

18. Conversely, whilst existing 2G mobile operators may blame on the excessive competition (in mobile voice market) and claim it is not appropriate to issue further licence, HKBN would argue that the introduction of new market players with commitment in exploring high-speed, high capacity mobile data content service could on the contrary help to stimulate the development and growth of the market.

Key Ingredients for Success

19. Meanwhile, an appropriate government policy and regulatory regime by the TA would play a crucial role in facilitating the development.

20. In deciding for the future licensing arrangements for mobile services, the TA should adopt the following objectives to which Hong Kong’s mobile telecommunications policy and regulation are directed: -
To enable more choice of multimedia services with low cost but high quality;
To ensure greater capacity and efficient use of frequency spectrum;
To maintain its technology neutral position;
To ensure open international or regional standard;
To ensure the compatibility of global roaming between different mobile operational environments;
To enhance Hong Kong’s position as a telecommunication hub in the Asia Pacific Region for the development of innovative mobile services.

21. Other than the above objectives for deciding the future licensing arrangement for mobile services in Hong Kong, TA should continue to promote and maintain a competitive environment which allows various innovative technologies to emerge and have equal opportunity to grow in the market.

22. The TA’s regulatory regime should also build on a strong foundation that have already been laid, and not to put either existing operators or new entrants at a disadvantage with respect to competition.
HKBN Supports Frequency Spectrum Re-Partitioning

23. HKBN supports the TA’s idea to re-partition the spectrum so as to accommodate additional technology systems including the UMTS FDD system and the cdma2000 system. However, HKBN has reservation on the approach of “minimum bandwidth requirement for each operator”. In view of the rapidly changing technologies, the fixing of “minimum bandwidth” may result in inefficient use of the radio spectrum. TA’s proposal to re-partition the spectrum should rather be based on individual licensee’s needs and its ability to demonstrate efficient use of allocated spectrum.

24. We opine that TA should give licensees more flexibility in choosing the technology to be deployed and allow rooms for new technology to emerge according to market demand. Therefore, the future frequency plan for mobile services should be compatible with the requirements of different technologies. Hence, HKBN would support neither fixing the minimum bandwidth nor re-partitioning the available spectrum into frequency blocks with bandwidth in multiples of 2 x 5 MHz.

25. A flexible mechanism of bandwidth allocation will be the best approach. This is in line with the TA’s objectives to ensure the availability of frequency spectrum will be allocated to meet the genuine requirements by operators, rather than leaving certain frequency spectrum idle and causing wastage.
26. From the technical perspective, as the consultation paper has rightly pointed out, the existing frequency allocations for the 2G licensees, e.g. in the 900 MHz and GSM System, are fragmented and not continuous. The necessity to merge the existing allocation is surely of urgency in order to release spare band to accommodate additional licensees.

27. In addition, to provide more opportunity for new industry players to acquire spectrum, the TA should review the current use by existing 2G operators on assigned spectrum in 800 MHz / 835.0 – 842.5 MHz / 880 – 887.5 MHz which is under-utilized and the services are not actively promoted in the market. For the benefits of the public, the TA should ensure the efficient use of scarce public resources and mandate those operators to return those unused or under-utilized spectrums to the Government for re-deployment.

28. On the other hand, HKBN does not support TA’s proposal to further extend the lower limit of the GSM bands downwards to 880-890 MHz/925 – 935 MHz range to accommodate the operations of the existing GSM systems operating in the existing 900 MHz spectrum. The main reasons are as follows:

- The TA should take a technology neutral approach and maintain the variety of all dominant mobile technologies with equal opportunity to develop and compete. The TA should not favour any single
technology, hence giving it specific advantage over the other in terms of bandwidth allocation.

- The TA should maintain the availability of multiple interfaces and compatibility of different technologies that have been widely deployed in the Asia region and around the world. In particular, greater choices for overseas visitors should be provided for the mobile roaming services easily within Hong Kong;

- Any attempt to pre-determine the dominance of a particular technology or system would impose limits to market growth and evolution. HKBN's position is that Hong Kong telecom market has been best served by market forces moderated with light-handed regulatory framework. It would be best to allow the market force to determinate and evaluate the best mobile technology.

29. It goes without saying that the Government should ensure there is an appropriate regulatory regime which allows sufficient flexibility in order to accommodate various types of technology to be used in the mobile market.
‘Selection by Merits’ Approach for Direct Licence Award

30. HKBN always maintains its standpoint of pro-competition and encouragement of innovative services. We believe that the Government should issue additional mobile licences to potential operators who would commit to develop their networks for mobile data service application that would bring benefits to the mobile industry as well as to the consumers as a whole.

31. An effective competition regime has to be developed to encourage data and content based application. The award of licences to new licensees should be based on ‘selection by merits’ approach, rather than by auction. The selection criterion should require new industry players to bring in the greatest economic benefit to the community and promote wider range of services to the consumers and at reasonable price.

32. In particular, the applicants will be evaluated on the amount of investment, technical strength, network rollout, financial capability and proposed innovative services. In this premise, new licences shall be granted to those who can demonstrate the capability to run a mobile business with new types of applications and services to the consumers.

33. Pre-qualification criteria should be available prior to application submission with transparent and fair selection criteria applying equally to all applicants among the existing 2G licences and new players.
34. To ensure a level playing field between existing 2G operators and new industry players, the TA must ensure that the licence conditions for all new licensees, no matter whether it is renewal from existing licensees and new licensee, should, in principle, be the same.

Licensing Arrangement

35. HKBN strongly opposes TA’s proposal in offering a “right of first refusal” to the existing 2G licensees for new licences operating on the existing 2G spectrum. This unequal privilege would hinder new entrants from entry to the market and contradicts the Government’s policy objectives of providing the community a wider range of better quality services at reasonable prices.

36. In particular, some existing 2G operators have not been actively developed and marketed the bands in the 800 MHz. The efficiency of utilization is considerably lower than any of the other systems operating in the 900 MHz and 1800 MHz bands. To ensure efficiently use of spectrum for the benefit of the community, the TA should not offer any ‘right of first refusal’ to the two existing 2G licensees in the 800 MHz band. Considering that the existing licensees have no intention to develop the 800 MHz band, directly granting of the bandwidths to new licensees is recommended.
37. No privilege should be given to the existing 2G licensees in the course of licence renewal upon the expiry of their existing licence. The same 'selection by merit' approach should be adopted for existing and potential licensees alike.

38. Specifically, HKBN proposes the TA should examine the following in considering whether new licences should be granted to existing operators:

- The TA should renew the 2G licences with the additional terms and conditions applicable to the current 3G licences so as to promote competition and to maintain level playing field.

- HKBN supports the TA's proposal to align the date of new licences so that all the existing 2G licences should cease operation and the new licences commence operation at the same time.

- 2G licensees should demonstrate they have met the terms and conditions of the existing license, especially in the provision of standard Grade of Service to its consumers.

- 2G licensees should demonstrate their readiness to satisfy the pre-qualification criteria of the new licence. The existing 2G operators could not be exempted from submitting the comprehensive business plan, the merits of services as new/potential players would do and
the award of new licences should be evaluated together with the new players’ submission under the same selection criteria. Needless to say, the licensing conditions for existing players granted renewal and for new market entrants should be the same. This arrangement ensures free competition, efficient use of the spectrum and introduction of innovative data services to the end-users.

- Upon the expiry of those 2G licensees who fail to extend/renew the licence, ex-2G licensees should be mandated to dispose its assets at the book value, subject to any commercial acquisition raised by existing/new industry players. The proposed mechanism is to avoid disruption of service to consumers.

- In line with the global trend of the mobile data market, HKBN strongly recommends that the existing 2G operators should be required to upgrade to 3G licensees as soon as the new licence takes effect. The validity period of these licenses would be equivalent to the remaining validity period of the existing 3G licences, and the spectrum fee arrangements would remain the same as under the existing 3G licences.

**HKBN Support to Impose Spectrum Utilization Fee (SUF)**

38. Considering that the frequency spectrum is a scarce public resource, therefore, for the interest of the public, the Government should set the
proper policy to eliminate any possible wastage of the resources. To encourage the efficient use of frequency spectrum and in order to maintain a level playing field, HKBN supports that all existing 2G/3G licensees or new entrants shall be obliged to pay the same level of SUF.

39. Following from our standpoint that migration from 2G to 3G service should be made mandatory, there is no need to separate the 3G business from 2G business. The levy of SUF shall become effective upon the granting of new licensees irrespective of whether they are existing 2G operators or new entrants.

40. In view of the Government's fiscal position, the levy of SUF could bring significant revenue to the Government and on the other hand, the approach would also encourage the existing operators to enhance their network for more advanced and efficient services so as to compete with the new entrants.

41. The current SUF level for 3G services is imposed at 5% royalty of the network turnover, with a minimum fee for each year. To ensure efficient use of spectrum, the level of SUF should be set directly proportional to the amount of spectrum to be assigned to each licensee. The more spectrum to be assigned, the more SUF will need to be paid.
42. The performance bond mechanism serves to protect the government against serious default by a licensee and discourage any inefficient utilization of allocated spectrum resources. In the presence of SUF, HKBN consider the performance bond mechanism is not necessary. This should be applicable to all mobile licences under new licensing regime.

Conclusion

43. Whilst the existing 2G mobile operators under the current licensing framework is not efficient in achieving the TA's objective to promote more choice of data services with low cost but high quality, HKBN is of the view that the introduction of new licences would promote and stimulate high speed data services and content applications in the market. The issue of additional mobile licences in the market will encourage further competition which would maximize the benefits of the consumers in the telecommunications market.

44. HKBN believes that to speed up the future development of innovative data services in the mobile telecommunication market of Hong Kong and to enable Hong Kong to regain its leading position in the Asia Pacific region, permitting new entrants to put further investment in the mobile market for high speed data services is definitely a must.

-- END --
October 2, 2003

Senior Regulatory Affairs Manager (Economic Regulation) By fax 2834-1507
Office of the Telecommunications Authority and mail
29/F, Wu Chung House
213 Queen's Road Central
Wanchai
Hong Kong

Dear Sir/Madam,

Responses to the licensing of Mobile Services on
Expiration of Existing Licences for Second Generation Mobile Services

The Telecommunication Authority (TA) issued the captioned consultation paper to collect views and comments from the industry. Consulate General of Canada is pleased to express our views as listed below:

- CDMA is a dominant technology in Canada/North America and is a widely adopted wireless standard in the world;
- Canada has a large number of citizens living or working in HK (~200,000);
- CDMA roaming service is already available in most cities in Asia to facilitate business & personal communication;
- Cost effective CDMA roaming services should be available in HK for frequent travellers between HK & North America & rest of Asia;
- At least two CDMA licenses should be issued to create healthy competition which allows consumers to have more choices

We are happy to discuss in further with the TA and if you have any query, please feel free to contact the undersigned and Mr. Brian Wong, Commercial Officer at tel: 2847-7482.

Yours sincerely,

[Nancy Bernard]
Acting Senior Trade Commissioner

Canada
Office of the Telecommunications Authority
29/F Wu Chung House
213 Queen's Road Central
Wanchai, Hong Kong

Attention: Senior Regulatory Affairs Manager (Economic Regulation) 3

The American Chamber of Commerce respectfully submits this letter in response to the Hong Kong Telecommunications Authority's consultation paper entitled Licensing of Mobile Services on Expiry of Existing Licenses for Second Generation Mobile Services.

The American Chamber of Commerce in Hong Kong is one of the largest American Chambers outside the United States and the largest international chamber in Hong Kong. The Chamber has worked to promote U.S.-China trade and Hong Kong as a premier international business center for over 30 years.

The Chamber encourages the TA to continue its policy of technology neutrality in making its decision on how to reallocate its 800 MHz and 900 MHz licenses. Assigning a specific technology to a band such as the TA considers for Extended GSM would not be in line with the TA's goal of not promoting specific technologies.

The Chamber would also welcome greater competition among mobile service providers in the 800 MHz band. The Chamber notes that the technology most frequently used in the 800 MHz band worldwide is code division multiple access (CDMA). CDMA is a wireless technology created in the United States that is currently the dominant US mobile standard and is also being used by wireless services providers in many Asian countries such as Australia, China, India, Indonesia, Japan, Malaysia, New Zealand, South Korea, Taiwan, Thailand and Vietnam to provide third generation mobile services.

In Hong Kong, there are multiple operators in the 900 MHz band providing GSM wireless services; however, there is only one service provider in the 800 MHz band for CDMA and one for TDMA. As the TA is aware, competition promotes choice, better services and cheaper rates. Having two operators that compete using the same type of service in the 800 MHz band would avoid a monopoly situation and drive competition and consumer choice both in this band and the 900 MHz band. American businesspersons and tourists in Hong Kong would like to have the option of 3G CDMA roaming with the United States and all mobile consumers in Hong Kong would benefit from the earliest possible introduction of third generation services that a second CDMA operator in the 800 MHz band would provide.

Thank you for the opportunity to comment in this proceeding. Please don't hesitate to contact me should you have questions or require clarification on this letter.

Sincerely,

[Signature]

Frank Martin, President
THE AMERICAN CHAMBER OF COMMERCE IN HONG KONG

October 2, 2003
Consultation on Licensing of Mobile Services
on Expiry of Existing Licensing for Second Generation Mobile Services

In response to the consultation paper on Licensing of Mobile Services on Expiry of Existing Licences for Second Generation (2G) Mobile Services we have pleasure in herewith submitting the Council's comments for your consideration.

Partitioning the Spectrum

The Council supports the TA's view that partitioning the spectrum should take into account the practical constraints imposed by the operating bands of the commonly available technologies in the foreseeable future, so as to ensure the market has adequate supply of a wide range of commercial products in the market; and that consumer convenience in roaming should be maximized.

The Council also acknowledges there is a need for rationalizing the existing frequency allocations by merging the existing fragmented frequencies. However, the Council urges the TA to establish a detailed migration procedure to avoid any adverse impact on subscribers.

Licensing Arrangement

The Council agrees in principle that the TA should offer the existing 2G licensees the "right of first refusal" for new licences operating on the existing 2G spectrum, and that it is only where an existing licensee declines to take up the spectrum for allocation that the spectrum should be made available for new entrants. The arrangement would minimize the potential disturbance to existing consumers of 2G mobile services.
The Council also agrees with the TA requiring the existing 2G licensees to accept new licence conditions and the arrangement of spectrum utilization fee (SUF).

Spectrum Utilization Fee

The Council notes that 2G licensees are currently not required to pay any SUF. Since the new licensees will be able to provide 3G services or similar advanced mobile services under the spectrum allocated, the Council agrees that it is unfair to existing 3G licensees if the new licensees are not required to pay a SUF.

It is noted that if a royalty (existing SUF system) is imposed on licensees irrespective of whether 2G or 3G services are to be provided, the licensees as well as 2G customers may be concerned about the financial burden and subsequent impact on retail price. Nevertheless, levying a SUF on both 2G and 3G services would ultimately ensure a level playing field and therefore not impose a bias towards any one particular technology. In these circumstances it can be expected that the market will not be obstructed in terms of adopting advanced mobile services, which will serve the long-term interests of consumers.

The Council agrees that a specified cut off date should be applied as from which 3G services are expected to be provided. This should encourage new licensees to better utilize the spectrum in migrating to 3G services, or any advanced mobile services.

Notwithstanding the fact that the new SUF can have a similar structure as for existing spectrum use, it is not necessary that the same level of SUF should be imposed on new licensees, since different technologies provide different kinds of services.

License Conditions

The Council agrees that the TA should require the 2G licensees to commit to taking up the following licence obligations:

- Operators should provide adequate mobile coverage in the airport and major transport system and remote area.
- Operators should comply with the Code of Practice of Mobile Service Contract
- Operators should comply with Code of Practice on Protection of customer Information for Fixed and Mobile Service Operators.

Should you have any queries, please feel free to contact me at 2856-8585 or Dr. Victor HUNG on 2856-8554.

Mrs. CHAN WONG Shui
Chief Executive
Submission of

SmarTone Mobile Communications Limited

On

The Consultation Paper

Licensing of Mobile Services on Expiry of

Existing Licences for Second Generation Mobile Services

2 October 2003
1. Preamble

1.1 SmarTone Mobile Communications Limited ("SmarTone") would like to set out its preliminary views on some of the issues raised in the consultation paper entitled "Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services" issued on 1 August 2003 (the "Consultation Paper").

1.2 The Consultation Paper contains very important matters which will determine the future licensing framework. Because of the far reaching implication of licensing framework to the mobile industry as a whole as well as to the customers, SmarTone considers that the entire Consultation Paper warrants detailed deliberations. In particular the spectrum utilization fee ("SUF") issue requires further analysis before SmarTone can formulate its comments. Further, some of the key proposals on SUF are described in broad terms for which further clarifications are required in order to make meaningful comments. In this regard, SmarTone would like to reserve its rights to supply supplemental information in particular to the SUF issue to the Telecommunications Authority (the "TA") at a later date.

2. Licensing Arrangement

2.1 SmarTone supports the TA's intention to offer the "right of first refusal" to most of the existing 2G licensees for continuous operation on the existing 2G spectrum. This will minimize disturbance to both the 2G operators and the vast number of existing 2G customers. However, SmarTone does not agree that the offer to the existing 2G licensees is subject to new licence conditions. SmarTone's views on these new licence conditions are set out in the latter part of this paper.

2.2 SmarTone notes the TA's intention of not granting the "right of first refusal" to the two licences in the 800 MHz band due to the low efficiency of utilization of these networks. SmarTone supports the TA's view that spectrum is scarce and valuable resources and should be efficiently utilized so as to derive the maximum benefit to the community (paragraph 22 of the Consultation Paper). It is therefore not in the public interest to grant the "right of first refusal" to licences which have only a small number of customer subscription since the spectrum could be more efficiently used by other interested party. Further, given the small number of subscribers supported by these licences, there should
be no difficulty for these customers to migrate to other mobile service providers under the mobile number portability arrangement. SmarTone therefore supports the TA’s view that the argument for the “right of first refusal” would be considerably weakened for those bands operated in the 800 MHz.

2.3 As regards the proposal on the alignment of the date of new licences, SmarTone supports the TA’s view that all the existing licences should cease operation and the new licences commence operation at the same time. However, instead of requesting licensees to surrender their licence at a date earlier than the natural expiry dates of their licences, SmarTone requests the TA to consider aligning the expiry dates of all the existing licences with that of the PCS licence so that no licensee is required to surrender their licence earlier.

3. Spectrum Utilization Fee and Performance Bond

3.1 As mentioned in the preamble, SmarTone reserves its rights to submit its preliminary views on the issues related to SUF and Performance Bond at a later date pending clarification of the following matters from the TA.

3.2 In paragraph 29 of the Consultation Paper, the TA listed out 3 options for imposing SUF on “3G services or similar advanced mobile services” only. It is difficult to make any meaningful analysis of the options unless there is a clear definition of “3G services or similar advanced mobile services”. Unfortunately, SmarTone cannot find any such definition in the Consultation Paper. Notwithstanding the aforesaid, SmarTone would like to provide its view on the definition of “3G services or similar advanced mobile services” as follows.

3.2.1 According to the GSM Association’s Permanent Reference Document: TG21 titled “3G Service Requirements and Concepts” Section 5.1.3 dated 11th August 1998: “Basic service provided in 3G networks are: audio, video, facsimile transfer, data communication, Internet services, especially Web-Browsing, e-mail/voice mail, paging, messaging, and combinations of these i.e. multimedia. 3G service capabilities for these service should take account of their discontinuous and asymmetric nature in order to make efficient use of network resources.” This is further elaborated in another Permanent Reference Document: SE.30, titled “3G Services Concept” dated 28 April 2000, which provided a list of potential services and applications for 3G.
3.2.2 Moreover, the following statement can be found in GSM Association’s website on the definition of 3G services:

"3GSM represents third generation services delivered on an evolved core GSM network. 3GSM services are delivered at a technical level on third generation standards developed by 3GPP, which utilise air interfaces for W-CDMA and, in some specified markets, EDGE."

3.2.3 Based on the above recognized definition and description of 3G services, SmarTone opines that the basis for determining what constitute “3G services or similar advanced mobile services” should be based on the technology deployed that has the capability to support the services as defined above.

3.2.4 To further support the above statements on the definition of 3G services, SmarTone would like to highlight the following relevant documents for TA’s consideration.

- ITU in ITU Internet Reports 2002: Internet for a Mobile Generation, Chapter 2, Figure 2 which shows that CDMA 2000 1X, EDGE, CDMA20001xEV-DO, CDMA2000 1xEV-DV, W-CDMA, etc are 3G technologies in considering the radio access systems for mobile data services; and

- 3GPP in TR 21.905 V6.3.0 dated June 2003 which also defined 3GPP system as “the telecommunication system standardized by the 3GPP consisting of a core network and a radio network that may be either GERAN or UTRAN, or both.” In which GERAN (i.e. GSM/EDGE Radio Access Network) is further elaborated as “GERAN is a conceptual term identifying that part of the network which consists of BSCs and BTSs between A/Gb or Iu and Um interfaces.”

3.3 In paragraph 31 of the Consultation Paper, the TA sets out 2 options concerning the level of SUE. However, it is difficult to analyse the implications of the options at this stage without certainty on the future licensing arrangement. It is unclear from the Consultation Paper whether the existing PCS and GSM licences will be converged into one licence in the future licensing regime or that

---

1 http://www.gsmworld.com/technology/edge/index.shtml
2 http://www.itu.int/osg/spu/publications/mobileinternet/chapter2.html
the current licensing arrangement of a separate PCS licence and GSM licence will remain. SmarTone would appreciate the TA’s preliminary view on this point.

4. Licensing Conditions

4.1 SmarTone has grave concern on the TA’s proposal of imposing new licence conditions on the existing 2G licensees as a condition in the offer of the “first right of refusal”. The TA has the duty to ensure that the future licensing arrangements would not upset the status quo and minimize as far as possible any disturbance/disruption to the business of the 2G licensees and their existing customers. SmarTone is of the view that the licence obligation imposed on the new 2G licences should be substantially the same as the existing 2G licences.

Special Conditions in the Mobile Carrier Licence

4.2 SmarTone strongly objects to the open network access (“ONA”) requirement to be imposed on the 2G licensees. Unlike the 3G networks which are still in their early development stage, the 2G networks are already fully utilized if not heavily loaded in supporting a vast number of mobile customers. It would be difficult if not impossible to mandate the existing 2G licensees to make available 30% of their network capacity to the non-affiliated mobile virtual network operator (“MVNO”) and content service providers (“CSP”). SmarTone maintains its view, as stated in its response to OFTA’s Consultation Paper on ONA Framework for 3G service in Hong Kong (“ONA Consultation Paper”), that a market-led approach should be adopted instead of mandating the ONA requirement. The mandatory ONA requirement on the 3G licensees has received strong opposition from the industry, and it should not be imposed on 2G licensees only for the sake of consistency.

4.3 Furthermore, under the ONA requirement, the 3G licensee is required to establish a methodology to determine its network capacity and the utilization of the network capacity by the non-affiliated MVNO and CSP. SmarTone has pointed out in its submission to the ONA Consultation Paper the problems arising from and associated with the TA’s proposed measurement methodology on network capacity and has highlighted the practical difficulties of measuring network capacity. However, as of today, SmarTone is not aware of any practical guidance given by the TA to address these problems and issues raised. In view
of the difficulties of measuring network capacity, it is likely that the ONA requirement would impose a heavy burden on the licensees.

4.4 Not only the ONA requirement would increase the costs of the 2G licensees, there is also hardly any benefit for imposing the requirement on the 2G licensees. Currently there are six MVNOs in the 2G market without the ONA requirement. It is obvious that the market-led approach has so far worked well in the 2G market and therefore it is unnecessary to mandate the ONA requirements on the 2G licensees.

4.5 The requirement of account separation is also a concern to SmarTone. Just like the ONA requirement, the requirement of accounting separation received strong objection from the industry during the 3G licensing regime consultation because this requirement is burdensome and costly to implement and that there is no precedent whatsoever which requires non-dominant mobile operator to implement accounting separation. Based on the experience of 3G, the formulation and implementation of account manual for the purpose of accounting separation is time-consuming and costly. SmarTone notes that only the dominant operator in the fixed market is required to implement accounting separation. Hence such a requirement should not be imposed on the 2G licensees which are operating in a very competitive market. If accounting separation is deemed necessary for the purpose of calculating SUF, if required, the operators can submit an audited account of network turnover to the TA.

New Conditions

4.6 SmarTone strongly objects to any proposal to impose a special condition on the 2G licensees to provide service coverage to certain locations specified by the TA. The decision of whether to provide mobile coverage to certain areas should be a purely commercial decision made by the operators with regard to the business and market needs. The proposal is contrary to the market-driven approach and the light-handed regulatory philosophy adopted by the TA. It is widely recognized that Hong Kong's mobile market is very competitive by world standard. In fact, the "Report on the Effectiveness of Competition in Hong Kong's Telecommunications Market: An International Comparison" published by OFTA in June 2003 has revealed that Hong Kong has the most competitive mobile market among the review markets. In such a highly competitive market, government intervention should be kept to a minimum
level and the industry and customer interest are best served by the operation of market force.

4.7 Unlike the fixed network operators, mobile operators do not have the statutory right to access and place telecommunications equipment on any place at no access fee, as such the mandatory requirement to provide coverage to certain areas would only place the mobile operators in a significantly disadvantage position in the access fee negotiation process with the landlord. SmarTone would like to stress that the enactment of the new provisions under Section 14 of the Telecommunications Ordinance has not provided an effective solution for the mobile industry in resolving the problem for access to confined areas such as tunnels. Mobile operators are still suffering from paying extremely high access fee for some confined areas. The implementation of the proposal would only further intensify the imbalanced bargaining power between the mobile operators and the landlord of these confined areas.

4.8 SmarTone notes that in the fixed market, only the dominant local fixed network operator is required to fulfil the universal service obligation, which in return receives the universal service compensation from other operators. Further, the local fixed network operators have the statutory right under section 14 of the Telecommunications Ordinance to install telecommunications equipment on any land without a payment of access fee to the landlord. It would be unfair to require 2G licensees to perform any universal service obligation similar to the dominant fixed network operator unless the same rights as above-mentioned are granted to the mobile operators.

4.9 SmarTone also has grave concern on the TA's proposal to make certain voluntary code of practice to be mandatory. These codes are originally drafted for better administration of the operation of the licences and hence carried out on a voluntary basis. They cannot simply be made mandatory as licence conditions. Furthermore, some of the codes of practice are also applicable to the whole telecommunications industry, it is unfair and unreasonable to impose a special condition on the 2G licences only. If the TA finds it necessary to make any code of practice mandatory, such decision should go through another thorough consultation exercise with the entire telecommunications industry.

4.10 As regard the proposed code of practice which obliges the licensee to provide Cell Broadcast Service (CBS), SmarTone considers that the provision of CBS, which is a value-added service, is purely a commercial decision rests with the
operator and should not be mandated by the TA. The current proposal is again contrary to the market-driven approach and the lighted-hand regulatory philosophy adopted by the TA.

5. Spectrum Availability & Partitioning the Spectrum for Allocation

Spectrum Availability Issue and Technology Constraints (Paragraphs 6 to 9 and 13 to 15 of the Consultation Paper)

5.1 In paragraphs 13 to 15 of the Consultation Paper, the TA takes the view that the frequency spectrum that can be released in the range of 800 MHz could be used for CDMA 2000, EGSM or GSM850 system, etc. SmarTone supports the technology neutral approach in determining the usage of the frequencies that are available. However, care should be taken to ensure any technology deployed should not affect the current right of customers in choosing different network operators. (For example, mobile number portability should be supported among different systems.)

Guard Band Requirement (Paragraph 16 of the Consultation Paper)

5.2 SmarTone supports the TA's view that guard band should be retained if the deployment of technologies in the 800 MHz and 900 MHz Bands would continue to require adjacent blocks to be used as downlink and uplink frequencies respectively. SmarTone opines that the most efficient way is to keep the systems deploying the same technology in consecutive blocks without the necessity of guard band. However, sufficient guard band should be used between systems deploying different technologies. SmarTone suggests the TA to consider allocating 3MHz or above as guard band for the aforesaid situation. It is understood that 3MHz guard band is also being used in other region such as Australia and Thailand.
Other Available Spectrum and Allocation of Seed Spectrum for Service Migration (Paragraphs 9 and 17 of the Consultation Paper)

5.3 The spectrum mentioned in sections 9 and 17 for 3G services or 3G migrations is uncertain at the moment. This view is also supported in Sections 2 and 3, and Annex 3 of the Consultation Paper. Accordingly, it is far too early to consider the usage of these frequencies. SmarTone suggests the TA to monitor and advise the industry on the development of the international standards for further discussion at a later stage. Similarly, SmarTone considers it is not cost effective and unnecessary in allocating additional seed spectrum for the migration of the existing customers to the new 3G systems. Furthermore, the detailed frequency plan for the seed spectrum is still subject to the relevant development in Europe and other countries.

Partitioning the Spectrum for Allocation (Paragraphs 10 to 12 of the Consultation Paper)

5.4 SmarTone opines that re-partitioning of the existing spectrum is not recommended in view of the following:

- It is practically very difficult (though may be technically possible) to re-partition the spectrum, as existing GSM and PCS spectrum are already heavily utilized. Given that any spare spectrum in 900 MHz GSM band may not be available, re-partitioning may require network-wide frequency re-tuning of all GSM operators at the same time. This would inevitably result in degradation and interruption of service.

- As many of the ancillary equipment, such as repeater, combiner, coupler, and POI hardware are specifically designed for designated frequency band, they need to be re-adjusted during the retuning process. Furthermore, the huge number of the aforesaid devices would require re-adjustment during the process which will render extra implementation difficulties and that would result in significant service degradation. This would also have significant cost impacts on operators.

- Given the current GSM frequency (which is not in multiple of 5 MHz) is already heavily utilized in an efficient manner, mandatory re-partitioning in 5MHz will not further improve spectrum efficiency.
5.5 In view of the foregoing, any proposal of re-partitioning the frequency allocated with bandwidth in multiples of 2 x 5 MHz (as suggested in paragraph 11 of the Consultation Paper) or merging of the existing frequency allocations (as suggested in paragraph 12 of the Consultation Paper) is a very complicated issue which warrant a detailed review by an industry working group on the implications of the proposal if necessary.
I. Introduction

1. PCCW-HKT Telephone Limited ("PCCW") welcomes the opportunity to respond to the consultation paper titled "Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services" ("Consultation Paper") issued by OFTA on 1 August 2003. This is a very important review of the mobile licensing regime against the context of existing licensees, existing and new radio spectrum availability, new service development and new entry.

2. Many of the specific questions put forward in the Consultation Paper are related to the detailed parameters of the licensing regime for the existing and new spectrum. PCCW is currently not a participant in the mobile industry. However, PCCW already vigorously competes with mobile licensees as the provider of fixed wireline (e.g. RDEL and BDEL) services. In this filing, PCCW will focus its discussion first on the key regulatory principles and then on specific approaches identified by OFTA.

II. Current Mobile Market

3. The policy objectives in the previous 3G licensing exercise were to promote the development of the telecommunications industry in Hong Kong, to protect the interests of consumers and to maximize benefits to the economy as a whole. At the same time, the Hong Kong Special Administrative Region Government (the "Government") recognized that earlier optimism about the 3G market no longer existed and that the overall market conditions for 3G licensing were adverse. Therefore, the Government adopted a licensing framework that attempted to encourage entry into the 3G services market while placing a financial burden on the new 3G licensees at a level it perceived to be manageable. 1

4. The burst of the dot com bubble, the downturn in the economy in general and the telecommunications sector in particular, 3G service and applications delivery issues and the delay in bringing quality 3G handsets to the market have all seriously reduced the incentive for 3G investment even below that which existed at the time of the initial 3G auctions. Certainly, the commercial value of 3G spectrum has decreased after the wave of auctions in 2000 and 2001, and 3G rollout plans have all been delayed. Indeed, in Hong Kong, the TA has granted two one-year waivers (October 2002 and October 2003) of the performance bonds for the four 3G licensees to assist the industry to respond to the worsening market conditions.

5. The altered financial outlook for the mobile sector and the delay in the launch of the 3G services call for careful consideration for the design of the re-licensing of the 2G mobile spectrum in the transition to 3G and other advanced

1 Licensing Framework for third generation mobile services, Legislative Brief Hong Kong Special Administrative Region Government, 13 February 2001.
services. Auctioning the relevant spectrum to encourage both investment and entry into the mobile market must be the correct approach as it is transparent, fair and relies on objective market forces. Nevertheless, because of the current market uncertainties greater flexibility should be allowed in terms of spectrum usage and more reliance on market forces (rather than government market management) should be ensured. A negotiated non-auction approach should not be considered.

6. At the early stage of market liberalization more prescriptive regulation is generally required. As the mobile market adopts the competitive model specific regulations can be relaxed and markets monitored by general legislation. The TA has thus far wisely adopted a generally light handed regulatory approach in the 2G market. This has promoted competition and produced consumer benefits in terms of service provider choice and low prices. The mobile penetration rate as of June 2003 is 95% recording 6.48 million mobile customers. The past successes in the penetration level and degree of competitiveness in the mobile market indicate that market forces, not heavy handed regulatory intervention, maximizes consumer benefits. With additional spectrum now becoming available, the market should be further liberalized to accelerate the emergence of new broadband applications while retaining the current level of effective competition and user benefits in the mobile services market. There should be no doubt that the mixture of liberalization, light handed regulation and market forces will maximize user benefits as the market begins to move quickly away from a focus on voice services and price competition towards a focus on broadband applications.

III. Key Regulatory Principles and Considerations to Facilitate the Smooth Transition to the Next Generation of Services and Applications

7. The Government and the TA have recognized that the following principles have contributed to the development of a vibrant telecommunications industry in Hong Kong. The principles are:

(a) a strong preference for market-driven solutions and would only restrict the operation of the market where the overwhelming public interest demands it;
(b) there should generally be no restriction on the number of licences unless there are certain physical constraints, eg. scarcity of spectrum; and
(c) the licensing regime should be technologically neutral, allowing the market to determine the most appropriate technological means to deliver services.

The TA in this Consultation Paper at Section 4 identifies the following considerations as being relevant in deciding the future licensing arrangements:

---

2 Legislative Council Brief: 1998 Review of Fixed Telecommunications - moratorium on the issue of further local fixed telecommunications network services licences and licensing of additional external facilities-based operators
(a) to ensure a choice of services;
(b) to provide a stable investment environment;
(c) to ensure the efficient use of spectrum;
(d) to ensure the continuity in customer service; and
(e) to maintain technology neutrality.

The above principles and considerations should also apply to the re-licensing of the spectrum currently used by 2G service providers as well as new spectrum.

IV. Licensing Arrangements

This section addresses specific licensing issues raised in the Consultation Paper.

A. Right of First Refusal

8. The Consultation Paper raises as an option a spectrum licensing approach which would grant the existing licensees a right of first refusal. The exact "right of first refusal" described in the Consultation Paper is unclear. However, the Consultation Paper appears to suggest that an existing licensee would negotiate a renewal with the TA and that

"It is only when an existing licensee declines to obtain the new licence that the spectrum to be allocated to the licensee will be made available for new entrants to apply." (Section 21)

PCCW would strongly suggest that this option not be adopted.

9. A market driven approach should be adopted in the allocation/redistribution of spectrum. Such an approach should be transparent, fair, non-discriminatory and totally bidder neutral. Any right of first refusal preference bestows an absolute regulatory advantage on existing licensees. It also limits the revenues likely to be earned through a bidding (i.e. auction process).

10. The proposed approach would apparently allow the TA to negotiate the re-licensing terms and conditions with the existing licensees. If this process was successful no auction would be held. Entities desiring to enter the market would never even get a chance to participate in any auction.

11. PCCW cannot see how such an approach could be justified. The arguments in favour of this approach only underline the discriminatory nature of this approach. This approach is inconsistent with the principle of market driven solutions, it cannot maximize the efficient use of spectrum, it will not maximize user benefits and it violates the principle of natural justice.
12. The existing 2G licensees may fully compete in the contemplated auctions. This is all that natural justice, their licences and due process requires. PCCW is not aware of any licences provision that “promises” the existing 2G licensees a discriminatory, favourable, exclusive or less expensive path to licence/spectrum renewal. There is no natural justice or other argument that can now be raised to justify any right of first refusal approach. In fact, the opposite is true, any attempt to now employ a right of first refusal approach will likely raise litigation risks from those entities that now seek market access. Such litigation risks include a delay in the auction process.

13. The last two years have shown that despite a "recession" and price wars, the mobile business can improve its performance by better management of its investment and cost controls. The argument that the existing 2G licensees may need a more stable investment environment, given their substantial sunk network investments, is unfounded. Neither the existing 2G licences nor Hong Kong legal framework can support this argument. This renewal risk has been known since day one. It is not the Government’s role to ensure a licensee’s well being. Entry and exit are natural market phenomenon which should not be tampered with lightly. Sufficient time will exist for any unsuccessful 2G licensee to migrate its users to another platform (e.g. MVNO), to sell its business, to buy another licensee or to make other business arrangements. There is no firm evidence that would indicate a lack of a right of first refusal would provide an unstable investment or upset the continuity of service.

14. PCCW would invite the TA to consider the appropriateness of a proposal that would clearly prohibit, handicap or otherwise disadvantage the existing licensees in the re-licensing process. PCCW would be the first entity to strongly argue that such a proposal would be unfair and should not be considered. PCCW believes that others would find this proposal equally distasteful. Such an unfair proposal is the opposite side of the coin of the right of first refusal as proposed by the Consultation Paper, and both are equally inappropriate.

15. An equal opportunity must be given to both incumbents and potential new entrants to bid for the spectrum. The re-licensing and auction process must ensure that equal opportunity exists for both types of bidders in an open and transparent process. In this manner market forces and economic efficiencies will rightly prevail. The TA should not associate himself with a discriminatory process that disregards market forces, is legally flawed and would ultimately harm users.

16. The possibility is raised that an existing 2G licensee could be forced to exit the market if it fails to succeed in the open bidding. This is absolutely true. All that is required is that the auction process should guarantee an equal opportunity to bid. However, if an existing 2G licensee believes it has a valuable business (i.e. valuable in terms of return and shareholder value), then it should bid in a manner to reflect that value. If another bidder believes it would create higher value with the same frequency allocation then so be it, as market forces determine.
17. Any claim that the "right of first refusal" would minimize the potential disturbance to existing consumers of 2G mobile services misses the point. Market entry and exit is to be expected as natural events in liberalized markets. One good example can be drawn from the recent market exit of some ISPs in Hong Kong. In the competitive ISP market, the customer base of the exiting ISPs was promptly absorbed by the other ISPs with comparable if not better packages. Furthermore, in the mobile market where there are multiple service providers and where number porting arrangement exists, there is no legitimate reason to believe that an orderly market exit of one or more existing 2G licensees would cause any significant inconvenience to consumers at large. Market forces alone, instead of regulatory intervention, will take best care of the consumer interests in case of exit of existing 2G licensees.

18. In addition, the Consultation Paper provides no guidance and seeks no comment on exactly what the terms of the negotiations would be between the existing licensees and the TA. Certainly such parameters must be disclosed and evaluated in an open consultation.

19. As to the negative impact on the flow of revenue to the Government, an auction delay or a right of first of refusal will both be harmful. A proponent of either course of action must bear a heavy burden of proof.

B. Date Alignment

20. The expiration dates of the existing licensees should not be extended. In times of budget deficits and economic hardship, the TA should not delay the receipt of auction revenue by the Government. There is no public interest argument that would support such a licence extension and it should not be done. The approach to spectrum is already unbalanced by the difference between the 2G and 3G fee arrangements. This is an opportunity to bring the same process to all spectrum.

21. At the same time, no licensee should be required to terminate its licence prematurely unless it is by agreement. Article 105 of the Basic Law provides legal protection for property rights in Hong Kong. No deprivation of property by the Government should be contemplated in the absence of a very strong public interest. Even then, a lawful deprivation of property under Article 105 requires compensation commensurate with the real value of the property. 2G licence rights are certainly property during the term of the licence and Article 105 applies.

C. Spectrum Clearance

22. Spectrum clearance, for example at 1895-1904.9 Mhz, by existing licensees should be implemented as early as practicable to make way for new licences. For the currently idle spectrum ranges noted in the Consultation Paper, the TA

---

3 The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China.
should re-visit his earlier position and allow for prompt use of the idle
spectrum for utilization efficiency, revenue raising and user benefits reasons.⁴
There is no reason to delay these auctions and they should proceed as soon as
possible.

D. No Pre-set Number of Licensees

23. There should be no restriction on the number of licences other than for
spectrum availability reasons and all other issues should be shaped by market
forces. It is important that the regulator does not attempt to pre-determine the
optimal market structure or spectrum usage because this will change over time
as a result of convergence of technologies, new applications, technological
advancement, etc.

24. A good spectrum management regime must promote economic efficiency in
relation to the use of spectrum as its primary aim. In a spectrum auction the
resources would go to the highest bidder who in turn would strive to multiply
his investment by using the network for the most efficient set of services. By
allowing spectrum auctions and adopting a technology and service neutral
approach, there is no need for the TA to pre-determine the pairing or
packaging or use of spectrum ranges.

In deciding how to partition the bandwidth for open bidding, the overarching
principle, under a technology neutral regime, should be to facilitate a future
frequency plan that would be compatible with the requirements of different
technologies subject to compliance with the appropriate safety, interference
and other ground rules. Under a market driven approach, the lowest common
denominator for deployment is 5 Mhz as this would accommodate both TDD
and FDD, the 2 mainstream systems. For technologies that require 2 x 5 Mhz,
bidders should be allowed to do their own pairing by bidding for any 2
spectrum blocks with a single bidding price which should then be compared
with the aggregated bidding price of the concerned two 5Mhz blocks, possibly
from different bidders. This would achieve a fair spectrum allocation outcome
and maximize the economic returns to the TA.

Noting that some spectrum range would not be in multiples of 5 Mhz (e.g.
2010 - 2019.7 Mhz ), spectrum bandwidth block with 10% deviation from the
standard 5 Mhz should be put out for bidding in order to maximize spectrum
utilization.

E. Spectrum Assignment/Transfer

25. Consistent with a dynamic and rapidly changing market, competitive forces
and consumer interests, licensees should be allowed to freely assign or transfer
their spectrum. Spectrum transfer in a secondary market, perhaps equivalent to

⁴ Press release dated 26 July 2001 issued by OFTA "OFTA Cautions Mobile Phone Operators to
Guard against misleading practices" stating that no additional cellular licence would be issued before
2005.
indefeasible right of use (IRU) assignments, will ensure that the radio spectrum is held by the entity who values it most to achieve the goal of economic efficiency. With spectrum transfer, the market will likely be more efficient, investment and innovation will be encouraged, users will subsequently benefit and the stated policy goals will more likely be met.

26. Flexibility of spectrum use was the driving force behind the introduction of a secondary market for spectrum assignment in New Zealand, Australia, the United States. Experience in these markets confirms the advantages of spectrum assignment. Italy announced in June 2003 its decision to introduce secondary market for spectrum trading.

27. The launch of a fourth television channel in New Zealand, which would not have occurred under a purely regulatory regime, was made possible as a result of the enactment of the Radiocommunications Act in 1989 which allowed for the secondary trading of convertible television broadcasting spectrum rights.

28. In Australia, there were more than 2000 apparatus licences, mostly in relation to land mobile services, and about 55 spectrum licences being traded in 2002-2003. It was estimated that the potential gain from spectrum trading would be in the region of 7-9 million Australia dollars a year for the public mobile sector alone.

29. In the US, the Federal Communications Commission recognized the high and growing demand for spectrum for wireless communications and need for a robust secondary spectrum market to provide incentive for full spectrum utilization. The Federal Communications Commission issued a policy statement to promote more efficient spectrum usage through longer term leases and spectrum trading agreements.

30. The Radiocommunications Agency of the UK attempted to quantify the benefits of spectrum trading using the estimates of spectrum valued based on administrative incentive spectrum pricing and the number of trades based on the experience in Australia. It was estimated that the total of spectrum trading in the first year would amount to 27.9 million pounds sterling.

31. A recent independent review of spectrum management in the UK strongly endorsed spectrum assignment. This review found that the benefits of spectrum assignment are substantial and wide ranging. For example, businesses will find it easier to test experimental technologies and services. This in turn will accelerate the pace for technological innovation. Economically, the ability to assign spectrum enables spectrum owners to derive optimal economic returns from such asset ownership whilst the true

---

market value for spectrum can be established by the demand and supply market force. Commercially, spectrum assignment would allow all operators, incumbents and new entrants alike, to acquire (or sell) spectrum as their demand increases (or decreases) within a shorter time frame responsive to the changes in the market or assessments of spectrum requirements. It will give operators the flexibility to initially make smaller investments in spectrum (and thus lessening the short term commercial risk of entering such markets for the new entrants) or to initially make longer investments in spectrum if operators are confident in more aggressive business plans or do not want to take longer term spectrum acquisition risks. A system of spectrum assignment allows the market, instead of the regulator, to decide on usage, services and the number of players.

F. Spectrum Usage

32. Spectrum owners should have autonomy in the choice of services that are to be provided on the spectrum e.g. whether it should be used for innovative advanced mobile, voice, data, hybrid or other services. They could use the technology considered most suitable for developing their services and services subject to compliance with the appropriate safety, interference and other ground rules. The autonomy will provide spectrum users the opportunity to quickly adjust usage, services and technology accordingly to the highly volatile market to the benefit of users. This will promote the development of new technology and is consistent with the technology neutral approach adopted in the 3G, FTNS and the broadcasting licensing regimes in Hong Kong.

G. Spectrum Utilization Fee (SUF)

33. With a spectrum bidding process open to all under a technology and usage neutral regime, the fee arrangement process for the 2G and 3G should be aligned and equity requires that the winning bidders should pay the spectrum utilization as the 3G licensees do. There is no good reason why SUF should not apply to 2G.

34. The SUF should not be linked to any specific technology or usage so as to stimulate service and application innovation to efficiently utilize the spectrum. Market value of the spectrum, as reflected in the winning bid, will best determine the level of SUF.

35. This new licensing regime will balance the 2G and 3G licences by aligning their licence award process and giving all an equal opportunity to compete in an open auction.

36. With open bidding and a market driven SUF, all other base station and per customer fee could be streamlined.
H. Bidding Model

37. In the recent spectrum award for public fixed wireless access at 3.4 Ghz, the UK government has adopted a very simple and flexible bidding (i.e. auction) procedure and licensing regime. The new technology neutral regime allows for maximum flexibility with no roll out obligations. In addition, no restriction on services (even wholesale and backhaul are allowed). The maximum licence term is 15 years renewable every 5 years through payment of 3 equal installments. To reduce the financial barrier to entry created by the relatively long fixed 15 years licence period, the successful bidder has the option to return the licence at the end of every 5 year period. This well-balanced regime is designed to allow bidders to adjust strategy in response to market changes.

38. Significantly, the Radiocommunications Agency of the UK government acknowledges that its role is to promote competition, stimulate innovative services and encourage new technologies. The Agency also recognizes that its role is not to micro manage spectrum usage.9

39. The UK auction approach is simple and flexible and should be a good reference case for Hong Kong. There is certainly no policy or legal need to repeat the difficult and complex 3G auction process in Hong Kong.

I. Codes of Practice

40. Codes of Practice may be useful for every telecom sector. However, such codes should be agreed upon by the industry on a voluntary basis. The TA should not leverage the licensing process to coerce a licensee to accept a code of practice as part of the licence condition. Due process and fairness requires that such a code of practice be adopted only after full public consultation (with appeal rights) rather than via a 'take it or leave it' licensing term.

J. Network Coverage

41. The TA proposes to impose certain coverage requirements (Section 39) for the new licensees. Market forces should be allowed to create an appropriate mix of coverage, quality and price available to users subject only to minimum interference, health and safety requirements. This promotes product differentiation and benefits users. Any other approach would be unnecessary.

K. Performance Bond

42. Investment and build out levels will be driven by market forces. In an efficient market, performance bonds would not be necessary. Performance

9 Q & A for 3.4 Ghz FWA licence award consultation document (updated on 14 March 2003), Department of Trade & Industry, UK.
bonds will distort economic activity and harm users. At best, performance bonds may encourage a licensee (i.e. a winning bidder) to build or roll out more that it would if driven by market forces alone. The licensee is therefore inefficient in its activities. At worst, performance bonds will force a substantial misallocation of resources and produce inefficiency, waste and/or insolvency. In dynamic markets, performance bonds are threats to efficiency and user benefits. In addition, PCCW would note that performance bonds have not been enforced in the 3G market and have been curtailed in the FTNS market. In these circumstances, no performance bonds should be imposed in the new licences.

L. Disposal of Assets

43. Section 7P of the Telecommunications Ordinance ("TO") regulating mergers and acquisitions provides regulatory oversight for changes in the ownership in carrier licences. Pursuant to Section 2 of the TO, carrier licensee includes mobile network operator. Adequate and appropriate regulatory safeguards are therefore in place. Requiring prior written consent of the TA for assets disposal of more than 10% is unnecessary. Regulatory intervention is only necessary if the merger and acquisition activities of the carrier raise competition concerns. Otherwise, assignments, disposals and transfers should be left to market forces and should not be vetted.

M. MVNO

44. The TA should rely on market forces to determine the level of capacity provided to MVNOs. With a large and growing number of licensees, the mobile market is vigorously competitive. The advent of 3G and the availability of new spectrum which will be more efficiently utilized will only intensify that competition. There is no basis to conclude that resale arrangements cannot be driven by market forces. The 3G experience to date indicates no stampede for MVNO status or capacity. There is no requirement that the MVNO set aside be repeated in this set of licences.

In the current 2G market MVNOs have entered via commercial negotiations. This process has been working smoothly with the 2G licensees entering into commercial arrangements with other partners to provide advanced applications such as information, games, music to the benefits of the consumers. The market is increasingly dynamic and it is impossible to predict user trends, technology or other market influences. Any attempt to do so by the TA would be both arbitrary and fruitless. These issues are simply best left to market forces.

N. Beyond Hong Kong - Greater China

45. In the Chief Executive's opening address at the ITU Telecom Asia in Hong Kong delivered on 1 December 2002, he emphasized that IT and
telecommunications industries are not only economic drivers but also a way to improve Hong Kong’s productivity and efficiency. Hong Kong is a small market and its future is tightly bound to that of China and the Pearl River Delta. To facilitate Pearl River Delta Integration and economic growth, cross border spectrum harmonization, the ability to provide roaming service and offer inter-network operability with China is essential. Spectrum allocation should therefore, to the extent practical, be similar in both Hong Kong and China.

46. For example, the Chinese government has allocated 1880-1920, 2010-2025 and 2300-2400 Mhz for TDD expansion. Indeed, China is not the only country allocating a wide range of spectrum for TDD expansion as Korea is also using the 2300-2400 Mhz for TDD development. Under the current Hong Kong spectrum allocation plan, 2300-2400 Mhz has been allocated for, though not fully utilized by, fixed mobile broadcasting services. With the increasing demand for spectrum and Pearl Delta Integration objective, every effort should be made to allocate the subject spectrum by the TA to TDD.

V. Conclusions

47. The impending expiration of the current 2G licences offers a golden opportunity to design the optimal licensing framework for the transition to the next generation of mobile services and applications.

- The Government should adopt an approach which maximizes the use of market forces for the re-licensing of the existing spectrum and the future use of that spectrum. Efficiency, user benefits, investments, innovation and job creation can be maximized through reliance on market forces.

- Newly available spectrum should be offered to both existing and newly interested parties on a fair, non-discriminatory and transparent basis. Any right of first refusal scheme would be grossly inconsistent with these principles and fail to generate market value revenue for the Government.

- Efficiency and consumer benefits can be enhanced by allowing spectrum transfers in the secondary market to supplement the initial auction process.

- Restrictions on types of technology and spectrum usage would be inconsistent with attracting investment, promoting innovation and enhancing user benefits.

Respectfully submitted,

PCCW

October 2003
CSL submission

in response to the Consultation Paper

"Licensing of Mobile Services on Expiry of Existing Licence for Second Generation Mobile Services"

2 October 2003

1 Introduction

1.1 CSL Limited believes that a fair, transparent and certain approach to future licensing arrangements for mobile telecommunications services is crucial for ensuring the maintenance of high quality, reliable second generation ("2G") mobile services in Hong Kong and the roll-out, within a reasonable timeframe, of advanced third-generation ("3G") networks.

1.2 CSL is pleased to provide its comments in this submission in response to the consultation paper "Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services" ("Consultation Paper"), released by the Office of the Telecommunications Authority ("OFTA") on 1 August 2003. CSL looks forward to further discussions on the important issues canvassed in the Consultation Paper and, particularly, the opportunity to comment on the further consultation paper¹ to be issued subsequently by the TA.

2 Spectrum Availability

Partitioning the spectrum for allocation

2.1 CSL supports the re-deployment of radio spectrum in the 1800 MHz frequency band. At the present time, each 2G mobile licensee currently holds 11.6 x 2MHz and this allocation should be maintained.

¹ Consultation Paper, paragraph 46:
2.2 Spectrum in the 900MHz frequency band has not yet been included within the recommendation for 3G services by ITU nor mentioned by 3GPP. Therefore, it is not necessary to make the decision at this time to rationalize frequency allocation as proposed by the TA, as that would impose unnecessary high costs on the existing 900 MHz operators in relation to the shuffling of spectrum to achieve discrete multiples of 2 x 5 MHz.

2.3 CSL submits that there is no need to decide the new ITU 190MHz, 2500MHz-2690MHz 3G spectrum at the present time. CSL submits that the principle of technological neutrality should be upheld and the appropriate use of the spectrum identified as and when equipment and technology becomes available.

3 Licensing Arrangements

Number of licences

3.1 CSL agrees with the Consultation Paper that when making the spectrum available for further licensing, the most crucial considerations should be that the spectrum allocated is fully and efficiently utilized and that the resulting market is sustainably competitive. With 11 networks and a 95% mobile penetration rate, the Hong Kong market has already reached its saturation point. Any introduction of additional licences is a critical issue, for existing licensees, the industry as a whole and Hong Kong mobile communications end-users. CSL submits that the TA should take great care not to over-supply mobile licences, as the mobile market in Hong Kong is already saturated. This saturation is evidenced by the fierce price competition among the mobile operators and also by the difficult operating environment experienced by mobile virtual network operators ("MVNOs"), even with non-regulated, commercially-agreed arrangements. The regulator has acknowledged the potential for destructiveness in competition, in the recent public consultation on QOS, in proposing the concept of regulated minimum standards to remove the possibility that service quality might suffer as a consequence of such intense competition.3

---

2 Consultation Paper, paragraph 12.
3 OFTA "Quality of Service Industry Forum" Hong Kong, 19 September 2003. Intense price competition, leading to pressure to reduce costs might induce some operators to degrade quality.
3.2 Within any market it is necessary for each mobile operator to have access to a minimum number of subscribers, in order to have an economically sustainable business. Part of the regulator's responsibility is to ensure that this is possible without the dominance of any one operator. This can be achieved without going to the opposite extreme of licensing so many operators that the market is not sustainably competitive. While entry of additional operators might produce short-term pricing reductions for customers, consumer welfare is typically cast in terms of long-term benefits to end-users, which in telecommunications markets is dynamic efficiency achieved through sustainable investment CSL submits that the TA has the opportunity to contribute to the improvement of the mobile business environment (and thereby the continuity of development and investment) by not increasing the current number of mobile licences.

3.3 Reviews of performance of mobile operators across a range of countries demonstrate the strong relationship between minimum market scale and the profitability of operators (and therefore the viability of competition). On the basis of this data, an operator requires a market share above 20% to achieve minimum scale. On the basis of the analysis of European operators illustrated in the following table, Goldman Sachs concluded that:

Intuitively, it seems logical that mobile operators require a certain scale in a given country market (in terms of subscribers or revenue) to deliver attractive returns...Our analysis shows that there is a strong positive correlation between market share and both EBITDA and OpFCF margins.4

---

3.4 This relationship between scale and sustainability is likely to be even stronger with 3G. The capital demands of building a 3G network are greater than a 2G network because of the different technical characteristics of 3G. The cell sites need to be more densely packed, and the demands of data and voice over the one network mean that depth and breadth of coverage must be achieved simultaneously in the network rollout. 3G operators are also building now at prices which are substantially less than when the 2G networks were built and margins are much lower.

3.5 On the basis of the international experience, a mobile market risks tipping beyond the point of economic sustainability if there are more than four operators. Hong Kong already has six operators (and if the 2G operators without 3G licences can refarm, six 3G operators — more than a much larger market such as the UK which has five 3G licences). The effect in the market of such a large number of operators is evident from the vicious pricing competition and constrained financial circumstances within the industry. Adding more licensees will worsen the situation.
3.6 CSL supports the TA's proposal to offer to the existing 2G licensees the "right of first refusal" for new licences operating on the existing 2G spectrum.\(^5\) As the TA has rightly pointed out, there are no domestic or foreign investment restrictions for the telecommunications sector and the right of first refusal would not prevent new entry to the market. Rather, the right of first refusal would best ensure stable and continuous provision of mobile services to the community and reinforce investors' confidence in Hong Kong's telecommunication sector. This would be beneficial to the community.

Underutilized bands

3.7 CSL agrees with the TA's proposal that the 800 MHz frequency bands that remain underutilized should be put into efficient use, to maximize the benefits to the community. As such, CSL would propose the following for the future allocation of the 800 MHz frequency bands.

---

\(^5\) Consultation paper, paragraph 21.
With regard to the TDMA spectrum that CSL holds, CSL has conducted an evaluation of various mobile technologies and identified GSM, the most popular and successful international mobile technology in Hong Kong, China and throughout the world, as the most suitable mobile technology for deployment in the 800-900MHz frequency band. CSL proposes to re-deploy the existing TDMA spectrum for Extended-GSM ("E-GSM") service to meet the customer demand. E-GSM has been adopted in many countries worldwide and almost all current models of GSM terminals support E-GSM, as well as SIM support, which provides flexibility for customers to migrate between operators. Other benefits for customers of GSM technology include worldwide roaming and advanced value-added services such as SMS, MMS, WAP, GPRS, EDGE etc.

More importantly, deployment of E-GSM will align with the current spectrum planning of China, where the frequency bands 885MHz – 915 MHZ have been allocated for GSM services. Allocating the TDMA spectrum for GSM use in Hong Kong would enable seamless GSM cross-border frequency planning and co-ordination, minimizing interference with mainland services. This will significantly improve the spectrum coordination in cross-border areas, where otherwise the cross-border interference would further deteriorate when China deploys the E-GSM system, should Hong Kong adopt a conflicting cellular network technology at the same frequency spectrum. This is vital for consistent band planning within the one country and for the economic development of the Pearl River Delta co-operation.

Finally, the spectrum can be used immediately. If an alternative technology was deployed in the TDMA spectrum, the licensee would have to build an entirely new network or await the development of the technology. This would take at least one year before the spectrum is utilized. If the TDMA spectrum is allocated for GSM service, there is no need for delay.

CSL notes that part of the spectrum allocated in the TDMA license falls within the spectrum plan for E-GSM. CSL therefore proposes to make the following migration:

(a) Existing TDMA allocation:

\[ \rightarrow 835\text{MHz} - 842.5\text{MHz} \text{ (Base transmit)} \]

\[ \rightarrow 880\text{MHz} - 887.5\text{MHz} \text{ (Mobile transmit)} \]
(b) Suggested migration to E-GSM:

→ 882.5MHz – 890MHz (Mobile transmit)

→ 927.5MHz – 935MHz (Base transmit). Minor adjustment may be required on 931.9375 MHz with trade off of some shift of guard band. This depends on whether there still are customers in the relevant service(s).

(c) The spectrum 880MHz-882.5 MHz would remain vacant and use as guard band between 870MHz-880MHz which could be used for US-based CDMA cellular system.

3.12 As OFTA will be aware, CSL has previously expressed its disappointment to OFTA that the worldwide decline of TDMA as a viable technology has deprived CSL of the ability to properly utilise its valuable spectrum asset, and that the above proposal for a spectrum swap has been previously proposed to remedy this situation. Recognising that OFTA’s response was to require public consultation on this proposal, CSL now resubmits accordingly.

3.13 In view of circumstances beyond our control which have resulted in under-utilisation of the TDMA spectrum, CSL does not support making the TDMA spectrum available through competitive bidding (such as auction) but submits that it should instead be granted the right of first refusal, in like fashion to its other spectrum assignments.

CDMA spectrum

3.14 With regard to the CDMA spectrum, there are only a limited number of readily available technologies that can be deployed in the current CDMA spectrum. It is CSL’s understanding that the current CDMA spectrum has adequate bands for deploying, for example, cdma-1X technology. Given that cdma-1X is deployed in China, CSL is of the view that the bands suitable for use for cdma1X technology should be aligned with the spectrum allocation in China to ensure seamless roaming opportunities for the users of this technology as well. In addition, there has been recent significant developmental focus placed upon interoperation between the two major standards of CDMA and GSM, led by Japan and Korea, which will result in greater interoperability and seamless roaming between the two. Therefore, visiting CDMA subscribers will ultimately have the choice of roaming on all the HK networks when they travel to HK.

Dates of new licences
3.15 CSL agrees with the TA that the dates of the new licences should be aligned. We propose that all licences should expire on the same date.

4 Spectrum Utilization Fee ("SUF")

Whether to impose SUF

4.1 CSL submits that the requirement to pay SUF, both under the licences that are the subject of the present consultation and the 3G Mobile Carrier Licences, is unduly onerous in the current economic climate and should be abolished. Moreover, CSL is concerned that an SUF calculated as a royalty on network turnover undermines normal incentives to investment and improvement. Operators would have less incentive to invest money and effort to enhance their networks and services, promoting their products and expanding their coverage, under a royalty-based SUF. Those activities are normally motivated by commercial incentives to maximise turnover and increase profits for shareholders. Where increased turnover means higher licence fees (as under the royalty-based SUF) however, the normal commercial incentives are diminished. CSL submits there is no good public policy rationale for undermining investment incentives in this way, particularly in the present economic climate.

4.2 If the TA is not prepared to revise the SUF overall in this way, CSL would, in the circumstances, take the view that the next best thing is to ensure a level playing field with the 3G Mobile Carriers. Consequently, it is paramount that the fee structure of the new 3G licensees must be aligned with that of the existing 3G Mobile Carriers. Neither the existing nor the new 3G licensees should have a competitive advantage over the other, as would occur if, by regulation, one category of licensee was obliged to assume a significantly higher cost structure.

4.3 CSL submits that it is also imperative to ensure that 2G services are not immediately liable to the payment of SUF. The TA has rightly pointed out that it is important to maintain the 2G services provided to the existing 2G customers. As the life-span of 2G services has proved to be much longer than was formerly expected, introducing SUF on 2G services would impose an extra financial burden on the existing operators and might result in abrupt price increases or even service interruptions. As such, CSL submits that SUF should be imposed on 3G services only and not on 2G services.
Cut-off date

4.4 CSL believes that it would entail real difficulty to define what exactly constitutes "3G service" or "2G service" and any attempt to do so would undoubtedly result in disputes between the TA and the industry. Moreover, no such definition could be conclusive as it would be impossible to take into account the future emergence of new technologies. Consequently, the TA would have to keep the definition alive and subject to constant revision and re-interpretation, which would undermine investor confidence in the certainty and transparency of the regulation.

4.5 To avoid the difficulties accompanying distinguishing 3G and 2G services, CSL agrees with the TA's approach under "option (a)," as the most practical solution would be to specify a cut-off date from which SUF becomes payable. As the TA points out, the networks will be upgraded to provide 3G services and once this has been done, the licensees would be in full competition with the 3G Mobile Carriers. Although adopting this approach would imply that each licensee must, at some stage, provide 3G services, we believe this is the most transparent way to ensure that no licensee is discriminated against and to provide certainty as to when the obligation to pay SUF will begin.

4.6 CSL further proposes that the cut-off date be specified to be the end of 2009. As the TA is well aware, the provision of 3G services has been considerably delayed worldwide. When the auction was conducted for the 3G licenses, it was expected that 3G would be a technology which would be implemented worldwide by early 2003. The business models of operators reflected the fact that they expected their 2G networks to decline in overall revenue earnings as the 3G networks progressively surpassed them in mobile data and voice capabilities. It was expected that by 2007 the voice traffic on 2G networks would have substantially migrated to 3G and that data revenues would more than offset the voice revenue decline. These forecasts unfortunately have not materialised. Delays in widespread 3G deployments are well documented in the popular and trade press, with a number of prominent European operators abandoning 3G deployment altogether and most of the rest delaying introduction until late this year or early next year at the soonest. The expected widespread conversion from 2G to 3G has not happened and is unlikely to occur in the way it was forecast to do. With the information available today, CSL expects it will be several more years before 3G is fully deployed.

6 Consultation Paper, paragraph 29(a).
4.7 Should the TA nevertheless be inclined to impose SUF upon the occurrence of an event\(^7\) (which approach CSL does not support), then the term "3G service or similar advanced service" would require very careful consideration and clear definition. CSL has referred to the difficulties with this approach in paragraph 4.3 above.

**Level of SUF**

4.8 CSL agrees with the TA that a SUF should apply to both the 2G licensees and 3G Mobile Carriers in an equal manner, to ensure a level playing field.

4.9 With regard to the TA's proposed models for SUF\(^8\), the TA seems to have a preference for applying a royalty payment on the network revenue generated by the operator. If this is the case, then CSL would support the TA's option (a). The logic behind option (b) is questionable, CSL submits, in that option (b) appears to assume that the value of the network revenue (i.e. the taxable item) increases or decreases in correlation to the amount of spectrum. This assumption is not well founded, in CSL's opinion, and CSL is not aware of any demonstrated methodology to prove otherwise. The TA should be mindful of the fact that the value of the network services provided by an operator (i.e. revenue per MHz) do not change in correlation with the amount of spectrum and therefore, profit margins (i.e. % of revenue) of operators will not increase as a function of more spectrum, and the SUF as royalty (i.e. % of revenue) has no basis to change. If the TA seeks to tie SUF to the amount of spectrum, then CSL would recommend that the TA should abandon the royalty (i.e. percentage) model and instead adopt the model commonly adopted elsewhere in the world by setting a fixed fee for each MHz. This type of fee would encourage the operator to use the spectrum efficiently and would also reflect the fact that those who use the scarce public resources will pay in accordance with their entitlement.

4.10 The SUF rate should be set at such a rate as to enable a smooth continuation of the amount payable by 2G licensees before and after the SUF takes effect, for minimal interruption to business planning generally and end-users.

\(^7\) Consultation Paper, paragraphs 29(b) and (c).
\(^8\) Consultation Paper, paragraph 31.
4.11 Licensees acquiring rights to spectrum that is not allocated under the right of first refusal but through other means,\(^9\) should be subject to the SUF at a rate equivalent to that of the 3G Mobile Carrier Licences. If the spectrum is auctioned, then the SUF levels should follow those that would have been applied in the auction for the 3G Mobile Carrier Licences.

**Performance Bond**

4.12 In the last two years the TA has waived the requirement of the 3G Mobile Carriers to provide the performance bond in full. The waiver has been based on the conclusion that the economic climate has been harsh for the industry and it is either difficult or overly expensive for some 3G Mobile Carriers to arrange the performance bond. Although CSL acknowledges the need for the government to protect itself against a serious default by a licensee, CSL is, however, of the view that the TA’s recent practice with the 3G Mobile Carriers has well demonstrated that the requirement for providing a performance bond no longer exists. In light of this, the provision of a performance bond would only impose an additional financial burden on the licensees and increase the administrative work both within the operators and OFTA. As such, CSL submits that the TA should not require the provision of a performance bond. Any such decision should also result in the removal of the similar requirement from the 3G Mobile Carriers, to ensure fair and even-handed regulatory treatment between all the licensees. CSL notes that the Consultation Paper states: “[t]he TA would consider whether a performance bond will be necessary and appropriate for the new licences to guarantee a minimum level of SUF, in light of the fact that the existing 2G licensees are already operating in a mature market with stable revenue streams.”\(^10\) As the 3G Mobile Carrier Licensees are all 2G licensees and are also “operating in a mature [2G] market with stable revenue streams,” CSL submits that the same logic applies to them and they should no longer be subject to the performance bond requirements.

4.13 Should the TA nevertheless decide that the provision of a performance bond is necessary (which CSL would not support), CSL is of the view that such requirement should be imposed on new entrants only. This is because, as the TA has pointed out, new entrants pose a greater risk to the government than the existing 2G licensees. CSL considers that this distinction is not discriminatory because the new entrants do not have established revenue streams whereas the current 2G operators do.

\(^9\) Consultation Paper, paragraph 32.
\(^10\) Consultation Paper, paragraph 33.
5 Licence Conditions

New Licence Conditions

5.1 CSL agrees with the TA that the new licensees should be placed on an equal footing with the 3G Mobile Carriers, given that both groups of licensees are licensed to provide 3G services. However, rather than simply copying the Special Conditions of the 3G Mobile Carrier Licences into the new licences, CSL recommends that an overall review should be carried out, giving careful consideration to whether certain conditions are needed at all and, if so, whether amendments are required to better reflect changed market realities. The 3G Mobile Carrier Licences contain terms that are more onerous than those in any other telecommunications licence, whether mobile or other, and as such represent a significant deviation from the TA's policy of light-handed treatment towards a heavy-handed approach. Given that many jurisdictions are relaxing the licence conditions of the 3G operators, we would propose similar adjustments in the Hong Kong licences as well, to ensure the competitiveness of the 3G services segment.

Open network access

5.2 To CSL's understanding, the concept of open network access ("ONA") was initially devised in large part to ensure the viability of the 2G operators who were unsuccessful in bidding for 3G spectrum, or who chose not to bid. Given that 2G licensees should now be given the first right of refusal to retain the licence and continue operations, the initial reasoning to justify regulated ONA no longer exists.

5.3 There is a significant difference between 2G and 3G networks in relation to their available capacity. While the newly-licensed 3G networks are yet to be completed and marketed, the 2G networks are very mature. It is doubtful, therefore, whether a significant amount of 2G network capacity (eg: 30%) could be released or even built to accommodate MVNOs without directly impacting the operator's 2G business and its end-users. In effect, an ONA obligation in this context could amount to, in effect, a mandatory reduction in 2G operators' subscriber bases. Accordingly, whether MVNO can be accommodated within 2G spectrum should be a commercial decision, where the relative merits of the retail and wholesale businesses are determined by the 2G operator itself, who is best positioned to make such a decision.
Operating a mobile virtual network business has nevertheless emerged through other means in Hong Kong and there are a handful of licensed 2G mobile virtual network operators ("MVNOs"). Some MVNOs have already decided to exit the market, whereas others have entered more recently, despite the undoubtedly difficult market conditions. To CSL’s understanding, the commercial negotiations between the MVNOs and 2G operators have been carried out effectively on a commercial basis. This development, in CSL’s opinion, clearly demonstrates that when supply and demand meet in the market place, the market forces will work and the parties will take advantage of the business opportunity bringing about more service offerings to the community. As this has been evidenced to work so well in Hong Kong, CSL questions the need to regulate ONA. CSL submits that the market has demonstrated there is no such need and any attempt to do so would be both unjustified and contrary to the light-handed regulatory policy.

Should the TA nevertheless decide to regulate ONA (which CSL would not support), the obligation should relate only to 3G services and should commence on the cut-off date (i.e. on the date on which SUF becomes payable). If the TA decides not to impose ONA (which decision CSL would agree with), the ONA requirement should be deleted from the 3G Mobile Carrier licences as well, to ensure a level playing field among the operators.

Disposal of assets

CSL notes that the Consultation Paper proposes “prior written consent of the TA is required if the licensee disposes of more than 10% of its assets”. CSL submits that any such new condition ought not to be included in 2G licences, as the disposal of assets is purely a commercial decision, driven by ROI considerations mainly. Moreover, existing 2G operators may decide to upgrade their existing network and retire part of the out-dated network, due to technological change. Any competition concerns would be adequately addressed by the recent amendments to the Telecommunications Ordinance and forthcoming Merger and Acquisition Guidelines. CSL submits that it is unnecessary to require that prior consent be obtained from the TA.
Accounting manual

5.7 Current practice for the 2G licensees does not require that they follow an accounting manual. CSL proposes maintaining this practice, as it accords with the policy of light-handed regulation. An accounting manual would unnecessarily burden the operators with onerous book-keeping practices and procedures. It would be unprecedented, as the rest of the world actively takes steps to reduce the costs of the 3G operators in the harsh economic environment. As the TA will be aware, CSL has argued for a simplified accounting practice also in relation to the 3G Mobile Carrier Licence.

Obligation to provide coverage to specified locations

5.8 CSL is greatly concerned to note a proposal in the Consultation Paper for an obligation to provide coverage to specified locations. CSL anticipates adverse flow-on effects would be brought about by such an obligation. A mobile operator might decide not to provide coverage in a certain location because the cost is so high in that place that there is no way to recover it. The reason behind the high costs is that in many cases the infrastructure owners charge exorbitant access fees to the mobile operators. Such fees often constitute monopoly rents, as there is no alternative “site” from which a mobile operator could provide coverage, nor is there a competing infrastructure owner. This reflects a commonly held view among the infrastructure owners that they are entitled to a portion of the mobile operators’ revenues, by way of charging monopoly rents for access. The impact of this on MNOs is compounded by the Government’s insistence on rating mobile infrastructure and calculating the rates due on the basis of the inflated rents extracted by the infrastructure owners. The infrastructure owners provide no incentive, indeed rather a disincentive, for operators to provide such coverage. If the infrastructure owners themselves see little or no value in the provision of mobile services in their sites, CSL questions why the TA should force the mobile operators to invest in services which are not desired at those sites? Where infrastructure owners are already in a position to extract monopoly rents from operators, the imposition of an obligation to provide coverage does not solve the problem: it makes it worse.

5.9 CSL agrees with the TA that mobile coverage in tunnels and similar “strategic” locations is desirable. However, the problem cannot be resolved by forcing the mobile operators to deal, while depriving them of their right to decide how they invest

---

14 Consultation Paper, paragraph 39.
and whether to decline to provide coverage at a site that charges monopoly rents for access. A mandatory coverage obligation would place operators in an impossible negotiation position with the infrastructure owners. The operators would be "hostage" to the infrastructure owner, if obliged to provide coverage and, consequently, obliged to pay whatever charge the owner levies. Such an obligation would be both unfair and unreasonable. It could also possibly be anti-competitive in cases in which the infrastructure owners are themselves licensed telecommunications operators.

5.10 CSL is of the view that the most appropriate way for the TA to ensure mobile coverage in specific locations is to grant the mobile operators full carrier status and rights similar to those of the FTNS operators under section 14 of the Telecommunications Ordinance. Then, the issue of costs would no longer be relevant and mobile coverage could be provided in all strategic locations, to the benefit of the public.

5.11 When the infrastructure owners are licensed telecommunications operators, then clearly the facilities they operate are "essential" or "bottleneck" facilities, regardless of coverage requirements. Under such circumstances they are arguably "dominant" operators in respect of the systems and services they operate, as there is no alternative service provider. If this is the case, their prices should be monitored by the TA under the provisions of the Telecommunications Ordinance to ensure there is no abuse of dominant position. In no event can the TA mandate that the mobile operators be subject to abuse of a dominant position by another telecommunications operator.

5.12 CSL submits that it would be appropriate for the TA to take a proactive role within the government to co-ordinate with the relevant parties to ensure, first, that the relevant government departments are in agreement that mobile coverage is needed in the tunnels and other strategic locations and, secondly, that appropriate legislation is passed to achieve this objective efficiently. Amendments would be needed also in the legislation applicable to the infrastructure owners.
5.13 If the TA were to determine that a coverage obligation was necessary, it should be strictly limited, CSL submits, and defined in relation to specific services and situations. Clear and certain guidelines should describe the circumstances in which a coverage obligation could be imposed (e.g. on public health and safety grounds) and the characteristics of the services required to be made available should be clarified. If some form of obligation to provide coverage was included in the licence conditions, then the obligation should apply across-the-board to all mobile operators, otherwise the regulatory framework would be unfair and discriminatory. In addition, the absence of such obligation from the licences of other operators could in certain circumstances result in a competitive advantage to those latter operators. In particular, if a mandatory coverage requirement is not imposed on 3G licences why should it be imposed on 2G licensees? Does the TA propose to amend the 3G licences?

Compliance with mandatory codes of practice

5.14 CSL does not agree with the TA that there is a need to render some codes of practice mandatory. The TA is concerned about achieving effective compliance but has not demonstrated any failure in the operations or conduct of the licensees that would justify a more heavy-handed regulatory intervention. CSL requests that the TA provide evidence in support of this proposal. Our detailed comments regarding each code of practice proposed to be mandatory are set out below.

COP on Cell Broadcast Service ("CBS")

5.15 CSL does not agree with statements made by the TA in relation to the advantages of the CBS. Many attempts have been made to develop this technology for commercial purposes but so far it has been unsuccessful. Consumers have found it difficult to use and there was little interest in taking up the service offering, even when offered at no additional charge. In view of these experiences, CSL believes there would be very limited practical use for this service, e.g. for public service announcements. CSL is further of the view that the TA ought not to mandate that licensees invest in a certain type of technology; rather, such decisions should be left to the discretion of the licensee. In addition, CSL notes that MBMS\(^{15}\) is not yet available in the current 3G software release, so an obligation to support it would not be appropriate at this time and is likely to prove costly in the near future.

\[^{15}\text{Multimedia Broadcast/Multicast Service.}\]
COP on mobile service contracts

5.16 If consumer interests are threatened, then the government should enact legislation, applicable to all service providers, to ensure that such interests are protected. Such legislation should be administered by a competent authority. Rather than forcing one group of service providers to strictly follow certain standards while others might not, the TA should, with the Consumer Council, co-ordinate with the relevant government department to ensure that consumer interests are protected throughout the market. CSL does not see the value in piecemeal legislation or governance.

5.17 With regard to the number of customer complaints, the TA has not provided any analysis as to the subject matter to which the complaints relate to (for example, are they all related to inadequate or poor service terms?), nor has the TA substantiated how many of such complaints have merit. It is our experience that many complaints are raised simply because the customer has failed to familiarize himself or herself with the customer service agreement or has misunderstood its provisions, despite the fact that the terms of such agreement, or the enforcement of the agreement, follows the code of practice on mobile service contracts.

5.18 Furthermore, if mobile operators are mandated to comply with the code of practice, the TA must render its compliance mandatory in respect of all telecommunications operators, to ensure fair and even-handed (non-discriminatory) regulatory treatment.

COP on protection of customer information for fixed and mobile service operators

5.19 CSL does not understand why compliance with this code of practice should be made mandatory. Hong Kong has already legislated for the protection of personal data (i.e. the Personal Data (Privacy) Ordinance) which is ably administered by the Office of the Privacy Commissioner ("PCO"). By making the code of practice mandatory, it would appear that some of the jurisdiction and enforcement powers of the PCO would be transferred to the TA. This would likely prove very confusing, as it would be unclear as to who is the appropriate authority to contact or who has the powers to investigate or impose sanctions. We would further query whether this is efficient use of government resources it would appear to create duplicate regulation of the mobile operators on the same subject matter.
6 October 2003

Office of the Telecommunications Authority
29/F Wu Chung House
213 Queen’s Road East
Wanchai
Hong Kong

Attention: Senior Regulatory Affairs Manager
(Economic Regulation) 3

Dear Sirs,

Re: Consultation Paper dated 1 August 2003 on Licensing of Mobile Services on Expiry of Existing Licences for 2G Mobile Services (“Consultation Paper”)

We note from the Consultation Paper that OFTA is considering some drastic and fundamental changes in relation to the licensing of mobile services. They include the re-deployment and repartitioning of the existing 2G spectrum together with some additional spectrum identified by OFTA and the introduction of new licensing arrangement and conditions for 2G mobile services operators.

These proposed changes raise complex issues that will have great impact and ramifications on the mobile industry. However, the Consultation Paper lacks sufficient details for our assessment of the proposals that were put forward. Prior to launching the second round of consultation, OFTA should organize workshops and forum to help the industry and the public to understand the feasibility and the impact of the proposed changes and the issues involved, on both technical and regulatory levels.

Subject to the above, we have the following initial observations:

Redeployment and Repartitioning of Spectrum

We have serious reservations and concerns about such re-deployment and repartitioning proposal, as it appears that the implementation cannot be done without significant interruption of service to customers. As reckoned by OFTA, spectrum currently licensed in most cases is not contiguous. Massive frequency swaps between operators have to be implemented in order to re-align them to form contiguous bands. OFTA’s proposal will involve tremendous amount of work in a synchronized manner among all operators involved and cannot be done in a short time. Such work will inevitably cause significant service interruptions to customers. In the interest of the public, the feasibility and the implementation issues concerning such proposed massive frequency swaps must be resolved with the industry and all affected parties before it can form the basis for consultation.

Furthermore, we would like to know OFTA’s assessment of the market need and demand that support the proposed change of the current band plan. For example, we would like to know OFTA’s assessment of the infrastructure and terminal suppliers that would support the additional spectrum that OFTA is considering deploying for 3G.
As these redeployment and repartitioning proposals are the fundamental factors underlying the proposed licensing regime, they must be carefully considered in consultation with the industry and all the affected parties. As mentioned, some industry workshops or forum on the technical and implementation issues will be an important part of the consultation process and are reasonable in the circumstances.

Licensing of Mobile Services

We as an existing licensed operator are entitled to a legitimate expectation that our licences are to be renewed in terms substantially similar to those of our current licences. Such expectation is protected by law and ingrained in the government policies underlying the existing licensing regime.

Although the Consultation Paper proposes that the existing 2G licensees be given the offer of the “right of first refusal”, we are surprised to note that such offer of “right of first refusal” may not apply in relation to our CDMA licence which the TA considers as underutilized in terms of the number of subscribers. This is an unfair treatment to a licensee who has invested substantial capital and resources to build a network the market demand for which has been limited by some factors beyond the licensee’s control. Such treatment contradicts the technology-neutral stand of OFTA and discourages investments in new technology.

To the extent that we have duly complied with the terms and conditions of our licence conditions, our legitimate expectation for the renewal of our CDMA licence should not be disregarded.

New License Conditions, including the levy of Spectrum Utilization Fee

Furthermore, we note that the TA, in offering the “right of first refusal” to the existing licensees, may require the existing licensees to accept new licence conditions which, according to the Consultation Paper, could be drastically different from the existing licence conditions. For example, there may be mandatory requirements to pay spectrum utilization fee, to open access for non-affiliated MVNOs or content providers and to provide coverage to specified locations as directed by the TA. The TA would treat refusal to accept the new conditions as tantamount to rejection of the offer of licences.

This proposal is certainly in conflict with the principle of legitimate expectation to which the existing licensees are entitled to rely in the context of their licence renewal and may be unwarranted in the circumstances. The government must indicate how it wishes to deal with such concerns.

Alignment of the Date of New Licences

In the Consultation Paper, the TA reckons that the current licences will expire at different times, and the DCS 1800 licences are extendable for another 3 years until September 2009.

However, with the objective to achieve the re-partitioning of the frequency spectrum as discussed above, the TA considers it desirable that all the existing 2G licences should cease operation and the new licences commence operation at the same time. This may involve an early surrender of the existing licences for this purpose.

We reckon that this proposal can result in a potential encroachment of the legitimate expectation of the existing licensees and may be regarded as unlawful. Firstly, all existing DCS 1800
licensees are expiring in September 2006 and are entitled to the stipulated extension of 3 years, as in the case of the 3 years extension of the GSM900 and TDMA/CDMA licences in 2002/2003. Secondly, OFTA’s proposal of an early surrender of the DCS 1800 licences prior to September 2006 for the purpose of licence dates alignment is in effect an annulment of the licencees' entitlements under the licences for the unexpired period because a mandatory early surrender is a revocation of the licence.

More importantly, such an exercise may not be necessary if the proposed re-allocation of the frequency spectrum is not feasible or acceptable to the licencees.

As an alternative, OFTA can consider extending/renewing, as the case may be, all the existing 2G licences to September 2009 based on substantially the same terms. The industry and OFTA can start studying the proposed re-allocation of frequency for implementation upon the expiry of the 2G licences in 2009. We believe that this proposal takes due care of the legitimate expectations of the existing licencees and paves the way to re-allocation of the spectrum at a time when the market needs and demands can be realistically assessed.

As we mentioned above, we hope that these open-ended issues can be discussed and explored amongst OFTA, the industry and other affected persons together, by way of workshops or forum before the second round of consultation. We would like to request OFTA to organize such workshops and forum for the industry and other affected parties as soon as possible, in order to help them to better assess the feasibility and practicality of the technical and licensing proposals discussed above.

In the event that we have further comments, we will provide them as soon as possible.

Yours sincerely,

For and on behalf of
Hutchison Telephone Company Limited

Agnes Nardi
Managing Director
Foreword

SUNDAY welcomes the Telecommunications Authority’s ("TA") initiative to embark on early discussions regarding renewal arrangements for the existing PRS Licenses (also known as 2G Licenses). SUNDAY fully concurs with the TA that any change to the licensing framework should cause as little disruption of services to Hong Kong’s existing 6.3 million customers as possible (Para 3 of the Consultation Paper).

The Consultation Paper notes the TA’s key obligations to ensure choice, to maintain technological neutrality, to ensure efficient use of the telecoms spectrum, and to provide a stable investment environment.

The TA’s policies in recent years have very effectively encouraged an extremely high level of competition in Hong Kong’s mobile industry. This environment has well served consumers resulting in a marketplace where truly excellent services at some of the lowest prices in the world are readily available. However, today there are signs that inadequate levels of investment are being committed within the industry (capital expenditure, R & D, new services development) and the challenge facing the TA over the next few years is how to cultivate a stable environment that encourages investment levels that will ensure that Hong Kong consumers continue to enjoy excellent services at affordable prices.

Further, SUNDAY believes that change for changes sake wastes time and can incur costs that can valuably be applied elsewhere. Since no specific or onerous shortcomings have
been identified in the existing 2G arrangements, a case can reasonably be made that alterations should be kept to an absolute minimum. As far as 3G arrangements are concerned, it is imperative that changes introduced by the TA recognize the commitment demonstrated and risk incurred by the existing 3G licensees.

As an overall guiding principle, we believe that no changes to the licensing framework should be considered if they further destabilize the investment environment, or discourage appropriate investment in technologies and services. Re-establishing a stable investment environment is very important for Hong Kong’s ability to continue to offer a world-leading telecoms infrastructure.

In the Consultation Paper, many of the key issues such as spectrum allocation, right of first refusal, spectrum utilization fee, performance bond and new license conditions were considered and discussed by the TA in broad terms without illustrating any preferred position yet. This approach is appreciated, since it provides maximum flexibility to take account of outside views before indicating any policy preferences.

Spectrum Allocation

SUNDAY commends the TA’s overall intent to optimize use of available spectrum, and to rationalize spectrum allocations where possible. However, avoiding adverse impact to existing subscribers and minimizing costs for retuning must be the guiding principles when rationalizing allocations.

As far as spectrum allocation is concerned, SUNDAY’s positions on the issues raised by the TA are that:

(i) Additional spectrum should be made available as required to existing 2G Licensees at reasonable and affordable prices. In the case where the additional spectrum is used to provide 3G services, 3G SUFs including a “3G Entry SUF” (as explained on pg 4 - 6 below), must be paid;
(ii) Partitioning available spectrum into frequency blocks with bandwidth multiples of 2 x 5 MHz appears to be logical given the requirements of today’s most popular technology standards;

(iii) Reshuffle of spectrum, including attempts to rationalize existing spectrum into 5 MHz blocks, should only be undertaken if adverse impact to subscribers can be avoided and if there are no significant costs incurred by MNOs to retune existing mobile systems;

(iv) SUNDAY agrees that the TA should take a technology neutral approach in the issue of licenses;

(v) Whether the future GSM 900/1800 network equipment and handsets will be built in the 800 MHz radio frequency remains a question that can only be answered with knowledge of the plans of the network and handset suppliers. SUNDAY urges the TA to liaise directly with the network and handset suppliers accordingly;

(vi) Guard bands should be utilized as required as long as use of the adjacent bands meets minimum efficiency of utilization criteria;

(vii) Seed spectrum to accommodate the migration of 2G systems to 3G systems should be made available by the TA provided the 2G licensee meets the 3G SUF and 3G Entry SUF criteria proposed by SUNDAY (page 4 – 6) below.

Right of First Refusal

SUNDAY believes strongly that existing MNOs should be offered the right of first refusal when 2G licenses come up for renewal.

It is worth pointing out, that the right of first refusal issue should be more semantic than real. In recent years, Hong Kong’s telecommunications market has been in a fiercely competitive state in terms of prices and product choices and it is improbable that the entry of new service providers could be commercially attractive or bring substantial benefit to the customers. It is also important to point out that interested parties who wish to become industry players are already able to provide service through an MNVO license without the need to construct additional redundant and costly infrastructure as required by
an MNO license. In short, given the high degree of competition in the market today, the likelihood of new entrants with rational business objectives seeking new MNO licenses remains small and the TA must be proactively alert to the motives and the destabilizing impact that a new entrant could bring to the marketplace.

Alignment Date of New Licenses

It is entirely reasonable for all 2G licensees to expect equitable treatment and that their licenses will be extended for a further period of three years beyond the existing expiry dates, as this is the precedent that the TA established on 22 October 2003.

Spectrum Utilization Fees

The concept of a spectrum utilization fee (SUF) is controversial, and can be expected to give rise to hot public debate as it directly involves issues of policy relating to sector competition and consumer pricing. The SUF concept is also a very important issue as far as perceptions of Hong Kong investment environment are concerned.

One of the proposals considered by the TA is to levy spectrum utilization fee on the 2G Licensees at the same level as 3G licensees for the purpose of maintaining a level field in the market (Para 28 of the Consultation Paper). SUNDAY believes this proposal to be inappropriate. Due to excessive competition within the industry over the last few years, there is very little profit margin realized by 2G MNOs and the additional costs imposed by such a 2G SUF scheme would necessarily need to be passed directly onto mobile consumers. The TA has in the past justified collection of such additional fees on two grounds: first, that its own costs associated with spectrum management or oversight are recovered; and second, that the spectrum is a public resource that has a value, for which mobile operators should pay. However, since mobile telephone usage is now virtually universal in Hong Kong, and since such a charge would need to be passed directly on to mobile users, this fee would be tantamount to Government suddenly imposing a new consumption tax on the Hong Kong public. Once recognized in these terms, the case for a charge becomes weak: putting on one side the very modest sum that would be involved in
recovery of OFTA costs, the Government would be charging taxpayers a fee in order to raise revenues for taxpayers, generating no net value to the community.

The argument that the industry and thus mobile consumers (as Hong Kong mobile penetration now exceeds 90%, this means virtually all citizens) can ill afford a new 2G SUF also applies to the SUFs now being paid by 3G licensees as outlined in paragraph 27 of the Consultation Paper. However, as it is unlikely that the level of 3G SUFs as determined in September 2001 will be reduced in the near future, it is very important for the sake of re-establishing a stable investment environment, that level playing field principles are adopted.

SUNDAY believes that the only way in which a stable investment environment can be re-established is by adopting the following principles:

(i) The commitment demonstrated and risk incurred by the existing 3G licensees' must be recognized and rewarded. SUNDAY believes that the concept of an 3G Entry SUF as explained below must be introduced. To ignore the historic commitment of existing 3G licensees would destabilize and destroy incentive for investment in mobile services going forward.

(ii) Licensees (existing 2G or new licensees) should not be required to pay a SUF as long as they offer 2G services (2G services require definition by the TA).

(iii) Licensees (existing 2G or new licensees) that wish to offer 3G services must pay the same SUF as 3G licensees when they begin to offer 3G services (3G services require definition by the TA).

(iv) There should not be a pre-specified cut-off date from which 3G services are expected to be provided by Licensees.

(v) In order to ensure level playing field competition between incumbent operators and new entrants, and to ensure new entrants are not “rewarded” for their “wait-and-see” approach to the Hong Kong telecoms market, it is reasonable that licensees that have acquired additional spectrum (more than they are currently allocated under existing 2G and/or 3G licenses including
seed spectrum for migration purposes) should pay a "3G Entry SUF". The 3G Entry SUF should be an amount equal to the cumulative amount of SUFs paid by the existing 3G licensees up to the date of allocation of the additional spectrum.

The principle of adopting a 3G Entry SUF more appropriately recognizes the fact that there can be no lower SUF entry price for licensees that have chosen to wait to commit investment to Hong Kong's 3G marketplace. Although this approach does not fully recognize the risk that the 3G licensees have accepted since they acquired 3G licenses in September 2001 (later entrants, if new spectrum is made available, will have had the luxury of adopting a wait and see attitude) it does more equitably recognize the commitment to early market development that was made by the initial 3G licensees. This recognition will contribute meaningfully to re-establishing a stable investment environment within Hong Kong's telecoms marketplace.

Performance Bond

SUNDAY opposes the requirement to tender a performance bond to guarantee payment of SUFs (if applicable). As the financial capability and historic commitment made to Hong Kong's industry by the incumbent 2G Licensees should not be in dispute, funds or other forms of support required to tender a performance bond are better channeled towards investment in the industry. Therefore, provision of a performance bond from financial institutions (a third party that is not in the telecoms business) is not only unnecessary but is a misallocation of scarce resources.

New License Conditions

The TA made reference to a number of license provisions under the mobile carrier license (i.e. 3G license) that are considered relevant to the renewed 2G Licenses, for example, disposal of fixed assets, interconnection, accounting practices, number plan and number portability (Para 37 of the Consultation Paper). In response, SUNDAY wishes to highlight the fact many of these issues can be regulated by the TA under the
Telecommunications Ordinance. As such, SUNDAY sees little need to repeat these issues in the new Licenses.

SUNDAY notes with concern that the TA is considering imposing a license obligation to provide coverage or services to specific areas (Para. 39 of the Consultation Paper). The TA must recognize that the hyper-competitive environment that MNOs have been operating in for the last few years has forced each operator to carry the absolute minimum of overhead costs, and to capture every possible efficiency. To do otherwise would have been to give a potentially fatal competitive advantage to rivals in the mobile market. It can reliably be assumed that areas that are not already covered do not represent a commercial opportunity and must constitute a community need or service. Imposing such a license obligation could impose a considerable financial burden on licensees unless some form of additional compensation, perhaps in the form of a “universal service charge” that subsidizes such community needs, is provided to the MNOs.

It is also noteworthy that MNOs, unlike fixed line operators, do not have unimpeded, cost-free access to many of the locations which would potentially become the subject of coverage obligations. SUNDAY has previously expressed concern that the remedies currently open to 2G Licensees under Section 14 of the Telecommunications Ordinance for acquiring access rights is inadequate, ineffective and time consuming. Critically, the existing Section 14 fails to help MNOs to resolve deadlock on site rental negotiations involved in obtaining access to confined areas. Instead, MNOs have had to commence costly arbitration proceedings to resolve disagreements. Whether arbitration can be effective in resolving site rental disputes is yet to be proved.

Only if some form of compensation like a “universal service charge” is considered and the regulatory regime has been further improved to allow the 2G Licensees the same access rights as fixed network operators, will it be reasonable or timely to impose compulsory license obligations on the 2G Licensees to provide mobile coverage and/or services in specified locations.
SUNDAY is also surprised to learn that the TA is considering making the voluntary codes of practice mandatory. SUNDAY strongly objects to such a proposed switch of policy. As a company, SUNDAY is highly attentive to any complaint received, and regards its success in minimizing complaints, and effectively satisfying the concerns of the small number of customers who complain, as an important element of its competitive strength. While competition remains as strong as it is today, positive and effective response to complaints is essential. It is simply not reasonable to base or justify a claimed concern over complaint levels on the quantum of customer complaints during 2001 and 2002. After all, such a complaint rate amounts to a complaint from one in every 100,000 customers - not self-evidently a substantial number. In addition, any increase recorded has no more than tracked the rise in numbers of mobile service users in Hong Kong. For SUNDAY, the issue is not the quantum of complaints as much as the merits of a complaint. SUNDAY would urge the TA to clarify, out of the disclosed statistics, how many cases represent valid and genuine complaints, and on what basis this can be used as a reason to make voluntary codes mandatory. Most materially, what evidence exists of any shortcomings in the current voluntary codes of conduct that would justify mandatory imposition?

With regard to the issue of protection of personal data, SUNDAY clearly recalls that it has been a license obligation to keep all customer information confidential. Coupled with the fact the personal data protection has been adequately and effectively governed by the Personal Data (Privacy) Ordinance (Cap 486 of the Laws of Hong Kong), it is unnecessary and unjustified to lay down further license obligations beyond those that already exist in standing statutory restrictions and obligations.
Conclusion

The past six years or so has seen the rapid expansion of the telecommunications market in terms of the number of mobile customers. This has been accompanied by steadily falling prices, and the development of a broad range of services, to which all the 2G Licensees have contributed continuously. Against this background, SUNDAY is committed to providing quality mobile services to customers and remains a committed industry player for the long-term future. In return, it is SUNDAY’s reasonable expectation that the Government would strive to re-establish a stable and healthy investment environment for those committed industry players like SUNDAY who have over the past few years built a telecommunications infrastructure in Hong Kong that has made it a global pace-setter in terms of the range, quality and price competitiveness of mobile services.

How the renewal arrangements will ultimately be framed by the Government will have far-reaching implications on the existing 2G Licensees and their future. In view of the magnitude of the issues associated with the renewal arrangements, SUNDAY would welcome further opportunities to be involved in the consultation process.

SUNDAY o/b Mandarin Communications Limited
2nd October 2003
Consultation paper: submissions on consultation paper: "Licensing of mobile services on expiry of existing licences for se