



January 24, 2007

Communications and Technology Branch
Commerce, Industry and Technology Bureau
2/F Murray Building
Garden Road
Hong Kong

(Attention: Assistant Secretary (B) 1)

The CDMA Development Group (CDG) appreciates this opportunity to provide comments to the Commerce, Industry and Technology Bureau (CITB) with regard to the October 2006 *Consultation Paper on Proposed Spectrum Policy Framework*. The CDG and its members have a vested interest in the CITB's proceeding, as the actions taken based on this consultation will clearly affect the ongoing deployment of mobile services, including CDMA, in Hong Kong.

The CDG is an international industry association of over 120 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.¹ 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. The CDG advocates a progressive approach to regulating the wireless communications market which will ensure that CDMA is allowed to co-exist and compete on a consistent basis with other wireless standards.

CDMA is one of the fastest growing technologies worldwide with over 350 million subscribers across all continents. The CDMA technology platform provides mobile operators with the ability to offer high-quality voice and data services to its public and private customers. There has been tremendous growth in the last six years in third generation ("3G") wireless services based on CDMA2000[®], one of the International Telecommunication Union's (ITU) IMT-2000 (or 3G) mobile standards. Today, there

¹ CDMA is a digital air interface for mobile communications networks 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 relative to other commercially available mobile technologies. CDMA is a spread spectrum technology that allows many users to occupy the same time and frequency allocations in a given band. It is the basis of several International Telecommunication Union standards for third generation networks, i.e., CDMA2000, WCDMA/UMTS, and TD-SCDMA.



are nearly 190 CDMA2000 operators in over 80 countries worldwide. CDMA2000 currently includes two modes of operation, CDMA2000 1X and CDMA2000 1xEV-DO (Release 0 and Revision A). Both technologies offer broadband performance over cellular networks. When compared to other wireless technologies, CDMA2000 offers more efficient use of bandwidth, a superior cell radius, clear and seamless migration paths, and overall cost efficiencies for both the subscriber and the operator. CDMA2000 1X delivers peak data speeds of 153 kbps in mobile environments, while CDMA2000 1xEV-DO Release 0 (Rel 0) increases the data rate to a peak of 2.4 Mbps, allowing access to more bandwidth-intensive applications. CDMA2000 1xEV-DO Rev. A reduces latency, provides for quality of service differentials and improves downlink to up to 3.1 Mbps and uplink data rates to up to 1.8 Mbps, making possible new services, including VoIP and simultaneous multimedia delivery, which coexist alongside the current Internet packet data services available with CDMA2000 1xEV-DO Rel 0.

The CDG recognizes the importance of Hong Kong as both a regional hub for telecommunications and an economic bridge for all of Asia, and we commend the CITB on its effort to develop a comprehensive radio spectrum policy framework. The CDG agrees with the CITB position that a responsive and transparent radio spectrum policy would enable Hong Kong to derive the maximum benefits from its spectrum resources.

The CDG supports this consultative process and we provide the following specific comments related to the individual questions within the consultation document.

Do you agree that the above considerations, i.e., future shape of radio-communications, international developments, encourage investment, strategic considerations and fair compensation for the community, should be factored in Hong Kong's spectrum policy framework and the supporting spectrum management arrangements? Are there any other factors or considerations that should be taken into account?

The CDG believes that the CITB has identified the key considerations for development of a new spectrum policy. With these factors in mind as the new policy is developed, the CDG expects that the policy will enable Hong Kong to more effectively and efficiently manage its spectrum resources.

Do you agree with the proposed spectrum policy objectives? Are there other spectrum policy objectives that the TA should take into account when making spectrum management decisions?

The CDG agrees with the proposed spectrum policy objectives, and that a better understanding of these objectives will lead to a greater ability for stakeholders to calculate regulatory and investment risks.



In particular, the CDG commends the CITB's proposals to achieve efficient use of spectrum to facilitate the introduction of advanced and innovative communications services, and to strengthen Hong Kong's strategic position as a world city and the gateway between Mainland China and the world. As has been noted in both this consultation and the October 2006 *Licensing of Spectrum in the 850 MHz Band to Enable the Provision of CDMA2000 Service* consultation, there is value to be gained through the introduction of CDMA2000 services in Hong Kong, and such a development would be in line with the proposed spectrum policy objectives. CDMA2000, and particularly CDMA2000 1xEV-DO, efficiently delivers a wide variety of services. CDMA2000 1xEV-DO Rev. A and future enhancements to the CDMA2000 standard build on the CDMA2000 1xEV-DO all-IP network structure, will lead to greater choice of access and distribution technologies, and could spur more innovative applications for Hong Kong's users. With over 30 million CDMA2000 users on the mainland, the introduction of CDMA2000 technology into Hong Kong is even more critical in ensuring access to advanced wireless services for users travelling between Hong Kong and the mainland, as well as for the 302 million CDMA2000 users worldwide.

Do you agree with the proposed guiding principle in spectrum management, especially that market-based approaches should be considered first for spectrum where there are competing commercial demands?

The CDG believes that market-based approaches provide the most efficient means by which to resolve competing commercial demands for spectrum, while keeping in mind the Telecommunications Authority's (TA) spectrum management responsibilities. In short, to the extent practical and possible under the law, the TA's spectrum allocations should conform to regional and international guidelines in order to promote harmonization in spectrum use and reliance on market-based approaches to resolving competing spectrum demands.

In addition, the CDG agrees that if the TA has overriding public policy reasons *not* to implement market-based solutions, that such reasons should be published in a timely manner.

Do you agree with the proposal to prescribe the circumstances under which spectrum assignment may be varied or withdrawn before the assignment expires? Are there other circumstances for variation or withdrawal of spectrum assignment before expiry that should be taken into account? What are your suggestions on the appropriate minimum notice periods?

The CDG agrees that the TA should not vary or withdraw frequencies assigned to a licensee before the expiry of the spectrum assignment except in circumstances where public interest, government policies, or international obligations so require, or where interference between legitimate spectrum users renders it necessary to take such action. As the CITB correctly notes, varying or withdrawing spectrum assignments can have



significant negative effects on licensee investments and future investments. As such, variation or withdrawal of an assignment should be carried out as infrequently as possible, and with appropriate advance notice for each type of assignment.

Do you agree with the proposal of status quo for spectrum rights after the expiry of a spectrum assignment, i.e., no legitimate expectation for renewal? What is your suggestion of the minimum notice period for the intention to change or not to renew the spectrum assignment of a licence where substantial investment in the underlying infrastructure is required?

The CDG believes that there is value in the expectation of license renewal, which gives licensees greater confidence in making long-term investments in their spectrum resources. As an example, in the United States, there is an expectation of renewal as long as the terms of the license are met and that the public interest is being served. One could argue that this is a contributing factor to the robustness of the U.S. telecommunications market.

However, the CITB's proposal of significant advance notice of intent to change or renew assignments permits greater flexibility in the use of spectrum resources. As technologies and services evolve, certain spectrum resources may be better employed by reassignment or reallocation. The CDG believes that such flexibility is critical to enabling the timely introduction of new technologies and services, such as mobile broadcasting.

Do you agree that the introduction of secondary trading of spectrum in Hong Kong can improve the efficient use of spectrum? How should potential anti-competitive behaviour in the spectrum market be addressed? How should gains in spectrum trading be treated? What are your views on other implementation issues identified by the consultant?

The CDG believes that spectrum trading will facilitate the most efficient use of spectrum and will further stimulate growth and innovation in the provisioning of wireless services. This would create new opportunities, advance competition, and foster greater choice for consumers. Many countries around the world have recognized the value of this approach and have been experiencing its direct benefits in their markets and economies.

A number of markets around the world have already noted how critical spectrum flexibility is with respect to developing overall spectrum policies. For example, South Korea was among the first countries to recognize the value of flexible use of spectrum by permitting in-band migration to IMT-2000. As a result, SK Telecom was the first operator worldwide to deploy an IMT-2000 system in October 2000 based on CDMA2000. Korean operators SK Telecom, KT Freetel and LG Telecom reached 25 million CDMA2000 subscribers by the end of 2003 and 43 million in September 2006.



Several governments support policies that allow operators flexibility in using their existing spectrum and the result has been that operators have deployed innovative, advanced technologies that have contributed to their growth and stimulated use of data services.

The CDG agrees that the implementation issues are challenging, but that they can be effectively addressed through the implementation of appropriate competition safeguards, such as spectrum fees or spectrum caps.

The CDG appreciates this opportunity to comment on the CITB's consultation. We look forward to participating in this process. The CDG would be pleased to meet with CITB and OFTA officials to discuss our positions further and provide additional information that the CITB may find useful.

Sincerely,

CDMA Development Group

A handwritten signature in black ink, appearing to read "Perry M. LaForge".

Perry M. LaForge
Executive Director