May 16, 2008

Sudhir Gupta, Advisor (MN)
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
New Delhi, India 110 002

Dear Mr. Gupta:

We are pleased to have the opportunity to present the views of the CDMA Development Group (CDG) on TRAI's *Consultation Paper on Allocation and Pricing for 2.3-2.4 GHz, 2.5-2.69 GHz and 3.3-3.6 GHz bands*.[1]

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 (3G) systems based on Code Division Multiple Access (CDMA) technology.[2] 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, spectrum-neutral 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.

The CDMA technology platform provides mobile operators with the ability to offer high-quality voice and data services to its public and private customers. The CDG continues to find that the introduction of CDMA technologies in the marketplace results in mobile service growth and

[1] Telecom Regulatory Authority of India Consultation Paper no. 8/2008: *Consultation Paper on Allocation and Pricing for 2.3-2.4 GHz, 2.5-2.69 GHz and 3.3-3.6 GHz bands* (hereinafter "consultation document").

[2] 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 the basis of several International Telecommunication Union standards for third generation networks, i.e., CDMA2000, WCDMA/UMTS, and TD-SCDMA.

575 ANTON BOULEVARD, SUITE 560
COSTA MESA, CALIFORNIA 92626
PHONE +1 888 800-CDMA
+1 714 545-5211
FAX +1 714 545-4601

WWW.CDG.ORG, CDG@CDG.ORG

application development, and provides users with a powerful way to access information that supports economic and social development.

There has been tremendous growth in the last several years in third generation ("3G") wireless services based on CDMA2000®. CDMA2000 is one of the International Telecommunication Union's (ITU) IMT-2000 (or 3G) mobile standards and currently includes three modes of operation, CDMA2000 1X, CDMA2000 1xEV-DO Release 0 (Rel. 0) and Revision A (Rev. A) broadband technologies. The next-generation EV-DO standard, Revision B (Rev. B), will be commercially available in 2009. 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 is the most widely used IMT-2000 technology today, and it is deployed by 260 operators in 100 countries worldwide and serving close to 432 million users, including 97 million using EV-DO broadband services.

The CDG would like to commend TRAI on its comprehensive approach to allocation and pricing for three key bands that can be used to provide broadband wireless access (BWA) services. In particular, the CDG appreciates TRAI's position – first presented in its June 2006 consultation paper on allocation and pricing of spectrum for 3G and broadband wireless access services – that a forward-looking spectrum policy should take into account the developments both in 3G and BWA services so as to create a clear and stable regulatory framework.[3]

With regard to the 2.5-2.69 GHz band, the CDG notes both TRAI's observation in ¶2.13 that the band's status as one of those identified by the ITU for IMT increases the potential for the availability of 3G and BWA equipment, and TRAI's suggestion in ¶2.18 that India should consider the use of the band solely for BWA technologies at the present time. The CDG respectfully encourages the adoption of a technology neutral spectrum plan that enables the provision of IMT-based BWA services in this band. BWA is broadly defined within the ITU-R in ITU Recommendation F.1399 as "wireless access in which the connection capabilities are higher than 1.544 Mbits/sec." The CDG submits that by this definition, BWA can be provided by several different technologies, particularly IMT technologies based on CDMA and OFDMA radio interfaces. CDMA-based IMT technologies have been deployed around the world for more than seven years and provide a mature and continuously evolving set of technologies that have proven capable of delivering high-quality broadband services. The identification of the OFDMA TDD WMAN radio interface adds additional BWA technology options to the IMT technology family.

CDMA2000 EV-DO technologies have been providing broadband Internet connectivity since 2002 and currently are offered by over 100 operators worldwide in locations as diverse as the

[3] Consultation document, page 1.

Czech Republic, New Zealand, Rwanda, Thailand and the United States. EV-DO Rev. A, commercially available since 2006, delivers enhanced broadband access at up to 3.1 Mbps in downlink and 1.8 Mbps in uplink and, with the faster uplink performance, lower latency and advanced quality of service (QoS) mechanisms, it can support carrier-grade Voice over Internet Protocol (VoIP) and other all-IP real-time applications. The next-generation EV-DO standard, Rev. B, will provide further enhancements by enabling aggregation of multiple Rev. A channels, increasing throughput to up to 73.5 Mbps on the downlink and 27 Mbps on the uplink in 20 MHz bandwidth. The ongoing evolution of CDMA2000 technologies will enable further advances in the variety of BWA services offered.

CDMA2000 systems have already been deployed in India, and as such, CDMA2000 provides one of the most cost-effective and widely available platforms for the delivery of BWA in the country. The CDG believes that standardized IMT technologies, such as CDMA2000, provide the best avenue for promoting widespread deployment of robust and cost-effective BWA in India and around the world. By ensuring the availability of the 2.5 GHz band for deployment of IMT technologies, TRAI would further promote BWA through the rapid deployment of commercially proven IMT-2000 technologies that benefit from economies of scale, as well as emerging OFDM-based TDD technologies.

The CDG appreciates this opportunity to comment on TRAI's *Consultation Paper on Allocation and Pricing for 2.3-2.4 GHz, 2.5-2.69 GHz and 3.3-3.6 GHz bands*, and we look forward to participating in further activities related to the development of advanced wireless services in India. The CDG would be pleased to meet with TRAI officials to discuss our positions further and provide additional information that TRAI may find useful.

Sincerely,

CDMA Development Group

Perry M. LaForge
Executive Director