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Mr. Gupta:

The CDG appreciates this opportunity to provide input to TRAI on its review of licence terms and conditions and potential restrictions on the number of access providers. The current consultation is an important step in ensuring the continued robust growth of wireless services in India.

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. 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. A transparent and non-discriminatory spectrum approach for mobile operators provides certainty for investors and enables market players to establish robust business cases.

CDMA is one of the fastest growing technologies worldwide with over 387 million subscribers across all continents, including over 350 million 3G CDMA2000 1X and 1xEV-DO subscribers. 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 technology in the marketplace results in mobile service growth and application development, and provides users with a powerful way to access information that supports economic and social development.

While all of the questions raised in the consultation are important, the CDG would like to focus its responses on the issues raised in Chapter 6 (Determining a cap on number of Access providers in each service area).

As noted in ¶6.37, the availability of spectrum is a key issue to be considered in any discussion of an ideal or maximum number of operators in a service area. Spectrum is a scarce resource, and the continued

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growth of wireless services in India, whether offered by existing or new licensees, will be dependent upon the successful management of spectrum resources. As the number of subscribers grow and the variety of advanced services continues to expand, operators have begun to seek access to additional spectrum. As noted in ¶¶6.39-6.43, the amount of available spectrum is not adequate to meet the needs of current CDMA operators, let alone potential new licensees.

Regardless of whether or not a cap is imposed, spectrum scarcity could bring about the same result as a cap in terms of the concern raised in ¶6.48 regarding expansion plans for operators aspiring to obtain a nationwide footprint. The presence or absence of a cap on the number of operators will be irrelevant if there is not an adequate amount of suitable spectrum available for an operator to offer service in a new region.

CDMA licensees are further constrained by the WPC spectrum allocation criteria referenced in ¶6.44 and Annex VII that allocate CDMA operators only half of the spectrum that would be granted to a GSM operator in the same service area with the same number of subscribers. While additional 1800 MHz spectrum will likely be made available to GSM operators once it is vacated by the Ministry of Defence, this additional spectrum will create a further imbalance between the spectrum resources available to GSM and CDMA operators. Spectrum policies that favour specific technologies or limit technology choice will hinder the growth of the mobile sector, which has been identified as a major component of plans to improve access to telecommunications services in India and which is the underlying goal of the issues considered in this consultation.

For these reasons, the CDG encourages TRAI and the Department of Telecommunications (DoT) to focus first on allocating more spectrum suitable for CDMA operators before considering the issue of the appropriate number of operators in a service area or the potential issuance of more licences. Given that CDMA operators in India have already been assigned spectrum in the 800 MHz band, additional spectrum in this band would be ideal for the continued expansion of CDMA services.

The 1850-1990 MHz band (also known as the PCS band) would be the ideal band from which to allocate additional spectrum to CDMA operators, but if that band remains unavailable, then the 450-470 MHz band is a viable option for expansion of mobile services. In fact, TRAI suggested as much in its spectrum recommendations for 3G and broadband wireless access.<sup>1</sup> The propagation characteristics of the 450 MHz band allow the provision of advanced wireless services over large areas with a minimal number of base stations, which reduces capital expenditures and enables cost-effective delivery of services, particularly to rural or underserved areas, but also in urban settings. There have been a significant and growing number of deployments of CDMA2000 systems in the 450 MHz band (CDMA450) around the world in recent years. The growing CDMA450 subscriber base continues to contribute to economies of

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<sup>1</sup> TRAI, "Recommendations on Allocation and pricing of spectrum for 3G and broadband wireless access services," September 27, 2006, <http://www.trai.gov.in/trai/upload/Recommendations/64/MNP.pdf>.



scale that produce more affordable infrastructure and handsets. More than 67 commercial CDMA450 operators in 36 countries are serving over 12 million subscribers. In addition, 36 CDMA450 networks in 24 additional countries are trialling or deploying networks. The propagation characteristics of the 450 MHz band, along with its the growing number of 450 MHz CDMA2000 deployments have led to consideration of the band for identification as an IMT-2000 band by the International Telecommunication Union at the 2007 World Radiocommunication Conference (WRC-07).

The CDG strongly believes that the allocation of additional spectrum, particularly in the 450 MHz band, needs to be considered before addressing the possibilities of new licences or limiting the number of licensees in a service area. We would welcome the opportunity to discuss this issue with TRAI in greater detail. Please feel free to contact Mr. B.V. Raman, CDG Country Head, India at 09313433985.

Best regards,

**CDMA Development Group**

A handwritten signature in black ink, appearing to read 'Perry LaForge', with a long horizontal stroke extending to the right.

Perry LaForge  
Executive Director