

**COAI COMMENTS ON ABTO'S PROPOSAL FOR
ADDITIONAL SPECTRUM IN PCS 1900 MHZ (US) TO CDMA OPERATORS IN INDIA**

EXECUTIVE SUMMARY

1. **When the issue of quantum of spectrum is being considered, the important parameter is to adjudge the traffic handling capacity of the allocated spectrum.** The traffic density handling capacity squarely depends upon the technology used (**CDMA/GSM**), number of sites and Spectrum in MHz. **Thus, adequacy of spectrum allocation has to be seen in light of equal traffic density per square kilometer, rather than on equal MHz basis (assuming equal number of sites for GSM and CDMA) and cannot be compared on a simple MHz basis**

2. **The demand of ABTO /CDMA operators for additional spectrum is completely unjustified because, on the criteria of “traffic density handling capacity”, CDMA operators have more than adequate spectrum vis-à-vis the GSM operators, to meet their traffic requirements.**

3. **The issue of adequacy of spectrum should only be considered after due diligence is carried out by the DoT/TEC Committee in exactly the same manner as was done for the GSM operators and a Report of the above-constituted DoT/TEC Committee is made available to all stakeholders.**

4. **The ABTO contention of technology neutrality is completely untenable because it has been the declared position of the Government that the cellular operators are technology neutral only within their designated frequency band.** The designated frequency band for the CDMA operators as per the Unified Access Service (UAS) License is 824-844 MHz paired with 869-889 MHz, 890-915 MHz paired with 935-960 MHz, 1710-1785 MHz paired with 1805-1880 MHz. It thus goes without saying that **the same principles and treatment must also apply**

to the CDMA operators and that they will be technology neutral only within their designated bands of 800 MHz / 1800 MHz as per their license.

5. That the Table cited by ABTO to endorse their case is **misleading** inasmuch as :
 - a. The Table has been **listed operator-wise** rather than country-wise **to make it look lengthy** and give a misleading impression.
 - b. The Table lists 48 networks in 26 countries offering CDMA 2000 services. To put matters in perspective, GSM today has over 1 billion subscriber in 606 networks in over 190 countries and accounts for around 72% share of the total mobile market. On the other hand, **CDMA subscribers are only 188 million –i.e. less than 14% of the total mobile market.**
 - c. The majority of the countries using CDMA technology are operating in the 800 MHz band only.
 - d. The **use of the 1900 MHz** band is **almost entirely** (China being the only exception) **confined to a few countries** in the **North / South America** region, where 1900 MHz has been deployed for CDMA based mobile services for historical reasons.
 - e. **In several cases** where part of this band had been allocated to PCS 1900 (US) MHz for historical reasons, such **countries (for example China and Brazil) are revising / re-farming their frequency allocation plans so as to be in consonance with the ITU globally harmonized bands** for IMT 2000 which ensure interference-free operations.
6. There is **no such country/ example where 1900 MHz band has been allocated in the same city/geographical area to a CDMA operator for 1x/EVDO where GSM was already operating**
7. As per the information available, **both CDMA infrastructure** (Motorola, Lucent, Ericsson, Samsung, LG, Daewoo) **as well as handsets, are available in the 1800 MHz band** (Samsung, LG, Pantech, Curitel, Sewon, Telson).
8. USA till recently was a protected market for only CDMA technology because of which the US bands were not normally in line with most of the world. Once the **US introduced GSM in the year 2001 in the 1900 MHz band, the GSM**

infrastructure providers made available both infrastructure as well as handsets in the 1900 MHz band to suit the particular needs of the US market. Similarly, CDMA infrastructure and handsets too can easily be made available in 1800 MHz bands by the vendors as has been done by GSM vendors for several markets like US (as explained above), Korea, Latin America, etc.

9. **The demand of the CDMA operators to be allocated additional spectrum in the 1900 MHz band for “data only” services should not be considered as TEC while evaluating the GSM operators’ request for additional spectrum considered only “traffic handling capacity” within the allocated spectrum and it was left to the operators to use this allocated spectrum for any service – voice or data. To adopt a different approach for CDMA operators would lead to discrimination against the GSM operators.**
10. **The ABTO contention that international roaming will not be possible if CDMA operators are allocated spectrum in the 1800 MHz band is completely incorrect and untrue as both in-roaming and out-roaming is possible.**
11. **Consideration of the allocation of 1900 MHz spectrum to the CDMA operators will disturb the band earmarked by NFAP 2002 for IMT-2000 applications /services in line with ITU-R and WARC-92 recommendations.**
12. **As of today, 120 operators /licenses have been awarded in 40 countries, which have either commercially deployed IMT-2000/FDD mode (WCDMA) access standard (i.e., the 3GPP path for the GSM operators to migrate to IMT-2000) or are in different stages of deployment.**
13. **Allocation of any part of the 1900 MHz band to the CDMA operators will result in denying the existing GSM operators their logical migration path to 3G, which will have far-reaching consequences.**
14. **There are a number of serious operating issues, severe harmful interference problems and wastage of spectrum by guard bands that will**

arise as a result of the mixed usage of PCS 1900 MHz (US) and IMT-2000 (WARC-92 identified) 2GHz bands

15. That **allocation of the 1900 MHz band will also directly reduce the spectrum available in the GSM 1800 MHz band as well, which will also adversely affect the present 2G services of the existing GSM operators.**
16. **Mixed use of PCS 1900 and IMT-2000 in WARC-92 bands leads to in-efficient use of the available spectrum in terms of large guard bands, besides other implications like coordination, usage of external additional filters and associated degraded network performance.**
17. **Acceptance of the ABTO proposal will block the migration path of GSM to 3rd Generation mobile services and deprive the 30 million GSM subscribers of BSNL, MTNL and private operators from availing of the benefits of 3rd Generation applications and services.**
18. **ABTO has misinterpreted the recommendations of the ITU Working Party under the cover that ITU permits “flexibility”, merely to provide misleading support to their proposal. Looking at the options it is clear that the “mixed band plan” of frequency arrangements (as indicated in Table–2 in ABTO submission) does not find a place in the recommended options. Also, no country has opted for the ‘mixed band plan’ approach**
19. **The suggestions given by ABTO for NFAP 2004 for long term solution in are neither appropriate nor acceptable for consideration / implementation in our country. On the contrary, their suggestions are clearly an attempt to create confusion and block the well-set migration path of the GSM operators to IMT-2000 / 3rd Generation application / services and futuristic applications.**
20. **Spectrum harmonization is an important aspect of spectrum efficiency in global radio communications. Implementation /use of ITU-R globally harmonized common spectrum, WARC-92 identified, thus leads to:**

- a. Interference-free operations
 - b. Optimal utilization of spectrum (no wastage by guard bands etc),
 - c. Facilitation of Global roaming
 - d. Availing of the benefits of the economies of scale of globally available standard equipment, etc
21. **Almost all countries are adopting the principles of harmonized spectrum use and are allocating spectrum as per the ITU globally harmonized bands (WARC-92 identified) for IMT-2000.**
22. In cases where part of this band had been allocated to PCS 1900 (US) MHz for historical reasons, those countries are **revising / re-farming their frequency allocation plans so as to be in consonance with the ITU globally harmonized bands for IMT 2000.**
23. It is thus indeed **very surprising that while the rest of the world is moving forward to a globally harmonized spectrum environment, that ABTO is attempting to moot such a retrograde proposal** for allocation of PCS 1900 MHz (US) band, **knowing fully well the implications involved and also the fact that this would be completely contrary to ITU recommended globally harmonized bands and trends worldwide** for IMT-2000 applications / services.
24. **ABTO Proposal is also against the** recent recommendations made by the ITU Regional Working Group on Private Sector Issues, **which met on April 26-27 in New Delhi. The recommendations of the Group, were** consensually agreed between all stakeholders, **including representatives from** several Asia Pac and other countries **as** also representatives of DoT, WPC, TEC, ABTO and COAI, are reproduced **as under:**
- a. "Harmonized frequency allocation is essential for facilitating global roaming, economies of scale, wide competitions and benefits to the end-users.
 - b. Consistency in identifying global spectrum for specified services also provides regulatory certainty for operators, investors, manufacturers and administrators and facilitates development of global standards.

- c. Long-term spectrum plans should consider ITU-R globally harmonized spectrum use as well as the technological evolution paths of different wireless systems in a given market. The adequate accommodation of these requirements in national spectrum allocation should aim to give operators certainty in their long-term plans and strategies.
- d. ITU has identified certain bands for the IMT 2000 / 3G applications, without precluding the use of these bands for other wireless applications. It was pointed out by the ITU expert that the thrust of the ITU Recommendations was achieving global harmonization of spectrum use and that the same should be implemented.”
- 25. It is important for India to integrate itself with the global community and continue to safeguard the ITU-R globally harmonized, frequency band (as already earmarked in NFAP-2000 and NFAP-2002) from impairment for subsequent use as well as avoid its fragmentation. This would be in line with other countries worldwide including Japan, Korea, China, Brazil, etc.**
- 26. It is important for the Government to lay down a clear cut policy of Spectrum for the IMT 2000 WARC 92 identified frequency band and have the same vacated by the existing users at the earliest in order to facilitate interference free operations of 3G services in the ITU-R globally harmonized WARC-92 identified bands.**
- 27. Insofar as the CDMA operators are concerned, for the important reasons cited above, it is imperative that for them, the existing provisions in the NFAP are complied with, which means that they must first exhaust available spectrum in the 800 MHz band and then move over to 1800 MHz as provided for in NFAP – 2002.**
- 28. For all the above powerful reasons (based on technical justifications and international practices) it is imperative that the ABTO proposal is rejected.**