



भारतीय दूरसंचार विनियामक प्राधिकरण
TELECOM REGULATORY AUTHORITY OF INDIA
भारत सरकार / Government of India



No.103-3/2017-NSL-II

Date: 21st November 2017

To

The Secretary
Department of Telecommunications,
Sanchar Bhawan,
20, Ashok Road,
New Delhi – 110 001

**Subject: Consulting TRAI on the issues relating to Spectrum Cap
as follow up of Inter-Ministerial Group report – reg.**

Reference: DoT's letter No. L-14005/02/2017-NTG 29.09.2017

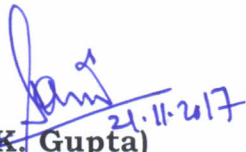
Department of Telecommunication through its letter referred above had sought the views of TRAI on the issues relating to Spectrum Cap as follow up of Inter-Ministerial Group report.

2. For formulating its comments, TRAI had requested all the TSPs to provide their views and suggestions. After examining all the responses and carrying out its own analysis, the Authority has finalized its response which is enclosed herewith (Annexure).

3. In keeping with practice, a copy of this letter, along with the comments received from TSPs, is being placed on the website of TRAI www.trai.gov.in.

This letter issues with the approval of the Authority.

Encl: As above


(S.K. Gupta)
Secretary, TRAI

ISSUES RELATING TO SPECTRUM CAP AS FOLLOW UP OF INTER-MINISTERIAL GROUP REPORT

A. GENERAL

- 1.1 Department of Telecommunications (DoT), through its letter dated 29th September 2017 (Annexure-I), informed the Authority that the Government recently constituted an Inter-Ministerial Group (IMG) on “Stress in balance sheet in Select Sectors”. The IMG, among others, reviewed the spectrum cap applicable for Telecom Service Providers (TSPs). IMG, in its report, stated that the issue of spectrum cap merits detailed examination and variety inputs from sectoral regulators and hence, DoT may consider the issue separately.
- 1.2 In light of IMG report, DoT has requested TRAI to provide its views on whether existing applicable band-wise spectrum cap of 50% of the total spectrum assigned in a band for an LSA and the over-all cap of 25% of the total spectrum assigned in an LSA across all bands should continue or needs review. DoT also requested that in the latter case, TRAI may consider providing new band-wise and overall spectrum cap.
- 1.3 For formulating its comments, all the TSPs were requested to provide their views and suggestions on the above referred points latest by 27.10.2015. After examining all the responses and carrying out its own analysis, the Authority finalized its response to the DoT.

B. BACKGROUND

- 1.4 The objective of prescribing spectrum cap is to prevent large holdings of spectrum by one or a few TSPs which otherwise may create concerns for the competition in the market. It cannot be completely left to the market forces to decide the maximum spectrum holding of a TSP. In its

recommendation on 'Spectrum Management and Licensing Regime' dated 11th May 2010, the Authority had recommended that:

"The limit on spectrum to be assigned to a service provider will be 2x8 MHz for all service areas other than in Delhi and Mumbai where it will be 2x10 MHz. Similarly for CDMA spectrum the Authority recommends that the limit on spectrum will be 2x5 MHz for all service areas and 2x6.25 MHz in the Metro areas of Delhi and Mumbai."

- 1.5 In its recommendations dated 3rd November 2011, the Authority had clarified that this prescribed limit of spectrum is in terms of quantum of spectrum in the 2G bands (800, 900 and 1800 MHz) that can be assigned by the Government to any licensee. This does not preclude the licensee from acquiring additional spectrum in the open market should there be an auction of spectrum or in terms of consolidation through mergers. The Authority also recommended that:

"Consequent upon the merger of licences in a service area, the total spectrum held by the Resultant entity shall not exceed 25% of the spectrum assigned, by way of auction or otherwise, in the concerned service area in case of 900 and 1800 MHz bands. In respect of 800 MHz band, the ceiling will be 10 MHz. In respect of spectrum in other bands, relevant conditions pertaining to auction of that spectrum shall apply."

- 1.6 The Government, through a Press Statement dated 15th February 2012, *inter-alia* brought out that:

"The prescribed limit on spectrum assigned to a service provider will be 2x8 MHz/2x5 MHz for GSM/ CDMA technologies respectively for all service areas other than in Delhi and Mumbai where it will be 2x10MHz/ 2x6.25 MHz. However, the licensee can acquire additional spectrum beyond prescribed limits, in the open market, should there be an auction of spectrum subject to the limits prescribed for merger of licences."

- 1.7 The Press statement also stated that: *"Consequent upon the merger of licences in a service area, the total spectrum held by the Resultant entity shall not exceed 25% of the spectrum assigned, by way of auction or otherwise, in the concerned service area in case of 900 and 1800 MHz bands. In respect of 800 MHz band, the ceiling will be 10 MHz. In respect of spectrum in other bands, relevant conditions pertaining to auction of that spectrum shall apply."* This

was same as was recommended by the Authority in its recommendation of 3rd November 2011.

- 1.8 Prior to 2012, spectrum in 800 MHz, 900 MHz and 1800 MHz bands was assigned administratively. The spectrum was assigned as per the prevailing Subscriber Link Criteria. However, in 2011, DoT announced that¹:

*“In future, the spectrum will not be bundled with licence. The licence to be issued to telecom operators will be in the nature of ‘unified licence’ and the licence holder will be free to offer any of the multifarious telecom services. In the event the licence holder would like to offer wireless services, it will have to obtain spectrum through a market driven process. In future, there will be no concept of contracted spectrum and, therefore, no concept of initial or start-up spectrum. **Spectrum will be made available only through market driven process.**”*(Emphasis Supplied)

- 1.9 In its Judgment dated 2nd February 2012 in writ petitions no. 423/2010 and 10/2011, the Hon’ble Supreme Court of India has directed as follows:

“.....

- iii *Keeping in view the decision taken by the Central Government in 2011, TRAI shall make fresh recommendations for grant of licence and allocation of spectrum in 2G band in 22 Service Areas by auction, as was done for allocation of spectrum in 3G band.*
- iv *The Central Government shall consider the recommendations of TRAI and take appropriate decision within next one month and fresh licenses be granted by auction.*
- v to vii”

- 1.10 In compliance to the order of Hon’ble Supreme Court, the Authority issued its recommendations on ‘Auction of Spectrum’ on 23rd April 2012. In these recommendations, the Authority considered the issue of spectrum cap afresh and recommended that:

“The limit for acquisition of spectrum shall be 50% of the spectrum assigned in each band in the respective service area and 25% of the total spectrum assigned in all bands put together in each service area.”

¹ Text of the Press Statement of Shri Kapil Sibal (the then Union Minister of Communications & IT) on the Policy for Spectrum Assignment and Pricing, dated 29-January-2011

- 1.11 The Government accepted the above recommendation on spectrum caps. Accordingly, in the NIA dated 28th September, 2012 for the Auction of Spectrum in 1800 MHz and 800 MHz Bands held in November 2012, spectrum cap for each of the access service areas was specified as 50% of the total spectrum assigned for telecom services in each of 800, 900, 1800, 2100, 2300 and 2500 MHz bands and 25% of the total spectrum assigned for telecom services in all these bands put together in each of the service area. For the purpose of calculation of the cap in this auction, the spectrum put to auction, excluding top up spectrum, would be included in the 'total spectrum assigned'. The same provision was part of all the NIAs for the auctions held in March 2013, February 2014 and March 2015.
- 1.12 In its recommendations on "Valuation and Reserve Price of Spectrum" dated 9th September 2013, the Authority stated that there should be a uniform cap for spectrum holding per LSA irrespective of whether the spectrum is obtained by trading, spectrum auction or Merger & Acquisition. Accordingly, the Authority recommended that trading transactions should be subject to the spectrum cap of 50% of the spectrum in a band and 25% of the total commercial spectrum assigned in an LSA.
- 1.13 DoT issued revised 'Merger & Acquisition Guidelines' on 20th February 2014. As per these guidelines, *"....total spectrum held by resultant quantity shall not exceed 25% of the total spectrum assigned for access services and 50% of the spectrum assigned in a given band, by way of auction or otherwise, in the concerned LSA. The bands will be as counted for such cap in respective NIAs for auction of spectrum. In respect of 800 MHz band, the ceiling will be 10 MHz...."*
- 1.14 The 'Guidelines for Trading of Access Spectrum by Access Service Providers' were issued by the DoT on 12th October 2015. As per these guidelines, *"The buyer should be in compliance with the prescribed caps declared from time to time. It is clarified that the spectrum acquired through trading shall be counted towards the spectrum cap by adding to the spectrum*

holding of the buyer. This will result in increase of spectrum holding of the buyer and reduction in spectrum holding of the seller.”

- 1.15 On 29th May 2015, DoT sought the Authority’s views on the issues relating to spectrum cap and minimum spectrum holding by TSPs as follow up of Hon’ble S.C. interim order dated 14th May 2015 in the Transfer Case (Civil) Nos. 43/2015 and other similar matters. In its response dated 2nd July 2015, the Authority, inter-alia, stated that :

“The Authority is of the opinion that at present there is no need to modify the existing spectrum cap (50% of the spectrum assigned in each of the 800/900/1800/2100/2300/2500 MHz and 25% of the total spectrum assigned in all these bands put together in each service area).

On the methodology of calculating the spectrum cap, the Authority is of the opinion that all spectrum assigned to the TSPs including any spectrum which was put to an auction but remain unsold, spectrum which was assigned but subsequently surrendered by the TSP or taken back by the Licensor and spectrum put to auction should be counted. However, any spectrum out of the above will not be taken into calculation, if the Government assigns it for any other non-commercial purpose e.g. assignment to Defence.

.....
The Authority is also of the view that telecom being an evolving sector, review of such policy decisions such as spectrum cap is a continuous process. The Authority may review it at appropriate time like introduction of new spectrum bands, additional spectrum released for commercial purpose, any other major development etc.”

- 1.16 In its recommendations on ‘Valuation and Reserve Price of Spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz Bands’ dated 27th January, 2016, the issue of spectrum cap was again examined by the Authority. The need to revisit the issue was necessitated by the fact that the spectrum in 700 MHz band was proposed to be auctioned for the very first time. Spectrum cap definition was restricted to only 800/900/1800/2100/2300/2500 MHz; and 700 MHz band was not part of it. The Authority concluded that:

“After analysing the comments of the stakeholders and the Authority’s views of July 2015 on the issue, the Authority find no plausible reason to change the present provisions of spectrum cap at this stage particularly when the last 4

auctions were held in the recent past on the same principles. However, the Authority may review the spectrum caps in future, if need arises based on development of market. On the issue of raising the overall cap from 25% to 33% or 40%, the Authority is of the view as the quantum of spectrum will increase significantly after the upcoming auction, overall 25% quantity in terms of quantity will be large enough for the TSPs and does not warrant any change in the overall cap.....” (Para 2.80 of the Recommendations)

1.17 Accordingly, Authority recommended that *“Existing provision of a cap of 25% of the ‘total spectrum assigned’ in 700/800/900/1800/2100/2300/2500 MHz bands and 50% within a given band in each of the access service area shall apply for total spectrum holding by each TSP.”* Accepting Authority’s this recommendations and its Response dated 2nd July 2015, DoT has retained the band-wise cap as 50% of the total spectrum assigned in a band for an LSA and the over-all cap as 25% of the total spectrum assigned in an LSA in the last spectrum auction held in October 2016. Following principles for the calculation of overall and band wise caps for an LSA were prescribed in the Notice Inviting Applications (NIA) of August 2016:

- (i) All spectrum assigned to TSPs, including quantity of spectrum whose rights to use were put to auction but remained unsold, spectrum whose rights to use were assigned but subsequently surrendered by the TSPs or taken back by the licensor and quantity of spectrum whose rights to use are being put to auction would be counted for the purpose of the spectrum cap.
- (ii) The spectrum which may become available to DoT for commercial use after its refarming from other uses (such as defence) at different points of time would not be counted for determining the spectrum caps until its rights to use are put to auction.
- (iii) In case a situation arises where due to any subsequent assignment of spectrum to defence/ non-commercial usage, spectrum cap is affected adversely, no TSP would be asked to

surrender right to use of any spectrum which it already holds. For the sake of level playing field among Telecom Service Providers (TSPs), the same spectrum cap shall be made applicable for all the telecom service providers in that LSA.

C. REVIEW OF OVERALL SPECTRUM CAP OF 25%

Comments received from the TSPs

- 1.18 Some TSPs submitted that at the time of fixation of the overall spectrum holding cap at 25%, there were 7 to 12 operators. Ongoing consolidation is likely to result in four operators per service area. According to these TSPs, the overall cap of 25% would tantamount to a mandated near equi-distribution of spectrum, which may not be a practical market outcome as different players are at different stages of network development with different growth plans and spectrum requirements. More importantly, this would again risk spectrum remaining unsold in the market as spectrum not wanted by one operator, would be denied to another, who would be constrained because of the spectrum caps. One of these TSPs submitted that it is a good case to relax the overall band cap from 25% to 30%, while another was of the view that overall spectrum cap should be revised to 35%.
- 1.19 One TSP argued that operators are allowed to hold 50% of market share under M&A guidelines. The capping of spectrum holding at 25% indirectly limits the operator's ability to reach the market share of 50% on account of practical challenges emanating from lower spectrum holding. Therefore, overall cap on the spectrum should be increased to atleast 33%.
- 1.20 Some TSPs were not in favour of revising the existing overall spectrum cap of 25%. One of these TSPs submitted that the primary objective of maintaining sufficient competition in the market is well served by the prescribed regulation on overall spectrum cap of 25%. The Indian

market is hyper-competitive and the overall cap of 25% of the total spectrum in a particular service area may be continued to guard against monopolies or concentration of spectrum with only one or two service providers. Another TSP suggested that any intervention at this stage would be akin to being supportive of measures which only help in addressing financial challenges of a few operators intending to merge, while remainder operators would be now exposed to stronger competitors with holding solely enabled by modifications to cap.

- 1.21 One TSP requested that, in line with the existing practice, the revised spectrum caps should be made applicable at the time of issuance of next NIA; till that time, the spectrum cap as prescribed in last NIA should prevail.

Analysis

- 1.22 The Authority examined the comments received from all the stakeholders. The Authority noted that a number of stakeholders have requested to hike the overall spectrum cap or to remove it altogether whereas some were of the view that there is no immediate need to modify it.
- 1.23 As pointed out by some stakeholder, the prevailing spectrum caps were imposed at a time when there were 6-10 TSPs in a LSA and the average spectrum holdings of TSPs in India were low in comparison with international standards. As is evident from the below quoted observation of the Authority in its recommendations on “Valuation and Reserve Price of Spectrum dated 9th September 2013”, it had been in favour of consolidation in telecom sector since long.

“...that at present, there were 6-10 operators in each LSA, which has resulted in cut-throat competition and adversely affected the financial health of TSPs. The current state of the industry is not sustainable in the long-term and measures such as consolidation will be required to improve its financial health. (Para 2.36)

“...the average spectrum holdings of TSPs in India is low in comparison with international standards. There is an urgent need for consolidation of spectrum holdings. The Authority has already given its recommendations to the Government in November 2011 on guidelines for Mergers and Acquisitions (M&A) in the industry. Another way of facilitating consolidation of spectrum holdings is by allowing market forces to operate i.e. by permitting spectrum trading as it allows much more specific and targeted reallocations of spectrum than what can be achieved through M&A activity. (Para 6.7)

- 1.24 Appropriate policy intervention by DoT, generally on the recommendations of the Authority, on issues such as M&A Guidelines, Spectrum Trading Guidelines, uniform Spectrum Usage Charges (SUC) etc, facilitated the consolidation in the telecom sector.
- 1.25 As pointed out earlier, overall spectrum cap of 25% was imposed at a time when there were 6-10 TSPs in a LSA. After the ongoing consolidation in the sector, the number of TSPs in a LSA may be much less. Some merger proposals have already been filed while some are still in process. M&A guidelines allow holding 50% of market share in terms of subscriber base as well as revenue. Therefore, 25% cap on overall spectrum holding may put constraint on the ongoing consolidation phase. It may also restrict the capability to purchase additional spectrum in the future auctions. In the last auction held in October 2016, there was no bidder for the spectrum in the 700 MHz band. Therefore, entire 35 MHz (paired) in 700 MHz spectrum band in all LSAs remained unsold. In addition, 5 to 20 MHz (paired) in 2100 MHz spectrum band in 21 LSAs and 10 to 40 MHz (unpaired) in 12 LSAs remained unsold. There is some unsold spectrum in other spectrum bands also. Any constraint due to spectrum cap may dampen the demand prospects in the future auction. Therefore, the Authority is of the view that the overall spectrum cap should be revised.
- 1.26 If the overall spectrum cap is revised to 35% from the present level of 25%; theoretically, there may be minimum 3 TSPs in each LSA. However, each TSP is unlikely to have equal amount of spectrum; therefore, in the more likely scenario, there will be minimum 4 TSPs in

each LSA. It would balance the need to promote consolidation in the telecom industry and to ensure enough competition in the market at the same time. Therefore, the Authority is of the view that the overall spectrum cap should be revised from the current limit of 25% to 35%.

D. REVIEW OF INTRA-BAND CAP OF 50%

Comments received from the TSPs

- 1.27 A number of stakeholders were in favour of altogether removal of intra-band spectrum cap. On the other side, some stakeholders advocated that existing intra-band spectrum cap should be retained. Some TSPs submitted that the existing spectrum caps were set at a time when the market had about 6-10 TSPs in every service area. Market is seeing some very significant consolidation in recent times; a spectrum cap set for a 6-10 operators market cannot be applied in a 4-5 operator market.
- 1.28 A few TSPs commented that spectrum is now technology neutral and several technologies are supported in a band and across multiple bands. However, intra-band spectrum caps constrain the service providers from deriving efficiencies by forcing them to deploy same technology on multiple spectrum bands. Holding limited quantities of spectrum in multiple bands for offering the same service increases operational costs for operators. One of these TSPs stated that present band-wise spectrum caps of 50% per service area, breaks harmonized spectrum of 5/ 10 MHz blocks into smaller lots, thus making it incapable of delivering broadband, and loads inefficiencies that do not allow the operators to provide a comprehensive portfolio of mobile services in the most economic and efficient manner.
- 1.29 A few TSPs submitted that in the current hyper-competitive environment, encouraging consolidation among players through M&A and spectrum trading would be of benefit to the industry and consumers. However, intra-band cap (50%) and inter-band cap (25%)

are creating artificial barrier in the consolidations and/or trading process. One of these TSPs was of the view that intra-band cap is also creating a bottleneck even in cases where the operators want to effectively utilize the spectrum through sharing arrangement. Hence, removal of these band caps is necessary for the growth and smooth functioning of telecom services.

- 1.30 One TSP was of the view that if an in-band cap is set based on equitable distribution approach, there is a risk of spectrum remaining unsold as operators desirous of expanding their footprint in an existing band holding would be hampered by spectrum ceilings, whilst operators who have invested in an alternative coverage/capacity spectrum combination may not be interested in acquiring spectrum in a new band.
- 1.31 There were a few TSPs who were of the view that there is no need to modify the existing provisions of 50% intra-band cap. One such TSP submitted that the present cap acts as a safeguard against creation of monopoly in a particular spectrum band. The TSP further commented that any proposal to remove the in-band spectrum cap will provide an opportunity to any one operator to monopolise 700 and 800 MHz bands which would completely distort the market. The in-band cap has worked well in past for more than 5 years as all spectrum auctions, since 2012, have been conducted with the in-band spectrum cap of 50%. According to the TSP, there is no technological development which warrants any change in in-band spectrum cap of 50%.
- 1.32 One TSP submitted that while a number of consolidations are on-going in the telecom industry, it is essential to ensure that level playing field is not upset to address entity specific challenges with spectrum caps. Rather, an organic increase by means of orderly release of additional spectrum leads to increase in thresholds of spectrum caps. Another TSP recommended retaining spectrum caps without any modifications

to maintain the healthy competition and ensuring no single operator acquire maximum spectrum in subsequent mergers.

Analysis

- 1.33 The Authority noted that a number of stakeholders were in favour of altogether removal of intra-band spectrum cap; while some stakeholders advocated that existing intra-band spectrum cap should be retained.
- 1.34 The spectrum being assigned through auction is a liberalized spectrum. Also, spectrum assigned administratively can be converted into liberalized spectrum by paying market determined price prorated for the remaining validity period. At present, more than 80% of the spectrum held by various service providers is liberalized spectrum wherein they can use any technology of their choice in any band or using multiple bands.
- 1.35 Earlier, device eco-system for different technologies was available in different spectrum bands. For instance, CDMA technology was mostly deployed in 800 MHz band whereas GSM technology was available in 900 and 1800 MHz band. Similarly, HSPA/HSPA+ technology was widely adopted in the 900 and 2100 MHz bands only. However, latest technologies (LTE, LTE-Advanced etc) are not tied to a particular band. For instance, LTE device eco-system is developing in most of the spectrum bands (**Table 1**).

Table 1
LTE Device Eco System (As on July 2017)²

Spectrum Band	No. of LTE devices
FDD Bands	
700 MHz	741
800 MHz	2522
900 MHz	2247
1800 MHz	5426
2100 MHz	4364
TDD Bands	
2300 MHz	2608
2500 MHz	1886

² Source: Source: Global Mobile Suppliers Association.

- 1.36 In India also, adoption of LTE is being noticed in various spectrum bands such as 800, 1800 and 2300 MHz bands and in near future, it is likely to be deployed in other bands also. Considering the fact that LTE device eco system is evolving in each of the spectrum band, there is no real need to put spectrum cap in each spectrum band. In fact, asking a TSP to acquire spectrum in different band to deploy the same technology increase the cost of network with no real gains. For instance, if a TSP has acquired spectrum in the 2300 MHz band, it may like to acquire additional amount of unpaired spectrum in 2300 MHz band only; and it serves no purpose to restrict it from acquiring additional spectrum in this band but offer it spectrum in the unpaired spectrum in the 2500 MHz band. Rather, it fragments the spectrum and denies the opportunity to take advantage of large contiguous blocks of spectrum which may offer greater spectral efficiency.
- 1.37 Ideally it should be the licensees who should decide the combination of spectrum bands which they want, within an overall spectrum cap. However, apart from device eco system, there is another aspect also. Not all spectrum bands are equal in terms of their techno-economic implications as lower frequencies offer significantly superior propagation characteristics compared to higher frequencies and are relatively scarce. Due to better propagation characteristics, sub-1GHz bands provide better in-building coverage. These bands are perceived as the most optimal bands to ensure availability of wireless broadband services over large areas with low population density. Therefore, spectrum in sub-1 GHz range viz. 700 MHz, 800 MHz and 900 MHz should be treated separately and special provisions have to be made to safeguard against creation of monopoly. TSP with exclusive rights over sub-1 GHz spectrum would have a competitive advantage over others and thus may create non-level playing field. Therefore, it is essential to have a cap on the spectrum holding in the sub-1 GHz bands.
- 1.38 One option could be to retain the exiting provision of 50% intra-band cap in the sub-1 GHz bands. The quantum of spectrum in each of the

sub-1 GHz band is relatively scarce. Therefore, retaining individual spectrum intra-band cap may result in the unwarranted fragmentation of the spectrum. In case of any merger of two licensees, both having spectrum in any of the sub-1 GHz bands, the combined entity may be required to shed-off smaller blocks of spectrum if the combined spectrum holding exceeds intra-band cap of 50%. These smaller blocks of spectrum will be not of much use to any other licensee. It is evident from the last auction, when there was no bidder for the smaller chunks of spectrum in the 900 MHz band³.

- 1.39 Another option could be to have a spectrum cap on the combined spectrum holding in the sub-1 GHz bands (700 MHz, 800 MHz and 900 MHz bands). This option would prevent concentration of sub-1 GHz spectrum in the hand of one TSP. At the same time, it would provide flexibility to the TSPs to acquire the large contiguous blocks of spectrum which will allow for more efficient use of spectrum. This would also be in line with international practices adopted in a number of countries.
- 1.40 In view of the above, the Authority is of the opinion that the current intra-band cap should be removed. Instead, there should be a cap of 50% on the combined spectrum holding in the sub-1 GHz bands (700 MHz, 800 MHz and 900 MHz bands).
- 1.41 As discussed in Para 1.17 above, certain principles for the calculation of spectrum caps for an LSA were prescribed in the Notice Inviting Applications (NIA) of August 2016. The Authority is of the view that principles applied in NIA of August 2016 for the calculation of spectrum cap may continue to be applied while calculating revised overall as well as sub-1 GHz spectrum cap.

³ In auctions held in October 2016, a total of 9.4 MHz spectrum was put to auction in the 900 MHz band in 4 LSAs viz. Bihar (4.6 MHz), Gujarat (3 MHz), UP-W (1.2 MHz) and UP-E (0.6 MHz). However, no bid was received, perhaps due to not enough spectrum was available.

Government of India
Ministry of Communications and IT
Wireless Planning and Coordination (WPC) Wing
Sanchar Bhawan, 20, Ashok Road, New Delhi - 110001

No. L-14005/02/2017-NTG

Dated: 29.09.10.2017

To,

The Secretary
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg (Old Minto Road)
New Delhi-110002

Subject: Consulting TRAI on the issues relating to Spectrum Cap and minimum spectrum holding by Telecom Service providers (TSPs) as follow up of Inter-Ministerial Group report- reg.

Sir

The undersigned is directed to refer the TRAI's Letter No. 103-5/2015-NSL-II dated 2.7.2015, vide which TRAI had provided its comments on applicable spectrum cap and minimum spectrum holding by Telecom Service Providers.

2. Based on the TRAI's comments, Department had conducted spectrum auction in October 2016 for the spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands. Extract of the Notice Inviting Application dated 8.8.2016 is at Annexure-I. The current spectrum holding of Telecom Service Providers is at Annexure-II.

3. The Government has recently constituted an Inter-Ministerial Group (IMG) on "Stress in balance sheet in Select Sectors". The terms of Reference (ToR) of the IMG are as follows:

- To examine systemic issues affecting viability and repayment capacity, in telecom sector and furnish recommendations for resolution of stressed assets,
- Policy reforms and strategic interventions for Telecom sector.

3.1 The IMG held consultations with all the major TSPs and the Banks. Based on consultations and other sectoral data IMG analyzed the nature and extent of financial stress in the telecom sector.

3.2 The IMG, among others, reviewed the spectrum cap applicable for Telecom Service Providers. The IMG, in its report, stated that M/s RCOM, Idea and Vodafone had requested for removing the spectrum cap while M/s Airtel represented against it. IMG noted that this merits detailed examination and variety of inputs from sectoral regulators. Hence, the Department may consider the issue separately. The analysis of the IMG on applicable spectrum cap is given below:

Spectrum Cap Holding

59. At present, telecom service providers in each of the access service area are not permitted to exceed the cap of 25% of the total spectrum assigned in 700/800/900/1800/2100/2300/2500 MHz band and 50% within a given band.

Further, it has been prescribed that:

- (i) The spectrum which may become available to DoT for commercial use after its re-farming from other users such as Defence at different point of time is not to be counted for determining the spectrum caps until it is put to auction by the DoT.
- (ii) All spectrum assigned to TSPs including any spectrum which was put to an auction but remained unsold, spectrum which was assigned but subsequently surrendered by the TSPs or taken back by the licensor and spectrum put to auction is to be counted for the purpose of spectrum cap.
- (iii) In case a situation arises where due to any subsequent assignment of spectrum to Defence/non-commercial usage, spectrum cap is affected adversely; no TSP is to be asked to surrender any spectrum which it already holds. For the sake of level playing fields amongst Telecom Service providers, the same spectrum cap is to be made applicable for all the telecom service providers in that service area.

60. The above stipulations were also considered and approved by the Cabinet in its meeting held on 22nd June, 2016 while considering the Note No. L-14010/03/2016-NTG dated 20th June, 2016 on 'Finalization of issues related to auction of spectrum in various bands'.

61. Further, in case of merger and acquisitions if the merged entity exceeds the prescribed spectrum cap limits, then it has to surrender the access spectrum within a period of one year.

62. IBA&RCOM have requested for removing the spectrum cap for SDR companies. Vodafone and Idea also requested for removing the cap while Airtel represented against it.

63. IMG noted that this merits detailed examination and variety of inputs from sectoral regulators. Hence, the Department may consider the issue separately.

4. Accordingly, Department has decided to consult TRAI, being sectoral regulator, on spectrum cap.

5. In the light of IMG report, TRAI is requested to provide its views on whether existing applicable band-wise spectrum cap of 50% of the total spectrum assigned in a band for an LSA and the over-all cap is 25% of the total spectrum assigned in an LSA across all bands should continue or needs review. In the latter case, TRAI may consider providing new band-wise and overall spectrum cap.



(R. B. Prasad)
Joint Wireless Adviser

Extract of the NIA dated 8.8.2016

9.7 Spectrum Holding Capping Rule

For the purpose of this Auction the bidding by the bidders for each of the LSAs in each of the bands will be restricted by the over-all cap and the band-wise cap.

The band-wise cap is 50 % of the total spectrum assigned in a band for an LSA and the over-all cap is 25% of the total spectrum assigned in an LSA across all bands. This has been calculated as per the principle detailed below.

The government has decided to follow the following principles for the calculation of overall and band wise caps for an LSA.

- (i) All spectrum assigned to TSPs, including quantity of spectrum whose rights to use were put to auction but remained unsold, spectrum whose rights to use were assigned but subsequently surrendered by the TSPs or taken back by the licensor and quantity of spectrum whose rights to use are being put to auction would be counted for the purpose of the spectrum cap.
- (ii) The spectrum which may become available to DoT for commercial use after its refarming from other uses (such as defence) at different points of time would not be counted for determining the spectrum caps until its rights to use are put to auction.
- (iii) In case a situation arises where due to any subsequent assignment, of spectrum to defence/ non-commercial usage, spectrum cap is affected adversely, no TSP would be asked to surrender right to use of any spectrum which it already holds. For the sake of level playing field among Telecom Service Providers (TSPs), the same spectrum cap shall be made applicable for all the telecom service providers in that LSA.

Annexure-II

Spectrum Holding - 800 MHz (FDD)

S. No.	Service Area	Bharat Sanchar Nigam Limited	Reliance Jio Infocomm Limited	Reliance Communications Limited	Sistema Shyam Teleservices Limited	Tata Teleservices Limited	Total in SA
1	Andhra Pradesh	2.50	7.50	2.50		7.50	20.00
2	Assam	5.00	10.00	10.00			25.00
3	Bihar	2.50	10.00	10.00		7.50	30.00
4	Delhi		7.50	2.50	7.50	12.50	30.00
5	Gujarat	2.50	10.00	5.00	7.50	7.50	32.50
6	Haryana	2.50	10.00	10.00		10.00	32.50
7	Himachal Pradesh	2.50	10.00	10.00		5.00	27.50
8	Jammu & Kashmir	5.00	10.00	10.00			25.00
9	Karnataka	5.00	7.50	2.50	7.50	7.50	30.00
10	Kerala	5.00	7.50	2.50	7.50	7.50	30.00
11	Kolkata	2.50	7.50	5.00	7.50	7.50	30.00
12	Madhya Pradesh	5.00	10.00	10.00		5.00	30.00
13	Maharashtra	5.00	7.50	2.50		5.00	20.00
14	Mumbai		10.00	10.00		5.00	25.00
15	North East	5.00	10.00	10.00			25.00
16	Orissa	2.50	10.00	10.00		5.00	27.50
17	Punjab	2.50	15.00	5.00		7.50	30.00
18	Rajasthan	5.00	15.00	2.50	5.00	7.50	35.00
19	Chennai	5.00	7.50	2.50	7.50	7.50	30.00
20	Tamil Nadu (Excl Chennai)	5.00	7.50	2.50	7.50	7.50	30.00
21	Utter Pradesh (East)	2.50	12.50	7.50		7.50	30.00
22	Utter Pradesh (West)	2.50	10.00	2.50	7.50	7.50	30.00
23	West Bengal	5.00	7.50	2.50	7.50	5.00	27.50

Spectrum Holding - 900 MHz (FDD)

S.No.	Service Area	Aircel Limited	Bharti Airtel Limited	Bharat Sanchar Nigam Limited	Dishnet Wireless Limited	Idea Cellular Limited	Reliance Communications Limited	Vodafone Mobile Services Limited	Total in SA
1	Andhra Pradesh		18.0	12.4		10.0			40.4
2	Assam		16.0	12.4	8.8				37.2
3	Bihar		15.6	12.4					28.0
4	Delhi		12.0	12.4		10.0		10.0	44.4
5	Gujarat			12.4		10.0		12.0	34.4
6	Haryana			12.4		12.0		12.4	36.8
7	Himachal Pradesh		14.8	12.4			10.0		37.2
8	Jammu & Kashmir		12.4	12.4	8.8				33.6
9	Karnataka		17.6	12.4		10.0			40.0
10	Kerala			12.4		12.0		12.8	37.2
11	Kolkata		14.0	12.4				14.0	40.4
12	Madhya Pradesh			12.4		14.8	10.0		37.2
13	Maharashtra			12.4		18.0		10.0	40.4
14	Mumbai		10.0	12.4				22.0	44.4
15	North East		17.6	12.4	8.8				38.8
16	Orissa		14.8	12.4				10.0	37.2
17	Punjab		20.0	12.4		11.2			43.6
18	Rajasthan		12.0	12.4				12.8	37.2
19	Chennai	12.4	12.4	12.4					37.2
20	Tamil Nadu	15.6		12.4				12.4	40.4
21	Utter Pradesh (East)		12.4	12.4				11.2	36.0
22	Utter Pradesh (West)			12.4		10.0		12.4	34.8
23	West Bengal		13.2	12.4				13.2	38.8

Spectrum Holding - 1800 MHz (FDD)

S. No.	Service Area	Aircel Ltd	Bharti Airtel Limited	Bharat Sanchar Nigam Limited	Dishnet Wireless Ltd.	Idea Cellular Ltd.	Mahanagar Telephone Nigam Limited	Reliance Jio Infocom Ltd.	Reliance Communications Ltd.	Reliance Communications Pvt. Ltd.	Tata Teleservices Ltd.	Vodafone Mobile Services Ltd.	Total in SA
1	Andhra Pradesh	8.8	20.0	7.6		12.0		11.6	8.8	12.8	10.0	13.6	105.2
2	Assam		18.9	7.6	3.6	20.0		10.8		12.0		30.0	102.9
3	Bihar		16.0	7.6	12.4	21.6		10.0		14.4	8.8	14.0	104.8
4	Delhi	8.8	14.0			17.2	4.4	10.8	8.8			20.0	84.0
5	Gujarat	8.8	22.4	2.4		20.0		12.0		10.0	8.8	21.6	106.0
6	Haryana		32.4	7.6	8.8	21.6		10.0	10.0		8.8	10.0	109.2
7	Himachal Pradesh		20.4	7.6	8.8	19.6		20.8			8.8	11.6	97.6
8	Jammu & Kashmir		10.0		3.6	20.0		20.0	18.8			14.0	86.4
9	Karnataka	8.8	17.6	7.6		12.0		10.0	10.0		8.8	26.0	100.8
10	Kerala		22.4	7.6	8.8	20.0		10.0	8.8		8.8	20.0	106.4
11	Kolkata		18.0	7.6	8.8	10.0		20.0	12.4		8.8	20.0	105.6
12	Madhya Pradesh		34.0	7.6	8.8	23.2		12.8			8.8	14.0	109.2
13	Maharashtra	8.8	26.4	7.6		22.0		10.0	8.8	10.0	10.0	2.8	106.4
14	Mumbai	8.8	30.4			12.8	4.4	13.2	10.0		10.0	16.4	106.0
15	North East		20.0	7.6	3.6	22.0		12.8	10.0			29.6	105.6
16	Orissa		24.8	7.6	8.8	20.0		10.0	10.0		8.8	14.0	104.0
17	Punjab		20.0		8.8	20.0		10.4	10.0		8.8	22.4	100.4
18	Rajasthan	12.0	20.0	3.6		22.4		20.0	8.8		8.8	10.0	105.6
19	Chennai	24.8	16.0	7.6		22.8		13.6	8.8		8.8	16.0	118.4
20	Tamil Nadu (Excl Chennai)	24.0	28.4	7.6		22.8		13.6	8.8		8.8	2.0	116.0
21	Utter Pradesh (East)		12.0	7.6	12.4	12.4		12.8	8.8	13.6	8.8	17.2	105.6
22	Utter Pradesh (West)		22.4	7.6	8.8	18.8		10.0	8.8	14.0	8.8	10.0	109.2
23	West Bengal		12.4	3.6	11.2	22.8		21.2			8.8	24.0	104.0

Spectrum Holding - 2100 MHz (FDD)

S. No.	Service Area	Aircel Ltd	Bharti Airtel Limited	Bharat Sanchar Nigam Limited	Dishnet Wireless Ltd.	Idea Cellular Ltd.	Communications Ltd.	Iata Teleservices Ltd.	Vodafone Mobile Services Ltd.	Total in SA
1	Andhra Pradesh	10.0	10.0	10.0		10.0				40.0
2	Assam		10.0	10.0	10.0		10.0		10.0	50.0
3	Bihar		20.0	10.0	10.0	10.0	10.0			60.0
4	Delhi		20.0				10.0		10.0	40.0
5	Gujarat		10.0	10.0		10.0		10.0	10.0	50.0
6	Haryana		10.0	10.0		10.0		10.0	20.0	60.0
7	Himachal Pradesh		10.0	10.0		10.0	10.0			40.0
8	Jammu & Kashmir		20.0	10.0	10.0	10.0	10.0			60.0
9	Karnataka	10.0	10.0	10.0				10.0	10.0	50.0
10	Kerala		10.0	10.0	10.0	10.0		10.0	10.0	60.0
11	Kolkata			10.0	10.0	10.0	10.0		10.0	50.0
12	Madhya Pradesh		10.0	10.0		10.0	10.0	10.0		50.0
13	Maharashtra		10.0	10.0		10.0		10.0	20.0	60.0
14	Mumbai		10.0			10.0	10.0		10.0	40.0
15	North East		10.0	10.0	10.0		10.0		10.0	50.0
16	Orissa		10.0	10.0	10.0		10.0		10.0	50.0
17	Punjab			10.0	10.0	10.0	10.0	10.0	10.0	60.0
18	Rajasthan		20.0	10.0		10.0	10.0	10.0	20.0	80.0
19	Tamil Nadu	10.0	20.0	10.0					30.0	70.0
21	Utter Pradesh (East)		10.0	10.0	10.0	20.0			20.0	70.0
22	Utter Pradesh (West)		10.0	10.0		10.0		10.0	10.0	50.0
23	West Bengal		10.0	10.0	10.0		10.0		10.0	50.0
	Total	30.0	250.0	200.0	100.0	160.0	130.0	90.0	230.0	1190.0

Spectrum Holding - 2300 MHz						
S. No.	Service Area	Bharti Airtel Limited	Idea Cellular Ltd.	Reliance Jio Infocom Ltd.	Tikona Digital Networks	Total in SA
1	Andhra Pradesh	30.0		30.0		60.0
2	Assam	30.0		30.0		60.0
3	Bihar	30.0		30.0		60.0
4	Delhi	30.0		30.0		60.0
5	Gujarat	10.0		30.0	20.0	60.0
6	Haryana	30.0		30.0		60.0
7	Himachal Pradesh	10.0		30.0	20.0	60.0
8	Jammu & Kashmir	20.0		20.0		40.0
9	Karnataka	30.0		30.0		60.0
10	Kerala	20.0	10.0	30.0		60.0
11	Kolkata	30.0		30.0		60.0
12	Madhya Pradesh	20.0	10.0	30.0		60.0
13	Maharashtra	20.0	10.0	30.0		60.0
14	Mumbai	30.0		30.0		60.0
15	North East	30.0		30.0		60.0
16	Orissa	30.0		30.0		60.0
17	Punjab	20.0		20.0		40.0
18	Rajasthan			20.0	20.0	40.0
19	Tamil Nadu	30.0		30.0		60.0
21	Utter Pradesh (East)			20.0	20.0	40.0
22	Utter Pradesh (West)			20.0	20.0	40.0
23	West Bengal	30.0		30.0		60.0

Spectrum Holding - 2500 MHz

S. No.	Service Area	Bharat Sanchar Nigam Limited	Idea Cellular Ltd.	Vodafone Mobile Services Ltd.	Total in SA
1	Andhra Pradesh		10.0		10.0
2	Assam	20.0	10.0	10.0	40.0
3	Bihar	20.0	10.0		30.0
4	Delhi			20.0	20.0
5	Gujarat		10.0	20.0	30.0
6	Haryana	20.0	10.0	10.0	40.0
7	Himachal Pradesh	20.0	10.0		30.0
8	Jammu & Kashmir	20.0	10.0		30.0
9	Karnataka				0.0
10	Kerala	20.0	10.0	10.0	40.0
11	Kolkata			20.0	20.0
12	Madhya Pradesh	20.0	20.0		40.0
13	Maharashtra		10.0	20.0	30.0
14	Mumbai			20.0	20.0
15	North East	20.0	10.0	10.0	40.0
16	Orissa	20.0	10.0	10.0	40.0
17	Punjab	20.0		10.0	30.0
18	Rajasthan	20.0	10.0	10.0	40.0
19	Tamil Nadu				0.0
21	Utter Pradesh (East)	20.0	10.0	10.0	40.0
22	Utter Pradesh (West)	20.0	10.0	10.0	40.0
23	West Bengal	20.0	10.0	10.0	40.0