

**Comments on Consultation Paper on
“Spectrum Usage Charges and Presumptive Adjusted Gross Revenue for
Internet Service Providers and Commercial Very Small Aperture Terminal
Service Providers”
received through [MyGov](#) website**

1. Rajeaswar Narasimhan

Spectrum allocation should be done by geography - area - city -state etc and not by channels. also by distributing bands differently, we can use 100 percent of the spectrum. we can increase the connections by 50 or 100 times by making this change see attachment.

Hi All,

Spectrum has been allocated by channels in India. This is completely wrong.

Let us take 800 Mhz spectrum for example.

Let this band has 100 channels. This is split among 10 cellular operators. This 10 channel per user is split among 6 towers to form a hexagonal pattern. So effectively only 1 or 2 channel is available to a user in any given location per tower. Even if you have tdm on fdm you can have only 5 concurrent connections. This is the problem of India.

Whenever TRAI asks the people about bandwidth utilization, The providers report 100% or close to 100% utilization. This is the 1 channel utilization. Per band per location.

Ideally IF we have not split the spectrum by channels, then each location (or tower) can use all the bands all the channels. So we have 4 band 2G and 1 band 3G etc. So Ideally we should be able to connect 5 bands X 100 channels per band X 5 connection per channel totaling (5X5X100=2500 connections per tower).

This can be done by reallocating all assets and make each location to be owned by one provider. I have also given the following diagram of the transmitters so that the bands does not cause interference.

Kindly take this design. Re allocate assets and make each tower 100% usable.

Channel wise spectrum allocation increases the cost of cellular operation in India.

Each transmitter has to operate in all bands of the spectrum

This will reduce it to one transmitter per tower.

Since we have fragmented the spectrum, We need 10 or more transmitters from different providers to do the same job.

spectrum should not be allocated by channels. It should be split by region - area.

3G,4G has to be rolled out on all the spectrum that is available.

All handsets should have a subset of the spectrum.

Now In India it is the reverse providers has a minuscule of spectrum. We have to reverse this.

Spectrum is not a method to generate money

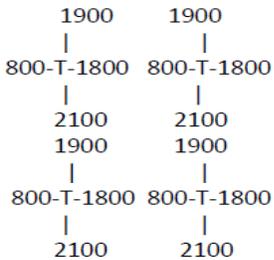
It has to be used 100 percent and cost of using

it should be as low as possible.

Once we Allocate spectrum by Location (Area). Then all bands full spectrum is available in all Towers. We can move away from hexagonal cells to Square cells as shown in fig below. Each Tower will have 4 sector Antenna – no cross talk.- it is enough to manage the whole of india with 4 frequency bands. If you want to remove 2G, replace it with 4G Antennas or a different Towers for 4G frequency. Also we can reduce cell size by reusing the towers and come up with microcell, nanocell, picocell, femtocell etc if needed wherever there is a high users.

By re auctioning, We will not have the need to increase more spectrum. We can reallocate the assets based on its actual – remaining values. The revenue can be divided based on source and destination of the calls (and any network on the way – make this as railtel or some company for a fixed rate). Automatically National Number portability will come into place. The cell phone provider is accountable for every nook and corner of the place in his area.

Please consider this proposal and revamp the spectrum allocation.



2. Zunzar Patil

Hi,
Please find some suggestions.

Suggestions

- With arrival of LTE technology, it can act as a last mile option for Enterprise connectivity as an alternative to Broadband Wireless Access. Unified licensing would permit TSPs to provide enterprise connectivity using 4G dongles.
- In this scenario for ISPs should be have area based spectrum allocation, having link based spectrum would make Wireless broadband less competitive vis a vis 4G connectivity.
- Broadband Wireless Access has line of sight dependency which is not the issue with 4G connectivity.
- Having area based spectrum allocation will allow ISPs to deploy multiple point to multipoint base stations to cover respective area offering better line of sight access.
- In case of location based spectrum allocation to ISPs department can look at AGR based SUC fees for ISPs. However as ARPU & number of subscribers for ISP services is much less than mobile services the AGR based fees can be 1%-2% of ISP revenues.
- As ISP business is low margin business as compared to mobile business the AGR fees should be charged as per annual revenue slabs. Lower slab to be charged lower percentage of AGR based SUC fees & percentage to be increased for higher revenue slabs.

3. JAGDISH PATHAK

It is very good concept to get updated information for regulating and maintaining the services of telecom by TRAI, by implementing various procedure, rules, regulations etc., on service provider, spectrum usage charges is very important factor for service provider for determining the price of services provided by them to the customer, the proper data should be analysed about the usage of spectrum, it will be useful to control the prise / rate of various services charge by providers, best wishes

4. Sumit Bhansali

1. spectrum charges follow same formula of inviting bid.
2. If there are no infrastructure to be setup for spectrum by govt. then lower the changes by letting more and more players get into the field and allowing competition and better pricing for end users

5. Abhilash Kasliwal

The spectrum charges should be kept low, so that the benefit in turn can be transferred to the final consumers in form of low call and data rates.

6. Dattatray Z

All such charges should be kept at minimum or nil or non profit basis.

Digital India is a good initiative.

If the nation really has to be really well connected, then costs must be minimum.

With myriad and complex levies, the door is open for misinterpretations , manipulation and corruption.

Keep the system simple.