

SANJEEV AGA

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Shri Rajeev Agrawal,
Secretary, Telecom Regulatory Authority of India,
New Delhi - 110 002.

12.08.2013

Consultation Paper on 'Valuation & Reserve Price of Spectrum' of 23.07.2013

Written Comments thereof

Dear Sir,

I am attaching my written comments, in my independent capacity, to the 'Issues for Consideration' raised by the Authority. My comments either follow each question, or some questions are bracketed for a common comment.

The policy issues raised in the Paper are inter-linked, and the comments conform to an overall conceptual framework. It is requested that these comments be read start to finish for that reason.

Yours sincerely,

SANJEEV AGA

a concerned citizen, ex Birla Tata AT&T, non-exec director Idea Cellular

attachment : as above.

ISSUES FOR CONSIDERATION

Q. 1. What method should be adopted for re-farming of the 900 MHz band so that the TSPs whose licences are expiring in 2014 onwards get adequate spectrum in 900/1800 MHz band for continuity of services provided by them?

Q.2. In case spectrum is to be “reserved” for such TSPs, should it be restricted to licences expiring in 2014 (metros) or include licences expiring afterwards (LSA other than metros)?

COMMENT TO Q 1 – Q 2.

i There is no link between re-farming and license initial period expiry.

Networks are fitted around frequency bands. **Frequency bands are not retrofitted around networks.** There is no parallel in the world of large networks being uprooted. **The license, and the original spectrum attached to the license, are intended for the life of the business.** In an infrastructure sector like telecom, this is elementary. **The business is merely administered through a license, with defined initial and extension periods.** Several categories, even the erstwhile radio licenses issued by none other than the DoT, share this feature. **The form is not the substance.** It follows, as an axiom of business continuity, that for all license initial periods coming up for extension in 2014 and beyond, for the initial 900 MHz and equally for the initial 800 MHz and 1800 MHz allocations, all spectrum holdings are eligible for extension. Extension is to be a non-disruptive non-event, as the license language itself suggests. Although not enquired in this Paper, the Spectrum Extension Fee should be < 1 year Fixed Spectrum Fee for a 10 year extension (the concept of Fixed Spectrum Fee is explained in Comment to Q 15). The assumption embedded in Q 2, that the expiry of an initial license period is a trigger for business disruption, is not just defective, it will echo dangerously around the world bringing the credibility and quality of national policies in question. Re-farming cannot become a national death wish.

ii **There is no link between re-farming and the invalid label distinction between liberalized and un-liberalized spectrum.**

This point is crucial and expanded under Comment to Q 7.

Once these twin blinkers of 'initial period expiry' and 'un-liberalized spectrum' are discarded, a clear picture with easy resolution emerges.

iii **Measures for Re-farming.**

- Term all spectrum holdings as liberalized (see Comment to Q 7).
- Adopt the entire E-GSM band across all LSAs (see Comment to Q 4).
- Withdraw all 800 MHz spectrum from PSUs (see Comment to Q 4).
- Withdraw 800 MHz spectrum, in excess of 3.75 MHz, from non PSU operators. In the event this is inadequate for adopting the entire E-GSM band in any LSA, then in such LSAs also withdraw spectrum in excess of 2.5 MHz. The withdrawn spectrum in the 800 MHz band to be exchanged for 1.12 X spectrum in the 1800 MHz band. The exchange concept recognizes spectrum rights, and the exchange ratio is conservative based more on relative capacity, less on coverage and price.
- Withdraw 900 MHz spectrum, in excess of 6.0 MHz, from all operators including PSUs, in exchange for 1.12 X spectrum in the 1800 MHz band.
- Additionally, should the 800 MHz and 900 MHz holders voluntarily wish to surrender further spectrum to go below 3.75/6.0 MHz and up to 2.5/5.0 MHz respectively, they be allowed to do so in exchange for 1.12 X spectrum in the 1800 MHz band.
- Eligibility to receive 1800 MHz in exchange of withdrawn 800 MHz or 900 MHz assumes the 800/900 MHz holding was eligible originally, and remained eligible as on 30.06.2013, under the now defunct SLC. If not, then for the ineligible quantity of spectrum, the exchange multiple deserves to be reduced from 1.12 X to 0.48 X. The exchanged spectrum would attract Fixed Spectrum Fee and Spectrum Extension Fee (see Comment to Q 15) as applicable to the new band, but would be due for extension as per date of the old band.

- Withdraw also 1800 MHz spectrum from PSU operators to bring their combined 900 MHz + 1800 MHz holdings to no more than 6.2 to 8.0 MHz on a LSA wise need basis. This will help, not hamper, the PSU operators. They could be assured that should their traffic and financial condition improve they may have pre-emptive rights to equivalent new spectrum. But as of now their traffic does not require this spectrum, and spectrum payments are a financial burden they have been unable to service.
- Spectrum supply in the 1800 MHz band could potentially also be augmented by surrendered spectrum from non PSU operators (see Comment to Q 15, point vii). Spectrum supply in the 2100 MHz band can also be easily augmented by swapping 1900 MHz with the MoD.

Resultantly, the E-GSM band, PLUS the 900 MHz spectrum exchanged as above, PLUS such 900 MHz as is unused or can be coordinated, is a more than adequate auction pool, for the entry of a new player, or for existing players to augment their existing 'liberalized' holdings. All objectives of re-farming will be far better achieved this way, and in an equitable, tenable, principled and fair manner, without damaging the character of networks, and importantly in one stroke, instead of the fanciful, wasteful, painful, and decade long ordeal imagined in Q 1 and Q 2.

Q.3. Is any restriction required to be imposed on the eligibility for participation in the proposed auction.

No restrictions are suggested. Full competition and transparency can prevail.

Q.4. Should India adopt E-GSM band, in view of the diminishing interest in the CDMA services if yes,

a) How much spectrum in the 800 MHz band should be retained for CDMA technology?

b) What are the the issues that need to be addressed in the process?

c) What process should be adopted for migration considering the various issue involved ?

COMMENT TO Q 4

The diminishing, indeed vanishing interest in CDMA services is written on the wall. The CDMA subscriber numbers may have dropped by 30% in one year. But the CDMA *Voice* figures, which were the SLC basis for allocating CDMA spectrum, have fallen off the cliff, and may no longer have stayed qualified for the current spectrum holding had SLC been in place. Adopting the E-GSM band in entirety, and across every LSA, is a no-brainer. Not doing so would constitute a criminal national waste. The E-GSM band adoption is also a fit case to press the accumulated USO funds into use, given the societal benefits thereof.

The following composite set of measures should be taken.

- i. Undoubtedly, the PSUs should be asked to vacate 800 MHz as they are not even providing full mobility services.
- ii. As explained earlier, non PSU 800 MHz operators should be asked to vacate all spectrum beyond 3.75 MHz. In the event this withdrawal is inadequate for adopting the entire E-GSM band in any LSA, then in such LSAs spectrum in excess of 2.5 MHz should also be withdrawn. Withdrawn 800 MHz spectrum should be exchanged with 1.12 X of 1800 MHz spectrum. Illustratively, 1.25 MHz of 800 MHz spectrum would be exchanged for 1.40 MHz in the 1800 MHz band. Should an operator volunteer to surrender 800 MHz spectrum to levels below 3.75 MHz and up to 2.5 MHz, such surrender may also be accepted in exchange of 1.12 X of 1800 MHz. Eligibility to receive 1800 MHz in exchange of the withdrawn 800 MHz assumes the 800 MHz holding had remained eligible under the now defunct SLC as on 30.06.2013. If not, then for such quantity of spectrum, the exchange multiple deserves to be reduced from 1.12 X to 0.48 X.

- iii. All remaining CDMA frequencies to be subjected to lateral frequency adjustment, to vacate the E-GSM band entirely. Such lateral adjustment within the same band would involve no change in network characteristic and would have no customer impact. The cost may be minimal as there is no frequency re-planning in CDMA, however, should at all a cost be involved, it should be compensated without fuss from the USO Fund.
- iv. The MoD should be engaged with to vacate, or at the minimum, shrink their occupation of the E-GSM band. There should be no hesitation to deploy the USO Fund to compensate MoD, in the larger national interest.
- v. As a corollary, no new reservation of spectrum for CDMA as anyway all allocated and new spectrum is 'liberalized' and so there is neither any bar on new CDMA.

Q. 5. Should rollout obligations for new/existing/renewal/quashed licenses be different? Please give justification in support of your answer.

Q.6. Is there a need to prescribe additional rollout obligations for a TSP who acquires spectrum in the auction even if it has already fulfilled the prescribed roll-out obligations earlier?

COMMENT to Q.5 – Q.6

Rollout obligations existed to drive penetration. These obligations are now a ritual with no relation to the touted objective. Indeed, in cases they are counter-productive by immobilizing spectrum. They have also been ineffective in preventing spectrum squatting, which objective anyway can be achieved only through sensible spectrum pricing, as described in Comment to Q 15.

So, the comment to Q.5 is Yes. And the comment to Q. 6 is No.

Q.7. What should be the framework for conversion of existing spectrum holdings into liberalized spectrum?

COMMENT TO Q. 7

i ***Liberalization means that the terms of a license do not require the frequencies to be used for a specific service or a specific technology*** (Danish Business Authority). NTP 1999 enshrined ‘technology neutrality’ and covered ‘all mobile services’ The Unified Access Service License policy of 2003, by its very title, unified access services. ***All operator spectrum holdings since 1999 are ‘liberalized’***, Operators have also acted as such, illustratively, the 800 MHz band has been deployed for 3G long before 2010. The recent adoption by the government of the label ‘liberalization’ is fine, though redundant. But the curious selective labeling of certain spectrum bands as ‘liberalized’ while excluding others is invalid and absurd. Rights cannot be trampled and policy cannot be hijacked by cavalier labeling.

ii This Paper has rightly highlighted that artificial restrictions upon spectrum impose a heavy cost upon society. It is strange that a government should resist its own policy, and act against societal interest. Be that as it may, it is high time to put a lid on this unhappy issue. Therefore, in Answer to Q 7, ***the Authority must assert that, without wasting time with earlier rival assertions, existing spectrum holdings be now ‘liberalized’. Other than this, no other framework for conversion is required.***

Q.8. Is it right time to permit spectrum trading in India? If yes, what should be the legal, regulatory and technical framework required for trading?

COMMENT TO Q. 8

In a country with sub-optimal and fragmented spectrum holdings, as noted by this Paper, spectrum trading enhances national productivity. So, the Comment to Q 8 is Yes.

But there is a more pressing need. Every passing day that spectrum is not used, harms consumer interest, deprives the exchequer of revenue, and hurts the economy of a poor country. Inter-operator Sale of Spectrum, with safeguards, must be allowed without delay, and this first step can be dovetailed later into the exhaustive framework. The specific suggestion is described in the Answer to Q 15, point vii. A side benefit is that the government would earn revenue in the bargain.

Q.9. Would it be appropriate to use prices obtained in the auction of 3G spectrum as the basis for the valuation in 2013? In case the prices obtained in the auction of 3G spectrum are to be used as the basis, what qualifications would be necessary?

No. Please see Comment to Q 9 -14 & Q 16 – 19 on page 10.

Q.10. Should the value of spectrum for individual LSA be derived in a top- down manner starting with Pan-India valuation or should valuation of spectrum for each LSA be done individually.

Please see Comment to Q 15 on page 12.

Q.11. Is indexation of 2001 prices of 1800 MHz spectrum an appropriate method of valuing spectrum in 2013? If yes, what is the indexation factor that should be used?

No. Please see Comment to Q 9 – 14 & Q 16 – 19 on page 10.

Q.12. Should the value of spectrum in the areas where spectrum was not sold in the latest auctions of November 2012 and March 2013 be estimated by correlating the sale price achieved in similar LSAs with known relevant variables? Can multiple regression analysis be used for this purpose?

No. Please see Comment to Q 9 – 14 & Q 16 – 19 on page 10.

Q.13. Should the value of spectrum be assessed on the basis of producer surplus on account of additional spectrum? Please support your response with

justifications. If you are in favour of this method, please furnish the calculation and relevant data along with results.

No. Please see Comment to Q 9 – 14 & Q 16 – 19 on page 10.

Q.14. Should the value of spectrum in the 1800 MHz band be derived by estimating a production function on the assumption that spectrum and BTS are substitutable resources? Please support your response with justifications. If you are in favour of this method, please furnish the calculations and relevant data along with results.

No. Please see Comment to Q 9-14 & Q 16 – 19 on page 10.

Q.15. Apart from the approaches discussed in the foregoing section, is there any alternate approach for valuation of spectrum that you would suggest? Please support your answer with detailed data and methodology.

Absolutely YES. Please see Comment to Q 15 on page 12.

Q.16. Should the premium to be paid for the 900MHz and liberalized 800 MHz spectrum be based on the additional CAPEX and OPEX that would be incurred on a shift from these bands to the 1800 MHz band?

No. Please see Comment to Q 9 – 14 & Q 16 – 19 on page 10.

Q.17. Should the valuation of spectrum and fixing of reserve price in the current exercise be restricted to the unsold LSAs in the 1800 MHz band, or should it apply to all LSAs?

Not applicable. Please see Comment to Q 15 on page 12.

Q.18.

a) Should annual spectrum usage charges be a percentage of AGR or is there a need to adopt some other method for levying spectrum usage charges? If another method is suggested, all details may be furnished

Another method. Please see Comment to Q 15 on page 12.

b) In case annual spectrum usage charges are levied as a percentage of AGR, should annual spectrum charges escalate with the amount of spectrum holding as at present, or should a fixed percentage of AGR be applicable?

Not applicable. Please see Comment to Q 9 -14 & Q 16 – 19 below.

c) If your response favours a flat percentage of AGR, what should that percentage be?

Not applicable. Please see Comment to Q 9 -14 & Q 16 – 19 below.

Q.19. What should be the ratio adopted between the reserve price for the auction and the valuation of the spectrum?

Not applicable. Please see Answer to Q 9 -14 & Q 16 – 19 below.

COMMENT TO Q 9 - Q 14, & Q 16 – Q 19.

WHY Q 9 – Q 14, & Q 16 – Q 19 ARE MISCONCEIVED.

It is respectfully submitted, that all the said questions are misconceived. These questions are inherently incapable of leading to the right answers. In fact, they are programmed to lead to the wrong answers. We first outline why the questions are misconceived, before turning to Q 15 and the logical alternate answer thereof.

1. Sensible pricing leads to sensible outcomes. The converse is equally true. Market competition demands logical integrity in the pricing of the raw material. Multiple concurrent pricing mechanisms for spectrum is a recipe for disaster. Not only must the pricing mechanism be the same for the same spectrum band, the mechanism must necessarily be the same across spectrum bands. While this Paper restricts itself to the

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800 MHz, the 900 MHz, and the 1800 MHz bands, the principles derived hereof must inescapably apply to the 700 MHz, the 2100 MHz, and the 2300 MHz bands.

2. Presently spectrum is charged, howsoever described, in 3 ways
 - a) As License Fee, a virtual Tax on Turnover.
 - b) As Spectrum Usage, a convoluted and virtual Tax on Turnover.
 - c) As Entry/Auction Fee, a Rupee amount.

All spectrum attracts all these 3 charges. For the moment, we are ignoring USO, which is another virtual Tax on Turnover, and needs reduction.

3. The concept of a virtual Tax on Turnover, introduced via NTP 1999, undoubtedly had merit during the infancy of the sector. Today it is an anachronism, and continued reliance on this for a) and b) above, is the root cause of several perverse outcomes in this sector.
4. The DoT is not a fiscal authority. It is selling an economic resource to market players. ***It must sell a unit of spectrum for a unit price, the same unit at the same time must be sold for the same price, and unit price across bands and across time must have logical integrity.***
5. When telecom was privatized in the 1990s, instead of upfront allocation of spectrum for peak requirement, typically 10 MHz plus like most countries, India instead opted for an initial-allocation-plus-show-to-grow model. This was the unstated but unmistakable policy choice derived from the prevalent Actual User policies of those years. Now in 2013, for policy makers to contrive a distinction between contracted and allocated spectrum, is disingenuous and a nullity.
6. Spectrum, as bundled with the 4th license, was auctioned in 2001. Until mid 2007, licenses were on tap at 2001 prices. Any hypothetical spectrum auction in those years would have yielded a price no greater than what was paid. While the 2010 Auction yielded a bumper price, yet the 2012 Auction was again admittedly a flop. The evidence

of 13 years points only one way. By manipulating the inlet pressure, it is possible to inflate a balloon to dramatically different sizes (until it bursts). ***In a parallel with spectrum price, ascribing secular meaning to any spectrum price benchmark is pure self-delusion. An econometric exercise performed upon gibberish will yield only value-added-gibberish. While large sections of our society are simultaneously mistaken and vocal, the Authority has no such latitude, in fact it has the responsibility to be reasoned and to provide thought leadership.***

7. In summary, the Authority must junk Q 9 - 14 & Q 16 – 19, and move to Q 15.

COMMENT TO Q 15.

IS THERE AN ALTERNATE APPROACH ?

Yes. The alternate approach logically follows from the comments to previous questions. It comprises the following composite set of measures.

- I. Abolish totally the AGR based Spectrum Usage Charge. Slash the AGR based License Fee from 8% to 4%.
- II. Achieve revenue neutrality by substituting the revenue loss from the above, by introducing a Fixed Spectrum Fee.
- III. FIXED SPECTRUM FEE = A x B x C, where
 - A = all-India revenue forsaken/average of LSA total MHz spectrum (all bands).
 - B = 2012-13 Total Revenue of the LSA/2012-13 Total Revenue all-India.
 - C = spectrum band factor.
- IV. The spectrum band factor, C, based on coverage and capacity, to indicatively be
 - 2300 MHz = 0.82, 2100/1800 MHz = 1.0, 900/800 MHz = 1.22, 700 MHz = 1.35.
- V. The FIXED SPECTRUM FEE is a figure specific to an LSA and a spectrum band. Every operator, and every spectrum band, including 700 MHz, 2100 MHz and 2300 MHz bands, would be covered.

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- VI. While the impact of this change is secular over time, yet to ease the unplanned cash flow burden of licensees who have obtained spectrum in the 2010/2012 Auctions, a concessional but rising percentage of the applicable Fixed Spectrum Fee be charged for the first 5 years from date of allocation. Suggested @ 20%, 20%, 40%, 60%, and 80% respectively. By the time this change takes effect, some of the concessional period will anyway have passed. This concession is one-time, and not to apply to future auctions. After Year 5, all distinctions disappear.
- VII. All operators can surrender spectrum, with 3 months notice, if they wish. Any unmet rollout obligation of non PSU operators be waived if they surrender spectrum. If instead, they sell the spectrum, then they be asked to pay only pending rollout dues, if any, and a Transaction Fee @ 36 months Fixed Spectrum Fee be levied. In the new environment where spectrum supply is not artificially choked, together with the new Fixed Spectrum Fee, and the restrictions as per ix below, this Transaction Fee number @ 36 months FSF is high enough to allay fears of arbitrage hunting, yet not so high as to throttle the secondary market.
- VIII. For transparency, all available spectrum should be declared for auction, even if the actual auction quantity is staggered. As covered in Comments to Q.7 and to Q. 8, the auction would take place in an environment of all liberalized spectrum, and inter-operator sale being permissible.
- IX. As a competition safeguard, cap spectrum holding @ 25% of allocated spectrum per LSA. To pre-empt gaming, introduce sub-caps of 20 MHz (2300 band), 10 MHz (2100 band), 15 MHz (1800 band), 9 MHz (900 + E-GSM band), 5 MHz (800 band), and 10 MHz (700 band). These caps and sub-caps may not be exceeded either through auctions, or trading, or M&A.
- X. M&A permissible so long as spectrum caps are observed. Spectrum in excess of cap, if any, can be surrendered, or sold to an eligible licensee with a Transaction Fee @ 36 months applicable Fixed Spectrum Fee.
- XI. Under this regime, the revenue focus is no longer on lumpy auction prices in an environment of contrived scarcity and a crippled sector. Revenue buoyancy and

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economic growth follow from increased and productive deployment of spectrum and a larger steady flow from Fixed Spectrum Fee. There is, therefore little need to agonize over Reserve Prices, as the Auction would discover the fair price. Nevertheless, as a measure of prudence, fix Auction Reserve Price @ 60 months applicable Fixed Spectrum Fee. As covered in Answer to Q1 - Q2 point i, the Spectrum Extension Fee should be < 1 year Fixed Spectrum Fee for a 10 year extension.

XII. It may be observed that the Spectrum Extension Fee, the Transaction Fee, and the Reserve Price, are all conceived and expressed as a multiple of the Fixed Spectrum Fee. This is a mindset change, away from the command-and-control regime which has passed its sell-by date, and towards an efficient market based sector.

XIII. Based on sector dynamics and growth, the Fixed Spectrum Fee can be calibrated and changed prospectively. While the government may reserve the right to change the Fee from one fiscal year to another, like in any good policy regime, the frequency and extent of change should be minimal.

The need for this Consultation Paper is itself a tacit admission that policy administration has become incoherent. This is a moment in time for the Authority to steer the sector and the national economy to better times.

END