TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL

NEW DELHI

DATED 18TH JULY, 2011

Petition No. 262 of 2010

Reliance Communication Infrastructure Ltd. …Petitioner

Vs.

Union of India & Anr. …Respondent

BEFORE:

HON'BLE MR. JUSTICE S.B.SINHA, CHAIRPERSON
HON'BLE MR. G. D. GAIHA, MEMBER
HON'BLE MR. P.K.RASTOGI, MEMBER

For Petitioner : Mr. Naveen Chawla, Advocate
Mr. Akhil Sibal, Advocate
Mr. Rishi Aggarwal, Advocate
Ms. Shikha Sarin, Advocate
Mr. Nakul Mishra, Advocate

For Respondent : Mr. Ruchir Mishra, Advocate
Mr. Mukesh Kumar Tiwari, Advocate

JUDGMENT

S. B. SINHA

The petitioner is a company incorporated and registered under the Indian Companies Act. It is an Internet Service Provider (ISP) Licensee. For the purpose of carrying on its licensed activities, it was allocated spectrum qua microwave link. For the said purpose, the 1st respondent which is the

licensor charges royalty on the basis of a formula as contained in paragraph 5.3 of an order dated 20.07.1995 being :-

$$R= M \times W \times C$$

Where R denoted annual royalty; M denotes end-to-end distance for point to point microwave links; C denoted the number of carriers and W is the weightage factor.

2. There is no dispute between the parties with regard to the factors contained in the terms 'C' and 'W'. What should be the constant multiplier i.e the 'M' factor, is in dispute. Indisputably the petitioner filed an application for allocation of frequency for point to multipoint in 3.3 to 3.4 GHz Band with a radius band of service of 0.5-15 kms stating :-

> *"We have been issued License No. 820-43/98-LR dated 09/11/1998 to operate internet services from the Department of Telecom.*
>
> *We have been allocated frequency for 40 sites in 10 cities (04 sites each) by WPC vide above quoted letter. We are planning to add 484 new sites as part of this network in 10 cities namely Bangalore, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai, Ahmedabad, Surat, Vadodara and Pune.*
>
> *It may be noted that in all these cities we have already been allocated 6+6 MHz frequency vide above quoted letter. This application is only for extending this allocation to additional sites in the same city.*

Vide our letter No. RIC/WPC/LMDS/2006 & RCIL/WPC/2006 dated 05/05/2006 & 061/10/2006 we have already made a payment of Rs.115.2 Lakhs (Rs.28.8 Lakhs & Rs.86.4 Lakhs) towards the spectrum charges for the total 40 nos. of BTS for which we have been allocated the frequency in 3.3 GHz Band (copies enclosed).

We hereby enclose detailed application for frequency assignment with all parameters duly filled in the proper format for your kind consideration and issue of frequency authorization letter."

3. In the said application, the length of circuit in Kilometers/radius of service in Kilometers was shown to be 0.5 to 15 kms.

4. Pursuant to and in furtherance of the said application, the 1st respondent, by an order dated 22.12.2008, while conveying its decision to grant a license for establishing wireless telegraph station; stated that the same would be subject to the following :-

"Parameters : 3338.5 MH2/3388.5 MH2

(a) Frequency (ies)
(b) Emission – 6M00F7B
(c) Working Hours from 0000 to 24.00 Hrs.
(d) R.F. Power Output for
i) Fixed ii) Veh Mobile iii) Handheld Mobile 280/BM

2. No. of stations :

i) Fixed	*ii) Veh Mobile*	*iii) Handheld Mobile*	*Total*
570 Nos.	*…*	*…*	*570 BTS (Add)*

3. i) Licence Fee Rs.1000 + Royalty Rs.2,88,000/- per annum"

5. A letter was also issued by the Central Government on or about 22. 12.2006 stating that the payment of spectrum charges would be as per the undertaking given by the petitioners. By reason of a letter dated 06.06.2007, the petitioner however stated as under :-

"2. We have been allocated frequency for 40 & 570 Hub stations in 10 cities vide above quoted WPC decision letters (Copies enclosed for ready reference).

3. We have already made payments of amount of Rs.1762.50 Lakhs vide letters No. RCIL/WPC/LMDS/172/2007, RIC/WPC/LMDS/2006 & RCIL/WPC/2006 dated 21.02.2007, 05.05.2006 & 06.10.2006 respectively @ Rs.2.88 Lakhs per BTS per year as per the directive stated in above WPC letters.

4. Above royalty calculations is based on the formula : Royalty = M x C x W as per DOT corrigendum No. R-11014/26/2002-LR dated 01.04.2003 (copy enclosed).

a) C is No. of carriers i.e. 02.

b) M = 2400 for a distance greater than 5 Km but less than 25 km. The distance calculated in Point to multi-point system is Customer- BTS-Customer (effectively 2 times the cell radius).

c) W=60, for BW greater than2 MHz and less than 7 MHz.

5. Here we wish to state that we have planned our network keeping BTS locations, for which for frequency has been allocated vide above WPC letters within cell radius of less than 02 km and hence M in this case should be taken as 1200.

6. With change in M factor from 2400 to 1200, the royalty amount will get reduced by half i.e. from 2.88 Lakhs per BTS per year to 1.44 Lakhs per BTS per year.

7. In view of the foregoing, it is requested that the royalty payment need to be revised to :

a) Rs.1.44 lakhs per BTS per year &

b) Extra payment of Rs.874.4 Lakhs may be adjusted with our future payments payable."

6. A reminder thereto was also sent as no immediate response was also received. However in the meanwhile another application dated 26.09.2007 for further allocation of frequencies for additional sites in Bangalore in 3.3 to 3.4 GHz band was made wherein it was said to have been pointed out that the sites have been planted within a radius of 2 kms. Similar applications

were made for additional sites in Bangalore on 05.11.2007 for Mumbai and Pune on 23.11.2007.

7. The respondent however by its letter dated 28.11.2007 interalia sought for a clarification asking the petitioner for its reason for restricting service area to 2 kms. It furthermore sought for a clarification as to whether the restriction is owing to power limitation, data throughput or coverage constraints.

8. By reason of a letter dated 03.12.2007, the clarifications sought for were provided stating :-

> *"With reference to quoted WPC letter, following clarifications are submitted ad-seriatum :*
>
> *a) Reasons for restricting service area to 2 Kms.*
>
> *(i) RCIL has planned very dense deployment of WIMAX BTS sites for quick and easy roll out.*
>
> *(ii) Average Distance between 2 BTS's is about 2 Kms. Thus average distance from BTS to RRU is of the order of 1 km. This can be readily verified from the BTS plan shown in Annexure-A.*
>
> *(iii) The reason for small radius is coverage constraints.*
>
> *b) No. of CPE's per BTS and their location :*
> *Approximate 400 customers are planned per BTS. The*

location of CPEs shall be provided in due course of time as the customers shall be acquired only after BTS's are commissioned and hence, at this point of time the locations are not known.

2. In view of above clarifications, request accord priority to this case & frequency for additional 16 BTS sites be allocated at the earliest."

9. Further clarifications were sought by the respondent in terms of its letter dated 25.4.2008 in the following terms :-

"I am directed to refer to your letter No. RCIL/DEL/WPC/308/2007 dated 23/10/2007 and to state that reply i.r.o. this Ministry letter of even No. dated 5.11.2007 (copy enclosed) is still awaited.

Further, you are also requested to clarify for applying network coverage of less than 5 Kms with same technical parameters as previously agreed vide licence No.T-ISP-01/I-563-RCIL with network coverage of up to 25 KMs.

Further action will be initiated after receipt of above."

10. The petitioner filed an application for additional sites on 22.01.2008. It also sought to furnish additional reasons for restricting the service area to 2 kms. in terms of its letter dated 12.02.2008 wherein a detailed note was sent, the relevant portions whereof read as under :-

"4.0 Wi-Max System – 3.3 GHz Design & Operation

RCIL has observed following during the RF design and operations of the 3.3 GHz Wi-max system :

1. *3.3 GHz is which is on the higher end of spectrum and*

   suffers from high attenuation (free space, building etc.)

2. *Being system meant ;for mass broadband deployment,*

   Indoor installation of CPE is preferred. This requires that the wall attenuation be budgeted for in the RF design, requiring the distance from the base station to be kept much lower than the outdoor deployment.

3. *Available spectrum per sector is limited (3 MHz per sector) and hence, capacity available per sector is quite limited (at 1.7 bits/Hz spectral efficiency, total 5.1 mbps uplink downlink only).*
4. *Requirements from the broadband customers are such that minimum information rate of 128 kbps needs to be provided for, thus, limiting the number of concurrent customers per sector to approximate 30.*

As the above observations suggest, both from the RF propagation/ perspective as well as system capacity perspective, the WI-Max 3.3 GHz system requires to be designed and operated with limited radius of operation (Maximum radius being approximately 1.5 kms.)

5.0 Recommendation

Considering that the WI-Max system shall have operating radius of approx. 1.5 kms, it is requested that the formula for calculation of royalty be considered as below :

- *Royalty = M * C* W, Where,*
- *C = No. of carriers,*
- *M = 1200 for distance less than 5 kms.*
- *W = 60 for bandwidth greater than 2 GHz to 7 GHz."*

11. Yet again clarifications were sought for by the respondent in terms of its letter dated 25.04.2008 in the following terms :-

"I am directed to refer to your letter No. RCIL/DEL/WPC/308/2007 dated 23/10/2007 and to state that reply i.r.o. this Ministry letter of even No. dated 5.11.2007 (copy enclosed) is still awaited.

Further, you are also requested to clarify for applying network coverage of less than 5 Kms with same technical parameters as previously agreed vide licence No.T-ISP-01/I-563-RCIL with network coverage of up to 25 KMs.

Further action will be initiated after receipt of above."

12. The petitioner responded to the said letter by its letter dated 13.05.2008, stating as under :-

"5. The current spectrum allocation of 6 MHz + 6 MHz is not sufficient to meet capacity requirements. Since additional

spectrum allocations are not provided, in order to meet capacity needs more base stations are deployed thus reducing inter site distance to less than 5 km.

6. RCIL has deployed the network to make available broadband for masses. The network is dense network so as to meet coverage and capacity requirements of large no. of customers."

13. It also sought to make a presentation. However purported to be in view of the fact that some delay was caused in the allocation, the petitioner by its letter dated 13.05.2008 offered to make payments for the additional sites as an interim measure and without prejudice to its rights and contentions. According to it, the excess payments if any would be reconciled/refunded later after the decision is taken by Respondent No.1 on the aforementioned request of the petitioner.

14. While granting such approval however, indisputably the rate of royalty was calculated by taking the value of M as 2400 which according to the petitioner, having regard to the stipulated formula, should have been taken to be 1200 for the purpose of computation royalty. The petitioner asked for a decision on its request for reduction of royalty by several letters including the letter dated 04.02.2009 and 29.03.2010. As the Respondent No. 1 did not grant any relief to the petitioner, it has filed this petition claiming interalia for the following reliefs :-

"a) Direct the Respondent to follow its own order dated 1.4.2003 and charge the royalty charges by taking the value of M as 1200 if the end-to-end distance for point to point microwave links is less than or equal to 5 Kms.

b) Direct the Respondent to refund the extra payment made by the petitioner to the tune of Rs.56.88 Crs. As per the details in Annexure P-25 along with the applicable rate of interest till the actual date of refund"

15. The respondent in its reply interalia contended that having regard to the fact that there is no change in the technology parameters in both the applications, the petitioner must be held to have been covering the distance of more than 5 kms.

16. Mr. Sibbal, the learned counsel appearing on behalf of the petitioner would urge:-

(i) The respondent no. 1 has wrongfully refused to refund the excess amount paid to it by way of royalty as a large number of factors were required to be taken into consideration for restriction of the area including the fact that different distances would be covered from same or different types of towers in cities and villages.

(ii) The coverage of the equipment installed therefor will have no bearence as the respondents could not have departed from the formula it has itself prescribed.

(iii) In any event it was not open for the respondent to contend that the application should not be allowed unless the towers were covered for more than 5 kilometers.

(iv) In any event, so far as the second application for grant of additional towers are concerned, if the respondent had any doubt in regard to the area of coverage, it could have:

1. Rejected the condition;
2. Imposed certain conditions or
3. Asked the petitioner to revise its application;

and in that view of the matter, it was impermissible for it to refuse to grant any relief to the petitioner.

(v) A meeting having been held by and between the authorized representatives of the parties on or about 19.05.2008 and keeping in view of the fact that it was demonstrated that the technology is standardized, the respondent acted illegally in so far as it failed to take into consideration that:

1. It itself was the author of the formula
2. Subscriber base is a relevant factor
3. The anticipation of the petitioner has come through and

4. Royalty was dependent on the distance it was set to cover as was proposed in the application

(vi) The contention of the respondent and as contained in its reply that the royalty is fixed on a notional basis is not correct as the same was in fact on actual basis, the coverage being the prime factor wherefor the formula has been laid down and in that view of the matter, no other parameter is relevant.

(vii) It would not be correct to contend that the statement made in the earlier applications filed by the petitioner indicating the distance of coverage could be treated to be sacrosanct and having regard to the experience of the petitioner, the same could have been ignored.

17. Mr. Ruchir Mishra, the learned counsel appearing on behalf of the respondent, on the other hand, submitted :-

(i) The value of 'M', having been calculated on the basis of coverage, the only relevant factor was as to what was the area the petitioner had been covering keeping in view the admitted fact that not only license has been granted to it, but also permission of erecting tower has been granted.

(ii) There was absolutely no reason why the coverage of the distance would be changed having regard to the fact that the towers were in the same RF and having the same power and

therefor there was no reason as to why the signals cannot cover the prescribed distance of 0.5 kms – 15 km.

(iii) One of the relevant factors and the CPEs (Customer Premise Equipment) being the same, it must be held that the petitioner had not been able to issue adequate clarification as has been sought for by the respondent in its letter dated 28.11.2007.

(iv) The petitioner has not explained as to how it had been beaming frequencies for more than a distance of 15 kms.

(v) The equipment's parameters are very vital for invoking the formula of 'R=M x W x C'. The petitioner having itself filed applications for allocation of spectrum with full knowledge of the terms and conditions therefor, cannot now be permitted to contend that despite its first application, it is entitled to any refund. The petitioner accept the variable figure of distance having subsequently filed applications for grant of spectrum being dated 26.09.2007 and 22.01.2008 could not have asked for variation of any quantum of the amount of royalty.

(vi) The formula prescribed by ITU as would appear from the additional affidavit filed by the respondent on 22.11.2010, no exception thereto can be taken.

18. Mr. Naveen Chawla, the learned counsel appearing on behalf of the petitioner in reply would urge :-

(1) The distance from point to point will have a great correlation with topography as well as usage and it is idle to contend that the density of the population in a town and the number of the customers residing within an area will have no application whatsoever.

(2) From the additional affidavit filed by the petitioner, it would be evident that keeping in view the quality of service required to be maintained by an operator, the number of subscribers, the free space available, the number of BTS were required to be considered of grave significance.

19. The petitioner has obtained licenses under the Indian Telegraph Act, 1885. With a view to roll out its contractual obligations, it had sought for allocation of spectrum in the towns of Bangalore, Madras, Delhi NCR, Hyderabad, Calcutta, Bombay, Ahmadabad, Surat, Vadodara, Pune. The first of such applications was made on 14.11.2006. We may notice the relevant paragraphs thereof

"

1.	*Name of the user/agency which is responsible for operation on the assigned frequency.*	*Reliance Communications Infrastructure Limited*
3.	*Frequency assigned for operation*	*Any frequency pairs in 3.3 to 3.4 GHz*
4.	*Carrier frequency (MHz)*	*3300 to 3400 MHz*

14.	*Azimuth of maximum radiation in degrees from true north of transmitting antenna*	*0-360◦*
15.	*Type of antenna*	*Sectored Antenna*
16.	*Total angle in the horizontal plane in Degrees within which the power radiated in any direction power radiated in direction of Maximum radiation*	*60◦◦*
17.	*Relative gain of the transmitting antenna in the direction of maximum radiation in dB*	*17 dBi*
19.	*The transmitting power applied to the Antenna (indicated power by means of C/A/P respectively) (Carrier, Average, Peak)*	*+28 dBm*
33.	*Length of Circuit in Kilometers/radius of service in Kilometers*	*0.5 – 15 Kms.*

20. The said application was allowed by the respondent herein in terms of its letter dated 22.12.2006, the relevant portions whereof read as under :-

> *"Parameters : 3338.5 MH2/3388.5 MH2*
>
> *(e) Frequency (ies)*
>
> *(f) Emission – 6M00F7B*
>
> *(g) Working Hours from 0000 to 24.00 Hrs.*
>
> *(h) R.F. Power Output for*
>
> *ii) Fixed ii) Veh Mobile iii) Handheld Mobile*
>
> *280/BM*

2. No. of stations :

i) Fixed	*ii) Veh Mobile*	*iii) Handheld Mobile*	*Total*
570 Nos.	*…*	*…*	*570 BTS (Add)*

3. i) Licence Fee Rs.1000 + Royalty Rs.2,88,000/- per annum

5. Equipment may be procured strictly adhering to agreed parameters."

21. The petitioner however again, on or about 26.09.2007 filed an application for additional 16 sites in Bangalore city for frequency assignment with all parameters. The detailed informations contained in the said applications were similar except for item No. 33 of the form which reads as under :-

"33.	*Length of Circuit in Kilometers/ Radius of service in Kilometers*	*0.5 – 02 Kms."*

22. The sanction was granted by an order dated 17-18th June 2008 whereby it was stipulated that the royalty shall be charged at the rate of 2,88,000 per annum per BTS. Yet again on or about 19.06.2008, the petitioner applied for sanction of 400 BTSs with identical data. For the completion of the narration of fact, we may at the outset notice that by an order dated 01.04.2003, the following formula was fixed by way of a corrigendum for calculation of the amount of royalty which reads as under :-

"M = 1200 for point to point Microwave Link(s) with end-to-end distance Less than or equal to 05 Kms.

M = 2400 for point to point Microwave Link(s) with end-to-end distance Greater than 05 Kms but less than or equal to 25 Kms

M = 4800 for point to point Microwave Link(s) with end-to-end distance Greater than 25 Kms but less than or equal to 60 Kms

M = 9000 for point to point Microwave Link(s) with end-to-end distance Greater than 60 Kms but less than or equal to 120 Kms

M = 15000 for point to point Microwave Link(s) with end-to-end distance Greater than 120 Kms but less than or equal to 500 Kms

M = 20000 for point to point Microwave Link(s) with end-to-end distance Greater than 500 Kms"

23. Interpretation of the aforementioned order is in question before us.

24. At the outset however we may notice that the slab system is not in issue. The validity of the corrigendum dated 01.04.2003 is also not in issue.

25. The core question is as to whether the case of the petitioner would fall within the first or the second slab. Before we take into consideration the contentions on behalf of the petitioner, we may notice the prayers made in this petition.

> *"a) Direct the Respondent to follow its own order dated 1.4.2003 and charge the royalty charges by taking the value of M as 1200 if the end-to-end distance for point to point microwave links is less than or equal to 5 Kms.*

b) *Direct the Respondent to refund the extra payment made by the petitioner to the tune of Rs.56.88 Crs. As per the details in Annexure P-25 along with the applicable rate of interest till the actual date of refund"*

26. Submission of the learned counsel for the petitioner in regard to the first set of applications for allocation of frequency for point to multipoint in 3.3-3.4 GHz band with the radius of service of 0.5 to 15 kms made on or about 14.11.2006 and the refund of the amount charged in respect of its allocation of frequency pursuant to its applications dated 26.09.2000 and 22.01.2008 are based on different premises. So far as the refund of the amount prayed for by the petitioner in terms of its application dated 14.11.2006 and the permission granted by the respondent on 22.12.2006 is concerned, having regard to the fact that the amount of the royalty was fixed on the basis of the representation made by the petitioner itself, the learned counsel for the petitioner did not press for the refund of the said amount.

27. However so far as the order of sanction dated 19.06.2008 pursuant to the petitioner's application dated 26.09.2007 and 22.01.2008 is concerned, we may notice that the contention of the petitioner is that it having forced to pay the demanded amount having regard to the fact that it had no other option but to accede thereto, keeping in view of its rollout obligations and the amount in question having been deposited, it is entitled to the refund of the excess amount.

28. We may notice that the respondent on the petitioner's request that royalty be charged at the value of M as 1200 by changing the formula it may be necessary to notice the following documents.

29. By reason of a letter dated 06.06.2007, the petitioner stated :-

> *"5. Here we wish to state that we have planned our network keeping BTS locations, for which for frequency has been allocated vide above WPC letters within cell radius of less than 02 km and hence M in this case should be taken as 1200.*
>
> *7. In view of the foregoing, it is requested that the royalty payment need to be revised :*
>
> *a) Rs.1.44 lakh per BTS per year &*
>
> *b) Extra payment of rs.878.4 lakhs may be adjusted with our future payments payable."*

30. Similar request was made by its letter dated 30.08.2003. The respondent by its letter dated 28.11.2007, asked for the following informations :-

> *"Reasons for restricting service area to 2 Kms. Also certify that whether this restriction is due to power limitation, data throughput or coverage constraint.*
>
> *No. of CPEs and its location to be connected/deployed with each BTS."*

31. The petitioner responded thereto by its letter dated 03.12.2007 stating:

> *"With reference to quoted WPC letter, following clarifications are submitted ad-seriatum :*
>
> *b) Reasons for restricting service area to 2 Kms.*
>
> *(ii) RCIL has planned very dense deployment of WIMAX BTS sites for quick and easy roll out.*
>
> *(ii) Average Distance between 2 BTS's is about 2 Kms. Thus average distance from BTS to RRU is of the order of 1 km. This can be readily verified from the BTS plan shown in Annexure-A.*
>
> *(iii) The reason for small radius is coverage constraints.*
>
> *b) No. of CPE's per BTS and their location :*
> *Approximate 400 customers are planned per BTS. The location of CPEs shall be provided in due course of time as the customers shall be acquired only after BTS's are commissioned and hence, at this point of time the locations are not known.*
>
> *2. In view of above clarifications, request accord priority to this case & frequency for additional 16 BTS sites be allocated at the earliest."*

32. It submitted a detailed note on or about 12.02.2008; the relevant portions whereof are as under :-

"4.0 Wi-Max System – 3.3 GHz Design & Operation

RCIL has observed following during the RF design and operations of the 3.3 GHz Wi-max system :

1. *3.3 GHz is which is on the higher end of spectrum and*

   suffers from high attenuation (free space, building etc.)

2. *Being system meant ;for mass broadband deployment,*

   Indoor installation of CPE is preferred. This requires that the wall attenuation be budgeted for in the RF design, requiring the distance from the base station to be kept much lower than the outdoor deployment.

3. *Available spectrum per sector is limited (3 MHz per sector) and hence, capacity available per sector is quite limited (at 1.7 bits/Hz spectral efficiency, total 5.1 mbps uplink downlink only).*

4. *Requirements from the broadband customers are such that minimum information rate of 128 kbps needs to be provided for, thus, limiting the number of concurrent customers per sector to approximate 30.*

As the above observations suggest, both from the RF propagation/ perspective as well as system capacity perspective, the WI-Max 3.3 GHz system requires to be designed and operated with limited radius of operation (Maximum radius being approximately 1.5 kms.)

5.0 Recommendation

Considering that the WI-Max system shall have operating radius of approx. 1.5 kms, it is requested that the formula for calculation of royalty be considered as below :-

- *Royalty = M * C* W, Where,*
- *C = No. of carriers,*
- *M = 1200 for distance less than 5 kms.*
- *W = 60 for bandwidth greater than 2 GHz to 7 GHz."*

33. Along with the said letter the petitioner indicated the total number of sites in respect of its 10 licensed locations, which are as under :-

Sr. No.	*City*	*Total Sites*
1.	*Mumbai*	*204*
2.	*Bangalore*	*131*
3.	*Ahmedabad*	*80*
4.	*Surat*	*37*
5.	*Vadodara*	*37*
6.	*Chennai*	*134*
7.	*Kolkata*	*138*
8.	*Pune*	*73*
9.	*Hyderabad*	*144*
10.	*Delhi*	*220*
Total		*1198*

34. It moreover annexed a plan of the location of its BTS Tower in respect of Bombay City only to contend that out of the total area of 394 sq. kms, the total BTS in Mumbai is 304. The coverage of 1 BTS being 1.93 sq and cell radius being .78 kms only.

Yet again on 25.04.2008, the respondent by a letter contended as under:-

> *"I am directed to refer to your letter No. RCIL/DEL/WPC/308/2007 dated 23/10/2007 and to state that reply i.r.o. this Ministry letter of even No. dated 5.11.2007 (copy enclosed) is still awaited.*
>
> *Further, you are also requested to clarify for applying network coverage of less than 5 Kms with same technical parameters as previously agreed vide licence No.T-ISP-01/I-563-RCIL with network coverage of up to 25 KMs.*
>
> *Further action will be initiated after receipt of above."*

35. The petitioner responded thereto by assigning additional reasons in terms of its letter dated 13.05.2008, stating :-

> *"5. The current spectrum allocation of 6 MHz + 6 MHz is not sufficient to meet capacity requirements. Since additional spectrum allocations are not provided, in order to meet capacity needs more base stations are deployed thus reducing inter site distance to less than 5 km.*
>
> *6. RCIL has deployed the network to make available*

broadband for masses. The network is dense network so as to meet coverage and capacity requirements of large no. of customers.

7. In view of the explanation provided it is requested that cell radius of less than 5 km is considered for royalty calculations."

36. It also said to have made a presentation. Yet again by a letter dated 13.05.2008, it stated as under :-

"3. Vide our above quoted Letters dated 26/09/2007, 23/11/2007, 22/01/2008 & 15/02/2008, we have submitted the application for frequency allocation for total 577 (16+68+493) additional sites in the 10 cities for which frequency has been already allocated to us vide Decision Letters dated 20/10/2004 & 22/12/2006 along with the request to consider modified payment as per WPC guidelines as the BTS deployment is within 5 km radius. As desired, "On-Line" application and their acknowledgement along with their deployment have also been submitted. (Annexure attached).

5. Pending resolution of payment criteria for BTS deployment of less than 5 Km & to ensure faster roll-out in line with Govt. of India Broadband policy, we are willing to pay royalty as per the prevailing amount of Rs.2.88 Lakhs per BTS as an interim measure, without prejudice, to our rights & contentions on this issue. The excess payment, if any, will be reconciled/refunded later after the Govt. decision on our request."

37. The total amount of the royalty paid by the petitioner is stated to be as under :-

Payment made on	*Amount Paid*	*Payment due for refund*
05/05/05	*2880000*	*1440000*
06/10/06	*8640000*	*4320000*
21.2.2007	*164730000*	*82365000*
24.12.2007	*168968000*	*84484000*
16.4.2008	*20337415*	*10168707.5*
29.9.2008	*165380000*	*82690000*
29.9.2008	*162707000*	*81353500*
29.9.2008	*65314000*	*32657000*
24.12.2008	*4913000*	*2456500*
30.3.2009	*87280000*	*43640000*
30.6.2009	*10982000*	*5491000*
29.9.2009	*126582000*	*63291000*
31.3.2010	*148919000*	*74459500*
Total	***1137632415***	***568816207.5***

38. The fact of the matter, as also the correspondences which have passed between the parties, is not in dispute. In the first instance, the petitioner has asked for permission of 570 BTSs for the town of New Delhi. The next application for allocation of frequency was additional 16 sites in Bangalore. The third application was also for additional 493 sites for all the 10 cities.

39. A great deal of argument has been advanced that 'free space' means where there is no obstruction even of any grass. It was in the

aforementioned context we may note the respective literatures placed by the parties hereto.

40. The petitioner by reason of an additional affidavit has relied upon a formulae, which is in the following terms :-

> *"c) Without prejudice it is further submitted that the said formula given by the Respondent only relates to the cases where there is no obstruction between the transmitter and the receiving antenna which is known as Free Space Loss (FSL) formula. Such situations are Line of Sight (LOS) situations. However, in cases where there are obstructions between the transmitter and the receiving antenna and there is no line of sight, the formula will not apply. In the case of those areas where there is no line of sight for Terrestrial communication links with enough concrete obstructions in a given sq.km area along with enough vegetation between the transmitter and the receiving antenna, applicable Path loss model formula approved by the Global telecom industry is*
>
> $$L=40 \log_{10} R+30 \log_{10} f + 49$$
>
> *d) This formula is given by the International Telecommunication Union (ITU) in their recommendation No. ITU-R.M.1225, a copy of which is attached herewith and marked as Annexure A-1. It is provided that L in no circumstances can be less than FSL. The relevant recommendation no. is clause 1.2.1.2 where it is specifically mentioned that this model is valid for non-line-of-sight (NLOS) cases only. It is important to note that ITU is the highest technical body (part of UNO) for setting up technical standards for telecom services and technology and is truly followed for compliance for Radio Networks for propagation/Path*

loss models."

41. It was furthermore stated :-

"h) Without prejudice it is further submitted that the available spectrum to the Petitioner is limited to 12 MHz i.e. 2 carriers of 6+6 MHz and hence the capacity available per carrier is limited (at 1.7' bits/Hz spectral efficiency, total 10.2 Mbps uplink and downlink only). It is also an admitted fact that as per the TRAI Regulation the minimum speed for broadband is required to be 256 Kbps. A copy of the TRAI Regulation prescribing the limit of 256 Kbps. Speed for broadband is attached herewith and marked as Annexure A-2. The broadband customers, therefore, look for the minimum information rate of 256 Kbps. This limits the number of concurrent customers per sector to a smaller number for maintaining the TRAI guidelines for concurrency.

i) The Petitioner respectfully submits that the cell radius of coverage is a function of antenna heights, tilts, terrains, clutter and bandwidth delivery capacity requirement. The antenna height and tilts are optimized to provide the optimal coverage and capacity requirements to be met for subscriber service delivery needs in a cell area. Thus, with the same equipments, specification, technology, in practice, the effective cell radius is much less than 5 Kms for serving subscribers in a cell area at assured Speeds of Service delivery."

42. Another propagation model purported to have been recommended by Wimax Forum was the Stanford University Model was also brought to our notice wherein it was interalia laid down :-

> *"An important requirement for assessing technology for Broadband Fixed Wireless Applications is to have an accurate description of the wireless channel. Channel models are heavily dependent upon the radio architecture. For example, in first generation systems, a sulper-cell or "single-stick" architecture is used where the Base Station (BTS) and the subscriber station are in Line-of-Sight (LOS) condition and the system uses a single cell with no co-channel interference. For second generation systems a scalable multi-cell architecture with Non-Line-of-Sight (NLOS) conditions becomes necessary. In this document a set of propagation models applicable to the multi-cell architecture is presented. Typically, the scenario is as follows :*
>
> - *Cells are < 10 km in radius, variety of terrain and tree density types*
> - *Under-the-eave/window or rooftop installed directional antennas (2-10 m) at the receiver*
> - *15-40 m BTS antennas*
> - *High cell coverage requirement (80-90%)*
>
> *The wireless channel is characterized by :*
>
> - *Path loss (including shadowing)*
> - *Multipath delay spread*
> - *Fading characteristics*
> - *Doppler spread*

- *Co-channel and adjacent channel interference*

It is to be noted that these parameters are random and only a statistical characterization is possible. Typically, the mean and variance of parameters are specified.

The above propagation model parameters depend upon terrain, tree density, antenna height and beam width, wind speed, and season (time of the year).

This submission combines and elaborates on contributions {7}, {8} and {16} which were presented at the IEEE 802.16.3 meeting in Tampa, FL, on November 7, 2000."

43. On the other hand, the respondent in its additional affidavit stated:-

"It is pertinent to mention here that the Value of M distance depends upon the Coverage Distance, which further depends upon following :

a. Power of the Transmitter,

b. Gain of the Transmitting Antenna.

c. Height of the Antenna.

d. Gain of the Receiving Antenna,

e. Receiver Sensitivity,

f. Topography of the Location.

It is further submitted that for point to point Links there is formula to ascertain the Radio Loss or Basic free Space Transmission Loss i.e. L(bf) which is as follows :

L(bf) = 32.5 + 29 Log F mhz + 20 Log D Km (dB)"

44. In relation to 'point to point links', it is stated by way of an expert evidence:-

"*Point-to-point links*

With a point-to-point link it is preferable to calculate the free-space attenuation between isotropic antennas, also known as the basic free-space transmission loss (symbols : L_{bf} or A_0), as follows :

$$L_{bf} = 20 \log \left(\frac{4\pi d}{\lambda}\right) \text{ dB}$$

in which:-

L_{bf} : *the free-space basic transmission loss in dB,*

d: *the distance,*

λ : *the wavelength, and*

d and λ are expressed in the same unit.

Expression (3) can also be written using the frequency instead of the wavelength.

$$L_{bf} = 32.5 + 20 \log f_{MHz} + 20 \log d_{km} \text{ dB}$$

Expressions (3) and (4) are shown in Fig.2.

2.3 Relations between the characteristics of a plane wave

There are also relations between the characteristics of a plane wave (or a wave which can be treated as a plane wave) at a point :

$$S = \frac{E^2}{120\pi} = \frac{4\pi P_r}{\lambda^2}$$

in which

S : is the power flux-density in watts per square metre.

F : is the r.m.s. field strength in volts per metre,

P_r: is the power in watts available from an isotropic antenna located at this point,

λ : is the wavelength in metres.

Expression (5) is shown in Fig.3.

3. The free-space basic transmission loss for a radar system (symbols : L or A)

Radar systems represent a special case because the signal is subjected to a loss while propagating both from the transmitter to the target and from the target to the receiver. For radars using a common antenna for both transmitter and receiver, a radar free-space basic transmission loss, L , can be written as follows :

$$L_{br} = 103.4 + 20 \log f + 40 \log d - 10 \log \sigma \quad dB \quad (6)$$

in which

σ: the radar target cross-section in m^2 ,

d : the distance from the radar to the target in km, and

f : the frequency of the system in MHz.

The radar target cross-section of an object is the ratio of the total isotropically equivalent scattered power to the incident power density."

45. Mr. Chawla would, however, submit that from the IQ documents, it will appear that even in the towns like Delhi, Bangalore or Bombay, it is very difficult even to have a free space of a few 100 meters, far less a few kilometers. The Learned Counsel pointed out in the International Radio Consultative Committee recommendations as noticed by International Telecommunication Union in its Seventeenth Plenary Session at Dusseldorf in the year 1990, study group five related to propagation in non-ionized media and REC525-i at page 376 related to calculation of 'Free Space Attenuation' which would mean that that there was absolutely nothing in between, i.e where the frequency travels from satellites.

46. According to the learned counsel, the same thus, should not form the basis for rejecting the application and in any event such a case has not been made out in the correspondences issued by the respondent.

47. We are however of the opinion that it may not be necessary for us to go into the aforementioned question. Each of the six factors necessary for ascertaining the value of M, namely power of the transmitter, gain of the transmitting antennae, height of the antennae, gain of the receiving

antennae, receiver sensitivity and topography of the location are indisputably important.

48. We are herein concerned with the interpretation of Corrigendum dated 01.04.2003.

49. The formula in question provides for a slab system. The first one being upto 5 kms and the second one being 5 kms and above but less than or equal to 25 kms. In view of the necessary ingredient of the 'm' factor, we will proceed on the basis that it will vary from place to place. There would be a great deal of variance even in different parts of the same town. Whereas in one part of the town, the constructions may not exceed one story, like "Lutyen's Zone", in another part, there may be high rise buildings one after the other.

50. Similarly, whereas in one town, there may be very congested areas but in another, it may not be so congested. The BTS density and/or necessity to put a large number of towers would depend upon various factors. It, having no universal application and in fact the royalty having regard to the same, was required to be fixed on a pan India basis, it cannot be left to any hazards. If there is a definite formula, the same must be applied across the country. It cannot be situation specific or site specific. At least, no provision having been made therefor nor any challenge to the formulae on that ground having been laid.

Tele density in a town or in a particular area of town would be an important factor for the operator.

The variation between two sites differently situated would be huge. As for example, Nariman Point in Mumbai can by no means be compared to a rural area.

If within a thickly populated area of town, more towers are required to be installed for the purpose of maintenance of quality in supply of signals, the same would not mean that the M factor becomes variable.

If the petitioner has to serve, say, one million people living in one square kilometer area and, thus, would earn a huge revenue therefrom, the amount of royalty should not be different therefor vis-à-vis a rural areas where the number of subscribers would be much less. Functional necessities as well as necessities for providing effective and quality services cannot lead to payment of lesser amount of royalty without taking into consideration the capacity of the instruments operating in a normal situation.

51. The reasonableness of the stand of the Union of India may inter-alia be found from the letter dated 22.12.2006.

There is no dispute with regard to the value of 'C' or 'W'. Respondent has applied the same formula with regard to the value of 'M'.

52. The question is whether the respondent was bound to ascertain the actual coverage of the BTSS in calculating the amount of royalty. The licence issued by the WPC does not contain any such provision. There also does not appear to be any provision on the basis whereof a calculation can be directed to be made keeping in view the location of the BTSS.

If an inspection and/or verification is to be made for different areas, as has been suggested, in the entire circle and/or upon taking into consideration a zone in each city, the task may ultimately be found to be enormous. What may, thus, be found to be necessary was the capacity of the equipments in question.

53. There cannot be any doubt or dispute that having regard to the density of population vis-à-vis an area in question, as also the nature of building, the distance between two BTSS may be more than 5 kms. or less than the same. That is principally the reason as to why the capacity of the equipments vis-à-vis the slab system assumes significance. On the aforementioned premise, the validity of the aforementioned circular letter dated 01.4.2003 being itself not in question, we may consider as to whether a case has been made out for our interference as a Government's policy decision may not be dependent upon the efficacy of a particular situation, but on the basis of an over-all situation.

54. The formula may not be possible to be applied in a situation which is ideal. A formula was adopted upon taking into consideration all aspects of the matter and not in relation to the particular cases. The tower density necessary for a particular area in Bombay as has been contended by the petitioner, in our considered view, cannot be said to be applicable in the other parts of the country or other circles involved. When the petitioner filed an application for the Delhi circle, it must have been advised by its own experts. It sought for allocation of spectrum and it received the same. It must have considered the technological aspects as also other relevant factors.

55. The WPC wing of the Government of India is even not otherwise concerned with the quality control. It is primarily concerned with the allocation *vis-a-vis* the amount required to be paid by the licensees.

56. It may be true that the petitioner contended that the cell radius of BTS being less than 2 kms, the M factor should be taken to be 1200. The respondent interalia asked for the number of customer premises equipments and its locations to be connected/deployed with each BTS. The petitioner by its letter dated 03.12.2007 although contended that locations at that point of time were not known and the location of CPEs shall be provided in due course of time as the customer shall be acquired only after the BTSs are commissioned, no such information was ever furnished.

57. Even in its note dated 12.02.2008, such informations have not been furnished. The informations sought, the petitioners do not state, were wholly irrelevant. It may be true that in a given case, it is within the province of the respondent to take adequate measures for cancellation of the permission, if in the event it is found that the number of BTSs erected is wrong or otherwise incorrect. It is also true that the petitioner by its letter dated 13.05.2008, while asking for revision in the formula *vis-a–vis* the quantum of royalty payable in this behalf expressed its willingness to pay royalty as per prevailing amount of 2.88 Lacks per BTS as an interim measure contending that the same would be subject to adjustment.

58. The respondent responded to the aforementioned request of the petitioner by its letter dated 24.01.2008. It enclosed therewith a calculation sheet. It demanded the royalty at the rate of Rs.2,88,000/- for 525 BTSs amounting to Rs.15,12,00,000/-. Evidently the request of the petitioner that the same should be accepted as an interim measure was not acceded to.

59. We may furthermore notice that the petitioner while making payments, by its letter dated 21.02.2007, did not reserve unto itself any right. The said letter was not written 'without prejudice' or under protest. The petitioner furthermore, on or about 26.12.2007, surrendered frequency for 38 hubs out of 563 hubs. It made payments of Rs.1689.68 lakhs on that date not without prejudice to its rights and contentions. It is only on

16.04.2008 it made payments under protest and without prejudice to its rights and obligations so far as the admissibility of its demands was concerned. We may furthermore notice that even in terms of its letter dated 29.09.2008, while making payments of Rs. 1653.08 lakhs; it did not reserve unto it any right nor made the deposits without prejudice to its rights and contentions.

60. We can refer to various other letters and payments made by the petitioner from time to time but it may not be necessary to do so as suffice it to say that on many occasions, the petitioner has deposited the amount without raising any protest or marking their letters "without prejudice".

61. I, therefore, am of the opinion, keeping in view the facts and circumstances of this case, that no case for interference has been made out, as it is not possible to lay down any criteria as regards the necessity to erect the number of BTS towers keeping in view the tele-density of the area and other relevant factors having regard to the materials brought on record by the parties.

62. We may, however, place on record that it may not be necessary in all situations, that the point to point distance required to be covered must also be not less than 5 kms. What is necessary is that as to whether in given situation, it is reasonably capable of doing so.

63. Mr. Mishra would contend that the petitioner had even made manipulations so as to bifurcate the carriers from two to four. Having regard to the fact that such a case has not been made out by the respondent in its reply, we need not go into the said question leaving the parties to take action which may be available to them in law.

64. For the reasons aforementioned, there is no merit in this petition which is dismissed. But, in the facts and circumstances of the case, there shall be no order as to costs.

.....
(S.B. Sinha)
Chairperson

rkc