



**Telecom Regulatory Authority of India**



Recommendations

on

Methodology of applying Spectrum Usage Charges (SUC)  
under the weighted average method of SUC assessment, in  
cases of Spectrum Sharing

New Delhi, India

17<sup>th</sup> August 2020

Mahanagar Doorsanchar Bhawan  
Jawahar Lal Nehru Marg,  
New Delhi- 110002

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# **CHAPTER 1 INTRODUCTION**

## **A. Reference from DoT**

- 1.1 The Department of Telecommunications (DoT) through its letter No. 1000\01\2020-WR dated 15<sup>th</sup> January 2020 (**Annexure 1**), inter alia, informed that the existing guidelines for Sharing of Access Spectrum by Access Service Providers issued by DoT on 24<sup>th</sup> September 2015 provide that the Spectrum Usage Charge (SUC) rate of each of the licensees post sharing increases by 0.5% of Adjusted Gross Revenue (AGR). DoT also informed that it has received representations requesting that the incremental SUC rate of 0.5% post sharing should be applied only to the particular spectrum band which has been allowed to be shared between two licensees, and not on the entire spectrum held by the licensees; since sharing is permitted in a particular band. In this background, DoT requested TRAI to furnish its recommendations on (i) whether the incremental 0.5% in SUC rate in cases of sharing of spectrum should be applied only on the specific band in which sharing is taking place; or on the overall Weighted Average Rate of SUC, which has been derived from all bands and (ii) any other recommendations deemed fit for the purpose, under section 11(1) of the TRAI Act, 1997, as amended by TRAI Amendment Act, 2000.
- 1.2 The Authority vide its letter dated 5<sup>th</sup> March 2020 sought additional information from DoT. Subsequently, DoT vide its email dated 18<sup>th</sup> March 2020 (**Annexure 2**) provided additional information.

## **B. About Spectrum Sharing**

- 1.3 The basic objective of spectrum sharing is to enhance spectral efficiency by combining/pooling the spectrum holding of two licensees. If two licensees pool their spectrum holding, spectral efficiency increases non-

linearly, i.e., data rate achievable with 10 MHz of spectrum block is much higher than the two separate blocks of 5 MHz each. Spectrum is a scarce natural resource, and with growing digitalization and uptake of mobile broadband, demand for spectrum has been increasing and will continue to rise. To cater to the ever-increasing data demand, it is of utmost importance that the spectrum is used efficiently. Sharing of spectrum can also provide additional network capacities in places where there is network congestion due to spectrum crunch.

### **C. Evolution of spectrum-sharing guidelines in India**

- 1.4 TRAI (also referred as “the Authority”) in its recommendations on ‘Spectrum Management and Licensing Framework’ dated 11<sup>th</sup> May 2010, had, inter alia, recommended the guidelines for spectrum sharing. In reference to the Department of Telecommunications’ (DoT) back-reference dated 10<sup>th</sup> October 2011, on these recommendations, the Authority re-examined its earlier recommendations and furnished its modified recommendations on spectrum sharing in November 2011.
- 1.5 Based on the recommendations of the Authority, the DoT, through a Press Statement dated 15<sup>th</sup> February 2012, issued the broad guidelines for sharing of 2G spectrum (800/900/1800 MHz bands). The guidelines provided that spectrum sharing would be permitted only if the auction conditions for spectrum permits the same.
- 1.6 In the Notice Inviting Applications (NIA) for the auction of spectrum in November 2012, it was stated that “Operators, whose entire spectrum holding in a particular band (900MHz/ 1800MHz and 800MHz) is/has been liberalized, would be permitted to share spectrum without any additional one-time spectrum charge. Detailed guidelines regarding sharing of spectrum would be issued in due course.” NIA for the auction

of spectrum held in March 2013 and February 2014 contained similar clauses.

1.7 In 2014, while the Authority was finalizing its guidelines on spectrum trading, CEOs of some of the Telecom Service Providers (TSPs) requested that, in order to ensure efficient use of spectrum, the Authority may also consider giving its recommendations on guidelines for spectrum sharing. Subsequently, the Authority constituted a Steering Committee of senior officers of TRAI and representatives from various TSPs for framing the working guidelines for spectrum sharing in the country. Based on the draft guidelines on spectrum sharing submitted by the Steering Committee, inputs given by the CEOs/CMDs of the TSPs, and its own analysis, TRAI finalized its recommendations on 'Guidelines on Spectrum Sharing' and submitted the same to DoT on 21<sup>st</sup> July 2014. Through its letter dated 27<sup>th</sup> April 2015, DoT referred back many of the recommendations to TRAI for reconsideration. After going through DoT's views on various recommendations, TRAI finalized its response and sent it to DoT on 21<sup>st</sup> May 2015.

1.8 Subsequently, based on TRAI's recommendations, DoT issued the Guidelines for Sharing of Access Spectrum by Access Service Providers on 24<sup>th</sup> September 2015. The same are the prevailing spectrum-sharing guidelines, which are applicable on the existing spectrum-sharing arrangements.

#### **D. Cause of Reference**

1.9 In its reference dated 15<sup>th</sup> January 2020, DoT mentioned receiving representations from a Telecom Service Provider that the incremental SUC rate of 0.5% should be applied only to the particular spectrum band, which has been allowed to be shared between the two licensees; and not on the entire spectrum held by the licensees, since sharing is permitted in a

particular band. DoT has also forwarded copies of the representations along with its reference. In the representations forwarded by DoT, the following submissions have been made:

- a) Some of the offices of Controller of Communications Accounts (CCAs) are incorrectly levying incremental 0.5% SUC rate on the entire spectrum holding of the licensee, and not on a particular band for which spectrum sharing has been allowed.
- b) Incremental 0.5% SUC rate is applicable only on the particular band for which sharing has been permitted and not on the other spectrum holding.
- c) DoT vide para (2) of the spectrum-sharing guidelines dated 24<sup>th</sup> September 2015 has allowed sharing of spectrum between two service providers utilizing the spectrum in the same band. Further, in para (3) of these guidelines, it has been specified that spectrum sharing is not permitted when both the licensees have spectrum in different bands.
- d) As per para (12) of the spectrum-sharing guidelines dated 24<sup>th</sup> September 2015, for the purpose of Spectrum Usage Charges (SUC) it shall be considered that licensees are sharing their entire spectrum holding in a particular band in the entire Licensed Service Area, and SUC rate shall be increased to 0.5% of AGR.
- e) The combined reading of clauses (2), (3), and (12) makes it absolutely clear that sharing of spectrum is permitted only in the same band. Therefore, increase of SUC rate of the particular spectrum band which has been allowed to be shared between two licensees shall only increase by 0.5% of AGR, and not the other spectrum bands held by the licensees.

f) In view of this, it is requested that a suitable clarification may urgently be issued to all CCAs instructing that the SUC rate for each of the licensee post sharing of spectrum shall increase by 0.5% of AGR for the particular band for which spectrum sharing has been allowed, and not on the weighted average SUC rate for the entire spectrum holding of the licensees.

1.10 In view of the above, DoT forwarded the representations and requested TRAI to furnish its recommendations on (i) whether the incremental 0.5% in SUC rate in cases of sharing of spectrum should be applied only on the specific band in which sharing is taking place; or to the overall Weighted Average Rate of SUC, which has been derived from all bands and (ii) any other recommendations deemed fit for the purpose.

1.11 Through its email dated 18<sup>th</sup> March 2020, DoT furnished the additional information sought by TRAI, which inter alia, includes a sample calculation sheet on the weighted average SUC rate applied post sharing; wherein DoT has provided two scenarios, one where SUC rate is incremented by 0.5% in a particular band while computing weighted average SUC rate, and in second scenario, the overall weighted average SUC pre-sharing arrangement is incremented by 0.5%. Therefore, it can be inferred that, within DoT, there is ambiguity on how SUC rate should be incremented post sharing.

#### **E. Consultation Process**

1.12 In view of the above, a consultation paper was released on 22<sup>nd</sup> April 2020, providing the background information and seeking inputs of the stakeholders on the issues raised in the paper. The last date for submission of written comments and counter-comments was 3<sup>rd</sup> June 2020 and 17<sup>th</sup> June 2020, respectively. Comments were received from nine stakeholders, which are available on TRAI's website. An open house

discussion was conducted through video conferencing mode on 9<sup>th</sup> July 2020.

- 1.13 Based on the comments received from the stakeholders and its own analysis, the Authority has finalized these recommendations. This Chapter provides the introduction. Chapter 2 provides the examination of the relevant provision(s) of the existing guidelines on Sharing of Access spectrum by Access Service Providers. Chapter 3 provides the summary of recommendations.



## **CHAPTER 2**

### **EXAMINATION OF THE RELEVANT PROVISIONS OF SPECTRUM-SHARING GUIDELINES**

#### **A. Methodology of applying incremental SUC**

2.1 As per the existing guidelines for Sharing of Access Spectrum by Access Service Providers issued by DoT on 24<sup>th</sup> September 2015, spectrum sharing is permitted only between two Telecom Service Providers (TSPs) with Access service authorisation in a Licensed Service Area (LSA), utilizing the spectrum in the same band. The relevant clauses regarding SUC are reproduced below:

*“(12). For the purpose of charging Spectrum Usage Charge (SUC), it shall be considered that the licensees are sharing their entire spectrum holding in the particular band in the entire LSA.*

*(13). Spectrum Usage Charge (SUC) rate of each of the licensees post sharing shall increase by 0.5% of the Adjusted Gross Revenue (AGR). The sharing for a part of a month, full one month period shall be counted for the purpose of levying SUC.”*

2.2 TRAI in its recommendations dated 21<sup>st</sup> July 2014 had, inter alia, mentioned that all the access spectrum will be sharable provided that both the licensees are having spectrum in the same band. It was also mentioned that SUC rate of each of the licensee post sharing shall increase by 0.5% of AGR. Further, considering the fact that it is not possible to monitor quantum of spectrum being shared at each site and segregate the AGR site-wise/area-wise, TRAI recommended that for the purpose of charging SUC, it shall be considered that the licensees are sharing entire spectrum holding in the particular band in the entire LSA. It can be inferred that since spectrum sharing benefits the TSPs by pooling of their spectrum holding in a spectrum band in an LSA, benefit

of spectrum sharing would also accrue only in that specific band and not in other spectrum bands; therefore, the incremental SUC of 0.5% also applies to that particular spectrum band, in which sharing is taking place, in the specified LSA.

- 2.3 In this background, the stakeholders were requested to provide their comments to the question that do you agree that as per the existing Spectrum-Sharing Guidelines dated 24<sup>th</sup> September 2015, post sharing of spectrum, increment of 0.5% on SUC rate should apply on the spectrum holding in specific band in which sharing is taking place and not on the entire spectrum holding (all bands) of the TSPs.

#### **Comments received from the stakeholders**

- 2.4 Most of the stakeholders have responded that the increment of 0.5% on SUC rate should apply on the spectrum holding in specific band in which sharing is taking place, and not on the entire spectrum holding (all bands) of the Licensee. Their view has been supported by the argument that simple reading of Clauses (2), (3), and (12) of the Spectrum-Sharing Guidelines dated 24<sup>th</sup> September 2015, makes it absolutely clear that sharing of spectrum is permitted only in the same specific band, and not on the entire range of spectrum bands held by the licensees; hence, the increase of SUC rate of the particular spectrum band which has been allowed to be shared between the two licensees shall only increase by 0.5% of AGR, and not for the other spectrum bands. One of the stakeholders has further mentioned that in case the incremental SUC is applied on overall weighted average (including all spectrum bands), the cost of spectrum sharing far exceeds the benefits of the spectrum sharing making it unviable, and defeats the basic objective of using spectrum more efficiently and improving the quality of service.

- 2.5 One stakeholder submitted that the spectral efficiency will increase non-linearly with spectrum sharing; may be that was the reason for prescribing 0.5% increment on total spectrum (considering all bands); before effecting any change, it is better to know the genesis of the same.

### **Analysis**

- 2.6 As already discussed, Spectrum-sharing arrangement results in an enhanced efficiency resulting into increased capacity. Since the guidelines permit intra-band spectrum sharing only, capacity would be enhanced only in the spectrum bands being shared. Increment in SUC by 0.5% of the overall weighted average SUC would be justified only in a situation wherein a TSP is sharing spectrum in all the spectrum bands held by it. Therefore, the Authority is of the view that as per the existing spectrum sharing guidelines, which were based on the Recommendations of the Authority, the incremental SUC should apply to the spectrum band which is being shared and not on the overall weighted average SUC, which includes all the spectrum bands held by the TSP.
- 2.7 The Authority concurs with the views of the stakeholders that in case incremental SUC is made applicable on overall weighted average, the cost of spectrum sharing could surpass the benefits achieved by the TSPs. Moreover, there is no rationale in incrementing overall weighted average SUC, post sharing of spectrum in specific band(s).
- 2.8 In view of the above, **the Authority clarifies that as per the existing spectrum-sharing guidelines, an increment of 0.5% on SUC rate should apply on the spectrum holding in specific band in which sharing is taking place, and not on the entire spectrum holding (all bands) of the Licensee.**

## **B. Review of incremental SUC, post sharing of spectrum**

- 2.9 The premise on which TRAI had recommended increase in SUC rate by 0.5% was that the pooling of spectrum would increase the spectrum utilisation, and additional capacity would generate more revenue. However, examination of the revenue trend shows that in the recent years the Adjusted Gross Revenue (AGR) has declined.
- 2.10 Further, the information provided by DoT on spectrum sharing arrangements does not indicate encouraging participation of TSPs in spectrum sharing.
- 2.11 For success of 5G, infrastructure sharing is one of the key requirements, and spectrum sharing is not an exception. Therefore, to promote spectrum sharing, there is a need to examine whether increment in SUC rate is a deterrent for TSPs in entering into spectrum-sharing arrangements.
- 2.12 In this background, the stakeholders were asked to furnish their comments on (i) whether increment in SUC rate is a deterrent for TSPs in entering into spectrum-sharing arrangements, and (ii) whether in order to facilitate the spectrum sharing, there should not be any increment in SUC rate post sharing of spectrum.

### **Comments received from the stakeholders**

- 2.13 Most of the stakeholders submitted that the increment of 0.5% of SUC rate on shared spectrum is a strong deterrent for TSPs to enter into spectrum sharing arrangements, and strongly goes against the efficient utilization of the spectrum; therefore, should be done away with. One of these stakeholders also submitted that spectrum is acquired through auction process, and SUC is to meet the administrative cost of spectrum management. Spectrum sharing has no regulatory impact it only aims to

gain efficiency, further, to satisfy the spectrum-sharing aims, the Government should have a regulatory framework that allows for voluntary, need-based, and barrier-free sharing amongst mobile operators.

- 2.14 One stakeholder was of the view that any change may be done after the study to quantify spectral efficiency, network effects, and other related benefits accruing from spectrum sharing.

### **Analysis**

- 2.15 The Authority has considered the views of the stakeholders. However, as this issue has not been referred by DoT, the Authority feels that no recommendation is warranted on this issue at this stage.

### **C. Other suggestions of the stakeholders**

- 2.16 The stakeholders were also asked to suggest any other measures, which may be taken to facilitate spectrum sharing in India. The suggestions, relevant to the subject, made by the stakeholders and their analysis are given below.

#### **(i) Permitting inter-band spectrum sharing, leasing of spectrum, etc.**

- 2.17 Many stakeholders requested that the limitation of spectrum sharing only in a particular band may be done away with, i.e., TSPs may be allowed inter-band spectrum sharing. Their request was supported by the reason that earlier specific cellular technologies worked in specific bands, but now all the bands are used for LTE.
- 2.18 Few stakeholders requested that the restriction on spectrum sharing between two service providers may be relaxed. One stakeholder requested that spectrum leasing may also be permitted.

## **Analysis**

- 2.19 The Authority considered the requests, and it was observed that the requests such as permitting inter-band spectrum sharing, relaxing the restriction on sharing only between two operators, and spectrum leasing could involve larger issues, and the modalities also need to be worked out, which needs to be well-examined and consulted with the stakeholders. Since these issues were not part of the consultation paper, the Authority decided that they will be examined separately.

### **(ii) Inclusion of shared spectrum for computing spectrum cap**

- 2.20 One stakeholder requested that shared spectrum should not be counted for calculation of spectrum cap, as the spectrum sharing is required on an immediate basis when additional spectrum through auction is not available. However, when licensees participate in actual auctions, then shared spectrum may act as a barrier as 50% of the shared spectrum is considered towards spectrum cap.

## **Analysis**

- 2.21 As regards spectrum cap, the existing spectrum-sharing guidelines provides as under:

*“(14) The prescribed limited for spectrum cap shall be applicable for both the licensees individually. Further, the spectrum holding of any licensee post-sharing shall be counted after adding 50% of the spectrum held by the other licensee in the band being shared being added as additional spectrum to the original spectrum held by the licensee in the band.”*

2.22 The purpose of spectrum cap is to avoid market dominance. By having a spectrum sharing arrangement, the TSP's spectrum utilization increases. Further, if TSP1 and TSP2 enter into spectrum sharing arrangement, it is not possible to assess the actual utilization of spectrum by the TSPs, individually. Possibility of one of the TSPs utilizing more than 50% of the total pooled spectrum cannot be ruled out. Therefore, to avoid the possibility of market dominance through spectrum sharing, the existing provision seems to be justified.

**(iii) Requirement of prior approval**

2.23 Few stakeholders requested that the TSPs should be allowed to share on need and commercial basis, and there should not be any requirement of prior Government approval.

**Analysis**

2.24 Presently, there is a requirement of prior intimation for sharing of spectrum at least 45 days before the proposed effective date. During this period or even in the future, if it is found that either of the licensee was not in conformance with the T&C of the guidelines, DoT may take appropriate action including annulment of sharing arrangement. The stakeholders did not elaborate on the issues with this provision. The Authority feels that there is no need for any change.

**(iv) Limitation on period of spectrum-sharing agreement**

2.25 There may not be a limit on minimum or maximum time of the sharing agreement validity. This should be agreed amongst Operators and filed

as per the contract. Such change gives flexibility and encourages innovation.

## **Analysis**

2.26 The relevant provision in the existing spectrum-sharing guidelines provides as under:

*“(15) Spectrum sharing shall be available for up to the balance period of the license or up to the period of the right of use spectrum, whichever is earlier.”*

2.27 The above provision mentioned about the maximum period of validity of the spectrum-sharing arrangement. However, in case two TSPs mutually decide to exit the spectrum-sharing arrangement, there is no specific mention about such a situation. There could be a situation that TSP1 having a spectrum-sharing arrangement with TSP2, may wish to stop sharing the arrangement with TSP2 and/or have spectrum-sharing arrangement with TSP3. The existing guidelines does not provide for exit clause. Therefore, the Authority is of the view that a suitable exit clause may be inserted in the spectrum-sharing guidelines in order to provide flexibility to the TSPs to manage their spectrum on need and commercial basis.

2.28 In view of the above, **the Authority recommends that suitable exit clause for intimation of termination of an existing spectrum-sharing arrangement by the TSPs should be included in the spectrum sharing guidelines.**



## **CHAPTER 3 SUMMARY OF RECOMMENDATIONS**

**3.1 The Authority clarifies that as per the existing spectrum-sharing guidelines, an increment of 0.5% on SUC rate should apply on the spectrum holding in specific band in which sharing is taking place, and not on the entire spectrum holding (all bands) of the Licensee.**

**[Para 2.8]**

**3.2 The Authority recommends that suitable exit clause for intimation of termination of an existing spectrum-sharing arrangement by the TSPs should be included in the spectrum sharing guidelines.**

**[Para 2.28]**

**DoT letter dated 15<sup>th</sup> January 2020**

Government of India  
Ministry of Communications  
Department of Telecommunications  
Wireless Planning & Finance Wing  
20, Ashoka Road, New Delhi - 110001

No. 1000\01\2020-WR Dated: 15.01.2020

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

**Subject: Methodology of applying Spectrum Usage Charges (SUC) under the weighted average method of SUC assessment, in cases of Spectrum Sharing**

Sir,

Clause 13 of the Department's "Guidelines for Sharing of Access Spectrum by Access Service Providers" dated 24.09.2015 provides that: *"...considering the fact that spectrum sharing results in additional quantity of spectrum with both the licensees to serve higher number of consumers, the SUC rate of each of the licensees post sharing shall increase by 0.5% of AGR."* Accordingly, there is an incremental SUC rate of 0.5% applicable in cases of spectrum sharing.

2. In this regard representations have been received that the incremental SUC rate of 0.5% should be applied only to the particular spectrum band which has been allowed to be shared between two licensees, and not on the entire spectrum held by the licensees, since sharing is permitted in a particular band (Enclosed).

3. In view of above, TRAI is requested to provide:

(i) Recommendations, under section 11(1) of the TRAI Act 1997, as amended by TRAI Amendment Act, 2000, on whether the incremental 0.5% in SUC rate in cases of sharing of spectrum should be applied only on the specific band in which sharing is taking place; or to the overall Weighted Average Rate of SUC, which has been derived from all bands.

(ii) Any other recommendations deemed fit for the purpose.

Encl: As above



*Rajeev Prakash*  
Rajeev Prakash  
DDG(WPF)



179

RIL/DoT/2017-18/167  
1<sup>st</sup> May, 2017

भारत सरकार  
Dept. of Telecom  
अभिज्ञान प्रयोग  
Central Ministry  
18 MAY 2017  
पत्र प्राप्त किया  
RECEIVED LETTER

To  
Sh. Srikanta Panda,  
DDG (WPE),  
DoT, Room No. 795, Sanchar Bhawan,  
20, Ashoka Road, New Delhi

Subject: Spectrum Usage Charges for Shared Spectrum.

Ref: RIL letter No. RIL/DoT/2016-17/87B dated 18.10.2016

Dear Sir,

Kindly refer to Reliance Jio Infocomm Ltd.'s (RIL) letters dated 18.10.2016 (copy enclosed) wherein it was informed that some CCAs are incorrectly laying incremental 0.5% SUC rate on the entire spectrum holding of the licensee and not on the particular band for which spectrum sharing has been allowed and had requested to issue a clarification in this regard. While we are still awaiting the clarification, Office of CCA, MP service area has again calculated applicable SUC rate by applying 0.5% post sharing of spectrum on the RIL's entire spectrum holding.

2. In the above context, it is submitted that incremental 0.5% SUC rate is applicable only on the particular band for which sharing has been permitted and not on the other spectrum holding. In this regard please consider the following submissions.

- (i) DoT vide para (2) of the Spectrum Sharing guidelines dated 24.09.2015, has allowed sharing of spectrum between two Service Providers within the spectrum in the same band. Further in para (3) of these guidelines it has been specified that spectrum sharing is not permitted when both the licensees are having spectrum in different bands.
- (ii) As per para (12) of the Spectrum Sharing guidelines dated 24.09.2015, for the purpose of Spectrum Usage Charges (SUC) it shall be considered that licensees are sharing their entire spectrum holding in a particular band in the entire Licensed Service Area and SUC rate shall be increased to 0.5% of AGR.
- (iii) The combined reading of clause (2), (3) and (12) makes it absolutely clear that sharing of spectrum is permitted only in the same band.

3. Therefore, increase of SUC rate of the particular spectrum band which has been allowed to be shared between two licensees shall only increase by 0.5% of AGR and not the other spectrum bands held by the licensees.


Reliance Jio Infocomm Limited: CIN U72200DL2011PTC0234712  
Correspondence Address: D-7, Showroom Building, 6, Jyoti Nagar Road, New Delhi - 110021, India. Tel: 011-23240497  
Registered Office: 6<sup>th</sup> Floor, Maker Chamber IV, 222, Narayan Pura, Mumbai - 400027, India. Tel: 022-26120000  
2016.05.02B



4. In view of the above we again request that a suitable clarification may kindly be issued urgently to all CCAs instructing that the SUC rate for each of the licenses post sharing of spectrum shall increase by 0.5% of AGR for the particular band for which spectrum sharing has been allowed and not on the weighted average SUC rate for the entire spectrum holding of the licensee.

Thanking You,

For Reliance Do Infocomm Limited

  
(Kapil Singh Gillani)  
Authorized Signatory



Enclosure: As above

Copy to: Member (Finance) DOT, Sanchar Bhawan, 20, Ashoka Road, New Delhi



No. A11/DoT/2016-17/676  
18<sup>th</sup> October, 2016

To  
Sh. Sekanta Panda,  
DOE (WPP),  
Department of Telecommunications,  
Room No. 705, Sanchar Bhawan,  
20, Ashoka Road,  
New Delhi - 110001

Subject: Spectrum Usage Charge for Shared Spectrum

Ref: CCA/MPT/LF/Reference No/SUC/2016-17/2835 dated 9/17/06/2016  
CCA/MPT/LF/Reference No/SUC/2016-17/3145 dated 21/09/2016  
CCA/GIS/PSUC/In. 2016.14/D dated 10/09/2016

Dear Sir,

1. This is with respect to the letters dated 1.9.2016, 17.09.2016, and 21.09.2016 (copies enclosed) received from the Offices of R. Controller of Communications Accounts, MP and Gujarat service areas regarding applicable SUC rate post sharing of spectrum.

2. In the above said letters, it is erroneously stated that SUC rate post sharing of 200 MHz spectrum between Reliance Jio Infocomm Ltd (JIL) with Reliance Communications Ltd (RCOM) shall increase by 0.5% of AGR on the entire spectrum and not on the particular spectrum band for which sharing is done.

3. The relevant provisions for determination of SUC for shared spectrum is contained in NIA bearing ref No.: 1000/16/2014-W.F./Auction dated 0th January 2015 - Paragraph 3.7 ("2015 NIA") read with F-11034/M/2008-PP dated Feb 25th 2010 & F-14010/01/2014-NYA dated 31st October, 2014, and read with Spectrum Sharing Guidelines bearing ref No. L-14006/04/2015-NYA dated 24th September 2015 - Paragraph (15) ("Sharing Guidelines"). A collective reading of the aforesaid provisions is explained below:

- a. Paragraph (2) of the Sharing Guidelines states that sharing is permitted between two service providers utilizing spectrum in the "same band".
- b. Paragraph (13) of the Sharing Guidelines states that the SUC post-sharing shall increase by 0.5% of the AGR.
- c. Inasmuch as the entire Sharing Guidelines are relevant only for the shared spectrum i.e. within the same band, the said increase will apply only for the

Reliance Jio Infocomm Limited: CIN L22209AN2011PLC224712  
Correspondence Address: B-7, Convent Road Building, 6, Jantar Mantar Road, New Delhi - 110001, India. Tel: 011-43022000 Fax: 011-43022048  
Registered Office: F-102, Sector Cyberpark N, 22, Cyber Park, Gurugram - 122002, India. Tel: 012-27020000  
www.jio.com




800 MHz spectrum band held in the shared service mode, where sharing is done.

4. Therefore, SUC rate of the particular band which has been allowed to be shared between two licensees shall only increase by 0.5% of AGR and not the entire spectrum held by licensee.

5. In view of the above it is requested that suitable clarification may kindly be issued to the offices of CCAs instructing that the SUC rate for each of the licensee post sharing of spectrum shall increase by 0.5% of AGR for the particular band for which spectrum sharing has been allowed and not on the weighted average SUC rate for the entire spectrum holding of the licensee.

Thanking You,

For Reliance Jio Infocomm Limited

  
(Popo Singh Guleri)  
Authorized Signatory



Enclosure: As above.

Copy to: Sh. V.V. Singh, Wireless Advisor, Department of Telecommunications, Sector  
Etwan, 20, Archa Road, New Delhi 110001.



**DoT email dated 18th March 2020**

**From:** "Jitin Bansal" <[jitin.bansal@gov.in](mailto:jitin.bansal@gov.in)>  
**To:** "S T Abbas Advisor TRAI" <[advmn@tra.gov.in](mailto:advmn@tra.gov.in)>  
**Cc:** "RAJEEV PRAKASH" <[rajeev.prakash@nic.in](mailto:rajeev.prakash@nic.in)>  
**Sent:** Tuesday, March 17, 2020 6:04:05 PM  
**Subject:** DoT reference on Methodology of applying SUC under Weighted Average rate in cases of Spectrum Sharing

Sir,

Please refer to your letter dated 103-1/2020-NSL-II and our telephonic conversations on the DoT's reference on Methodology of applying Spectrum Usage Charges (SUC) under the weighted average method of SUC assessment, in cases of Spectrum Sharing. Accordingly, the required information is attached along with this mail:

1. The information on the spectrum sharing arrangements & quantum of spectrum shared,
2. The DoT order for calculation of Weighted average SUC rate, and
3. A sample calculation sheet on the weighted average rate applied post sharing.

Thanks & Regards  
Jitin Bansal  
Director (Wireless Revenue)  
Wireless Planning & Finance Wing  
Dept. of Telecom, Ministry of Communications  
Government of India  
Room-1116, Cabin-10, Sanchar Bhawan,  
20 Ashoka Road, New Delhi - 110001

Government of India  
Ministry of Communications  
Department of Telecommunications  
Wireless Planning & Coordination Wing  
6<sup>th</sup> floor, Sanchar Bhawan,  
20, Ashoka Road, New Delhi-110001.

No.: L-14006/01/2017-NTG

Date: 23.07.2018

To,

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

**Subject: TRAI recommendations on the Reserve Price for auction of right to use spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300-3400 MHz and 3400-3600 MHz bands.**

Sir,

I am directed to refer to your letter No. 103-1/2017-NSL-II dated 21.05.2018, and No. 15.01/2017-F&EA dated 04.07.2018, on the above-mentioned subject and to say that the following information, as sought by you, is enclosed herewith:

- i. Details of quantum of spectrum traded/shared by the TSPs LSA-wise, and, the amount received on account of spectrum trading/spectrum sharing, LSA-wise operator-wise by DoT and rates at which trading or sharing has taken place (Annexure-I & II).
  - ii. Latest data on availability of spectrum (band-wise, LSA-wise) available for forthcoming spectrum auction (Annexure-III).
2. It may further be informed that the exercise of harmonization of spectrum in 900 MHz band is going on in this Ministry. Additional spectrum in the range of 0.8 MHz to 4.6 MHz in 900 MHz band is likely to be made available for auction in certain LSAs after vacation of Defense operations from this band.
3. It may also be noted that Reliance Communications Limited has defaulted in payment of installments in the months of March and April-2018, due towards deferred payments in respect of spectrum auctions held in 2013 and 2015. Consequently, a Show Cause Notice was issued to the licensee for termination of spectrum assignments. Currently, the matter is under consideration in the department.



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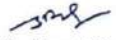


4. It may further be noted that the bankruptcy petition of Aircel group is under consideration in National Company Law Tribunal (NCLT). Spectrum holding of Aircel group is likely to be changed after the matter is finalized.

5. In consequence to the events mentioned in para 2, 3 and 4 above, additional spectrum available for auction will be communicated by the department subject to the outcome of these events.

This issues with the approval of the competent authority.

Encl: As above.

  
(Sukhpal Singh)

Joint Wireless Adviser to the Govt. of India

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Details of Trading of Access Spectrum

Sl. No.	Seller	Buyer	LSA	Quantum of spectrum traded (FDD)	Rate	Amount
				(in MHz)		(in Crores of Rupees)
<b>800 MHz band</b>						
1	Reliance Communications Limited	Reliance Jio Infocomm Limited	Andhra Pradesh	7.5	1% of the Transaction amount of the trade or 1% of the market-determined price, whichever is higher, as per trading guidelines	6.88
2			Delhi	7.5		9.62
3			Gujarat	7.5		0.84
4			Karnataka	7.5		2.86
5			Kerala	7.5		2.30
6			Kolkata	10.0		2.23
7			Maharashtra	7.5		9.08
8			Punjab	7.5		0.97
9			Rajasthan	5.0		1.29
10			Tamilnadu	7.5		3.53
11			Uttar Pradesh (East)	2.5		0.51
12			Uttar Pradesh (West)	10.0		1.44
13			West Bengal	7.5		0.65
Sl. No.	Seller	Buyer	LSA	Quantum of spectrum traded (FDD)	Rate	Amount
				(in MHz)		(in Crores of Rupees)
<b>1800 MHz band</b>						
1	Videocon Telecommunications Limited	Bharti Airtel Limited	Bihar	10.0	1% of the Transaction amount of the trade or 1% of the market-determined price, whichever is higher, as per trading guidelines	4.48
2			Gujarat	10.0		17.29
3			Haryana	10.0		3.40
4			Madhya Pradesh	10.0		6.04
5			Uttar Pradesh (East)	10.0		8.34
6			Uttar Pradesh (West)	10.0		6.98

Sl. No.	Seller	Buyer	LSA	Quantum of spectrum traded (TDD)	Rate	Amount
				(in MHz)		(in Crores of Rupees)
2300 MHz band						
1	Aircel Limited / Dishnet Wireless Limited	Bharti Airtel Limited / Bharti Hexacom Limited	Andhra Pradesh	20.0	1% of the Transaction amount of the trade or 1% of the market-determined price, whichever is higher, as per trading guidelines	16.28
2			Assam	20.0		0.54
3			Bihar	20.0		1.51
4			Jammu and Kashmir	20.0		0.33
5			North East	20.0		0.33
6			Orissa	20.0		1.01
7			Tamilnadu	20.0		31.46
8			West Bengal	20.0		1.08
9	Tikona Digital Networks Limited	Bharti Hexacom Limited	Rajasthan	20.0		

Details of Sharing of Access Spectrum

Sl. No.	TSPs sharing the spectrum	LSA	Quantum of spectrum shared (FDD)		Amount  (in INR)
			(in MHz)		
			TSP 1	TSP 2	
<b>800 MHz band</b>					
1	Reliance Communications Limited (TSP 1)  and  Reliance Jio Infocomm Limited (TSP 2)	Andhra Pradesh	2.5	7.5	In each LSA, one-time processing fee of Rs. 50,000/- has been paid by each of the TSPs as per sharing guidelines.
2		Assam	10.0	10.0	
3		Bihar	10.0	10.0	
4		Delhi	2.5	7.5	
5		Haryana	10.0	10.0	
6		Himachal Pradesh	10.0	10.0	
7		Karnataka	2.5	7.5	
8		Kerala	2.5	7.5	
9		Kolkata	2.5	10.0	
10		Madhya Pradesh	10.0	10.0	
11		Maharashtra	2.5	7.5	
12		Mumbai	10.0	10.0	
13		North East	10.0	10.0	
14		Orissa	10.0	10.0	
15		Punjab	5.0	7.5	
16		Rajasthan	2.5	5.0	
17		Tamil Nadu	2.5	7.5	
18		Uttar Pradesh (East)	7.5	10.0	
19		Uttar Pradesh (West)	2.5	10.0	
20		West Bengal	2.5	7.5	

Sl. No.	TSPs sharing the spectrum	LSA	Quantum of spectrum shared (FDD)		Amount  (in INR)
			(in MHz)		
			TSP 1	TSP 2	
<b>1800 MHz band</b>					
1	Bharti Airtel Limited (TSP 1)  and  Tata Teleservices Limited / Tata Teleservices (Maharashtra) Limited (TSP 2)	Andhra Pradesh	20.0	10.0	In each LSA, one-time processing fee of Rs. 50,000/- has been paid by each of the TSPs as per sharing guidelines.
2		Maharashtra	10.0	10.0	
3		Mumbai	12.0	10.0	
<b>2100 MHz band</b>					
1	Bharti Airtel Limited (TSP 1)  and  Tata Teleservices Limited / Tata Teleservices (Maharashtra) Limited (TSP 2)	Gujarat	10.0	10.0	In each LSA, one-time processing fee of Rs. 50,000/- has been paid by each of the TSPs as per sharing guidelines.
2		Haryana	10.0	10.0	
3		Karnataka	10.0	10.0	
4		Kerala	10.0	10.0	
5		Madhya Pradesh	10.0	10.0	
6		Maharashtra	10.0	10.0	
7		Uttar Pradesh (West)	10.0	10.0	

## Spectrum available in various Bands

Sl. No.	Service Area	700 MHz	800 MHz	900 MHz	1800 MHz	2100 MHz	2300 MHz	2500 MHz	3300-3400 MHz	3400-3600 MHz
		(Band Plan : FDD)				(Band Plan : TDD)				No Band Plan
1	Andhra Pradesh	35.00	7.50		6.40	20.00	20.00	30.00	100.00	175.00
2	Assam	35.00			3.00	15.00	20.00		100.00	175.00
3	Bihar	35.00	2.50	4.60	0.40	10.00	20.00	10.00	100.00	175.00
4	Delhi	35.00	2.50		15.20	15.00	20.00	20.00	100.00	175.00
5	Gujarat	35.00	1.25	3.00	6.00	15.00	20.00	10.00	100.00	175.00
6	Haryana	35.00	1.25	0.20**	8.80	10.00	40.00		100.00	175.00
7	Himachal Pradesh	35.00	3.75		10.20	20.00	20.00	10.00	100.00	175.00
8	Jammu and Kashmir	35.00			14.00	10.00	40.00	10.00	100.00	175.00
9	Karnataka	35.00	2.50	0.20**	8.60	15.00	20.00	40.00	100.00	175.00
10	Kerala	35.00	2.50		5.80	10.00	20.00		100.00	175.00
11	Kolkata	35.00	2.50		6.20	15.00	20.00	20.00	100.00	175.00
12	Madhya Pradesh	35.00	2.50		4.40	15.00	20.00		100.00	175.00
13	Maharashtra	35.00	7.50		10.20	10.00	20.00	10.00	100.00	175.00
14	Mumbai	35.00	5.00		4.20	15.00	20.00	20.00	100.00	175.00
15	North East	35.00				15.00	20.00		100.00	175.00
16	Orissa	35.00	3.75		1.40	15.00	20.00		100.00	175.00
17	Punjab	35.00	2.50		8.80	10.00	40.00	10.00	100.00	175.00
18	Rajasthan	35.00	2.50		4.40		40.00		100.00	175.00
19	Tamilnadu	35.00	2.50	6.20	2.20	5.00	20.00	40.00	100.00	175.00
20	Uttar Pradesh (East)	35.00	2.50	0.60	4.40	5.00	40.00		100.00	175.00
21	Uttar Pradesh (West)	35.00	2.50	1.20	8.80	15.00	40.00		100.00	175.00
22	West Bengal	35.00	3.75*		0.80	15.00	20.00		100.00	175.00
	<b>Total</b>	<b>770.00</b>	<b>61.25</b>	<b>16.00</b>	<b>134.20</b>	<b>275.00</b>	<b>560.00</b>	<b>230.00</b>	<b>2200.00</b>	<b>3850.00</b>

\* In West Bengal LSA, 3 carriers are available in 800 MHz band. However, 2 carriers are available without guard band and only 1 carrier is available with guard band of 0.3 MHz which was put to auction in the year 2016 and was unsold.

\*\* In each of Haryana and Karnataka LSAs, only 0.2 MHz spectrum is available in 900 MHz band which was not put to auction in the year 2016.

Note: Spectrum availability in 700, 800, 900, 1800, 2100 MHz bands is shown as paired bandwidth i.e. 35.00 MHz availability means 35\*35 MHz including both uplink and downlink spectrum.

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**Government of India**  
**Ministry of Communications & IT**  
**Department of Telecommunications**  
**WPC Wing, 6<sup>th</sup> floor, Sanchar Bhawan, New Delhi**

Dated the 12<sup>th</sup> August, 2016

**ORDER**

**Subject: - Spectrum Usage Charges (SUC) for the Spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands held by the Telecom Service Providers (TSPs).**


In exercise of the powers conferred under section 4 of the Indian Telegraph Act, 1885 (Act No. 13 of 1885) and in supersession of earlier order No. P-14010/01/2014-NTG dated 5.2.2015, the Central Government hereby prescribes the following rates of "Spectrum Usage Charges" for spectrum held by the Telecom Service Providers having License/ Authorisation to provide "Access Services" in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz spectrum bands:

- (i). For spectrum acquired through auction in pursuance to Notice Inviting Application No. 1000/06/2016-WF (Auction) dated 8<sup>th</sup> August 2016 in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands, herein after referred as "Access Spectrum Bands", SUC shall be charged at 3% of the Adjusted Gross Revenue (AGR) excluding the revenue from wire line services.
- (ii). The weighted average of SUC rates across all spectrum assigned to an operator (whether assigned administratively or through auction or through trading) in all Access Spectrum Bands including Broad band Wireless Access spectrum in 2300 MHz/2500 MHz band acquired in 2010 auction shall be applied for charging SUC subject to a minimum of 3% of AGR excluding revenues from wireline services. The weighted average is to be derived by sum of product of spectrum holdings and applicable SUC rate divided by total spectrum holding. The Weighted Average Rate should be determined operatorwise for each service area. The method of calculation of Weighted Average is at Annexure-I.
- (iii). The amount of SUC payable by the operators during 2015-16 at weighted average derived after taking into consideration the spectrum acquired through auction in pursuance of Notice Inviting Application No. 1000/06/2016-WF (Auction) dated 8<sup>th</sup> August 2016 and excluding the spectrum in 2300 MHz/2500 MHz band acquired/allocated prior to 2015-16, be treated as the floor amount of the SUC to be paid by the operators. Further, in case there is a reduction in AGR of the service provider, the floor amount of SUC shall be reduced proportionately. The floor amount of SUC payable shall be calculated as detailed in **Annexure II**.



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- (iv). For the purpose of calculation of spectrum usage charge, there shall be a minimum/presumptive AGR which shall be not less than 5% of the bid amount. The calculation of spectrum usage charges shall be on the basis of minimum/presumptive AGR or the actual AGR whichever is higher.
- (v). The weighted average rate shall be kept to two decimal points by rounding off the second decimal figure to the next higher digit. The rounding off shall be made to next higher digit at two decimal points even if the third decimal point is less than 5.
- (vi). The details of slab rates of SUC as applicable for various spectrum holdings and rates of SUC as applicable for spectrum acquired through auction conducted in various bands in 2010, 2012, 2013, 2014 and 2015 are enclosed as **Annexure III**.
3. This order shall come into force with immediate effect.
4. The above rates of SUC are subject to review by the Government from time to time.
5. This issues with the concurrence of DoT Finance vide Dy/FTS 4026/M(F)/16 dated 10.08.2016.

  
(P S M Tripathi)  
Deputy Wireless Adviser to the Government of India

Copy to:

1. Secretary, TRAI, New Delhi.
2. Chief Vigilance Officer, DoT.
3. DG P&T, Audit, Delhi.
4. DDG (WPF).DoT
5. DDG (AS), DoT.
6. Director Wireless Monitoring Organization, New Delhi.
7. Director Internal Audit, DoT.
8. All Access Service Providers.
9. Director (IT) for uploading on DOT web site.

(डी. एस. एम. त्रिपाठी)  
(P. S. M. TRIPATHI)  
उप संचार सहायक  
Dy. Wireless Advisor  
संचार विभाग, भारत सरकार  
Deptt. of Telecom, Govt. of India  
नई दिल्ली/New Delhi



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Annexure-I

**Method of Calculation of Weighted Average Rate for SUC for each LSA**

(a)	Administratively allotted spectrum in 800 MHz band	A MHz
(b)	Rate of SUC for (a) above (this shall be as prescribed by DOT order dated 25.2.2010)	B%
(c)	Administratively allotted spectrum in 900/1800 MHz band	C MHz
(d)	Rate of SUC for (c) above (this shall be as prescribed by DOT order dated 25.2.2010)	D%
(e)	Spectrum allotted in 2100 MHz in 2010	E MHz
(f)	Rate of SUC for (e) above (this shall be as prescribed in NIA of 2010 for licensees whose license has not expired. For licensees, whose license has expired, the rate of SUC shall be 5% of AGR subject to final outcome of the court case on this issue).	F%
(g)	Spectrum allotted in 2300/2500 MHz in 2010	G MHz
(h)	Rate of SUC for (g) above (this shall be as prescribed in NIA of 2010. This rate is 1% of AGR from 2300/2500 MHz).	H%
(i)	Spectrum allotted in 1800 MHz in 2012	I MHz
(j)	Rate of SUC for (i) above (this shall be as prescribed in NIA of 2012)	J%
(k)	Spectrum allotted in 800 MHz in 2013	K MHz
(l)	Rate of SUC for (k) above (this shall be as prescribed in NIA of 2013)	L%
(m)	Spectrum allotted in 800 MHz/900 MHz/1800 MHz/2100 MHz in 2014/2015	M MHz
(n)	Rate of SUC for (m) above (this shall be as prescribed in NIA of 2014/2015. This is 5% of AGR)	N%
(o)	Spectrum allotted in 700 MHz/800 MHz/900 MHz/1800 MHz/2100 MHz/2300 MHz/2500 MHz in 2016	O MHz
(p)	Rate of SUC for (o) above (this shall be as prescribed in NIA of 2016. This is proposed to be 3% of AGR)	P%

Weighted Average rate of SUC:

$$\frac{[(A \times B)/100 + (C \times D)/100 + (E \times F)/100 + (G \times H)/100 + (I \times J)/100 + (K \times L)/100 + (M \times N)/100 + (O \times P)/100]}{(A+C+E+G+I+K+M+O)}$$



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Note:

For the above calculation of Weighted Average Rate of SUC, spectrum holding shall be calculated as detailed below:

- (a) In Frequency Division Duplex (FDD) bands (i.e. 700 MHz, 800 MHz, 900 MHz, 1800 MHz and 2100 MHz): Allotted Spectrum is equal to sum of quantum of uplink and downlink frequency allotted in the band.
- (b) In Time Division Duplex (TDD) bands (i.e. 2300 MHz and 2500 MHz): Allotted Spectrum is equal to the quantum of frequency allotted in the band.



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Annexure-II

Calculation of Floor Amount of SUC

(a)	AGR (excluding the revenue from wire line services) in 2015-16 (in Rs)	Rs. A
(b)	Weighted Average of rate of SUC for 2016-17 after taking into consideration the spectrum acquired in the coming auction but excluding spectrum held in 2300 MHz/2500 MHz prior to 2016 Auction	B%
(c)	AGR (excluding the revenue from wire line services) in 2016-17 (in Rs.) or subsequent years	Rs. C
(d)	Floor amount of SUC (only in case C is less than A)	$(C/A) \times [(A \times B)/100]$
(e)	Floor amount of SUC in case C is equal to or greater than A	$(A \times B)/100$

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Annexure-III

(1) Rate of SUC for Administratively Allotted Spectrum Holding:

Order No. P-11014/18/2008-PP dated 25.2.2010

Amount of GSM spectrum	Amount of CDMA spectrum	Spectrum charges as a % of AGR
Upto 2 x 4.4 MHz	Upto 2 x 5.0 MHz	3
Upto 2 x 6.2 MHz	Upto 2 x 6.25 MHz	4
Upto 2 x 8.2 MHz	Upto 2 x 7.5 MHz	5
Upto 2 x 10.2 MHz	Upto 2 x 10.0 MHz	6
Upto 2 x 12.2 MHz	Upto 2 x 12.5 MHz	7
Upto 2 x 15.2 MHz	Upto 2 x 15.0 MHz	8

Note: This is subject to outcome of decision of Hon'ble Supreme Court in Civil Appeal No. 9110-9111 of 2010 &ors

(2) Rate of SUC for Spectrum Acquired in 2010 Spectrum Auction:

Notice Inviting Application for Auction of 3G and BWA Spectrum vide No. P-11014/13/2008-PP dated 25.2.2010

Auction type	Current spectrum allocation/ license category			
	UAS/ CMTS with GSM only	UAS with CDMA only	UAS with dual tech (GSM +CDMA)	ISP
3G Auction (frequency in 2.1GHz band)	Revenues from these services to be added to applicable AGR and spectrum charges as per Schedule A to apply	Revenues from these services to be added to applicable AGR and spectrum charges as per Schedule B to apply	Revenues from these services to be added to applicable AGR and spectrum charges as per Schedule A & Schedule B to apply	NA
BWA Auction (frequency in 2.3GHz band)	1% of applicable AGR from BWA services (with such revenue to be reported separately)	1% of applicable AGR from BWA services (with such revenue to be reported separately)	1% of applicable AGR from BWA services (with such revenue to be reported separately)	1% of applicable AGR from BWA services (with such revenue to be reported separately)

*Rudh*

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The following shall be considered while computing the annual spectrum charges:

- Applicable AGR shall be computed in accordance with the provisions of the relevant service licence;
- 3G/ BWA Spectrum to be assigned in the two Auctions shall not be counted for calculating the slab of the total spectrum holding by a licensee for levy of spectrum usage charges;
- The spectrum charge for the 3G Spectrum shall be payable on total AGR of 2G and 3G services taken together;
- Revenues from services using the BWA Spectrum shall not be included in the AGR of the licensee, for the limited purpose of determining spectrum charges on spectrum other than BWA Spectrum;
- Annual spectrum charges shall be applicable from the date of award of right to use allotted spectrum commercially. However, there shall be a moratorium of one year from this date on the payment of spectrum charges for the standalone 3G as well as stand-alone 3G + BWA operators (i.e. winners of 3G/BWA Spectrum who do not hold 2G spectrum). The moratorium of one year shall not be applicable to operators holding 2G + 3G Spectrum;
- Slab rate for standalone 3G operators shall be equal to the lowest slab rate in Schedule A i.e. 3% of AGR;
- For BWA Spectrum, no annual spectrum charge shall be payable in the first year from the date of award of right to use allotted spectrum commercially.

(3) **Rate of SUC for Spectrum Acquired in November 2012 Spectrum Auction:**

Notice Inviting Application for Auction of Spectrum in 1800MHz and 800MHz Bands vide No. 3-16/2012-Fin./ Auction dated 28.9.2012

<b>Schedule A: Charges for GSM operators (Applicable for 1800MHz band)</b>	
<b>Spectrum Slab</b>	<b>% of AGR</b>
Upto 2 x 4.4 MHz	3
Upto 2 x 6.2 MHz	4
Upto 2 x 8.2 MHz	5
Upto 2 x 10.2 MHz	6
Upto 2 x 12.2 MHz	7
Upto 2 x 15.2 MHz	8
<b>Schedule B: Charges for CDMA operators (Applicable for 800MHz band)</b>	
Upto 2 x 5.0 MHz	3
Upto 2 x 6.25 MHz	4
Upto 2 x 7.5 MHz	5
Upto 2 x 10.0 MHz	6
Upto 2 x 12.5 MHz	7
Upto 2 x 15.0 MHz	8



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(4) Rate of SUC for Spectrum Acquired in March 2013 Spectrum Auction:

Notice Inviting Application for Auction of Spectrum in 1800MHz, 900MHz and 800MHz Bands vide No. 1010/4/2012-WF (Auction) dated 30.1.2013

<b>Schedule A: Charges for GSM operators (Applicable for 1800MHz band)</b>	
<b>Spectrum Slab</b>	<b>% of AGR</b>
Upto 2 x 4.4 MHz	3
Upto 2 x 6.2 MHz	4
Upto 2 x 8.2 MHz	5
Upto 2 x 10.2 MHz	6
Upto 2 x 12.2 MHz	7
Upto 2 x 15.2 MHz	8
<b>Schedule B: Charges for CDMA operators (Applicable for 800MHz band)</b>	
Upto 2 x 5.0 MHz	3
Upto 2 x 6.25 MHz	4
Upto 2 x 7.5 MHz	5
Upto 2 x 10.0 MHz	6
Upto 2 x 12.5 MHz	7
Upto 2 x 15.0 MHz	8

The following shall be considered while computing the annual spectrum charges:

- o Applicable (Adjusted Gross Revenue) AGR shall be computed in accordance with the provisions of the relevant service licence; for the purpose of levying spectrum usage charges based on revenue share, revenue from wire line subscribers shall not be taken into account;
- o Annual spectrum charges shall be applicable from the date of award of right to use allotted spectrum.
- o For the purpose of calculation of spectrum usage charge, there shall be a minimum AGR which shall be not less than 5% of the bid amount. The calculation of spectrum usage charges shall be on the basis of minimum AGR or the actual AGR whichever is higher.
- o Spectrum being allocated via this auction will be added for determining the slab for Spectrum Usage Charges.
- o Spectrum in 1800 MHz and 900 MHz will be added for determining the slab for Spectrum Usage Charges.

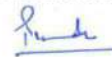


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**(5) Rate of SUC for Spectrum Acquired in February 2014 Spectrum Auction:**

Order No. P-14010/01/2014-NTG dated the 31. 10. 2014

- (1). For spectrum acquired through auction during February, 2014 in the bands 1800 MHz and 900 MHz, SUC shall be charged at 5% of the AGR.
- (2). In cases of combination of existing spectrum in 900 MHz and 1800 MHz bands and spectrum acquired through the auction, the weighted average shall be calculated as equal to (a) sum of spectrum held prior to auction held during February 2014 multiplied by applicable slab rate as per order dated 25.02.2010 and (b) spectrum acquired through auction held during February 2014 multiplied by five and then the sum of (a) and (b) divided by total spectrum holding.
- (3). The licensees, who have not acquired spectrum through auction held during February 2014, shall continue to pay SUC at the applicable slab rate as per the order dated 25.02.2010.
- (4). For the purpose of calculation of spectrum usage charge, there shall be a minimum AGR which shall be not less than 5% of the bid amount. The calculation of spectrum usage charges shall be on the basis of minimum AGR or the actual AGR whichever is higher.
- (5). The weighted average rate shall be kept to two decimal points by rounding off the second decimal figure to the next higher digit. The rounding off shall be made to next higher digit at two decimal points even if the third decimal point is less than 5.
- (6). In respect of BWA spectrum acquired through auction in 2010, the SUC shall continue to be charged, as per present practice (i.e. para 3.5 of the Notice Inviting Applications (NIA) dated 25.02.2010 for Auction of 3G and BWA spectrum), licensees using BWA spectrum need to pay 1% of AGR from services using this spectrum as annual spectrum charge irrespective of the licence held by them. Such revenue would be required to be reported separately and the operator be required to report the use of BWA spectrum and the revenue earned there from separately. The operator will have to put in place a system for independently monitoring and verifying the revenue earned from BWA frequencies to prevent revenue misrepresentation.



**No. P-14010/05/2016**  
**Government of India**  
**Ministry of Communications & IT**  
**Department of Telecommunications**  
**WPC Wing, 6<sup>th</sup> floor, Sanchar Bhawan, New Delhi**

**(6) Rate of SUC for Spectrum Acquired in March 2015 Spectrum Auction:**

Order No. P-14010/01/2014-NTG dated the 5.2.2015

- (1). For spectrum acquired through auction during March 2015 in 800 MHz, 900 MHz, 1800 MHz and 2100 MHz bands, SUC shall be charged at 5% of the AGR.
- (2). In cases of combination of existing spectrum in 800 MHz, 900 MHz, 1800 MHz and 2100 MHz bands and spectrum acquired through the auction, the weighted average shall be calculated as equal to (a) sum of spectrum held prior to auction held during March 2015 multiplied by applicable rate as per orders dated 25.02.2010, 31.10.2014 and SUC rates as per Notice Inviting Application (NIA) dated 25.02.2010 and (b) spectrum acquired through auction held during March 2015 multiplied by five and then the sum of (a) and (b) divided by total spectrum holding.
- (3). The licensees, who have not acquired spectrum through auction held during February 2014/March 2015, shall continue to pay SUC at the applicable slab rate as per the order dated 25.02.2010.
- (4). For the purpose of calculation of spectrum usage charge, there shall be a minimum AGR which shall be not less than 5% of the bid amount. The calculation of spectrum usage charges shall be on the basis of minimum AGR or the actual AGR whichever is higher.
- (5). The weighted average rate shall be kept to two decimal points by rounding off the second decimal figure to the next higher digit. The rounding off shall be made to next higher digit at two decimal points even if the third decimal point is less than 5.
- (6). In respect of BWA spectrum acquired through auction in 2010, the SUC shall continue to be charged, as per present practice (i.e. para 3.5 of the Notice Inviting Applications (NIA) dated 25.02.2010 for Auction of 3G and BWA spectrum), licensees using BWA spectrum need to pay 1% of AGR from services using this spectrum as annual spectrum charge irrespective of the licence held by them. Such revenue would be required to be reported separately and the operator be required to report the use of BWA spectrum and the revenue earned there from separately. The operator will have to put in place a system for independently monitoring and verifying the revenue earned from BWA frequencies to prevent revenue misrepresentation.





Government of India  
Ministry of Communications  
Department of Telecommunications  
**Wireless Planning & Co-ordination Wing**

6<sup>th</sup> Floor, Sanchar Bhawan,  
20, Ashoka Road, New Delhi - 110 001.

No.: L-14004/07/2018-NTG

Date: 29.11.2018

To,

Bharti Airtel Limited,  
Bharti Crescent,  
1, Nelson Mandela Road,  
Vasant Kunj, Phase II,  
New Delhi - 110070.

Tata Teleservices Limited/  
Tata Teleservices (Maharashtra) Limited,  
2-A, old Ishwar Nagar,  
Main Mathura Road,  
New Delhi - 110 065.

**Subject: Sharing of Spectrum in 1800 MHz band in Andhra Pradesh and Maharashtra LSAs.**

**Reference: Guidelines for sharing of Access Spectrum by Access Service Providers dated 24.09.2015.**

Sir,


I am directed to refer to your joint intimation letters, dated 14.08.2018, i.r.o. sharing of spectrum in 1800 MHz band in Andhra Pradesh and Maharashtra LSAs, and to state that these requests for sharing of spectrum have been taken on record w.e.f. **30.09.2018**.

2. The expiry of the period of sharing will be the date of expiry of the service licenses, expiry of right to use the spectrum, or, expiry of the proposed period of sharing, whichever is earlier. The details of the frequency carriers, quantum of spectrum and the expiry of period of sharing are as per **Annexure**.
3. As mentioned in the sharing guidelines dated 24.09.2015, Spectrum Usage Charges (SUC) rate of the each of the licensees post sharing shall increase by 0.5% of Adjusted Gross Revenue (AGR). In case of sharing of spectrum for part of a month, full one month period shall be counted for the purpose of levying SUC. Revised SUC for the above-mentioned two LSAs - Maharashtra and Mumbai - will be effective from the effective date of sharing.
4. The terms and conditions of the sharing will be governed by the Guidelines, dated 24.09.2015 on sharing of Access Spectrum by Access Service Providers.

5. It is also clarified that combining un-liberalized/administratively assigned spectrum along with the shared liberalized spectrum is not permitted and accordingly the licensees shall ensure that the administratively assigned spectrum is not shared.

Encl.: As above.

Yours faithfully

  
24.11.2018  
(Neeraj Juyal)

Assistant Wireless Adviser

Copy to:

1. Director (WM), WMO, Pushpa Bhawan, New Delhi-110062, to ensure that the usage is in line with the approved sharing arrangements.
2. DDG (WPF), Sanchar Bhawan, New Delhi-110001 for information and necessary action please.
3. DDG (AS), Sanchar Bhawan, New Delhi-110001 for information and necessary action please.


**Annexure**

No.: L-14004/07/2018-NTG

Date: 29.11.2018

**Details of the Frequency carriers, Quantum of spectrum and the Expiry of period of Sharing of Access Spectrum between Bharti and Tata**

LSA	Details of Shared Spectrum				Expiry of the period of sharing
	Bharti		Tata		
	Frequency(ies)	Quantum	Frequency(ies)	Quantum	
<b>1800 MHz band</b>					
Andhra Pradesh	1715.9 - 1732.3 / 1810.9 - 1827.3 MHz	16.4 MHz	1732.3 - 1737.3 / 1827.3 - 1832.3 MHz	5.0 MHz	13.03.2023
Maharashtra	1727.5 - 1737.5 / 1822.5 - 1832.5 MHz	10.0 MHz	1737.5 - 1742.5 / 1832.5 - 1737.5 MHz	5.0 MHz	27.09.2021

  
29.11.2018  
(MEERAJ JUYAL)  
Assistant Secretary  
Department of Telecommunications  
Government of India

## Sample calculation of weighted average SUC rate applied post sharing

### Assumptions:

1. TSP 1 & TSP 2 both hold auction acquired/ liberalized spectrum in the 800 MHz band in Delhi LSA.
2. TSP 1 & TSP 2 enter into a spectrum sharing agreement, post-approval by DoT, in the 800 MHz band in Delhi LSA.
3. The present holdings and applicable SUC rates in Delhi LSA for the two TSPs, before spectrum sharing, are as follows:

#### TSP 1

SNo.	Band	Quantum of Spectrum Held (in MHz)	Rate
1	800 (Shared)	4	3 %
2	900	5	4 %
3	1800	6	5 %

Weighted Average SUC Rate (WAR) **before Spectrum Sharing:**

$$\text{WAR} = \frac{4 * 3\% + 5 * 4\% + 6 * 5\%}{(4 + 5 + 6)} = 4.1333 \%$$

#### TSP 2

SNo	Band	Quantum of Spectrum Held (in MHz)	Rate
1	800 (Shared)	5	5 %
2	1800	3	4 %
3	2100	3	3 %

Weighted Average SUC Rate (WAR) **before Spectrum Sharing:**

$$\text{WAR} = \frac{5 * 5\% + 3 * 4\% + 3 * 3\%}{(5 + 3 + 3)} = 4.1818 \%$$

### Calculation of Weighted Average SUC Rate Post Spectrum Sharing:

**Scenario 1 - 0.5% additional SUC rate is applied only on the particular band shared, i.e. 800 MHz**

TSP 1

$$\text{WAR post spectrum sharing} = \frac{4 \cdot 3.5\% + 5 \cdot 4\% + 6 \cdot 5\%}{4 + 5 + 6} = \mathbf{4.2666\%}$$

TSP 2

$$\text{WAR post spectrum sharing} = \frac{5 \cdot 5.5\% + 3 \cdot 4\% + 3 \cdot 3\%}{5 + 3 + 3} = \mathbf{4.4090\%}$$

**Scenario 2 - 0.5% additional SUC rate is applied on the overall weighted average rate (WAR)**

TSP 1

$$\text{WAR post spectrum sharing} = \frac{4 \cdot 3\% + 5 \cdot 4\% + 6 \cdot 5\%}{4 + 5 + 6} + 0.5\% = \mathbf{4.6333\%}$$

TSP 2

$$\text{WAR post spectrum sharing} = \frac{5 \cdot 5\% + 3 \cdot 4\% + 3 \cdot 3\%}{5 + 3 + 3} + 0.5\% = \mathbf{4.6818\%}$$