Auction of Spectrum in 600 MHz, 700 MHz, 800MHz, 900MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300 MHz and 26 GHz Bands

Queries & Responses to Notice Inviting Applications dated 15th June, 2022

Government of India
Ministry of Communications
Department of Telecommunications
30th June, 2022

S.No.	Query	Response
1)	Clause: 2.2: Backhaul Spectrum (Page 13)	No change in NIA.
	 a) As per the Press Information Bureau (PIB) press release dated 15th June 2022, the Cabinet has decided to provisionally allocate upto two carriers of 250 MHz each in the E-Band. It is crucial that both of these spots are contiguous to make effective and efficient usage of these spots for microwave backhaul. DoT is requested to confirm that the contiguous spots will be allocated in the E band irrespective of whether the TSP obtains two E-band carriers right from Day 1 along with the access spectrum or obtain 	Guidelines regarding the same will be issued separately.
	 1st carrier initially and 2nd carrier at a later stage. b) In the same press release, it has been mentioned that the Cabinet has also decided to double the number of carriers in existing Microwave bands in 13/15/18/21 GHz bands. We request DoT to confirm whether NIA will also be amended for the same or separate instructions will be released well before the last date of submission of applications (i.e. 8th July 2022) to understand business viabilities. 	
	c) In clause no. 2.2, the NIA inter-alia states, "Payment of Bid Amount does not ensure assignment of backhaul Spectrum". Since the Cabinet has already announced the assignment of E-Band to the successful bidders, we request DoT that the said clause may be modified in line with the Cabinet decision. DoT to kindly confirm the same.	
2)	Clause 2.2 Backhaul Spectrum	No change in NIA.
	As per press release, Cabinet has approved to double the number of microwave access backhaul carriers and provisionally allot 2 carriers in E band. DOT is requested to issue notification for the same before start of the auction. In addition, clarity on allocation of further microwave access backhaul carriers and carriers in E band be kindly provided.	Guidelines regarding the same will be issued separately.

3) Clause 2.4: Captive Non-Public Network : Clause d (Page 15)

- a) It has been mentioned in the clause (d) Enterprises setting up CNPNs may obtain the spectrum directly from DoT and establish their own isolated network. There are many risks associated with allocation of spectrum directly to enterprises as listed below:
 - 1. Risk to the availability of less spectrum for 5G services
 - 2. Uneven playing field
 - 3. Risk of MSMEs getting locked in proprietary solutions
 - 4. Law Enforcement related issues
 - 5. Isolated Investments in Pockets risk of enterprise digital divide

In view of the above grave risks associated with allocation of spectrum directly to enterprise, DoT is requested to kindly clarify and confirm the below aspects:

- 1. License: It may be clarified and confirmed by DoT, under which service license, enterprises will be allocated spectrum as this will have impact on the level playing field between TSPs and other entities setting-up isolated network.
- 2. Scope of CNPN: It may be clarified and confirmed by DoT that:
 - i. The scope of CNPN will be restricted to machine-to-machine communication inside the CNPN premise and plant automation only.
 - ii. It will be within well-defined premises of the plant and not cross any public road or premises.
 - iii. The CNPN will be isolated and not be permitted to be connected to PSTN/PLMN/Internet/Cloud Platform or another CNPN or equivalent mechanism.
- 3. Allocation of Spectrum: The method for allocation of spectrum (i.e., Administrative or Auctions) directly to enterprises should also be clarified and confirmed by DoT. This will also determine the level playing field between the TSPs and other entities.
- 4. The establishment of CNPN by the end user and not by third parties: It may be confirmed and clarified by DoT that:
 - i. How it will be ensured that the allocation of spectrum is being given only to the end user for the purpose of CNPN and this policy is not resulting in creation of third parties/intermediaries

Please refer CNPN License guidelines dated 27.06.2022.

- installing and operating the network for such CNPN. If this happens then it would result in backdoor entry for third parties to act as TSP without obtaining the spectrum through the same process as of TSPs.
- ii. How DoT will ensure that CNPN owner is owning all equipment installed for the purpose of CNPN and not obtained on lease/rental from the third parties/intermediaries
- 5. Connectivity/ Interconnectivity: It may be clarified and confirmed by DoT that:
 - i. CNPN will not be permitted to be connected to any foreign location/data centre for the purpose of redundancy/disaster recovery/remote management
 - ii. DoT will not give any relaxation to CNPNs at a later date to provide more services or interconnectivity since such a step will amount to breach of NIA conditions as TSPs would have procured spectrum providing similar services through auction as per provisions of relevant NIA.
- 6. Security: It may be clarified and confirmed by DoT that:
 - i. How the security will be maintained in such captive networks as security of telecom networks is ensured in the well-established regime wherein networks of TSPs are also subject to stringent audits.
 - ii. How lawful interception will be carried out in such captive networks.
 - iii. How the compliance of other aspects such as ensuring compliance to EMF norms and subscriber verification norms will be followed by the CNPN entities
 - iv. How other security conditions as per the licensing terms as applicable for TSPs i.e.
 - each and every network elements for CNPN network should comply with the requirements of trusted products/trusted source and any equipment should be installed only after obtaining the approval for NSCS
 - b) storing call/data records for 2 years,
 - c) command logs for 3 years
 - d) keeping records of software updates,
 - e) data localization,
 - f) remote access only from in-country and no remote access outside of India, etc. will be ensured by CNPN entities.
- 7. Interference to other networks: It may be clarified and confirmed by DoT that:

	 i. How the CNPN owner will ensure that it does not cause any interference to any public network or network of licensed TSPs or adjacent CNPN. ii. What steps will be taken by the CNPN in case such interference is observed including shutting down its network till the resolution of the interference issue. 8. Truly private and isolated network: It may be clarified and confirmed by DoT that: i. Enterprises obtaining the spectrum for CNPN will not be permitted to connect their multiple locations. CNPN premise and plant automation only. Further, it should be isolated and not be permitted to be connected to PSTN/PLMN/ Internet/ Cloud platform or another CNPN or equivalent mechanism. 	
4)	Will any guidelines be issued for Section 2.4 sub para-"a" & "b" for TSPs to setup captive non-public networks for enterprises using network slicing through their public networks or isolated captive non-public networks?	Please refer License amendment in UL & UASL dated 27.06.2022.
5)	What is the likely timeframe for issuing "Required licensing terms & conditions and spectrum leasing guidelines for section 2.4 sub para "c" where Enterprises can lease the spectrum from TSPs for establishing their captive non-public networks?	Please refer spectrum leasing guidelines dated 27.06.2022 and CNPN License guidelines dated 27.06.2022.
6)	What is the expected timeframe to undertake "Demand studies" and seek "TRAI recommendations" for Section 2.4 sub-para "d" wherein Enterprises can directly obtain spectrum from DoT for establishing their own captive non-public network?	No change in NIA.
7)	 a. TRAI in its consultation paper has shared several definitions of 'private', 'non-public', 'captive', 'isolated' in the context of CNPNs. We request DoT to issue guidelines which have no ambiguity with respect to these terms. It should be clear that CNPNs should not be connected in any manner to the outside world (PSTN/PLMN/Internet/Cloud etc.) and are meant for use only by machines and not people and further that the machines so connected should belong to a single organization. b. In the NIA there is only a mention of DOT undertaking demand studies and referring request allocation to TRAI, it is unclear whether each spectrum allocation request will be referred to the TRAI or will TRAI 	Please refer CNPN License guidelines dated 27.06.2022 and License amendment in UL & UASL dated 27.06.2022.

- undertake a consultation process upon receiving the first such request from DOT. Will DOT also assess the request from purpose/validity perspective and if so, which purposes/validity are part of the scope?
- c. Will CNPNs be allowed to use the allocated spectrum with any technology?
- d. We request that voice services in any form (CS/PS/VoIP) be not permitted on CNPNs
- e. Will DoT allocate only non-IMT spectrum bands? Or will DoT also allocate IMT bands? If the latter, will DoT allocate only spectrum lying with it, i.e. unsold spectrum (or spectrum not yet put to auction but part of a global IMT band)? If so, what will be the term of allocation (number of years) and how will DoT re-offer such spectrum in future auctions? How will the potential loss of spectrum revenue be made up?
- f. DoT should explicitly confirm that spectrum acquired by a TSP in an auction is for the exclusive use by the TSP in the entire LSA.
- g. What will be the pricing formula for the allocated spectrum so that operators have a level playing field in addressing enterprise opportunities? We assume that DoT will ensure a level playing field on LF & SUC and other regulatory compliances?
- h. How will DoT determine the quantity of spectrum requested to be allocated is a fair and how will DoT regularly assess that the allocated spectrum is being used and not hoarded?
- i. Will there be any restriction on area a captive network can cover? Can captive networks be requested in dense city environments (incl. CBDs), for high traffic events (concerts, sports, Election events) for open areas such as Zoo, public parks, residential societies?
- j. Can DOT please clarify that only direct end users (Enterprises) can apply for spectrum allocation and intermediaries such as system integrators cannot apply for spectrum allocation? What category of end users can be allocated spectrum?
- k. TSP's will ensure QoS as mentioned in para 2.4 a), b) and c) where they are managing both Public and Captive Non-Public networks. In the case of 2.4 d responsibility of ensuring zero interference outside the approved premises shall solely rest with the enterprise concerned and serious consequences should be borne by the enterprises because public good applications will get compromised by such interference with negative consequences for public.

8) <u>Clause 2.4 Captive Non-Public Network</u>

The clause states "Further, it will be the responsibility of the TSP to ensure that the prescribed QoS to their customers through public network is maintained, including interference-free co-existence of the public and private networks."

Please refer CNPN License guidelines dated 27.06.2022 and License amendment in UL & UASL dated 27.06.2022.

We submit that in case CNPN is deployed by Enterprises using spectrum allocated directly to Enterprises or obtained on lease from TSP, then maintenance of QoS and interference free co-existence of the public and private networks would be sole responsibility of Enterprise as TSP cannot be expected to control the spectrum use by Enterprise. Further, as interference would lead to inconvenience to large number of users in a public network, Interference mitigation should be sole responsibility of Enterprise.

Therefore, the said clause may be amended to "Further, it will be the responsibility of the enterprise deploying CNPN to ensure interference-free co-existence of the public and private networks"

9) Clause 2.4 Captive Non-Public Network

Sub-clause (d) states "Enterprises setting up CNPNs may obtain the spectrum directly from DoT and establish their own isolated network. In this regard, DoT will undertake demand studies and thereafter seek TRAI recommendations for direct assignment of spectrum to such enterprises."

It must be appreciated that it is very important for TSPs to have clarity on the scope and all relevant terms and conditions for direct allocation of spectrum by DoT for CNPN to meaningfully participation in the auction. While setting aside spectrum for CNPN is not in public interest and for orderly growth of the sector, if at all it is to be pursued it is critical to ensure that scope is limited to M2M communication inside the CNPN premise and plat automation, only within well-defined premises of the plant.

Therefore, it is requested that the said DOT reference to TRAI incorporating proposed scope along with relevant terms of conditions for direct allocation of spectrum to CNPN and outcome of demand studies undertaken by DOT, be made available to all TSPs before start of the auction.

Please refer CNPN License guidelines dated 27.06.2022.

	Further, such CNPN being non-public isolated network, it should not be permitted to be connected to PSTN/PLMN/ Internet/ Cloud platform or another CNPN or equivalent networks. It is requested to confirm this in the NIA.	
10)	Going forward, in country like India with highest population density and low fiber penetration, more and more IMT spectrum in large quantity will be required for TSPs for expansion and capacity addition. Therefore, it is essential that any spectrum already identified or likely to be identified for IMT services, should not be allocated to CNPN. The same may be clarified by the DOT.	No change in NIA
11)	Clause 2.4 Captive Non-Public Network In the reference to TRAI by DOT, TRAI should be directed to propose an economic pricing of spectrum for CNPN (based upon the opportunity lost to the TSP) instead of pro-rated charges on the basis of population and count of machines which can use CNPN. A confirmation in NIA will be binding on TRAI while calculating and proposing charging for the same. This is important for regulatory certainty to the bidders.	No Change in NIA
12)	In order to maintain sanctity and intent of non-public network, every location of CNPN to have separate license with eligibility criteria like net worth being made applicable specific to that location.	Please refer to CNPN License guidelines dated 27.06.2022.
13)	 Clause 2.5: Spectrum Usage Charges (Page 15) and DoT's guidelines no. L-14010/01/2021-NTG dated 21st June 2022 a) The Calculation for Spectrum Usage Charges should be in proportion to the number of days in a month based on the effective date of frequency assignment for that particular Quarter. b) In clause no. (i) of the order, DoT has stated that for spectrum acquired through auctions held after 15.09.2021 in different access spectrum, no SUC shall be charged. Thereafter, in clause no. (iii), the DoT has inter-alia stated "the calculation of spectrum usage charges shall be on the basis of minimum/presumptive AGR or the actual AGR whichever is higher. 	Please refer to the SUC order dated 21.06.2022.

	Since the SUC coming in the upcoming spectrum auction is zero, this clause is redundant and should be removed.	
14)	Clause 2.6: Duration (Page 16) Since the spectrum roll out can only commence once spectrum is allocated to be used, we request the DoT to kindly confirm that the Effective date for frequency assignment should be from the date of frequency	No change in NIA
15)	assignment letter issued to the successful bidder. NIA currently provides that "No SUC will be charged for spectrum acquired in this auction." DoT has also issued an order on June 21, 2022 on Spectrum Usage Charges for Spectrum in various bands held by TSPs. Based on our understanding of NIA and the above order, an illustrative working for a circle is provided as per Table A3 (Annexure). We request DoT to confirm that the below (Table A3) mentioned understanding is correct or if the following is not correct, then share with us the correct working based on this illustration.	SUC order dated 21.06.2022 is self-explanatory.
16)	Clause 3.2: Associated Eligibility conditions: (Page 18) & Section 4 - Compensation for Damages Sub-clause (1) a) According to us, there seems to be an inadvertent mention of BG/PBG in the above clauses, as we understand that the requirement of BG / PBG is no more applicable. Therefore, DoT may kindly confirm and modify the relevant clauses.	No change in NIA. Refer Licensing Agreement.
17)	 Clause 4.1.4: Earnest Money Deposit (Page 26) a) The EMD will be returned following failure to pre-qualify, or following the end of the auction and after meeting all the necessary obligations under the Auction Rules, as applicable. DoT is requested to clarify and confirm the same. b) DoT is also requested to kindly confirm the time-frame within which EMD will be returned from the date of end of the auction. 	a) No change in NIA b) All efforts shall be made to release BGs within 15 days from the issue of Frequency Assignment Letter.

Clause 4.4 (Page 29) & 12.10 Annexure J: Format for Earnest Money Deposit (Page 139) (I) In Clause 4.1.4, in Para 1, "The Bank 18) Guarantee shall be valid up to a) NIA requires bid to be valid till 31st December, 2022, whereas it has been asked to keep EMD guarantee to 30/06/2023" may be read as "The be valid till 30th June, 2023. We understand that both of these should coterminous till 31st December, 2022. Bank Guarantee shall be valid up to DoT is requested to make the validity of bid and EMD to be co-terminus and modify the relevant clauses 31/12/2022". accordingly. (II) In Section 12.10, Annexure J: (i) in Para 4, "30th June, 2023" may be read as "31st December, 2022"; and (ii) in Para 5, "31st December 2023" may be read as "30th June, 2023". Please refer to the amendment to NIA. A. Quantum of EMD 19) A. No change in NIA a) EMD is primarily required to secure the first payment following the auction conclusion. b) If we look at the earlier spectrum auction EMD used to cover only a part of the upfront payments. Table A1 (Annexure) depicts the ratio of EMD to upfront payment for Mar'21 spectrum auction (I) In Clause 4.1.4, in Para 1, "The Bank c) With the EAI option available, the first payment has reduced from 50% to ~9 Guarantee shall be valid up to 30/06/2023" may be read as "The d) The EMD as proposed in the NIA currently covers more than 100% of the upfront payment for any of the Bank Guarantee shall be valid up to band Table A2 (Annexure). e) Basis above, there is a need to rationale the EMD requirements which should be reduced in the proportion 31/12/2022". of the reduction in the first payment i.e. a reduction of ~80% in EMD. (II) In Section 12.10, Annexure J: (i) in Para 4, "30th June, 2023" may B. Validity of EMD: It is provided in the NIA that the Bank Guarantee for the EMD shall be valid up to 30/06/2023 and extendable for a further period of six months at the request of DoT. In this regards we would like to be read as "31st December, 2022"; highlight the following points

and

	 a) DoT has conducted several auctions and basis the past experience the longer validity was required because the auctions were running for many days, which is no longer the case. The auction in Oct'16 closed in 5 days and auction in Mar'21 closed in 2 days. b) In Mar'21 where a part of the upfront payment was to happen later as spectrum was not immediately available and hence BG was required for longer validity. However, in Oct'16 auction BG was provided in Sep'16 and was returned in Oct'16 (i.e. less 2 months' time). Hence, in our opinion a BG validity up to 31st October 2022 is adequate to cover any situation as all payments have to be made within 10 days of close of auction. 	(ii) in Para 5, "31st December 2023" may be read as "30th June, 2023". Please refer to the amendment to NIA.
20)	5.8 Spectrum Surrender	No change in NIA
	The surrender of spectrum is permitted as guideline issued by DOT on 15.06.2022. However, the said guideline rules out refund of any full or partial pre-payment made. DOT is requested to reconsider this provision, otherwise no TSP will have any incentive to make part/full upfront/pre-payment of bid amount and will make a discriminatory treatment to those who have made such payments.	
21)	 Clause 5.10 Changeover of Frequency Spots (Page 36) a) Radio units in 3.3GHz band typically support 200MHz of operating bandwidth, while the current range of the spectrum in auction is 330MHz and in future this may increase to 400-500MHz. b) Given the limitation of range of bandwidth supported in radio units, if these are changed in future, the radio units would not operate in the revised spots. Any such change will involve substantial CAPEX investments. 	NIA is self-explanatory.
	Therefore, we request DoT to confirm that it will not change spectrum spots acquired by TSPs in 3.3 GHz band in this auction at any given of point of time.	
22)	Payment Terms Clause 6.1 – (Page 37) We request DoT to clarify and confirm that: a) For Option 2: The 10 days period for initial payment will start from the date of demand note issued by DoT and should not be within 10 days of declaration of final price.	a) In clause 6.1.1 of NIA, "10 days from declaration of final price" may be read as "10 calendar

	b) Since the first initial narment is being done within 10 days of issuence of demand from DeT haves the	days of the issuance of Domand Mate
	b) Since the first initial payment is being done within 10 days of issuance of demand from DoT, hence the balance amounts (including interest) should be equally spread out in remaining 19 years. DoT is requested to kindly confirm the same.	days of the issuance of Demand Note by DoT"
	The above is also in line with the current methodology followed in previous auction, wherein no interest	Please refer to the amendment to
	was being loaded on initial upfront payment.	NIA.
	was being loaded on initial dipriont payment.	NIA.
		b) No change in NIA.
23)	6.1 Payment Terms	No change in NIA
	As per the offered options, bidder is required to pay either part upfront payment or first installment within 10	
	days of declaration of final price. The balance amount is required to be paid in equal annual instalments over	
	the remaining period, payable in advance at the beginning of each year, duly protecting the NPV	
	In this respect, it may be confirmed that while considering annual installments, the interest is applied only on	
	the remaining installments, as the part upfront payment / 1st installment is required to be paid upfront, and	
	it also accounts for payment being made in advance at the beginning of each year.	
24)	Clause 8.3 For 3300 MHz & 26 GHz bands (Page 47 & 51)	24 (a) to (b) – NIA is self-explanatory
	a). The relieut obligations for 2.2 CHz and 26 CHz have been specified in terms of the number of sites and	24 (c) For relieut obligations using
	a) The rollout obligations for 3.3 GHz and 26 GHz have been specified in terms of the number of sites and	24 (c) - For rollout obligations using
	towns. In previous spectrum auctions, roll-out obligations were in terms of the percentage of areas to	3300 MHz & 26 GHz spectrum bands,
	be covered in DHQ/BHQ/SDCA (instead of the number of sites). Therefore, we believe that there is now no separate requirement for coverage testing and sample	coverage testing shall not be applicable.
	verification by the TERM Cell. The rollout obligations can now be simply tested for these bands by	аррисавіе.
	verifying the number of sites made on-air through the EMF (i.e. NEP) portal, which is accessible to the	24/d) site means Base Station as
		24(d) - site means Base Station as provided in UL.
	TERM cells as well. DoT is requested to kindly confirm this understanding. b) Since the relieut obligations can now be verified simply through the online portal, we understand that	provided in OL.
	b) Since the rollout obligations can now be verified simply through the online portal, we understand that	24(a) Please refer to the desument
	there is no relevance of TSTP in the case of 5G for the purpose of rollout, as coverage is no longer	24(e) Please refer to the document
	required to be verified. DoT is requested to kindly confirm this understanding.	"Consolidated list of rural SDCAs for

	c) As per the clause 8.6 (iii), the date of registration by the concerned LSA units is to be treated as the date of meeting the roll-out obligation in case of successful verification of the rollout of the network	the purpose of Roll out obligation" as available on DoT website at
	and coverage testing as per TSTP for compliance of rollout obligations.	https://dot.gov.in/access-
	However, this contradicts the rollout obligations defined in section 8.3 (page 47) for the 3.3GHz &	services/consolidated-list-rural-
	26GHz bands, where the obligation is defined in terms of the number of sites & towns/cities to be covered using targeted sites per LSA.	sdcas-purpose-roll-out-obligations
	Therefore, we request DoT to rectify clause 8.6(iii) and align rollout obligation with section 8.3, especially for	
	3.3GHz & 26GHz bands.	
	d) We believe that all types of sites, such as small cells, macro sites, Inbuilding solutions, and Indoor small cells, will be considered to meet the rollout obligations defined for 3.3GHz and 26GHz bands. DoT is requested to kindly confirm this understanding.	
	e) Further, refer Para 8.4, DoT is requested to upload the list of Rural SDCAs on its website before the start of the spectrum auction.	
25)	Clause 8.3 Rollout obligations for 3300 MHz and 26 GHz bands	Refer the response at para 24(d) of this document.
	Clause 8.3.1 and 8.3.2 specifies rollout obligation in terms of cumulative number of sites deployed.	tins document.
	The term 'site' can be interpreted differently by Authorities. Therefore, it may be clarified that in the NIA that	
	the term 'Site' includes BTS/node B/ eNode B/ gNode B/ Small cell / IBS	
26)	Clause 8.3 Rollout obligations for 3300 MHz and 26 GHz bands	Minimum number of towns, as specified in the NIA against each
	Clause 8.3.1 and 8.3.2 specifies rollout obligation in terms of 'number of towns to be covered' under different	phase of rollout obligations, are
	phases.	cumulative numbers.
	In case of 3300 MHz and 26GHz band spectrum, TSPs cannot provide seamless coverage all across the town. It	
	is essential to clarify that 'coverage means commercial launch of services anywhere in the Town' (as been	
	clarified in case of prescribing MRO for Metro LSAs) and also that number of towns referred to is actually	
	cumulative number of towns and that Town can be any census Town / village.	

27)	As per the rollout obligation specified under section 8.3 of NIA for 3300 MHz and 26 GHz spectrum bands, in addition to cumulative number of sites to be deployed under various phases, DOT has also mandated minimum number of towns to be covered using targeted sites (per LSA) which was neither recommended by TRAI vide its recommendation dated 11-04-2022 as well as in its response to DoT back reference dated 09-05-2022 nor mentioned by DoT in its reference back dated 29-11-2022 sent to TRAI. This has never been a part of consultation process. Moreover, the mid band and mm Wave band spectrum are more in the nature of capacity band, likely to be deployed as overlay network even by mobility-based Operators and these bands will generally be used extensively for Enterprise applications and related use cases and not for retail services. Therefore, there is no justification for prescribing any rollout obligation in terms of minimum number of towns to be covered for these bands and rollout of the network should be left to the business case of Service Provider to deploy the spectrum as per the demand of Enterprise specific use cases / applications. In our view, the specified minimum rollout obligation in both these spectrum bands is acting as deterrent to any new Operators, to enter in Indian Wireless Market and prohibits participation in the forthcoming spectrum auction particularly an Enterprise Service Provider, who is not in business of retail services but want to use spectrum for its Enterprise services. It is requested that DoT may kindly review the roll out obligation from perspective of an Enterprise services as well.	No Change in NIA
28)	 a) DoT has already specified number of sites for MRO. Having additional MRO at town level is not required b) If at all DoT specifies town level MRO then it should be explicitly stated that for a town to be covered by 3.5GHz/mm wave bands, the TSP needs to have at least one site in that town using the relevant band. 90% geographic coverage is an onerous requirement for such high frequency bands. We request DOT to clarify that there will be no geographic coverage requirement nor shall there be TSTP to assess town coverage c) TSPs should have the flexibility to roll out sites in rural SDCAs which count towards meeting their obligations under 8.3.3 c as well as under the town count 8.3.1 and 8.3.2. 	,
29)	Clause 8.6 Verification of Rollout of the network & coverage	Refer the response at para 24 (c) of this document.
	As per subclause (ii) and (iii), TSPs may be required to carry out network and coverage testing as per TSTP for	
	compliance of the rollout obligation. However, in case of 3300 MHz and 26GHz band spectrum, the rollout is	

	in terms of deployment of prescribed number of sites. Therefore, there is no need to prescribe TSTP for these bands and TSP can provide self-certification which may be verified by LSA unit on sample basis, even based on EMF portal. Suitable clarification may be provided for the same, in case of 3300 MHz and 26GHz band spectrum.	
30)	w.r.t. MRO it is provided in the NIA that "For delay of more than 52 weeks in any phase, in addition to imposition of maximum amount of LD as mentioned above, the spectrum assigned based on this auction process may be withdrawn. The Bank Guarantee shall be encashed to the extent of LD amount, if the same is not paid within the time period specified in the notice for recovery of LD". Since requirement of Bank Guarantee has been done away with the above clause for encashment of Bank Guarantee for LD amount shall be suitably modified.	Refer the response at S.No.16 of this document.
31)	Clause 9.1.3: Frequency Reconfiguration (Page 55) a) It is possible that an operator who currently holds liberalized spectrum in a band, acquires additional spectrum in the same band in the upcoming auctions. In such cases, it may be ensured that only contiguous spectrum, with the existing spectrum of operator, is assigned to it. This will ensure efficient use of spectrum. Further in case of TDD bands, it is critical to have spectrum harmonization across adjoining LSAs to avoid issue of inter-circle boundary interference. Hence, spectrum spots allocated to the TSPs in 3.3GHz & 26GHz band should be the same spot across circles / LSAs to ensure that there is no inter-operator interference due to TDD nature of deployments in these bands. In view of the above requirements, DoT is requested to confirm that it will allocate the same contiguous spots across all circles / LSAs in 3.3GHz & 26GHz band before the issuance of Frequency Assignment Letter.	NIA is self-explanatory.
32)	Clause 9.4: Browsing software is IE10 and above (Page 56) a) It is worthwhile to mention that "Microsoft have stopped supporting the Internet Explorer web browser from 15th June 2022, indicating the end for Internet Explorers. Users will instead be pointed to Microsoft's newer Edge browser. We hope that the same has been duly considered to avoid any issues during the bidding. DoT is requested to confirm this understanding.	The EAS will work in Internet Explorer and in Edge Browser. The settings for the same have been incorporated in the Bidder's Guide which will be uploaded on the login page of the Spectrum Auction Portal and will be available for download for

		the bidders before the start of the Mock Auction.
33)	Clause 9.4 Conduct of the Auction – (Page 56) a) Request the DoT to kindly confirm that the Bidders would be allowed to obtain at least 2 (Two) Class III Digital Signature Certificate for each of the authorized persons in line with previous NIA's for the purpose of backup and redundancy as was done in the previous spectrum auctions.	At any given time, one-to-one mapping of a login id with a digital signature can exist to ensure non-repudiation. However, only in case(s) of extreme exigencies, to ensure that bidder(s) is able to participate, the authorized person of the bidder can request the Auctioneer to update the DSC to the alternate DSC. Such request has to be given from the email of the authorized person to eas@mstcindia.co.in
34)	9.4 Conduct of Auction As per the provision, the bidders are required to obtain 1 DSC for each of the Authorized Person.	Refer the response at S.No.33 of this document.
	In all the auctions conducted in the past, 2 DSCs were required for each Authorized person. This provides for adequate geography as well as person redundancy, which is more critical in today's Covid situation. Therefore it is requested to restore this provision to allow 2 DSCs for each Authorized Person.	
35)	As per section 9.4 of the NIA, there will be only one DSC to be obtained for each of the Authorised person. As we understand, given the criticality of the spectrum auction, operators are required to create auction participation set-up at at least 2 different locations so that in case of any eventuality at one location, operator can continue the participation from another location. However, given then there are only Two Authorised Persons with only One DSC for each of them, each of the 2 locations will have the ability to log-in with only one	Refer the response at S.No.33 of this document.

	Authorised Person. Hence, we request to map at least 2 DSCs for each of the Authorised person. Similar practice was followed in the all earlier auctions as well and there is no reason to change such practice.	
36)	Clause 9.7 Spectrum Holding Capping Rule: (Page 61) a) As per the spectrum holding cap Table given in the NIA (12.2 – Annexure B, page no. 116 of NIA), we believe that the spectrum reserved for NCRTC and Railways in 700 MHz has been excluded in the upcoming auction for calculating the spectrum caps. However, in the above clause, 700 MHz band has not been mentioned. We request DoT to clarify whether the spectrum reserved for NCRTC and Railways in 700 MHz band is required to be considered for calculating the spectrum caps or not.	NIA is self-explanatory.
37)	a) In the upcoming spectrum auction, the Government is auctioning the spectrum from 3300MHz to 3630MHz. Currently, other government users are using this spectrum across multiple LSAs. For example, NAVIC has six deployments in the service areas of Karnataka, Kerala, Madhya Pradesh, North-East, Rajasthan and West Bengal where 5G cannot co-exist (from 3400MHz to 3430MHz), with upto isolation distance of 140KM. Similarly, some other Government users have deployments (from 3300MHz to 3400MHz) across coastal regions and even deep interiors across South India, which would create interference for 5G deployments. As a result, the clean and usable spectrum available to the private operators is limited. The clean and usable spectrum has further been squeezed by reserving the clean spectrum for BSNL (from 3630MHz to 3670MHz) as well as not assigning the spectrum from 3630MHz to the successful bidders in case less than 300MHz spectrum is sold during the spectrum auction. We believe that such an approach is counterproductive to the objectives of the government for faster rollout of 5G services as well as providing clean and interference free spectrum to the successful bidders. It is thus unfair to reserve the clean spectrum for an operator when the concerned operator would not be able use this spectrum in the near future since they are currently busy with their 4G launch. Similarly, no logic has been provided as to why the spectrum assignment would start from 3600MHz in case 300MHz or less is sold during the spectrum, leaving out 30MHz clean spectrum.	NIA is self-explanatory.

The frequency assignment approach as proposed by DoT in the NIA will lead into a situation where only one TSP is able to get the clean and interference free spectrum (from 3600MHz to 3500MHz) and other TSPs end up acquiring the interference-prone, unclean and unusable spectrum.

In order to ensure the faster rollout of 5G services, it is critical that priority of the Government should be to assign clear and interference free spectrum to the successful bidders and the rules of assignment of spectrum should be structured to meet this objective only. Therefore, we request DoT to kindly consider and confirm the following approach in the upcoming spectrum auction for assignment of spectrum in 3.3GHz band:

- i. In case, the DoT wants to reserve the spectrum for BSNL, then spectrum from 3300MHz to 3340MHz should be reserved for them instead of 3630MHz to 3670MHz, so as to ensure that the clean and usable spectrum is available for immediate roll-out by successful bidders.
- ii. The government can work on the assignment of spectrum starting from 3670MHz towards 3300MHz as per rank of the successful bidders irrespective of whether the spectrum is sold less or more than 300MHz. This will ensure that maximum successful bidders are able to acquire clean, usable and interference free spectrum and launch 5G services across the country at the earliest.

Request the DoT to kindly confirm the above.

b) Similarly, the DoT is proposing to auction the spectrum in mmWave from 24250MHz to 27500MHz. However, the clean part of the spectrum being auctioned is from 24250MHz to 25500MHz and 27000MHz to 27500MHz. The spectrum between 25500MHz to 27000MHz is reportedly being used by satellites for gateway operations at 5 locations in 5 service areas (Delhi, Andhra Pradesh, Gujarat, Tamil Nadu and West Bengal) where no 5G site can be deployed within radius of 2.7 km from these earth stations. On top of it, the DoT has reserved the clean spectrum for BSNL from 24250MHz to 24650MHz. As a result, the clean spectrum available to the private operator is limited.

We believe that such an approach is counterproductive to the objectives of the government for faster rollout of 5G services as well as providing clean and interference free spectrum to the successful bidders. For example, it is unfair to reserve the clean spectrum for BSNL when they would not use this spectrum in the near future since they are currently busy with their 4G launch.

The frequency assignment approach as proposed by DoT in the NIA will lead into a situation where no TSP will be able to large chunk of clean and contiguous spectrum.

In order to ensure the faster rollout of 5G services, it is critical that priority of the Government should be to assign clean, usable and interference free spectrum to the successful bidders and the rules of assignment of spectrum should be structured to meet this objective only. Therefore, we request DoT to kindly consider and confirm the following approach in the upcoming spectrum auction for assignment of spectrum in 26GHz band:

- i. In case, the DoT wants to reserve the spectrum for BSNL, then spectrum from 25500MHz to 25900MHz should be reserved for them instead from 24250 MHz to 24650 MHz, so as to ensure that the clean and usable spectrum is available for immediate roll-out by successful bidders.
- ii. The government can work on the assignment of spectrum starting from 24250Mhz to 25500MHz and 27000MHz to 27500MHz first and then followed by spectrum in 25500MHz to 27000MHz (excluding spectrum reserved for BSNL)

Request the DoT to kindly confirm the above.

38) Clause 9.10: Frequency Identification Stage

As per the provisions, the winners are to be considered rank wise for assignment of spectrum (first ranked bidder to be assigned first). In case of 3300 MHz band, if 300 MHz or less spectrum is sold, first ranked bidder to get allocation starting from 3600 MHz towards 3300 MHz. If it is more than 300 MHz and less than 330 MHz, unsold spectrum will be kept adjacent to 3630 MHz.

It is submitted that the spectrum in 3300 MHz band can be segregated into 3 broad categories i.e. (a) 3.425-3.6 GHz- being the cleanest spectrum and available immediately; (b) 3.3 -3.425 GHz – available immediately but available partially; (c) 3.6-3.67 GHz - clean but network/devices will be available after 2-3 quarter.

In view of the above, it is requested that allocation criteria should be changed and "Rank Based Choice" should be provided to all bidders. This will enable all bidders to decide appropriate band as per their choices and accordingly target the rank and quantum of spectrum desired.

If this is not feasible, then it is submitted that the extant allocation criteria mentioned in the NIA should be continued without any change. Any other criteria, like starting allocation from 3.3 GHz will be detrimental to

No change in NIA

	all stakeholders. As spectrum in 3.3 – 3.425 GHz is available partially, the first ranked bidder cannot be penalized by allocating partial spectrum. While a bidder can target for the first rank, it is neither feasible for any bidder to target second or third rank nor it is desirable. Therefore, the frequency identification criteria should be changed to "Rank Based Choice" and if it is not feasible then current criteria as prescribed in the NIA should be continued without any change.	
39)	12.1 Annexure A: Details of Spectrum put to auction It is to be noted that for existing bands, even for the LSAs and band where spectrum was sold in the auction	No change in NIA
	held in the year 2021, the reserve prices have been reduced significantly in the range of 25% to 35%, even exceeding 50% in some of the LSAs. This has significantly eroded value of the spectrum in short span of one year. Such drastic reduction in prices, for bands that have already been sold in previous auction, creates investors' uncertainty. This can also lead to mutated response in the auction.	
	Therefore, it is submitted that provision should added in the NIA for the price guarantees in subsequent auctions based on auction determined price in current auction and during the life of the spectrum, which is duly protected for the NPV value, for the LSA and Band combination that has been successfully sold in the last auction.	
40)	12.1 Annexure A: Details of Spectrum put to auction	No change in NIA
	The EMD requirement as % of reserve price varies from 8% to 17% across LSA and spectrum bands. It is suggested to bring some uniformity with EMD requirement benchmarked at lower level compared to the reserve price.	
41)	12.2 Annexure B: Details of Spectrum Holding caps	No change in NIA
	Sub 1-GHz cap specified for West Bengal LSA may be reconfirmed	

42)	As per Sr No 6 (a) and (b), applicant is required to provide two values for net worth and paid up capital values, i.e. 'as on date' as well as 'as on last audited statement'. Further as per Note 3 (I) of the clause, the details of Net worth and Paid-Up capital can be given "As on 31-03-2022" in place of "As on Date". In view of the above, if applicant is having these details "as on 31-03-2022" which are also "last audited statement", kindly confirm that only one value (as on date i.e. as on 31-03-2022) can be provided for net worth and paid up capital to avoid duplication of the same information.	No change in NIA
43)	 a) Only a one working day gap between Mock Auction (July 22 and 23 – Friday and Saturday) and Actual Auction (July 26– Tuesday) has been provided. An additional 1-2 working days should be provided to rectify and test any issues faced in auction platform during the mock auction. We have faced the same on multiple auctions in the past. b) Output file in Excel and PDF format shall be provided for round results at the end of each round. Many issues were faced during the last auction. 	a) No change in NIA. b) The details will be available in Bidder's Guide which will be uploaded on the login page of the Spectrum Auction Portal and will be available for download for the bidders before the start of the Mock Auction.
44)	Clause 2.1 - Spectrum to be auctioned As per the clause and details provided in Annexure-F, in some LSAs some of the spectrum is not available in entire LSA. In order to provide certainty on area of exclusion, it is required to share exact area of exclusion before start of auction.	Information will be shared with the qualified bidders before start of the auction.
45)	Table A7 to A10 (Page 112 – 114) In the heading of second column, it has been mentioned "Paired" whereas it should be "unpaired". DoT is requested to kindly modify the table & confirm.	In column 2 of Table A7 to A10 of NIA, "Paired" may be read as "Unpaired".

		Please refer to the amendment to NIA.
46)	Query on 800 MHz Due to change in Band Plan a) TSP(s) who are holding spectrum in 800MHz band have deployed equipment from 869MHz to 874MHz having radios with sharp cut off filters at 888.4 MHz. As the spectrum band of 800MHz band is getting extended upto 889MHz, these radios cannot radiate spectrum from 888.4MHz to 889MHz. If 4G channel of 5MHz is considered from 884MHz to 889MHz, it would need actual radiation from 884.2MHz to 888.8MHz. Radio units with sharp cut-off filter at 888.4MHz, would not be able to radiate usable spectrum from 888.4MHz to 888.8MHz, leading to inefficient use of spectrum. To enable the radios to radiate in this part of the band, it would need change of radio hardware and hence involve capital expenditure for the TSP(s). In view of the above, DoT is requested to kindly acknowledge this limitation during any harmonization / changes of spectrum spots to TSP(s) in this band and ensure that DoT would not change spectrum spots for TSP(s) who have existing deployments from 869MHz – 874MHz in any given LSA, and do not acquire any additional spectrum in 800 band in that LSA.	NIA is self-explanatory
47)	Annexure F – 25500 MHz – 27000 MHz (Page 66) a) The clause no. 6.1.3 of the NIA inter-alia states: "in some LSAs, some of the spectrum is not available in the entire LSA. In such cases, while the bids will be sought for spectrum in the entire LSA, the amount payable at this stage will be restricted to the spectrum available. Such payable amount will be calculated on pro-rata basis considering the proportion of population of those locations/area(s) (as of census of 2011) being excluded" In light of the above, we request DoT to kindly provide/confirm the following well before the last date of submission of applications (i.e. 8th July 2022) 1. To provide the Polygon for exclusion areas at 5 locations and populations in these affected/excluded areas. 2. To share the methodology to calculate the population in the affected/excluded areas since, as per Census 2011, only District-wise Population is available, and to our understanding, there is no data available in the public domain on the 'population within 2.7KM radial area'. 3. To specify the time duration for the non-availability of spectrum in these areas.	1 to 3: Information will be shared with the qualified bidders before start of the auction.4. NIA is self-explanatory.

	 To elaborate as to how the partial spectrum payout would be calculated for these areas (based on the population excluded/affected). A sample illustration may also be provided. 	
48)	Annexure F – Page 1	1 to 3: Information will be shared with the qualified bidders before start of
	a) The clause no. 6.1.3 of the NIA inter-alia states: "in some LSAs, some of the spectrum is not available in the entire LSA. In such cases, while the bids will be sought for spectrum in the entire LSA, the amount payable	the auction.
	at this stage will be restricted to the spectrum available. Such payable amount will be calculated on pro-rata basis considering the proportion of population of those locations/area(s) (as of census of 2011) being excluded	4. NIA is self-explanatory.
	In light of the above, we request DoT to kindly provide/confirm the following well before the last date of submission of applications (i.e. 8th July 2022):	
	 To provide the Polygon for exclusion within 50 km from the international border and population in these excluded/affected areas. 	
	2. To share the methodology to calculate the population in the affected/excluded areas since, as per Census 2011, only District-wise Population is available. As per our understanding, there is no data available in the public domain on the 'population within 50 Kms of International Border'.	
	 To specify the time duration for the non-availability of spectrum in these areas. To elaborate as to how the partial spectrum payout would be calculated for these areas (based on the 	
	population excluded/affected). A sample illustration may also be provided.	
49)	Annexure F – 3400 – 3430 MHz (Page 63)	1 to 3: Information will be shared with
	a) The clause no. 6.1.3 of the NIA inter-alia states: "in some LSAs, some of the spectrum is	the qualified bidders before start o
	not available in the entire LSA. In such cases, while the bids will be sought for spectrum in the entire LSA, the amount payable at this stage will be restricted to the spectrum available. Such	the auction.
	payable amount will be calculated on pro-rata basis considering the proportion of population of those locations/area(s) (as of census of 2011) being excluded	4. NIA is self-explanatory.
	In light of the above, we request DoT to kindly provide/confirm the following well before the last date of submission of applications (i.e. 8th July 2022):	

	 To provide the Polygon for exclusion areas at 6 locations and the population in these affected/excluded areas. 	
	2. To share the methodology to calculate the population in the affected/excluded areas since, as per Census 2011, only District-wise Population is available. As per our understanding, there is no data available in the public domain on the 'six locations mentioned in the clause'.	
	3. To specify the time duration for the non-availability of spectrum in these areas.	
	4. To elaborate as to how the partial spectrum payout would be calculated for these areas (based on the population excluded/affected). A sample illustration may also be provided.	
50)	Annexure F – 3300 – 3400 MHz: (Page 64)	1 to 3: Information will be shared with
	a) The clause no. 6.1.3 of the NIA inter-alia states: "in some LSAs, some of the spectrum is not available in the entire LSA. In such cases, while the bids will be sought for spectrum in the entire LSA, the amount payable at this stage will be restricted to the spectrum available. Such payable amount will be calculated on pro-rata	the qualified bidders before start of the auction.
	basis considering the proportion of population of those locations/area(s) (as of census of 2011) being excluded	4. NIA is self-explanatory.
	In light of the above, we request DoT to kindly provide/confirm the following well before	
	the last date of submission of applications (i.e. 8th July 2022):	
	 To provide the Polygon for exclusion within 50 km from the international border and population in these excluded/affected areas. 	
	 To share the methodology to calculate the population in the affected/excluded areas since, as per Census 2011, only District-wise Population is available. As per our understanding, there is no data available in the public domain on the 'population within 50 Kms of International Border'. To specify the time duration for the non-availability of spectrum in these areas. 	
	 To elaborate as to how the partial spectrum payout would be calculated for these areas (based on the population excluded/affected). A sample illustration may also be provided. 	
51)	a) EMF regulations are yet not defined for 5G. Hence, it will not be possible for TSPs to roll out commercial 5G	EMF norms as per the license
	networks without the EMF regulations. Furthermore, the lead time for getting 5G compatible EMF	conditions and the extant guidelines
	measurement devices is 12-15 weeks. EMF levels should be revised to global ICNIRP levels. Therefore, DoT may kindly confirm that EMF levels would align with ICNIRP levels.	shall be applicable.
		<u> </u>

52)	a) DoT has allowed transmit power of 200 Watts during the 5G trials. The corresponding EIRP, with a 25 dBi antenna gain used during the 5G trials, is 78 dBm. We understand the Transmit power and EIRP requirement as provided in 5G trials will remain the same even for commercial 5G network for existing as well as new bands. Therefore, DoT is requested to kindly confirm the above understanding. We also request DoT to kindly release instructions on this issue well before the last date of submission of applications (i.e. 8th July 2022).	TEC standards where available, else International Standards shall be applicable.
53)	a) DoT is requested to confirm that the Bank Guarantees will be released to the successful bidders within 15 days of the 1st upfront payment made by the successful bidder. This will ensure that TSPs funds are not blocked and they are not paying the high bank charges for a longer period.	All efforts shall be made to release BGs within 15 days from the issue of Frequency Assignment Letter.
54)	Updated Operator wise spectrum holding in various frequencies to be provided by DoT.	Will be published before the start of auction.
55)	In the draft Notice Inviting Applications (NIA) (document No: 1000/5/2021-WF, dated 15th June, 2022), we would like to point out that the following constraint needs to be included: "For the protection of the GMRT observatory (from radio frequency interference from 5G systems) a region of 30 km radius centred at the location given by, will not have any 5G spectrum allocation at any frequency below 1700 MHz". We would like this constraint to be mentioned explicitly in all the NIA documents at the appropriate location in the main text and/or in Annexure F (along with item #12 or separately in that annexure that covers the Maharashtra service area)	Annexure — F will be amended to exclude a region of 30 km radius centered at the location around GMRT observatory for 600 MHz, 700 MHz, 800 MHz, 900 MHz bands. Charging for this excluded spectrum will be as per section 6.1.3 of the NIA. Please refer to the amendment to Annexure F.
56)	In section 7.1.3 of the NIA document, there is mention of the post-auction procedure for new entrants, and also the process of obtaining SACFA clearance. Here, we would like to request that the condition #1 above (S.No. 55 above) be specified to all new entrants also. Further we would like to ensure that the SACFA is made adequately aware about the condition #1 above (S.No.55 above) while clearing applications from TSPs for spectrum use.	Refer the response at S.No.55 of this document.

57)	Section 9 - Pact Duration a) During this auction, the DoT has asked the interested bidders to submit the integrity pact as a part of the application, which is a first-time requirement. The Integrity pact duration extends to 12 months after the last payment. Since the Government has given the option of 20-year payment schedule that the integrity pact duration would extend to over 20 years which is excessive. Moreover, the purpose of seeking the integrity pact is refrain the participants from indulging themselves in the ant-competitive and collusion activities which is only relevant till the closure of the spectrum auction. Moreover, there are other clause related to anti-competitive as well as collusion and other prohibited activities which the participants are required to comply. Therefore, in the past auctions, the Government has given the option of 'deferred payment' without asking the interested bidders to furnish any integrity pact, we request DoT confirm that as was done in the previous spectrum auctions, the requirement of integrity pact should be reconsidered or in alternate the validity of the integrity pact should not extend beyond the first payment of the spectrum acquired by successful bidders.	No change in NIA
58)	Annexure-P Integrity Pact (Page- 157) a) As per the above clauses in the Integrity Pact, unfettered powers have been granted to Independent external monitors. These sweeping powers given to external monitors need to be reviewed. We request DoT to consider the overall requirement of the integrity pact and the role/ activity given to the independent external monitors.	No change in NIA
59)	Footnotes of Annexure-F on page 63-64 indicate that there are zones in which few frequency spots are not available in the 3500MHz and that DoT will provide the details: "(1) In 6 LSAs namely Karnataka, Kerala, Madhya Pradesh, North East, Rajasthan and West Bengal LSAs, spectrum block no. 21 to 23 above are not available for assignment to telecom services at 6 locations (one location in each of these 6 LSAs). Exact details of the polygon area where spectrum block no. 21 to 23 is not available for assignment will be provided to the applicants separately" "(2) In 6 LSAs namely Himachal Pradesh, Gujarat, Jammu & Kashmir, North East, Rajasthan and Uttar Pradesh (West) LSAs, block nos. 24 to 33 above are not available for assignment in 50 km from the international border.	Information will be shared with qualified bidders before start of auction.

Details of the area where spectrum block no. 24 to 33 are not available for assignment will be provided to the applicants separately."

We request DOT to urgently provide clear area identification where in that spectrum block is un-available. The identification can be done via the polygon in Kmz format for the relevant circles – for both types of partial spectrum. We also request DoT to share an estimate of the proportion of the circle population present in the areas with partial spectrum.

Table A1

March 2021	UoM	1800 ™ Hz	2100 ™ Hz	2300 ⊠ Hz	2500 № Hz
Number of circles - spectrum available	Nos	22	19	22	12
Total Reserve price per block	Rs cr	658	14,395	9,600	8,210
Equal Annual Instalment	Rs cr	329	7,198	4,800	4,105
EMD	Rs cr	88	1,803	1,416	1,060
EMD as % to upfront EAI	%	26.6%	25.1%	29.5%	25.8%

Table A2

July 2022	UoM	1800 ™ Hz	2100 ™ Hz	2300 ⊠ Hz	2500 ™ Hz	3300 MHz	26 GHz
Number of circles - spectrum available	Nos	22	19	6	12	22	22
Total Reserve price per block	Rs cr	423	7,430	4,430	4,820	3,170	350
Equal Annual Instalment	Rs cr	38	664	396	431	283	31
EMD	Rs cr	53	839	500	505	357	44
EMD as % to upfront EAI	%	138.7%	126.3%	126.2%	117.2%	125.9%	139.2%

Table A3

Illustrative computation

illustrative con			Scenario 1			Scenario 2		
Auction	Band	Qty MHz	Applicable	Applicable	Qty MHz	Applicable	Applicable	
		(Unpaired)	SUC %	SUC %	(Unpaired)	SUC %	SUC %	
May'10	2100 MHz in sc 1 and							
IVIAY 10	2300 MHz in sc 2	10.0	3.00%		30.0	1.00%		
Feb'14	1800 MHz	10.0	5.00%		10.0	5.00%		
Mar'15	900 MHz	10.0	5.00%		10.0	5.00%		
Oct'16	2500 MHz	10.0	3.00%		10.0	3.00%		
Current Applicable SUC % before Jul 22 auction		40.0	4.00%	4.00%	60.0	2.67%	2.67%	
Illustrative Spe	ctrum Acquisition in J	ul 22 auction (Cumulative i	mpact on SU	C)			
Jul'22	1800 MHz	10.0	0.00%	3.20%	10.0	0.00%	2.29%	
Jul'22	3300 MHz	100.0	0.00%	1.07%	100.0	0.00%	0.95%	
Jul'22	26GHz	500.0	0.00%	0.25%	500.0	0.00%	0.24%	
	able post acquisition Im in the auction	650.0	0.25%	0.25%	670.0	0.24%	0.24%	