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No: BSNLCO-RGLN/29/8/2020-REGLN/   dated 16-10-2020

To,

> Advisor, (Broadband & Policy Analysis)
> Telecom Regulatory Authority of India,
> Mahanagar Door Sanchar Bhawan,
> Jawahar Lal Nehru Marg, (Minto Road),
> New Delhi-110002

> {Kind attention: Shri Sunil Kumar Singhal}

Sub: BSNL Comments on TRAI Consultation paper on "Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed"

Sir,

Kindly refer to the TRAI Consultation paper on "Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed". In this context, comments of BSNL are as below:

Q.1:   Should the existing definition of broadband be reviewed? If yes, then what should be the alternate approach to define broadband? Should the definition of broadband be:

> Common or separate for fixed and mobile broadband?
> Dependent or independent of speed and/or technology?
> Based on download as well as upload threshold speed, or threshold download speed alone is sufficient?
> ased on actual speed delivered, or on capability of the underlying medium and technology to deliver the defined threshold speed,
> as is   being done presently?

b. **Kindly suggest the complete text for revised definition of the broadband along with the threshold download and upload speeds, if required for defining broadband. Kindly provide the reasons and justifications for the same.**

c.

BSNL Comments:

Yes, the definition of broadband should be reviewed to make it relevant to the present capabilities of the network and the requirements of the users. With the rapid development of technology in telecom sector, both fixed wireline and mobile internet networks are capable of delivering high speed internet to end users.

a. There is significant difference in capabilities and QoS that can be delivered through wireline and wireless internet technologies. Moreover, both have unique limitations, hence they should not be compared on uniform benchmarking. Therefore, the definition of broadband for wireline and wireless services, prescribing the minimum speed may be same, however both should be treated differently.

b. As customer can perceive the difference in speed but may not be familiar with various technologies, hence, definition should be speed dependent only. It is fact that with the evolution of new technologies there is significant enhancement in internet speed on fixed wireline as well as mobile networks. It is therefore proposed that the definition should speed dependent and technology independent.

Most of the TSPs have the combination of old and new technologies for provisioning of wireless and wireline services. Hence, a reasonable speed which can be provided through existing mix of 3G/4G technology in mobile networks and various last mile technologies in wireline networks should be taken into account while defining the broadband.

c. With the changing times, we have moved to an environment where users are using the internet for various activities and it now not used for only browsing the websites. The use of various interactive applications, which use both upload and download of data, has increased drastically. As a result, the uploading speed has also gained significant importance. It is therefore proposed that the definition should include download as well as upload threshold speeds.

c. The speed that is delivered to the subscriber is subject to many variables like length of copper wire, distance from antenna, weather condition, mobile position, LoS, loading of the site, time of the day etc. Hence, a constant delivery speed cannot be assured. It is suggested that capability of the underlying medium and technology to deliver the defined threshold speed, as is being done presently, should be used for defining the broadband.

It is proposed that broadband for both wireline and wireless may be defined as *"Broadband is an 'always-on' data connection using any technology that is able to support interactive services including Internet access and support a minimum download speed of 2.0 Mbps and minimum upload speed 1.0 Mbps to an individual subscriber"*

Q.2:   If you believe that the existing definition of broadband should not be reviewed, then also justify your comments.

BSNL Comments:

Not applicable in view of comments given in Q.1.

Q.3: Depending on the speed, is there a need to define different categories of broadband? If yes, then kindly suggest the categories along with the reasons and justifications for the same. If no, then also justify your comments.

BSNL Comments:

The categorisation depending on the speed may be done for fixed wireline broadband whereas there should be no such categorisation for mobile broadband.

It is proposed to categorise wireline broadband based on download speed as below:

1. Basic Broadband   : 2-30 Mbps.
2. High Speed Broadband   : 30-100 Mbps.
3. Ultra-High Speed Broadband   : above 100 Mbps

The categorisation of the broadband service will help the customer in choosing the appropriate plan. Moreover it will help the Government, the TSPs and the Regulator to know the penetration of different categories of the broadband connections in the country. This will facilitate the future planning and roll-out of the networks.

In case of wireless access network, the speed available to the customer is dynamic and it always depend upon the various factors like cell loading, type of mobile device, environment etc.

Q.4: Is there a need to introduce the speed measurement program in the country? If yes, please elaborate the methodology to be implemented for measuring the speed of a customer's broadband connection. Please reply with respect to fixed line and mobile broadband separately.

BSNL Comments:

Yes. The indigenous speed measurement program will facilitate better customer service. Generally, any customer evaluates the basic performance of his broadband connection by its speed and latency.

The speed tester should be hosted by each ISP/TSP in such a way that the speed measurement application measures the speed through its own access network up to IGW and does not require any third-party tools. Speed test tools hosted in ISP premises should be checked regularly by independent bodies nominated by TRAI for avoiding any misleading of information by ISP/TSP to customers.

Moreover, it is emphasised that customer may require an authentic third party tool being provided by TRAI for measuring his speed, TRAI may continue to provide its App "TRAI MySpeed". It will help in standardising the measurement technique and maximise the customer satisfaction.

Q.5: Whether the Indian Telegraph Right of Way (RoW) Rules 2016 have enabled grant of RoW permissions in time at reasonable prices in a non-discriminatory

manner? If not, then please suggest further changes required in the Rules to make them more effective.

BSNL Comments:

Yes, there is an imminent need to revamp the existing RoW rules. In most of the cases, exorbitant charges are being levied in the name of restoration charges. Different local authorities follow different methods for application processing and preparing estimates etc. There should be standard rules to provide uniform standard rates for manual digging/ HDD etc in Urban/ Rural etc.

Since as of telegraph network of BSNL was laid during DoT period and at times when the appropriate authorities ask for RoW permission letters from BSNL for such networks, in general such documents are not available now. There are instances where the authorities remove, damages or threaten to remove such telegraph lines citing non production of such documents. It will be appropriate that already laid telegraph networks (Over Head/Under Ground) should be deemed to have been approved under the Indian Telegraph Right of Way (RoW) Rules 2016 and deemed to be permitted from appropriate authority.

For new installations, LSA wise coordination committees should be set up to grant permissions judiciously without any delays. Central Govt may create a Special Purpose Vehicle (SPV) or some agency like Broadband Development Authority at National Level with statutory powers which should be responsible for constructing ducts in coordination with the land holding agencies such as NHAI, SHW, Railways, Corporations, Municipalities and Panchayats. The revenue from leasing the ducts shall be shared with the land holding agencies. The charges per kilometre for leasing the duct may be regulated by TRAI/ DoT or any independent third-party agency. Also. The SPV may be empowered to lay fibres and lease them to TSPs, ISPs and LCOs.

Q.6:   Is there any alternate way to address the issues relating to RoW? If yes, kindly elucidate.

BSNL Comments:

There should be rules ensuring uniformity/ standardised procedures (SoPs) for application processing, estimating restoration charges etc. across various authorities. The prescribed rules should have provisions that aid laying telegraphic cables such as ducts, pipes for crossing etc. an integral part of design of roads, bridges and other civil structures. In other words, the rules should make RoW for telegraphic cables a part of the design of civil structures.

The RoW rules should address the issues relating to destruction of telegraph lines of the licensee by the any authority or its contractors. DoT LSAs may be given independent statutory powers to resolve the issues impartially. As already discussed in Q.5, the SPV is the need of the hour, adopting a Single Window Mechanism.

Q.7: Whether all the appropriate authorities, as defined under the Rules, have reviewed their own procedures and align them with the Rules? If no, then kindly provide the details of such appropriate authorities.

BSNL Comments:

Though the authorities review the procedures and align them with rules, there seems to be a gap existing always. Based on the experience of TSPs/ISPs related to RoW, it appears, there are glitches/ unresolved disputes in following the procedures/ Rules due to non-standardized policies.

Many of the authorities are ignorant about the RoW rules applicable to TSPs. NHAI, Railways and Forest authorities have adopted online process of RoW. However the adherence to timelines is not being monitored.

Hence as proposed in Q.5 a SPV may be formed to provide the infrastructure for all the needy TSPs/ISPs/LCOs.

Q.8:   Whether the RoW disputes under the Rules are getting resolved objectively and in a time-bound manner? If not, then kindly suggest further changes required in the Rules to make them more effective.

BSNL Comments:

The Indian Telegraph Right of Way Rules 2016, under Chapter IV vide Rule 13 provides for *"Right of appropriate authority to seek removal of underground or over ground telegraph infrastructure"* in a manner as prescribed in these rules. There are situations where removal of built-up telegraph network is not possible, whereas the appropriate authority in the name of emergent and expedient circumstances seek for removal or alteration of such telegraph infrastructure. This need to be reviewed and amended suitably by deleting the word "Removal". Telegraph network is a public utility service. It is an essential service in nature. It is serving a large number of individual customers, Institutional customers like Banks, Educational Institutes, Government Organizations, Police, Hospitals, Commercial Establishments and even Disaster Management Agencies. As such, the appropriate authorities must consider the importance of the national services being handled by telegraph networks while dealing with the requests of RoW from licensee.

In case appropriate authority seek alteration/ removal of existing built-up telegraph network serving to the public under unavoidable circumstances, the alternate RoW (including new alignment) should be provided by appropriate authority at its own cost and sufficient time should be allowed to the telegraph licensee to realign the network for continued service to public.

Under the guise of Indian Telegraph Right of Way Rules 2016, the appropriate authority or its contractor destroys the telegraph lines laid as a public utility/ essential services. The said rules should be amended suitably prohibiting the appropriate authority from destroying the already built-up telegraph network till the services are functional on alternate network or settling of dispute, if any. Such act of damaging the telegraph network by the appropriate authority or its contractors should be treated as crime and made punishable under the law.

The sub-rule (3) of Rule 7 of Indian Telegraph Right of Way Rules 2016 under Obligations of licensee in undertaking work prescribes as:

> *"(3) The licensee shall ensure provision of positional intelligence, through appropriate technology, of all underground telegraph infrastructures to enable the appropriate authority to obtain real time information on its location."*

The positional intelligence should be made applicable only to the newly laid telegraph lines which are laid after the said rules have come into force. As the telegraph lines laid prior to the said rules does not have the positional intelligence facility for assisting in alteration/ removal of these telegraph lines.

The RoW rules should also prescribe procedure for maintenance activities related to the telegraphic cables. This is essential for timely clearance of cable faults and to meet the QoS parameters mandated by TRAI.

Telegraph network should be asked to be shifted only in the case of unavoidable circumstances with proper justification and in such cases compensation from the appropriate authority for shifting/ on destruction of telegraph network should be provisioned.

Q.9: What could be the most appropriate collaborative institutional mechanism between Centre, States, and Local Bodies for common Rights of Way, standardisation of costs and timelines, and removal of barriers to approvals? Justify your comments with reasoning.

BSNL Comments:

Appropriate collaborative mechanism is required for timely RoW permission at reasonable rates in a non-discriminatory manner and to address the disputes between telegraph licensee and appropriate authority over removal/ alter of telegraph lines.

One suggestion for better collaboration between Centre, states and local bodies is to have a country wide GIS based information system for telegraphic cables. A client utility to access this GIS may be provided to all licensees so that they can upload their cable laying plan in to the GIS database. A district level committee comprising representatives of all infra/ utility providers and a representative from licensor should be able to access the plan through the GIS and provide approval. This will also make the details of telegraphic cable networks of all licensees of the entire country available at a single place which will aid in better planning.

Q.10: Should this be a standing coordination-committee at Licensed Service Area (LSA) level to address the common issues relating to RoW permissions? If yes, then what should be the composition and terms of reference of this committee? Justify your comments with reasons.

BSNL Comments:

Yes, a standing co-ordination committee at LSAs should be formed to address the common issues. Such committee may settle disputes at a faster pace and normal police complaints/ civil court cases with contractor of appropriate authority to settle disputes may be avoided, particularly in cases where telegraph lines are destroyed by these contractors.

Even, the coordination committee can be formed at district level with representatives of all infra/ utility providers and a representative from licensor. Permissions for maintenance of cables/ rectification of cable faults should also be under the purview of this committee.

Q.11: Is there a need to develop common ducts along the roads and streets for laying OFC? If yes, then justify your comments.

BSNL Comments:

Yes, the Special Purpose Vehicle (SPV) shall provide a robust mechanism to address the issues being faced w.r.t road cutting/ducting/cabling/Laying Over Head Lines etc., Hence, if SPV is formed, it shall build a common infrastructure like duct/Fibre/Cable which can be utilized by all TSP/ISPs on commercial terms. Also, the regulator/Govt. shall formulate guidelines for appropriate revenue sharing between land holding agencies.

Q.12: How the development of common ducts infrastructure by private sector entities for laying OFC can be encouraged? Justify your comments with reasoning.

BSNL Comments:

The SPV, being a single source for all the ISPs/TSPs should provide a robust mechanism to alleviate the problems faced by each TSPs/ISPs. Hence, if SPV is formed, it shall build a common infrastructure like Duct/Fibre/Cable which can be utilized by all TSP/ISPs on commercial terms. This will save enormous costs and also avoid frequent digging of public roads, causing traffic congestion and inconvenience to the public. It will also enable faster/ roll out of network and facilitate entry of new players into the market. With increased competition the end users will get the best of services at affordable costs.

Q.13: Is there a need to specify particular model for development of common ducts infrastructure or it should be left to the land-owning agencies? Should exclusive rights for the construction of common ducts be considered? Justify your comments with reasoning.

BSNL Comments:

Yes, there is an imminent need to build a model for development of common ducts infrastructure through a third-party agency/ SPV across the country. If such SPV is formed, it should build a common infrastructure like Duct/Fibre/Cable which can be utilized all TSP/ISPs on commercial terms. Also, the TRAI/ DoT should formulate guidelines for appropriate revenue sharing among land holding agencies.

Q.14: How to ensure that while compensating the land-owning agencies optimally for RoW permissions, the duct implementing agency does not take advantage of the exclusivity? Justify your comments with reasoning.

BSNL Comments:

The SPV shall be a Govt Entity (similar to NHAI) and the commercial charges shall be regulated by TRAI or DoT from time to time. Hence it is hoped that there would not be any ambiguities in pricing/ compensations/revenue sharing.

Q.15: What could be the cross-sector infrastructure development and sharing possibilities in India? Justify your comments with examples.

BSNL Comments:

The possibilities are not encouraging from the operational experience till date. The cross-sector infrastructure sharing has to be streamlined further with standardized pricing and policies.

Q.16: Whether voluntary joint trenching or coordinated trenching is feasible in India? If yes, is any policy or regulatory support required for reaping the benefits of voluntary joint trenching and coordinated trenching? Please provide the complete details.

BSNL Comments:

It is felt that the voluntary joint trenching or coordinated trenching has not yielded desired results. Thus SPV seems to be the best option to address all these issues.

Q.17: Is it advisable to lay ducts for OFC networks from coordination, commercial agreement, and maintenance point of view along with any other utility networks being constructed?

BSNL Comments:

It is advisable but only through SPV.

Q.18: What kind of policy or regulatory support is required to facilitate cross-sector infrastructure sharing? If yes, kindly provide the necessary details.

BSNL Comments:

In the SPV model, the SPV shall coordinate with all the land holding agencies viz. Highway authorities/Railways/Defence/Local Civic Bodies etc and get permissions to dig/lay/pull overhead lines and these infra will be shared on commercial basis with all ISPs/TSP across the country. It shall be obligatory on part of all the land holding agencies to provide RoW to the SPV. It shall also formulate standard guidelines (in consultation with TRAI/Govt) about revenue sharing with the respective land holding agencies.

Q.19: In what other ways the existing assets of the broadcasting and power sector could be leveraged to improve connectivity, affordability and sustainability.

BSNL Comments:

Through better coordination, robust interconnect programs, app based common platforms, open source protocol level, end-to-end integration mechanism etc.

Q.20: For efficient market operations, is there a need of e-marketplace supported by GIS platform for sharing, leasing, and trading of Duct space, Dark Fibre, and Mobile Towers? If yes, then who should establish, operate, and maintain the same? Also, provide the details of suitable business model for establishment, operations, and maintenance of the same. If no, then provide the alternate solution for making passive infrastructure market efficient.

BSNL Comments:

Yes, there is a need for an integrated, common e-platform/ GIS based platform to showcase for sharing/leasing/trading the Dark Fibre/Mobile Towers and this can be made possible perhaps by proposed SPV. The constitution of SPV shall encompass all these roles and responsibilities.

Q.21: Even though mobile broadband services are easily available and accessible, what could be the probable reasons that approximately 40% of total mobile subscribers do not access data services? Kindly suggest the policy and regulatory measures, which could facilitate increase in mobile broadband penetration.

BSNL Comments:

The broadband utilization can be measured by general demographic profile of the country w.r.t. affordability and need. Hence, at some point of time, it will reflect the development index of the population it serves though, needless to say, ubiquitous availability of affordable broadband will be a catalyst to the growth of the development activities.

As per TRAI report on Wireless Data Services in India smart phone ownership rates remain low in India. In 2018, 75% of Indian Adults did not own a smartphone. 35% had no phone at all while 40% owned a Feature Phone. There is need to provide user friendly smartphone at reasonable price.

Urban rural divide is significantly visible in India. Majority of user of Internet are below 30 years of age. Now a days, the internet services/ applications used by these population are not limited to entertainment or social network but there are so many utility and productive services/ applications. There is further need to generate the awareness about availability of these utility/ productive services/ applications for all age groups of people so that user base can be increased. Government/ Authority may run awareness campaign for this.

Q.22: Even though fixed broadband services are more reliable and capable of delivering higher speeds, why its subscription rate is so poor in India?

BSNL Comments:

The major issue is the provision of the last mile connectivity and its maintenance. The delay in getting ROW permissions and unstructured growth of urban and even roads/streets and other infrastructure is major hindrance in the growth of wired networks. The outdoor network is prone to faults due to frequent digging by various agencies. There is absolutely no coordination mechanism among these utility agencies. The broadband fault management is a big task for the ISPs/TSPs due to other reasons also, like customer end equipment, uninterrupted power availability, compatibility issues with advanced Wi-Fi devices being used by customers etc.

Q.23: What could be the factors attributable to the slower growth of FTTH subscribers in India? What policy measures should be taken to improve availability and affordability of fixed broadband services? Justify your comments.

BSNL Comments:

Adaptation of the technology itself was very slow in our country. The time & effort taken to lay the fibre is quite high due to the RoW issues and the high costs involved in the construction of underground OFC network. In many metros the civic authorities do not permit to lay Over Head OFC. Also, the subscriber has to spend initially around rupees 4000/- to 5000/- to purchase the wi-fi routers etc., Customers feel that their needs are satisfied by the ADSL/ Broadband access itself. There was no proper model to penetrate fibre into the network in the initial stages and with the maturity of around 5-7 years in India, the business is picking up. The Franchisees/ LCOs/ Distributors are now looking at FTTH as a permanent solution for all their internet access needs. These are the factors for slow growth of FTTH.

Q.24: What is holding back Local Cable Operators (LCOs) from providing broadband services? Please suggest the policy and regulatory measures that could facilitate use of existing HFC networks for delivery of fixed broadband services.

BSNL Comments:

The network laid by LCOs has positive aspect of penetration in last mile, however the quality of the access-core network and network design are not as per desired standard to provide high speed internet.

Q.25: When many developing countries are using FWA technology for provisioning of fixed broadband, why this technology has not become popular in India? Please suggest the policy and regulatory measures that could facilitate the use of FWA technology for delivery of fixed broadband services in India.

BSNL Comments:

FWA has been a success to some extent, however, only in the home user sector. The customer is not interested to invest both in FWA and Mobile broadband. The expectations of enterprise/ business sector are probably high assured bandwidth availability which is not guaranteed in FWA.

Q.26: What could be the probable reasons for slower fixed broadband speeds, which largely depend upon the core networks only? Is it due to the core network design and capacity? Please provide the complete details.

BSNL Comments:

Even though the Core is well dimensioned for high availability and high traffic throughput handling, the access network and the outdoor fault management is a major bottle neck. The dimensioning of the equipment based on the customer expectations, shooting customer growth and trend, the cost of the International Bandwidth per GB, the availability of interface requirements and the compatibility of the equipment procured are all certain design points of consideration for the augmentation of core network design and capacity.

Q.27: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to contention ratio, latency, and bandwidth utilisation in the core network? If yes, please suggest the details. If no, then specify the reasons and other ways to increase the performance of the core networks.

BSNL Comments:

Yes, there is need of policy regulatory intervention by mandating to check Contention Ratio along with other parameters like backbone links/congestion at IGW etc. Commonly applied contention rate is 1:10. All customers are guaranteed the plan rate up to the local exchange or the access equipment to which they are connected. On the shared part of the network a 1:10 contention ratio would mean that a 2 Mbps connection would be shared by 9 others. In reality this is very unlikely to happen and the customer would find that his connection is not getting the speed as expected, it can be due to the contention ratio but also due to many other factors including transport network/IGW congestion. When we say Broadband services is "always on" we have to make necessary measures to build the infrastructure as per that criteria. Though 1:1 is something committed to the leased line customers, the same is not adopted in the broadband segment.

It is proposed that network parameters like contention ratio which directly affect the availability of service to the customer, should be uploaded by the TSPs/ISPs on public platform.

Q.28: Should it be mandated for TSPs and ISPs to declare actual contention ratio, latency, and bandwidth utilisation achieved in their core networks during the previous month to their customers while communicating with them or offering tariff plans? If no, state the   reasons.

BSNL Comments:

No, the customers are interested in the availability of speed and bandwidth to run their applications rather than that of the design of network, contention ratio, latency etc. TSP/ ISPs should ensure that the customers get their application running as per the committed rates. The network related parameters should be reported to TRAI and made available in public domain like websites for information of customers who are willing to know.

Q.29: What could be the probable reasons for slower mobile broadband speeds in India, especially when the underlying technology and equipment being used for mobile networks are similar across the world? Is it due to the RAN design and capacity? Please provide the complete details.

BSNL Comments:

The huge spectrum charges, spectrum scarcity, complex and expensive site acquisition has hindered the growth in area and capacity of the mobile networks. The complex procedures of local bodies, arbitrary charges varying from place to place makes it very difficult and expensive to add sites which is essential to provide capacity and/or coverage.

The throughput of even the existing equipment can be increased by additional spectrum. However the availability and the cost of spectrum becomes the barrier.

Q.30: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to RAN user plane congestion? What should be such checks?

If yes, then suggest the details, including the parameters and their values. If no, then specify the reasons and other ways to increase performance of RANs.

BSNL Comments:

No, there seems to be no need of any regulatory intervention by way of mandating checks related to RAN plane congestion because TRAI is already monitoring the KPIs/QoS of the TSPs network periodically through various reports, audits etc. Further, there is sufficient competition in the market, customer has the option of MNP to move from one TSP to another in case of poor services. With the intense competition, it becomes absolutely necessary on the part of TSPs to strive to provide the best services to stay afloat in the market.

The regulator should focus on ensuring the quality based competition and appropriate information to the customers, so that TSPs themselves strive to provide best possible services.

Q.31: Should it be mandated to TSPs to declare actual congestion, average across the LSA, recorded during the previous month over the air interface (e.g., LTE Uu), in the radio nodes (e.g., eNB) and/or over the backhaul interfaces between RAN and CN (e.g., S1-u), while reaching out to or enrolling a new customer? If so, then suggest some parameters which can objectively determine such congestions. If no, then specify the reasons and other ways to increase performance of the RAN.

BSNL Comments:

No, these minute level details are not necessary from the customer perspective. This will confuse the customers. The customer experience is the ultimate measurement. If he is not getting high speed downloads, he/she will switch over to another TSP. To contain the port outs, TSPs are providing the QoS and meeting the stipulated benchmarks. TRAI is already conducting audits at periodic intervals and the results are published in the public domain.

It is felt that the approach of light touch regulation is the need of the day. There is stiff competition in market for providing the best services at affordable price.

Q.32: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to consumer devices? If yes, then please suggest such checks. If no, then please state the reasons.

BSNL Comments:

Yes. As the demand for data has been increasing and the market has made available the high end and affordable devices for the customer. Hence, from the TSP/ISP's experience, it is felt that controlling the ever increasing User Data Traffic plus flooding of network with DDOS, SPAMs through the customer operated devices should be strongly regulated with legal rules. Also security related specs have to be formulated at the Global level and all the device manufacturers should be mandated to follow such global specs & standards. ISO IEC: 1543 need to be followed for all customer devices. All consumer devices should meet the common minimum criteria. Checks related to SAR value conformance, interference from

repeaters/jammers and specifying the process for handling complaints to these will help.

Q.33: To improve the consumer experience, should minimum standards for consumer devices available in the open market be specified? Will any such policy or regulatory intervention have potential of affecting affordability or accessibility or both for consumers? Please justify your comments.

BSNL Comments:

Yes. The policy or regulatory intervention is required in the larger interest of the nation.

The devices that are available in the market ranges from very high price to very low price with lot of compromise on the features, services and its capabilities. Minimum standards for security as well as operation of customer devices should be defined. There should be certification like TEC.

Yours faithfully,

16.10.2020
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