



To

The Advisor (CA&IT)
Telecom Regulatory Authority of India,
Mahanagar Door Sanchar Bhawan,
Jawahar Lal Nehru Marg, (Minto Road),
New Delhi-110002

No. Regln/1-13/2012/

dated: -02-2018

{Kind attention: Sh. Sanjeev Banzal, Advisor (CA&IT), TRAI}

Sir,

Sub:- BSNL's reply on TRAI Consultation Paper on "Making ICT Accessible for Persons with Disabilities"

Kindly refer to the TRAI press release no.107/2017 and Consultation Paper Consultation Paper no.17/2017 dated 20-12-2017 on 'Making ICT Accessible for Persons with Disabilities'. In this context, BSNL has already submitted its comments on the above mentioned Consultation paper vide this office letter dated 18-01-2018. In continuation to that, counter comments / additional comments of BSNL are as follows.

Q1. Which are the disabilities, with specific accessibility requirement, other than those mentioned in para 2.3 of the Consultation Paper that require consideration for preparing a framework?

BSNL Response:The consultation paper has covered Audio impairments, Visual impairments, Dexterity based disabilities and cognitive disabilities in Para 2.3. Other than these, the following can be considered:

- **Neurological disabilities:** Neurological disabilities are caused by damage to the nervous system that results in the loss of some bodily or mental functions. **Difficulties with Speech, Language and Social Skills follow Neurological Disease which makes them difficult to communicate physically and mentally.**
- **Autism Spectrum Disorder (ASD):** ASD is one of the Pervasive Developmental Disorders (PDDs) and is commonly characterized by the lack of social skills, cognition deficits in facial expression recognition and Theory of Mind (ToM), language delay and rigid behaviours. Those individuals with autism present significant language and social challenges. ICT can focus on the strengths and weaknesses of this disorder as they make it possible to create controlled environments, reducing the anxiety produced by real social situations.
- **Speech and Language impediments:**Speech impediments affect the vocal cords, muscles, nerves, and other structures within the throat which cause difficulties pronouncing sounds, or articulation disorders, and stuttering. The provision of personalised, speech-based communication aids by ICT for those with severe speech impairments shall be considered. Possibility of developing tools / portals / modules for improving the communication skills in all the languages using latest in ICT shall be explored.
- **Learning Disabilities:****Learning disabilities are neurologically-based processing problems. These processing problems can interfere with learning basic skills such as reading, writing and/or math. They can also interfere with higher level skills such as organization, time planning, abstract reasoning, long or short term memory and attention. It is important to realize that learning disabilities can affect an individual's life**

beyond academics and can impact relationships with family, friends and in the workplace. Possibility of developing simple tools / portals / modules using latest in ICT shall be explored, for use by Persons with Learning Disabilities.

Q2. Apart from the challenges enumerated in para 2.3, what other challenges do PwDs face while accessing telecommunication and broadcasting services?

BSNL Response: Apart from the challenges enumerated in para 2.3, the following other challenges is faced by PwDs while accessing telecommunication and broadcasting service:

- People with hearing impairments face difficulties due to lack of captions or transcripts for audio on the Web, including webcasts
- Lack of alternative modalities for information on Web sites, for instance lack of alternative text that can be converted to audio to supplement visuals, or the lack of captions for audio are faced by people with learning disabilities.
- People with motor disabilities affecting the hands or arms may encounter difficulties for time-limited response options on Web pages, browsers and authoring tools that do not support keyboard alternatives for mouse commands, forms that cannot be tabbed through in a logical order
- Speech disabilities can include difficulty producing speech that is recognizable by some voice recognition software, either in terms of loudness or clarity. People with speech disabilities encounter Web sites that require voice-based interaction and have no alternative input mode

Q3. In your opinion, what are the reasons for the desired benefits of ICT (telecom and broadcasting) not reaching the PwDs despite several policy measures and scheme being implemented?

BSNL Response: The following can be considered as the reasons for the desired benefits of ICT (telecom and broadcasting) not reaching the PwDs despite several policy measures and scheme being implemented

- Compliance with and enforcement of the laws can be made more effective.
- More than 90% of the nation's visually impaired people live in low- and middle-income families who cannot afford assistive technological products..
- CWD(Children with disabilities) have a very high rate of drop out from school compared to other children.
- PwDs have significantly lower employment rate and this gap has been increasing in the last 15 years.
- Persons with Disability Act 1995, which has come up with amendments from time to time by including new sections of peoples (like recognizing autism as a disability, among others). These amendments need to be included and considered while rolling out benefits of ICT for PwDs.
- Cognitive or learning disabilities are even less noticeable and fly below the radar of most teachers
- The unaffordable assistive technological products keep PwDs out of reach.

Q4. What additional or corrective measures can be taken by the Government to enable better access to telecommunication and broadcasting services and devices to PwDs? Please give rationale for your response.

BSNL Response: Internet should be made more friendly to many different kinds of disabilities and measures can be taken to ensure that the PwDs are able to access these services and barriers that hinder access are identified

- Government should recognize and focus on physical, economic and social rehabilitation of PWDs
- Computers and connection points are still economically out of range for a majority of people around the world. Improving adequate telecommunications and networking infrastructures infrastructure can provide opportunities to achieve electronic government.
- Specially designed assistive tools and technology like Screen Magnifiers , Voice Recognition tools, Braille and refreshable Braille etc should be affordable and in-reach
- Technologies like Multimedia formats that support accessibility, Full keyboard support with voice recognition, understandable strategies to access the Web, specially designed hardware/software devices can be adapted.

Q5. Apart from the measures suggested by ITU, what additional measures can be taken by the TSPs and equipment vendors/suppliers and other stakeholders to address the challenges faced by PwDs while accessing telecom and broadcasting services?

BSNL Response:

Additional measures that can be taken by the TSPs:

- Accessible customer services can be offered by telecom service providers. Customer services need to be redesigned to address the specific needs of PwDs.
- Products and tariff plans offered by TSPs may be structured in a way that recognizes the ways that PwDs use services.
- Can consider printing billing details in braille alphabets/numbers or using large print to enable accessibility for the visually impaired as well as special text and multimedia message packages for the hearing impaired.
- Customer care centres with trained staff who can understand the difficulties of PwDs and have real concern towards the differently abled persons shall be made available by all TSPs.

Additional measures that can be taken by the equipment vendors/suppliers and other stakeholders

- Device/handset manufacturer can make at least one model of handsets for PwDs which is having accessibility features and which are compatible with assistive technology features such as hearing and visual aids including emergency buttons etc.
- Setting up of model electronics and ICTs centers for providing training and demonstration to special educators and physically as well as mentally challenged persons.

Q6. What are the areas where collaboration between various stakeholders would be useful and how?

BSNL Response: Community-Based Rehabilitation (CBR), promotes the empowerment and inclusion of people with disabilities (PWDs) in diverse ways within their communities. Stakeholders in diverse communities can actively contribute to shaping policy and practice through participatory consultations. . Working with key stakeholders in the disability arena can influence policy on disability issues, and reciprocally the policy change can inform organisations practice and research activities.

Q7. Should the Government/TRAI direct the telecom and broadcasting service providers to provide information pertaining to billing, usage, pricing

and contracts in the form accessible to PwDs? Please provide a rationale for your response.

BSNL Response:Yes, it should. Access to ICT's is essential for full citizen participation in all the aspects of society.For those bills which are sent in printed form, TSPs can consider printing billing details in braille alphabets/numbers or using large print to enable accessibility for the visually impaired as well as special text and multimedia message packages for the hearing impaired.

Q8. Should the Government/TRAI mandate that the devices used for watching television provided through cable, satellite/DTH, fiber, etc. should be made accessible to PwDs?

BSNL Response:Yes, it should. Computer interfaces are still primarily visual and when the non-visual equivalents are not coded properly, individuals with difficulties in vision cannot have access to any of the content. Individuals with hearing impairments can not access any content in audio, when developers don't provide transcripts or captioning. Individuals with motor impairments who are unable to use standard keyboards or mouse, may have trouble interacting with Web sites that provide content that is reachable only via pointing devices. To overcome such situations, Govt / TRAI should mandate suitable devices for PwDs

Q9. Should international accessibility standards be adopted for telecommunication and broadcasting services and devices in India? Please suggest steps required to ensure their adoption by the service providers/device manufacturers.

BSNL Response:Adoption of international accessibility standards for telecommunication and broadcasting services and devices in India would permit access to PwDs in a rightful manner.

Steps to ensure their adoption international accessibility standards by the service providers/device manufacturers:

- UNCRPD states the need to take measures for identification and elimination of obstacles and barriers to accessibility, which inter-alia include information, electronic, communications services including emergency services. This has to be strictly followed.
- The UN Convention on the Rights of Persons with Disabilities Article 9.2(a), governments are required to establish accessibility standards.
- In some of the countries the government has mandated, through license terms and condition, the provision of information to the PwDs in accessible form. Such steps can be taken up.

Q10. What additional measures can be taken or technologies can be deployed by service providers or equipment manufactures to assist PwDs?

BSNL Response:Setting up of exclusive CSCs which is equipped to address the requirements of PwDs

- Setting up of model electronics and ICTs centers for providing training and demonstration to special educators who can guide the PwDs visiting customer care centres
- Customer services need to be redesigned to addresses the specific needs of PwDs.

- Products and tariff plans offered by TSPs may be structured in a way that recognizes the ways that PwDs use services.

Q11. Should device manufacturers be mandated to allow in their device's operating system those applications which are meant to assist the PwDs? Please justify your response.

BSNL Response:Yes, they should be mandated. Suitable applications shall be developed by Device manufacturers in consultation with the experts who are have been dealing with PwDs. The United Nations General Assembly recognized the importance of providing equal opportunities for disabled individuals in the context of development. Policies are also well defined by Govt to provide Equal opportunity to PwDs.

Q12. What measures can be taken in India so that emergency services are made more accessible for PwDs? Should the implementation of these measures by TSPs be made mandatory by the Government?

BSNL Response:People with disabilities are affected during their emergencies due to lack of availability of resources to communicate their difficulties. Mobility, hearing, learning or seeing disabilities have to be addressed so that they can respond to an emergency. Hence implementation of these measures by TSPs should be made mandatory by the Government. The following measures can be taken, so that emergency services are made more accessible for PwDs.

1. Government's commitment. Governments shall take suitable decisions to develop effective disaster risk management for people with disabilities. These decisions have to be reviewed at regular intervals to suite the requirements of PwDs

2. Co-ordination and continuity: In order to guarantee the effective development, application and monitoring of emergency systems for people with disabilities, one particular body of governmental administration must be responsible for co-ordination and the continuity of initiatives. In close cooperation with all relevant stakeholders, it will be the task of the coordinating body to make sure that all relevant information is collected and centralised.

3. Networking: At least one network should exist that allows stakeholders to meet and exchange information about the challenges to be met if risks are to be identified and solutions are to be found. These networks should always be open to new members and should take full account of evolutionary changes in technology, habits and expectations.

4. Strategic planning: A master plan should be set up and constantly updated. The organisation of training activities and the evaluation of emergency exercises should be part of a constant process of adaptation of the master plan.

5. Knowledge management: A coherent programme of knowledge management should be used to ensure the transfer of acquired know-how to those who can benefit from it. This knowledge would facilitate the organisation of training activities and allow emergency schemes constantly to be improved. Specific added value will be provided by the involvement of people with disabilities and their organisations.

6. Identification and optimisation of resources: The evaluation of a master plan and constant updating of its capacities, and the general level of knowledge, should allow stakeholders to estimate needs regarding financial, organisational and human resources. At the same time, the best possible use of existing or new resources may allow the action plan to be improved.

7. Communication: In order to ensure that everyone is kept informed about the state of preparedness, a good communication policy is needed. Energetic dissemination of information will ensure that more and more relevant stakeholders are contacted and involved in the preparedness process.

Q13. Should the device/handset manufacturer be mandated to manufacture at least one model of handsets for PwDs which is having accessibility features and which are compatible with assistive technology features such as hearing and visual aid including emergency buttons etc.?

BSNL Response:For PwDs, it is important that mobile phones and services provide accessibility features and are compatible with assistive technologies such as hearing and visual aids and that they can communicate with others and access services. It should be considered that every device/handset manufacturer will make at least one model of handsets for PwDs which is having accessibility features and which are compatible with assistive technology features such as hearing and visual aids including emergency buttons etc.

Q14. How should companies be encouraged to utilize their CSR funds for development of applications, devices and services for the PwDs? What kind of devices and applications can be envisaged/ designed to make achieve ICT accessibility for PwDs?

BSNL Response:The Ministry of Corporate Affairs (MCA) notification makes it mandatory to all companies with net profit greater than Rs.5 crore to spend, in every financial year, at least 2% of the average net profits of the company made during the three immediately preceding financial years, in pursuance of their Corporate Social Responsibility (CSR) Policy. Projects or programs under CSR to be taken up by the companies utilize their CSR funds:

- Eradicating hunger, poverty and malnutrition, promoting preventive health care including preventive healthcare and sanitation and making available safe drinking water.
- Promoting education, including special education and employment enhancing vocation skills especially among children, women, elderly, and the differently-abled and livelihood enhancement projects.

Voice-output communication aid (VOCA), Personal Digital Assistants (PDAs) , Radio-Frequency Identification (RFID) Tags , Text-to-speech technology and similar assistive , adaptive , accessible technologies have to be designed to make achieve ICT accessibility for PwDs.

Q15. Should any other funding mechanism for the development of applications, devices and services meant for the PwDs be considered? Please give a rationale for your response.

BSNL Response:Good practices, strategies, tools and operational methods have to be adopted that guarantee the efficiency and sustainability of projects that support access to funding mechanisms.

- Inclusion in mainstream microfinance institutions: Through a variety of schemes, including raising awareness among microfinance staff, establishing partnerships for cooperation, adapting methodologies, or simply by supporting people with disabilities to submit their loan applications. Interestingly, some microfinance institutions mentioned that people with disabilities were among their best clients.
- Provision of financial services by organisations of/for people with disabilities themselves: Some organisations affirmed that inclusion in microfinance

institutions was a long-term goal, but that this would not respond to current pressing needs for loans. However, some have been very successful in terms of breadth and depth of outreach, providing services to a vast number of people with disabilities, and reaching some of the poorest among them. It also requires long-term donor commitment, since low or non-existent interest fees do not cover operational and financial costs

Q16. How can effective campaigns be designed to create awareness about use of ICT accessibility tools? Can such campaigns be funded by CSR funds? If not, what other mechanisms can be used to fund such campaigns?

BSNL Response: Campaigning together with disabled people can raise awareness, change attitudes, change laws. Effective campaigning can be achieved by

- Making a concrete list of goals and focusing on raising funds
- Creating awareness on disability
- Different approach to different types of audience to maximize the capabilities
- Thorough grasp of campaign budget

Certainly, such campaigns can be funded by CSR funds. The provisions in the Companies Act offer ample scope for the companies to take up projects and activities under the CSR provisions that can enhance and facilitate the ICT accessibility for the PwDs as it is well within the essence of the CSR policy laid down by the government.

Q17. Should the Government incentivize the manufacturing and development of ICT tools and devices viz. tools for mobile accessibility, TV accessibility or for web accessibility for PwDs? Please give a rationale for your answer.

BSNL Response: Government can incentivize the manufacturing and development of ICT tools and devices viz. tools for mobile accessibility, TV accessibility or for web accessibility for PwDs. This would benefit these groups from technological innovations and solutions that can empower them. This will also enhance societal inclusion and participation through providing access to knowledge, information & business and administrative processes within the state.

Q18. Please give inputs/suggestions/comments on any other issues which you feel are relevant to the subject matter.

BSNL Response: The right to full participation in society and equality of PwDs in India was recognized through the Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participation) Act which was enacted in India in 1995 which has been amended from time to time. While there is no specific legislation in India which ensures the right of disabled persons to access ICT's, The National Telecom Policy 2011 strategizes the need to recognize "telecom and broadband connectivity as a basic necessity like education and health and work towards 'Right to Broadband'.

While finalizing the policy for **Making ICT Accessible for Persons with Disabilities**, it is requested that inputs from experts who have been in the Field of handling PwDs such as AIISH, NIMHANS, AIIMS etc may also be considered for their valuable suggestions.

(Harish Arora)
AGM (RegIn-II)

