

**TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION**

NEW DELHI, THE 4th December, 2012

F. No. 305-12/2012 -QoS - In exercise of the powers conferred by section 36 read with sub-clauses (i) and (v) of clause (b) of sub-section (1) of section 11 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following regulations, namely:-

**THE STANDARDS OF QUALITY OF SERVICE FOR
WIRELESS DATA SERVICES REGULATIONS, 2012
(26 OF 2012)**

- 1. Short title, commencement and application.** — (1) These regulations may be called the Standards of Quality of Service for Wireless Data Services Regulations, 2012 (26 of 2012).
- (2) They shall come into force with effect from the 1st day of January, 2013.
- (3) These regulations shall apply to all service providers [including Bharat Sanchar Nigam Limited and Mahanagar Telephone Nigam Limited, being the companies registered under the Companies Act, 1956 (1 of 1956)] providing,—
- (i) Unified Access Services;
 - (ii) Cellular Mobile Telephone Service;
- 2. Definitions.** — (1) In these regulations, unless the context otherwise requires,-
- (a) “**Act**” means the Telecom Regulatory Authority of India Act, 1997(24 of 1997);
 - (b) “**Authority**” means the Telecom Regulatory Authority of India established under sub-section (1) of section 3 of the Act;
 - (c) “**Cell**” means the radio frequency coverage area of a site in radio access network which is part of a cellular mobile telephone network and-
 - (i) in case it is an omni-site, it is synonymous with the site; and
 - (ii) at a sectored site, it is synonymous with the sector;
 - (d) “**Cellular Mobile Telephone Service**”- (i) means telecommunication service provided by means of a telecommunication system for the conveyance of messages through the agency of wireless telegraphy where every message that is conveyed thereby has been, or is to be, conveyed by means of a telecommunication system which is designed or adapted to be capable of being used while in motion;
 - (ii) refers to transmission of voice or non-voice messages over Licensee’s Network in real time only but service does not cover broadcasting of any messages, voice or non-voice, however, Cell Broadcast is permitted only to the subscribers of the service;

- (iii) in respect of which the subscriber (all types, pre -paid as well as post-paid) has to be registered and authenticated at the network point of registration and approved numbering plan shall be applicable;
- (iv) includes access service provided through Global System for Mobile Communications (GSM) and Code Division Multiple Access (CDMA) technologies and any other technologies permitted under the licence agreements for the Cellular Mobile Telephone Service and the Unified Access Service;
- (e) **“consumer”** means a consumer of a service provider falling in sub-regulation (3) of regulation 1 and includes its customer and subscriber;
- (f) **“latency”** means the time taken by a packet to reach the receiving endpoint after being transmitted from the sending point;
- (g) **“licence”** means a licence granted or having effect as if granted under section 4 of the Indian Telegraph Act, 1885 (13 of 1885) or the provisions of the Indian Wireless Telegraphy Act, 1933 (17 of 1933);
- (h) **“licensee”** means any person licensed under sub-section (1) of section 4 of the Indian Telegraph Act, 1885 (13 of 1885) for providing specified public telecommunication services;
- (i) **“message”** shall have the same meaning assigned to it in clause (3) of section 3 of the Indian Telegraph Act, 1885 (13 of 1885);
- (j) **“Packet Data Protocol context” or “PDP context”** means access to an external packet-switching network which contains information such as the type of packet-switching network, the Mobile Station PDP address (IP address), the reference of Gateway GPRS Support Node and the requested quality of service;
- (k) **“Quality of Service”** is the main indicator of the performance of a telecommunication network and of the degree to which such network conforms to the standards of such quality of service as specified in these regulations for specified parameters;
- (l) **“Radio Access Bearer” or “RAB”** means a service provided by the Access Stratum to the Non-Access Stratum for the transfer of user data between the user equipment and the Core Network;
- (m) **“Radio interface”** means the interface between user equipment and the Universal Terrestrial Radio Access Network access point which encompasses all the functionality required to maintain such interfaces;
- (n) **“Radio Resource Control” or “RRC”** means a sub layer of radio interface Layer 3 existing in the control plane which provides information transfer service to the Non-Access Stratum and is responsible for controlling the configuration of radio interface Layers 1 and 2;
- (o) **“regulations”** means the Standards of Quality of Service for Wireless Data Services Regulations, 2012;

- (p) **“service provider”** means any service provider to which these regulations apply;
- (q) **“telecommunication services”** means service of any description (including electronic mail, voice mail, data services, audio-tex services, video-tex services, radio paging and cellular mobile telephone services) which is made available to users by means of any transmission or reception of signs, signals, writing images, and sounds or intelligence of any nature, by wire, radio, visual or other electro - magnetic means but shall not include broadcasting services;
- (r) **“throughput”** means an amount of user information transferred in a network within a defined time period;
- (s) **“Time Consistent Busy Hour” or “TCBH”** means the one hour period starting at the same time each day for which the average traffic of the resource group concerned is greatest over the days under consideration and such Time Consistent Busy Hour shall be established on the basis of analysis of traffic data for a period of ninety days;
- (t) **“Unified Access Services ”-**
- (i) means telecommunication service provided by means of a telecommunication system for the conveyance of messages through the agency of wired or wireless telegraphy;
 - (ii) refers to transmission of voice or non-voice messages over Licensee’s Network in real time only but service does not cover broadcasting of any messages, voice or non -voice, except, Cell Broadcast which is permitted only to the subscribers of the service;
 - (iii) in respect of which the subscriber (all types, pre -paid as well as post-paid) has to be registered and authenticated at the network point of registration and approved numbering plan shall be applicable;

(2) all other words and expressions used in these regulations but not defined, and defined in the Act and the rules and other regulations made thereunder, shall have the meanings respectively assigned to them in the Act or the rules or the regulations, as the case may be.

SECTION II QUALITY OF SERVICE PARAMETERS FOR WIRELESS DATA SERVICES

3. Quality of Service parameters for wireless data services. — (1) Every Cellular Mobile Telephone Service provider or Unified Access Services provider shall meet the following Quality of Service benchmarks for the wireless data services in respect of each specified parameter, namely: -

Serial Number	Name of Parameter	Benchmarks	Averaged over a period
3.1	Service Activation/ Provisioning	Within 4 hrs with 95% success rate.	One Month

3.2	Successful data transmission download attempts	>80%	One Month
3.3	Successful data transmission upload attempts	>75%	One Month
3.4	Minimum download speed	To be measured for each plan by the service provider and reported to TRAI	One Month
3.5	Average Throughput for Packet data	>75% of the subscribed speed.	One Month
3.6	Latency	Data <250ms	One Month
3.7	PDP Context Activation Success Rate	≥95%	One Month
3.8	Drop rate	≤5%	One Month

(2) The Authority may, from time to time, through audit and objective assessments of quality of service conducted either by its own officers or employees or through an agency appointed by it, verify or assess the performance of the service provider with respect to the Quality of Service benchmarks for the wireless data services specified in sub-regulation (1).

¹[**3A. Download speed for wireless data services.** – (1) Every service provider shall, in all its wireless data plans, indicate the minimum download speed available to the consumers.

(2) Every service provider shall ensure that the minimum download speed, specified by it in its wireless data plans, is available to the consumer for not less than eighty percent of the usage time.]

SECTION III RECORD KEEPING, REPORTING AND PUBLICATION OF QUALITY OF SERVICE PERFORMANCE

4. Record Keeping. — (1) Every service provider shall maintain documented process of collection of data for each Quality of Service parameter specified by the Authority in regulation 3 and submit to the Authority, within thirty days of notification of these regulations, the documented process of collection of data of each Quality of Service parameter indicating the correlation with the primary data which are derived from system counters or codes in Operation and Maintenance Centre or Network Management System or Mobile Switching Centre, along with record keeping procedure.

(2) Every service provider shall maintain complete and accurate records of its compliance of benchmark of each Quality of Service parameter specified in regulation 3 in such manner and in such formats, as may be specified by the Authority from time to time by an order or direction.

¹ Ins. by the Amendment Regulations, 2014, reg. 2 (w.e.f. 24.08.2014)

(3) The Authority may, from time to time, either by order or by direction, specify uniform record keeping procedures and formats including guidelines on measurement methodology for various Quality of Service parameters specified in these regulations.

(4) The Authority may, if it considers it expedient so to do, at any time, direct any of its officers or employees or an agency appointed by the Authority to inspect the records maintained under sub -regulation (2) and sub-regulation (3) or to get such records audited.

(5) The Authority may, if it considers it expedient so to do, require the service provider to get the records maintained by it under sub-regulation (2) and sub-regulation (3) audited through an agency, as may be specified by the Authority, and submit the report in respect of such audit to the Authority and the cost of such audit shall be borne by the service provider.

5. Reporting. – Every service provider shall submit to the Authority its compliance reports of benchmarks in respect of each Quality of Service parameter specified under regulation 3 in such manner and format, at such periodic intervals and within such time limit, as may be specified by the Authority, from time to time, by an order or direction.

6. Publication. – (1) The Authority may publish, in such manner and in such format, as may be decided by it from time to time ----

- (a) the compliance reports of benchmarks of each Quality of Service parameter reported to it by the service providers under regulation 3;
- (b) the results of the audit and objective assessment of the Quality of Service undertaken by the Authority or its authorized agency as per ¹[sub-regulation (2) of regulation 3]

through its website or through press releases or through advertisements in the newspapers, for the information of the general public.

(2) Every service provider shall publish, for the information of the consumers, its performance with respect to the benchmark of Quality of Service parameter specified in regulation 3 ²[and regulation 3A], in such manner and in such format, as may be directed by the Authority from time to time.

(3) Every service provider shall publish at its website the details of all data services, being offered by it, along with their tariff, indicating the cities and towns to which such data services and tariff plans are applicable and shall not make any change in the existing data services and their tariff or offer new data services to the consumer without their prior publication at its website.

³[(4) Every service provider shall ensure that the details of minimum download speed available to the consumer, in its wireless data plans, are, ---

¹ Subs. by the Amendment Regulations, 2014, reg. 3(a) (w.e.f. 24.08.2014), for the following:
“sub-regulation (3) of regulation 3”

² Ins. by the Amendment Regulations, 2014, reg. 3(b) (w.e.f. 24.08.2014)

³ Ins. by the Amendment Regulations, 2014, reg. 3(c) (w.e.f. 24.08.2014)

- (a) printed on the vouchers of the wireless data plans;
- (b) published on its website and all advertisements of wireless data plan; and
- (c) available at its complaint centers and sale outlets.]

7. Review. — (1) The Quality of Service parameters specified in regulation 3 may be reviewed by the Authority from time to time.

(2) The Authority, on reference from any affected party for good and sufficient reasons, may review and modify these regulations.

8. Quality of Service Parameter in the licence. — Wherever higher quality of service parameter has been stipulated as a condition of licence, the service provider shall meet such quality of service parameters contained in the licence.

9. Interpretation. — In case of any doubt regarding interpretation of any of the provisions of these regulations, the clarification issued by the Authority shall be final and binding.

(Rajeev Agrawal)
Secretary

Note – The Explanatory Memorandum explains the objects and reasons including measurement methodology for various Quality of Service parameters of the “Standards of Quality of Service for Wireless Data Services, Regulations, 2012 (26 of 2012)”.