

**Telecom Regulatory Authority of India**  
**Notification**  
**New Delhi, the 16<sup>th</sup> April,2004**

**F.No. 402-30/2001-FN(Pt.)** – In exercise of the powers conferred upon it under clause (v) of Sub-section (1)(b) of Section 11 of Telecom Regulatory Authority of India Act, 1997 as amended by, TRAI (Amendment) Act,2000, in regard to laying down the standards of quality of service to be provided by the service providers, the Telecom Regulatory Authority of India hereby makes the following Regulation :

**REGULATION ON QUALITY OF SERVICE**  
**FOR**  
**VOIP BASED INTERNATIONAL LONG DISTANCE SERVICE**  
**( THIRD AMENDMENT), 2004**  
**(6 OF 2004)**

**Section –I**

**Title, Extent and Commencement**

**Short title, extent and commencement**

1.

- i) The title of this regulation shall be called ‘**Regulation On Quality of Service For VOIP Based International Long Distance Service (Third Amendment), 2004**’
- ii) This regulation shall come into effect from the date of its notification in the Official Gazette.

**Section – II**

1. The clause 1 under Section II of “The Regulation On Quality Of Service For VOIP Based International Long Distance Service (Second Amendment), 2004 (5 of 2004)” shall be substituted by the following:  
  
“Regulation On Quality Of Service For VOIP Based International Long Distance Service (First Amendment), 2004 (1 of 2004)” shall be read as “Regulation On Quality of Service For VOIP Based International Long Distance Service (First Amendment), 2004 (3 of 2004)”.
2. The Table 4.2 captioned “Measurement Required” under Section IV of the “The Regulation On Quality of Service For VOIP Based International Long Distance Service, 2002 (3 of 2002)” shall be substituted to read as under:

**Table 4.2: Measurements Required**

Span	Description	Parameter	Value for QOS parameters when international satellite link is not involved	Value for QOS parameters when international satellite link is involved	Method
X2 - X3	ILD segment employing VOIP techniques* (excluding transmission delay)	Packet Delay	≤ 50 ms	≤ 50 ms	Individual parameters measured by using IP analyzer <u>plus the aggregate measure</u> (MOS or R-Value)
		Jitter	≤ 5 ms	≤ 5 ms	
		Packet Loss	≤ 0.1%	≤ 0.1%	
		R-value	≥ 80	≥ 80	
		MOS	≥ 4	≥ 4	
X1 - X4	End to End International Connection of which ILD segment is a subset*	Delay	≤ 150 ms	≤ 400 ms	Aggregate measure (MOS or R-value)
		R-Value	≥ 80	≥ 70	
		MOS	≥ 4	≥ 3.5	
		Jitter	≤ 5 ms	≤ 5 ms	
		Packet Loss	≤ 0.1%	≤ 0.1%	
		CCS7 signalling Delay	As per Q.709	As per Q.709	CCS7 Signalling Analyzer

\* The terminating PSTN and VoIP Sections in another country are outside the purview of our national administration and as such have to be simulated.

By Order

S.N.GUPTA, Advisor (Converged Networks)

