

**Information note to the Press**  
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**Telecom Regulatory Authority of India**

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**TRAI Releases Report of the independent agencies engaged for the Objective Assessment of Quality of Service and Customer Satisfaction Survey of Telecom Services in West Bengal (including Andman Island) service area**

New Delhi, 19<sup>th</sup> December, 2008 - TRAI engaged [M/s. IMRB International](#) as independent agency for (1) conducting an objective assessment of the Quality of Service provided by basic and cellular mobile telephone service providers and broadband service providers and (2) subjective customer satisfaction surveys for assessing the customers' perception of the service and to assess the implementation and effectiveness of Telecom Consumers Protection and Redressal of Grievances Regulations, 2007.

**2. Methodology**

2.1 The audit and objective assessment of QoS has been done with the following aspects in view: –

- The scope of the audit and assessment work included a three stage verification process. The first stage consisted of auditing the records of the service providers and verifying the Performance Monitoring Report (PMR) data submitted to TRAI. The second stage involved three days live measurement of all the network parameters and determination of Busy hour. The third stage consisted of collection and verification of one month Quality of Service performance data.
- audit of telephone exchanges for basic service, Mobile Switching Centers (MSCs), network operating centre/point of presence for broadband service spread in the service area on sample basis;
- assessing the network conditions of each cellular mobile service provider through drive tests;
- inter-operator call assessment of cellular mobile operator through inter-network test calls;
- assessing the effectiveness of the customer care help lines of each operator through test calls;

2.2 The subjective assessment of customer perception of service and assessment of implementation and effectiveness of Telecom Consumers Protection and Redressal of Grievances Regulations, 2007 was made through a survey using questionnaire approved by the Authority. The sample size of customers for survey was determined for confidence level of 95% and with a confidence interval of 4% for B Category Service Area for each of

the service provider. All the subscribers in the sample selected in the rural areas were interviewed personally and in the urban areas 75 % were interviewed personally and 25 % interviewed telephonically.

### **Findings of the independent agency on Quality of Service**

#### **3 Cellular Mobile Telephone Service:**

3.1 In West Bengal(including Andman island) service area the audit of quality of service data of service providers, namely, Bharti Airtel, BSNL, Vodafone, Tata Teleservices Dishnet (Aircel), RTL and Reliance Communications was conducted.

3.2 **Objective Assessment/Audit of Quality of Service performance:** For almost all network parameters, all the service providers meet the TRAI specified benchmark. The Time Consistent Busy Hour (TCBH) reported by all the service providers except RCom matched the network busy hour calculated by IMRB auditors. Service Provider’s performance in respect of cellular mobile telephone service based on one month data is given in Annex-`1A’.The areas of concern i.e. parameters, for which benchmarks is not met by the service providers are identified based on analysis of one month QoS performance data and live measurement.

3.3 **Drive Test:** The drive tests were conducted to verify parameters like Call Drop Rate, Call Set-up Success Rate, Blocked Call Rate and Percentage of Connections with Good Voice Quality. The areas of concern (i.e. parameters) are identified as below:

- Connections with good voice quality
- Call Set up Success rate

3.4 **Customer perception of service:** Service Providers’ performance in respect to the level of customer perception of service against the specified benchmark is given in Annex-`1B’.

3.5 **Percentage of customers satisfied:** The gradation on “Satisfaction” score scale i.e. scores of “Very Satisfied” to “Satisfied” is given in Table-1 below. The survey results reveal that there is a need to improve the satisfaction level of subscribers with respect to the Help services, billing performance, Network performance and supplementary services across the service providers.

**Table-1 (Cellular Mobile Telephone Service – West Bengal Service Area)**

S. N.	Customer Perception of Services	Airtel	Vodafone	BSNL	RCOM	Aircel	TATA	RTL
1	%age subscribers satisfied with the provision of service	94%	97%	87%	96%	96%	98%	96%
2a	%age subscribers satisfied with the billing performance (postpaid)	100%	79%	78%	81%	No Postpaid	82%	Few postpaid subscribers

2b	%age subscribers satisfied with the billing performance (prepaid)	87%	88%	87%	72%	89%	90%	84%
3	%age subscribers satisfied with help services	69%	69%	47%	46%	61%	77%	58%
4	%age subscribers satisfied with network performance, reliability and availability	86%	89%	74%	82%	68%	89%	81%
5	%age subscribers satisfied with maintainability	87%	88%	72%	81%	60%	87%	76%
6	Overall customer satisfaction	81%	83%	74%	68%	60%	85%	74%
7	%age subscribers satisfied with offered supplementary services	84%	78%	75%	72%	80%	88%	76%

#### 4. Basic Service (wire line)

4.1 **Objective Assessment/Audit of QOS performance:** Basic (Wire line) services audit for West Bengal (including Andman island) circle broadly indicates that most of the service providers are not meeting the benchmarks for some of the Parameters. Service Provider's performance in respect of basic service (wire line) based on one month data is given in Annex-`2A'. The areas of concern i.e. parameters, for which benchmarks is not met by the service providers, are identified based on analysis of one month QoS performance data and live measurement as below:

- Fault repaired within 24 hours and mean time to repair (MTTR)
- Response time to customers for assistance
- Time taken for refund of deposits after closure.

4.2 **Customer perception of service:** Service Providers' performance in respect to the level of customer perception of service against the specified benchmark is given in Annex-`2B'.

4.3 **Percentage of customers satisfied:** The gradation on "Satisfaction" score scale i.e. scores of "Very Satisfied" to "Satisfied" is given in Table-2 below The survey results reveal that there is a need to improve the satisfaction level of subscribers with respect to the maintainability, help services and billing performance.

**Table-2 {Basic Service (Wire line) – West Bengal Service Area}**

S. N.	Customer Perception of Services	BSNL - Andaman	BSNL - West Bengal	RCOM
1	% subscribers satisfied with the provision of service	89%	86%	83%
2a	% subscribers satisfied with the billing performance (Post paid customers)	88%	85%	Very few post paid subscribers
2b	% subscribers satisfied with the billing performance (Pre paid customers)	Very few prepaid customer		86%
3	% subscribers satisfied with help services	92%	53%	86%
4	% subscribers satisfied with network performance, reliability and availability	94%	80%	80%
5	% subscribers satisfied with maintainability	72%	61%	53%
6	Overall customer satisfaction	83%	68%	69%
7	% subscribers satisfied with offered supplementary services	95%	53%	Low penetration observed

## 5. Broadband Service

**5.1 Objective Assessment/Audit of QoS performance:** The audit for Broadband Service Providers was conducted at their respective network operating centre/point of presence (POPs) in the West Bengal (including Andaman Island) circle. Service Provider's performance based on one month data is given in Annex -`3A'. The area of concern (i.e. parameters) for which benchmark is not met by the service providers is identified based on analysis of one month QoS performance data and live measurement as below:

- Provision of Broadband connections within 15 days

**5.2 Customer perception of service:** Service Providers' performance in respect to the level of customer perception of service against the specified benchmark is given in Annex-`3B'.

**5.3 Percentage of customers satisfied:** The gradation on "Satisfaction" score scale i.e. scores of "Very Satisfied" to "Satisfied" is given in Table-3 below. The survey results reveal that Help Services, Maintainability, Network performance are areas where all service providers have scored relatively lower score as compared to other parameters.

**Table-3 (Broadband Service– West Bengal Service Area)**

S. N.	Customer Perception of Services	BSNL - Andaman	BSNL - West Bengal
1	% subscribers satisfied with the provision of service	85%	88%
2a	% subscribers satisfied with the billing performance (Prepaid customers)	Very few prepaid customers	
2b	% subscribers satisfied with the Billing performance (Postpaid customers)	88%	93%
3	% subscribers satisfied with help services	60%	63%
4	% subscribers satisfied with network performance, reliability and availability	78%	79%
5	% subscribers satisfied with maintainability	79%	78%
6	Overall level of customer satisfaction	87%	84%
7	% subscribers satisfied with offered supplementary services	93%	89%

**6. Telecom Consumers Protection and Redressal of Grievances score:**

The Authority noted with concern that the awareness of subscribers of all the service providers regarding the three stage grievance redressal mechanism is still very low. The summary of survey results for assessment of implementation and effectiveness of Telecom Consumer Protection and Redressal of Grievances Regulations in respect of Cellular Mobile Service, Basic (Wire line) Service and Broadband Service is given in Annex-`1C`, Annex `2C` and Annex `3C` respectively.

***7. The detailed Report on Quality of Service – Audit/Objective Assessment and Customer Satisfaction Survey, including grievance redressal mechanism, conducted during the period April, 2008 to Aug, 2008 is placed at TRAI Website ([www.trai.gov.in](http://www.trai.gov.in)).***

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## Annex-1A'

### Objective Assessment of Quality of Service - Service Provider's Performance in respect of Cellular Mobile Telephone Service – West Bengal Service Area

S.N	QOS Parameter	Bench mark	Bharti	BSNL	Vodafone	Tata Teleservice	Dishnet	RTL	R.Com
1	Accumulated downtime of community isolation	<24 Hrs	0.00	0.00	0.00	0.95	0.00	8.00	0.95
2	Call Setup Success Rate	>95%	86.00%	97.92%	99.98%	97.56%	29.35%	99.81%	97.85%
3	Service Access Delay	<20 Sec	8.60	10.69	5.00	5.97	7.20	11.96	4.10
4	SDCCH / Paging Channel congestion	<1%	4.60%	0.61%	0.11%	0.00%	0.08%	0.44%	0.00%
5	TCH Congestion	<2%	4.08%	1.46%	0.39%	0.90%	1.33%	1.83%	0.46%
6	Call Drop Rate	<3%	1.94%	2.27%	0.00%	1.09%	2.57%	1.69%	1.40%
7	% of connections with good voice quality	> 95%	81%	98%	91%	97%	72%	95%	94%
8	POI Congestion	<0.5%	0.23%	0.00%	0.00%	0.00%	0.00%	0.20%	0.00%
9(a)	% Call answered electronically within 20 seconds within 40 seconds	80%	100.0%	92.0%	100.0%	100.0%	86.1%	100.0%	97.9%
		95%	100.0%	98.4%	100.0%	100.0%	96.2%	100.0%	97.9%
9(b)	% Call answered by the operator within 60 seconds within 90 seconds	80%	91.2%	85.5%	83.0%	73.2%	86.1%	43.9%	80.5%
		95%	92.9%	94.2%	89.9%	92.0%	96.2%	58.7%	85.8%
10	Complaints per 100 bills issued	<0.1%	0.00%	0.03%	0.05%	0.08%	No Postpaid subscribers	No Billing Complaints received	0.05%
11	% of Billing complaints resolved within 4 weeks	100%	NA	100%	91%	100%			100%
12	Period of refunds from the date of resolution of complaints	100%	NA	NA	75%	100%			100%

\*Details pertaining to these are obtained through operator assisted drive tests. Results of the drive tests are explained in greater detail in critical findings

\*\* Methodology not in line with QoS ■ Figures provided on All India basis ■ Not meeting the benchmark **B'mark** = TRAI Benchmark, **DNA** = Details not available, **NA**: Not Applicable

**Annex-`1B`  
Customers Perception of Service for Cellular Mobile Telephone Service  
through Survey– West Bengal Service Area**

S. N.	Customer Perception of Services	B'mark	Airtel	Vodafone	BSNL	RCOM	Aircel	TATA	RTL
1	%age subscribers satisfied with the provision of service	>95%	66%	68%	64%	66%	66%	67%	66%
2a	%age subscribers satisfied with the billing performance (postpaid)	>90%	69%	60%	63%	62%	No Postpaid	62%	Few postpaid subscribers
2b	%age subscribers satisfied with the billing performance (prepaid)	>90%	63%	63%	63%	58%	64%	64%	62%
3	%age subscribers satisfied with help services	>90%	56%	57%	47%	47%	54%	60%	52%
4	%age subscribers satisfied with network performance, reliability and availability	>95%	64%	66%	59%	61%	57%	65%	61%
5	%age subscribers satisfied with maintainability	>95%	64%	65%	59%	61%	54%	64%	59%
6	Overall customer satisfaction	>95%	62%	63%	59%	56%	54%	64%	59%
7	%age subscribers satisfied with offered supplementary services	>95%	61%	59%	59%	57%	60%	64%	59%

**Annex-`1C`  
Assessment of implementation and effectiveness of Telecom Consumer  
Protection and Redressal of Grievances Regulations in respect of Cellular  
Mobile Telephone Service through Survey– West Bengal Service Area**

S.N.	Sub Parameter	Airtel	Vodafone	BSNL	RCOM	Aircel	TATA	RTL
1	Awareness of three stage grievance redressal mechanism	3%	6%	17%	5%	5%	4%	5%
2	For pre-paid customers, awareness about item-wise call charge details on request	9%	7%	6%	8%	7%	7%	9%
3	If aware (for pre-paid customers), ever denied of item wise usage charge details for pre-paid connection	2%	3%	0%	0%	3%	3%	6%
4	For new customers, provisioning of 'Manual of Practice' while taking the new connection	69%	73%	21%	84%	77%	89%	62%
5	Awareness of Call center for redressing grievances	50%	52%	42%	64%	49%	56%	49%
6	Percentage of consumers made any complaints to the toll free number within last 6 months	7%	15%	7%	15%	18%	12%	10%
7	Call center informing about the action taken on complaints	72%	94%	49%	89%	89%	91%	79%
8	Resolution of complaint by customer care within 4 weeks of lodging complaint	2%	3%	14%	6%	6%	13%	7%
9	percentage satisfied with complaint resolution by call center	49%	56%	39%	46%	52%	56%	50%
10	Awareness of Nodal officer for redressing grievances	2%	2%	1%	2%	3%	2%	2%
11	Awareness of contact details of Nodal officer	0%	0%	2%	0%	0%	0%	0%

## Annex-`2A'

### Objective Assessment of Quality of Service - Service Provider's Performance in respect of Basic Service (Wire line) – West Bengal Service Area

S.No.	Parameters	B'mark	BSNL- West Bengal	BSNL – Andaman and Nicobar
1	Provision of telephone after registration of demand			
1.1	Connections completed within 7 days	100%	35%	94%
2	Fault incidence/clearance statistics			
3	Fault incidences(No. of faults/100 subscribers/month)	<3	7.2	5.7
3.1	Faults repaired within 24 hours	>90%	47%	87%
3.2	Faults repaired within three working days	100%	75%	99%
4	Mean time to Repair (MTTR)	<8 hours	> 8 for exchanges where logs were maintained	
5	Call Completion Rate (CCR)	>55%	91%	84%
6	Metering and billing credibility			
6.1	Billing complaints per 100 bills issued	<0.1%	0.01%	0.01%
6.2	%age of billing complaints resolved within 4 weeks	100%	67%	Only one billing complaint reported. Not attended in stipulated time
7	Customer care/helpline promptness			
7.1	Shift requests attended			
	Shift requests attended within 3 days	95%	24%	89%
7.2	Closure request attended			
	Closure within 24 hours	95%	79%	98%
7.3	Supplementary (additional) service requests attended			
	Additional facility provided within 24 hours	95%	78%	92%
8	Response time to customer for assistance			
8.1	% age call answered through IVR in 20 seconds	80%	Details not available at the exchanges	No separate call centre available in the circle with IVRS facility. Only numbers dialed on 1500 are answered from the exchange
	% age call answered through IVR in 40 seconds	100%		
8.2	% age calls answered by operator in 60 seconds	80%		
	% age calls answered by operator in 90 seconds	95%		
9	Time taken for refund of deposits after closure			
9.1	%age cases where refund received within 60 days	100%	92%	91%

(\*Note: For BSNL data pertains to the sample 5% of exchanges audited during the period of April to July 2008, whereas for rest of the operators figures pertain to all the exchanges present in the circle)

\*\* Methodology not in line with QoS ■ Figures provided on All India basis ■ Not meeting the benchmark **B'mark** = TRAI Benchmark, **DNA** = Details not available, **NA**: Not Applicable

**Annex-`2B`  
Customers Perception of Service for Basic Service (Wire line)  
through Survey– West Bengal Service Area**

S. N.	Customer Perception of Services	Benchmark	BSNL - Andaman	BSNL - West Bengal	RCOM
1	% subscribers satisfied with the provision of service	>95%	67%	63%	62%
2a	% subscribers satisfied with the billing performance (Post paid customers)	>90%	63%	62%	Very few post paid subscribers
2b	% subscribers satisfied with the billing performance (Pre paid customers)		Very few prepaid customer		63%
3	% subscribers satisfied with help services	>90%	63%	55%	53%
4	% subscribers satisfied with network performance, reliability and availability	>95%	65%	60%	61%
5	% subscribers satisfied with maintainability	>95%	57%	52%	49%
6	Overall customer satisfaction	>95%	61%	55%	58%
7	% subscribers satisfied with offered supplementary services	>95%	65%	47%	Low penetration observed

**Annex-`2C`  
Assessment of implementation and effectiveness of Telecom Consumer Protection and Redressal of Grievances Regulations in respect Basic Service (Wire line) through Survey– West Bengal Service Area**

S.N.	Sub Parameter	BSNL - Andaman	BSNL - West Bengal	RCOM
1	Awareness of three stage grievance redressal mechanism	3%	4%	6%
2	For new customers, provisioning of 'Manual of Practice' while taking the new connection	4%	6%	14%
3	Awareness of Call center for redressing grievances	14%	37%	73%
4	Percentage of consumers making any complaints to the toll free number within last 6 months	2%	16%	8%
5	Call center informing about the action taken on complaints	69%	80%	100%
6	Resolution of billing complaint by customer care within 4 weeks of lodging complaint		12%	13%
7	Level of satisfaction with the complain resolution by call center		51%	58%
8	Awareness of Nodal officer for redressing grievances	9%	7%	10%
9	Awareness of contact details of Nodal officer	1%	0%	1%
10	Awareness of Appellate authority for redressing grievances	2%	3%	4%
11	Awareness of contact details of Appellate authority for filing of appeals on complaints	1%	0%	2%

## Annex-`3A`

### Objective Assessment of Quality of Service - Service Provider's Performance in respect of Broadband Service- West Bengal Service Area

S.No	Parameters	B'mark	BSNL - West Bengal	BSNL - Andaman and Nicobar
1	Service provisioning uptime			
1.1	Percentage connections provided within 15 days	100%	92%	75%
2	Fault repair restoration time			
2.1	Percentage faults repaired by next working days	> 90%	92%	100%
2.2	Percentage faults repaired within three working days	99%	100%	100%
3	Billing performance			
3.1	Billing complaints per 100 bills issued	<2%	0.00%	0.00%
3.2	%age of billing complaints resolved within 4 weeks	100%	NA	NA
3.3	Time taken for refund of deposits after closure	100%	NA	NA
4	Customer care/helpline assessment		Details pertaining to call centre are not available at the exchanges	No dedicated call centre in Andaman
4.1	Percentage calls answered within 60 seconds	> 60%		
4.2	Percentage calls answered within 90 seconds	>80%		
5	Bandwidth utilisation/Throughput			
5.1	Total number of intra network links crossing 90%		Uplink Traffic in West Bengal(including Andman island) BRAS is > 90%	
	<i>Upstream Bandwidth (ISP Node to NIXI/NAP/IGSP)</i>			
5.2	Total number of upstream links		97 Links physically located in Bangalore, West Bengal(including Andman island), Noida, Kolkata	
5.3	Number of links > 90%		1	
5.4	Percentage bandwidth utilized on upstream links	<80%	75%	
6	Broadband download speed	>80%	Complied	
7	Service availability/uptime	>98%	100%	
8	Packet loss	<1%	<1%	
9	Network Latency			
9.1	POP/ISP Node to NIXI to IGSP	<120msec	Complied	
9.2	ISP node to NAP port	<350msec	Complied	

\*\* Methodology not in line with QoS

Figures provided on All India basis

Not meeting the benchmark

B'mark = TRAI Benchmark, DNA = Details not available, NA: Not Applicable

**Annex-`3B`  
Customers Perception of Service for Broadband Service through Survey–  
West Bengal Service Area**

S. N.	Customer Perception of Services	Benchmark	BSNL - Andaman	BSNL – West Bengal
1	% subscribers satisfied with the provision of service	>90%	62%	64%
2a	% subscribers satisfied with the billing performance (Prepaid customers)	>90%	Very few prepaid customers	
2b	% subscribers satisfied with the Billing performance (Postpaid customers)	>90%	62%	65%
3	% subscribers satisfied with help services	>90%	52%	55%
4	% subscribers satisfied with network performance, reliability and availability	>85%	59%	63%
5	% subscribers satisfied with maintainability	>85%	60%	61%
6	Overall level of customer satisfaction	>85%	63%	63%
7	% subscribers satisfied with offered supplementary services	>85%	64%	65%

**Annex-`3C`**

**Assessment of implementation and effectiveness of Telecom Consumer Protection and Redressal of Grievances Regulations in respect Broadband Service through Survey– West Bengal Service Area**

S. N.	Sub-parameters	BSNL - Andaman	BSNL - West Bengal
1	Awareness of three stage grievance mechanism	7%	9%
2	Provision of Manual of Practice containing terms and conditions of service, grievance redressal mechanism etc	11%	0%
3	Awareness of Call center for redressing grievances	25%	24%
4	Penetration of consumers made any complaints to the toll free number within last 6 months	0%	7%