



South Asia

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**REPORT ON
QUALITY OF SERVICE
&**

CUSTOMER SATISFACTION SURVEY
(Quarter Oct 2006 to Dec. 2006)

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SUBMITTED FOR:

TELECOM REGULATORY AUTHORITY OF INDIA

SUBMITTED BY: TUV SOUTH ASIA (Revised Report: 22nd March 2003)

Used abbreviation

Table 1 [Abbreviations Table]

S/N	Name	Abbreviation used	S/N	Name	Abbreviation used
1	Andman & Nikobar	A&N	26	Data Not Provided	DNP
2	Assam	AM	27	Data Not Available	N/A
3	Bihar	BH	28	Not Applicable	N\APP
4	Chattishgarh	CG	29	No Incidence (Occurrences)	NI
5	Chennai	CH	30	No Provision	N/P
6	Delhi	ND	31	Not Done	NTD
7	Gujrat	GJ	32	No Response	NR
8	Haryana	HR	33	Low Subscriber Base	LSB
9	Himachal Pradesh	HP	34	Not Operating	NO
10	Jammu & Kashmir	JK			
11	Jharkhand	JD	35	Reliance Communications	RCOM
12	Karnataka	KR	36	Reliance Telecom Ltd.	RTL
13	Kerala	KL	37	BPL Mobile Communication Ltd.	BPL
14	Kolkata	KK	38	Idea Cellular Ltd.	IDEA
15	Madhya Pradesh	MP	39	Bharat Sanchar Nigam Ltd	BSNL
16	Mumbai	MB	40	Bharti Airtel Ltd.	BHARTI
17	North East-1	NE	41	TATA Tele Services Ltd.	TATA
18	North East-2	NE2	42	Hutchison Essar Ltd.	HUTCH
19	Orissa	OR	43	Spice Communications Ltd.	SPICE
20	Punjab	PB	44	Aircel Cellular Ltd.	AIRCEL
21	Rajasthan	RJ	45	Mahanagar Telephone Nigam Ltd	MTNL
22	Tamilnadu	TN	46	Himachal Futuristic Communication Ltd.	HFCL
23	Uttar Pradesh	UP	47	Dishnet Wireless Ltd.	DISHNET
24	Uttaranchal	UC	48	Reliable Internet Services Ltd.	RISL
25	West Bengal	WB	49	Shyam Telecom Ltd.	SHYAM

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1 **INTRODUCTION**

1.1 **INTRODUCTION**

TÜV South Asia Pvt. Ltd., with registered office at 321, Solitaire Corporate Park, Bldg. No. 3, 2nd Floor, Chakala, Andheri (E), Mumbai was awarded the contract on 19th December 2005 by Telecom Regulatory Authority of India (TRAI) for conducting an objective assessment of the *quality of service* of basic and cellular mobile telephone services vis-à-vis the *quality of service benchmarks* prescribed by the Authority and a subjective customer survey to assess the customer perception of the service, as defined in the *Regulation on Quality of Service of Basic and Cellular Mobile Telephone Services, Dated 1st July, 2005*.

2 **EXECUTIVE SUMMARY**

2.1 **PREFACE**

TÜV South Asia was entrusted by TRAI to carry out:

2.1.1 **OBJECTIVE ASSESSMENT OF QOS**

The Objective Assessment involved audit of sampled exchanges (including customer care centre), Helpline for Basic operator, and sampled MSCs (including customer care centre), POI Congestion, Helpline & Drive Test for Cellular Operators.

As part of QOS audit, TÜV South Asia officials visited 628 Basic Telephone Exchanges (184 urban and 444 Rural exchanges) to cover 73 Basic telephone service Operators (licensee) and 157 MSCs to cover the operations of 129 Cellular mobile service providers.

In the case of Basic service operators, a sample mix of Urban and Rural exchanges (that are representative of the circles) was selected across 10% of SDCAs (Short Distance Charging Areas) of the Operators.

2.1.2 **CUSTOMER SATISFACTION SURVEY**

The subjective assessment involved survey of customer satisfaction levels for all the Basic Service Operators (BSO) and Cellular Mobile Service Providers (CMSP) including Unified Access Service Providers (UASP) spread over various operating circles.

During this quarter, a large sample of about 19066 basic service and 45197 cellular telephone service subscribers, were surveyed to assess their satisfaction level towards basic and cellular services respectively. This exercise was carried out through telephonic as well as personal interviews.

To provide emphasis on rural services, 100% of the subscribers were personally interviewed. While In case of urban subscribers, 75% of the subscribers was personally interviewed and 25% were interviewed telephonically. Subscribers were selected on the basis of their age, gender and service usage.

QOS Performance Monitoring Report (PMR) for the period Sep 2006 was considered as reference for coverage during execution and QOS Performance Monitoring Report (PMR) for Dec 2006 was considered for comparison of data.

2.2 ANALYSIS

2.2.1 QUALITY OF SERVICE FOR CMSP'S

2.2.1.1 MSC AUDIT

As per the regulation dated July 2005, the cellular telephone service operators needed to meet 15 no of benchmarked parameters. Most of the operators performed positively vis-à-vis these parameters. The *percentage of operators* that met the benchmarks of these parameters is as follows:

Table 2 [% CMSP's that met the benchmark]

Parameters	Benchmark	Operators that met the benchmarks [in %]
Service Access Delay	< 20 Sec	99.19
Call Drop Rate	< 3%	98.45
Accumulated downtime of community isolation	< 24 Hrs	96.12
Call Setup Success Rate	> 95%	93.80
SDCCH	< 1%	92.19
% of Billing complaints resolved within 4 weeks	100 %	91.67
% of connections with good voice quality	> 95%	88.89
TCH Congestion	< 2%	87.50
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	86.49
Period of refunds from the date of resolution of complaints	100%	84.35
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	83.64
Complaints per 100 bills issued	< 0.1 %	78.69
% of Calls Answered by Operator within 60 sec	> 80%	59.66
% of Calls Answered by Operator within 90 sec	> 95%	45.76

If we look at the parameter *Accumulated Down Time of Community Isolation*, which is benchmarked for < 24 hours, the highest duration noticed was in BSNL – Bihar (1608 hours) followed by Bharti-UP (W) (54.20).

In case of the parameter *SDCCH / Paging channel congestion (benchmark < 1%)*, the highest congestion was noticed in Bharti-Bihar (7.55%) followed by Dishnet- Assam (3.73%), Dishnet-North East (3.23%).

When we take up parameter **TCH Congestion (benchmark < 2%)** then, the peaking highs are easily noticed at RTL in circles WB, Orissa & MP with 27.75%, 13.71% & 10.18% respectively.

However, the performance of service providers with respect to the parameters **% of Calls Answered by Operator within 60 seconds** and **% of Calls Answered by Operator within 90 seconds** is a matter of concern as 40.34% and 54.24% of the operators are not meeting the given benchmarks for these parameters respectively.

In case of **Billing Complaints per 100 Bills issued (benchmark <0.1%)**, a significantly higher percentage of billing complaints are observed in case of TATA-Bihar (1.8%), TATA-Tmailnadu (1.41%) and Bharti-Tamilnadu (1.25%), TATA UPW (1.19%).

2.2.1.2 DRIVE TEST

360 drive tests were conducted to verify parameters like Call Drop Rate, Call Setup Success Rate, Blocked Call Rate and percentage Connection with good voice quality.

In Metro Circles, Drive test was carried for 24 operators. Out of the 24 operators, 16 operators (66.66%) meet the benchmarks for all the parameters.

In A Circles, Drive test was carried for 30 operators. Out of 30 operators, 19 operators (63.33%) meet benchmarks for all the parameters.

In B Circles, Drive test was carried for 47 operators. 34 operators out of 46 (73.91%) meet benchmarks for all the parameters. Please Note that HFCL-Punjab recently converted to full mobility so test was not applicable for them, where as Bharti-Haryana drive test was carried out but unfortunately data was not provided by operator due to some mishap.

In C Circles, Drive test was carried for 27 operators. 17 operators (62.96%) meet benchmarks for all the parameters. Noticeably BSNL-Bihar is not meeting the benchmark for any of the parameters during the test.

2.2.1.3 INTER OPERATOR CALL CONGESTION ASSESSMENT

Inter Operator calls were made as part of *practical* verification of Point of Interconnect Congestion. Noticeably POI congestion was observed for Hutch-UP (W), BSNL-Bihar, TATA-HP, TATA-Bihar, Dishnet-J&K and RTL-North East above the benchmark across all other operators. Considering overall congestion level of individual operators across all circles, 11 out of 14 operators have congestion above benchmark, with RTL (53.84%), RISL (50%), Dishnet (43.47%), BSNL (35.77), SPICE (33.33%), HUTCH (25%), IDEA (23.21%), TATA (20.58), BHARTI (19.33%), RCOM (11.80%), BPL (9.09%) and MTNL (5.26%) which is matter of concern.

No co-relation could be established between the data of congestion assessed practically by inter operator call and that of obtained from MSCs.

2.2.1.4 HELP LINE PRACTICAL ASSESSMENT

Calls were made to practically verify the percentage of *calls answered electronically within 20 seconds* and *40 seconds* and percentage of *calls answered by operator within 60 seconds and 90 seconds*. In Operators assisted helpline for 90 Sec & 60 Sec, 40.31 % & 34.88% of operators not meeting the benchmark respectively.

2.2.2 QUALITY OF SERVICE FOR BSO'S

2.2.2.1 EXCHANGE AUDIT

In the case of basic service, out of the 18 benchmark parameters as per QOS Regulation July 2005, the performance of the entire audited licensee operators (73 nos) was significantly below the benchmark vis-à-vis *provision of telephone after registration of demand, Customer care promptness (Shifts) & Grade of Service (Junction between local exchange)*.

Table 3 [% BSO's met the benchmark]

Parameters	Benchmark	Operators that met the benchmarks [in %]
Metering & billing credibility	< 0.1 %	85.29
Mean Time to Repair (MTTR)	< 8 Hrs	78.13
% of Calls Answered by Operator within 60 sec	> 80 %	75.00
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	74.19
Customer care promptness (Additional facility)	> 95 %	71.43
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	70.00
Call completion rate in local network	> 55 %	69.70
Fault repaired by next working day	> 90 %	63.08
% of Calls Answered by Operator within 90 sec	> 95 %	60.32
Time taken for refund after closures	100 %	58.33
Customer care promptness (Closures)	> 95 %	58.33
Fault incidence	< 5 %	54.69
Grade of Service (Junction between local exchange)	< 0.002	52.31
Customer care promptness (Shifts)	> 95 %	44.26
Provision of telephone after registration of demand	100 %	8.57

In the case of parameter *Provision of Telephone after registration of demand*, **only 8.57%** of the operators meet the benchmark. None of other operators except TATA-Maharashtra, TATA-Tamilnadu, Rel. Com. -WB, Rel. Com.-Bihar, Rel. Com. - HP & Rel. Com. - Orissa meet the benchmark.

Analysis of parameter *Customer care promptness (Shifts)* for % operators meeting the benchmark results in noticeable low as 44.26%. Bharti UP-(E) (0.00), BSNL-AP (30.17) and MTNL-Mumbai (31.51) is showing noticeable low against benchmark.

When we look at parameter *Grade of Service (Junction between local exchange)* then we find that only 52.31% of operators are meeting the benchmark, BSNL-Maharashtra (4.8600), Rel. Com.-WB (1.5100) and Rel. Com. - HP (1.3600) are showing considerable high values against the given benchmark.

2.2.2.2 HELP LINE PRACTICAL ASSESSMENT

Calls were made to verify the *percentage of Calls Answered electronically within 20 seconds and 40 seconds* and percentage of Calls Answered by operator within 60 seconds and 90 seconds.

16.42% and 10% of the operators are not meeting the performance benchmarks with respect to parameters *percentage of Calls Answered by operator within 90 seconds and % of Calls Answered Electronically [IVR] within 40 sec* respectively.

The overall performance looks better with % operator meeting the benchmark figuring as high as 95% for *percentage of Calls Answered electronically within 20 seconds*.

2.2.3 CUSTOMER SATISFACTION SURVEY [CELLULAR]

Cellular service subscriber's customer perception with respect to operator's service was assessed for "7" defined parameters through 30 questions. As regards to the circle wise performance of the operators, 57.22% operators in Metro, 55.13% in A Circle, 65.78% in B Circle and 63.11% in C Circle are not meeting the parameter's benchmark. The findings with respect to major parameters are as follows:

2.2.3.1 OVERALL CUSTOMER SATISFACTION LEVEL

The customer perception of overall customer satisfaction level is poor in all the circles, only 7 operators out of a total of 129 operators (5.43%) meet the benchmark of >95%.

- In Metro circles, only 4 of the operators namely BPL-Mumbai, Bharti-Mumbai, Rel. Comm.-Mumbai & TATA-Mumbai achieved the overall customer satisfaction level. The lowest overall customer satisfaction level achieved by Bharti-Kolkata, BSNL- Kolkata, and TATA- Kolkata with 82%. The achievement level of operators not meeting the benchmark is ranging between 82 -93%.
- In A Circles only 3 of the operators namely Rel. Comm. AP, Hutch AP & TATA AP meet the benchmark. The lowest overall customer satisfaction level achieved by TATA-Karnataka (81%). The achievement level of operators not meeting the benchmark is ranging between 81-94%.
- In B Circles none of the operators meets the benchmark. The achievement level of operators not meeting the benchmark is ranging between 69-90%. The lowest overall customer satisfaction level achieved by Hutch-Punjab (69%). The highest achievement level was achieved by Bharti-Kerala (90%) but failed to meet the benchmark.
- In C circles none of the operators meets the benchmark. The achievement level of operators not meeting the benchmark is ranging between 74 - 88%. The lowest overall customer satisfaction level achieved by Dishnet- North East (74%) and the highest was achieved by Dishnet -Orissa (88%) but failed to meet the benchmark.

2.2.3.2 NETWORK PERFORMANCE

The customer perception of the parameter network performance is poor as only 20 out of 129 operators (15.50%) meet the benchmark of >95%.

- In Metro Circles only 6 operators out of 24 meet the benchmark. The achievement level of operators not meeting the benchmark is ranging between 70 -93% with lowest of BSNL-Kolkata (70%).
- In A Circles only 13 out of 30 operators meet the benchmark. The achievement level of operators not meeting the benchmark is ranging between 70-94% with lowest of TATA and Idea –Gujrat (70%).

- In B circles only one operator i.e. Bharti-Kerala meets the benchmark. The achievement level of operators not meeting the benchmark is ranging between 62%-93% with lowest of TATA-UP (W) (62%).
- In C circles none of the operators meets the benchmark. The achievement level of operators not meeting the benchmark is ranging between 59-73% with lowest of RTL-Orissa (59%).

2.2.3.3 BILLING

The survey was conducted separately for post-paid and pre-paid customers. In the case of post-paid segment overall 48.76% and in case of prepaid segment 81.40% of operators meet the benchmark.

- Metro Circles: All the 24 operators audited meet the benchmark for pre-paid segment. In the case of post-paid, 9 operators out of 23 meet the benchmark. The achievement level of operators, which do not meet the benchmark, ranging between 63 - 89% for post paid segment. The lowest satisfaction in postpaid billing services is observed for Hutch-Chennai (63%).
- A Circles: 9 out of 30 audited operators do not meet the benchmark for pre-paid segment. The achievement level of operators, not meeting the benchmark, ranging between 81-89% with lowest of TATA-Karnataka (81%). Where as in post paid segment 10 out of 30 operators do not meet the benchmark. The achievement level of operators not meeting the benchmark ranging between 71 - 88% with lowest of Bharti-Tamilnadu (71%).
- B Circles: In the pre-paid segment 10 out of 48 operators do not meet the benchmark. The achievement level of operators not meeting the benchmark, ranging between 51 - 89% with lowest of Hutch-Punjab (51%). Where as in the post-paid segment, 29 out of 46 operators do not meet the benchmark. The achievement level of the operators not meeting benchmark ranging between 50 - 89% with lowest of BSNL - UP (E) (50%).
- C Circles: In pre-paid segment 5 operators out of 27 do not meet the benchmark. The achievement level of operators not meeting the benchmark, ranging between 80 - 85% with lowest of Dishnet – J&K & Bharti-Orissa (80%). In the post-paid segment, 9 out of 22 operators do not meet the benchmark. The achievement level of operators not meeting the benchmark ranging between 63 - 89% with lowest of Bharti - Orissa (63%).

2.2.3.4 MAINTAINABILITY

Responses were received for 110 out of 129 operators. 75 out of 110 (68.18%) service providers do not meet the benchmark. The percentage of operators, not meeting the benchmark are: Metro circle - 95%, A Circles 54.16%, B circles 63.63% and C Circles – 68.18%.

2.2.3.5 HELP LINE SERVICE

Responses were received form all 129 licensees. 120 out of 129 (93.02%) service providers do not meet the benchmark. The percentage of operators not meeting the benchmark are: Metro Circles 87.5%, A Circles 83.33%, B Circles 97.92% and C Circles 100%. The achievement level

of operators not meeting the benchmark ranging between 58 - 87% in Metro circles, 53 – 89% in A circles, 48-88% in B Circles & 53-83% in C Circle.

2.2.4 CUSTOMER SATISFACTION SURVEY [BASIC]

Basic service subscriber's perception towards the service provided by their service providers was assessed for "7" defined parameters through 29 questions. 50.37 % (29 out of 58 service providers) do not meet the benchmark for all the parameter taken together. Where as looking at circle wise performance of the operators, 55.55% operators in Metro Circles, 31.39% in A Circles, 47.16% in B Circles and 77.96% in C Circles do not meet the benchmark parameters.

The findings with respect to major parameters are as follows:

2.2.4.1 OVERALL CUSTOMER SATISFACTION

- Metro Circles: 12 out of 15 (80%) operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 71 - 94% with lowest of BSNL-Kolkata (71%).
- A Circles: 5 out of 13 (38.46%) operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 87 – 92% lowest Bharti-Karnataka (87%).
- B Circle: 15 out of 24 operators (62.5%) do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 79 - 94% with lowest of BSNL-WB (79%).
- C Circle: 8 out of 9 (88.88%) operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 62 - 92% with lowest of BSNL-Assam (62%).

2.2.4.2 MAINTAINABILITY

- Metro Circles: 7 out of 10 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 75- 93% with lowest of BSNL – Chennai (75%).
- A Circles: 3 out of 9 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 86 - 93% with lowest of BSNL-Maharashtra (86%).

- B Circles: 12 out of 21 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 74 - 94% with lowest of BSNL-WB (74%).
- C Circles: None of the 8 operators audited meet the benchmark. The achievement level of operators not meeting benchmark ranges between 60 - 87% with lowest of BSNL-Assam (60).

2.2.4.3 BILLING SERVICES

- Metro Circles: 5 out of 15 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 61 - 88% with lowest of BSN-Kolkata (61%)
- A Circles: 2 out of 13 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 77 - 88% with lowest of Bharti – Karnataka (77%)
- B Circles: 5 out of 24 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 62 – 84% with lowest of BSNL-UP (W) (62%).
- C Circles: 6 out of 9 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 60 - 86% with lowest of BSNL-North east & BSNL-Orissa (60%).

2.2.4.4 HELP SERVICES

- Metro Circles: Only one operator namely Rel. Comm. –Mumbai meets the benchmark. . The achievement level of operators not meeting benchmark ranges between 60 - 84% with lowest of Bharti-Kolkata & Mumbai (60%).
- A Circles: 9 out of 13 operators do not meet the benchmark. The achievement level of operators not meeting benchmark ranges between 57 - 79% with lowest of BSNL-Gujrat (57%).
- B Circles: Only one operator namely BSNL- Chhattisgarh meets the benchmark. The achievement level of operators not meeting benchmark ranges between 55 - 81% with lowest of BSNL-MP (55%).
- C Circles: None of 8 operators audited meets the benchmark. The achievement level of operators not meeting benchmark ranges between 58 - 80% with lowest of BSNL-Assam (58%).

2.3 **SALIENT FINDINGS**

During the audit of Exchanges, MSCs and various other related establishments, there were few abnormal observations noted by TUV Auditors. Some of them have been listed below:

2.3.1 **QOS AUDIT – BASIC SERVICE PROVIDERS**

- ✓ Data for the audits are available only at main exchanges. Audit of rural exchange indicates the following issues:-
 - Maintenance at Rural exchanges requires improvement. Most of the Rural Exchanges do not maintain Registers for complaints and fault records properly. Some exchanges such as Mala, Bettada pura, Bajegoli, Terakanabhi, Addagadda in Karnataka do not maintain fault registers as at time of audit we did not find previous month registers. Similar kind of cases was observed in BSNL-HR (Rohtak).
 - To apply for new connections, the subscriber has to visit the main exchange as this facility is not available at rural exchanges. This leads to discomfort for the rural subscribers. This was observed at all the circles of BSNL.
 - Long waiting list was observed in cases where the exchange is not offering telephone connection on demand. During the audit at Bhiwani main exchange [BSNL–HR], the waiting list was 300 as on 04.12.06. Similar waiting list was found in rural exchanges where subscribers may have to wait long for services.
- ✓ For all the parameters, when the value is calculated on exchange basis, it does not meet the benchmark set by TRAI. However, when the average value is taken for the circle together, it meets the benchmark. True picture does not get reflected.
- ✓ Most of the Exchanges of Karnataka circles are not maintaining the Traffic reports.
- ✓ Calculation method of MTTR is not uniform across all operators. Some of them calculate on real time basis, others calculate on day basis. Some of the operators exclude holidays and Sundays, while others include it.

2.3.2 QOS AUDIT – CELLULAR SERVICE PROVIDERS

- ✓ Generally it is observed that if calculated as a whole for the circle the operators meet the benchmark parameter, where as, if calculated individually across single cell/BTS, the call drop rates are alarming at few BTS, POI Congestion are alarming at few MSCs.
- ✓ Reliance Telecom – H.P, POI congestion With BSNL –Dharamsala was found very high at 40.82, 39.69 & 37.69 for the month of Oct, Nov and Dec-06 respectively.
- ✓ TTSL-HP, POI congestion for Dharamsala Tax CMO was very high at 48.85 & 40.16 for the month of Oct – Nov 06 respectively.
- ✓ BSNL (M)-HP, Practical POI congestion for Reliance Telecom was very high at 40%.
- ✓ During internal drive test none of the operator carry-out the indoor network testing. They don't carry out the regular planned drive test as well. Drive test is conducted by operator whenever there is a problem in their network. With such unplanned Drive tests the PMR data doesn't represent true data.
- ✓ Calculation of CSSR is based on taking a sample of 100 calls only in case of RTL where as BSNL-HR unable to provide details of performance data like no. of call attempts & established however they do provide % of CSSR.
- ✓ In Tata-Delhi, IVR & Agent response both for Fix & Mobile are same they cannot separate it.
- ✓ Service access delay – Most of the operators not using Network protocol analyzer for calculating service access delay, such as MTNL-Delhi and Bharti, Hutch and TATA – Rajasthan.
- ✓ Billing related data was not provided by **MTNL (Mobile)-Delhi** because they have no records of data. Beside it both Refunds & Recovery cases are also pending since 1 year. They cannot separate Refund & Recovery cases.

3 **SUMMARISED FINDINGS**



South Asia

3.1 SUMMARISED FINDINGS (ALL INDIA BASIS)

The Fourth Quarter involved the period Oct. – Dec. 2006. In the Fourth quarter, 7 Basic and 14 Cellular Operators (Source: TRAI PMR SEP 2006) were required to be covered.

The 7 Basic Service Operators were audited in their Operating circles by the following activities:

- ✓ Sampled Exchanges
- ✓ Helpline
- ✓ Customer Care Centre

The 14 Cellular Mobile Service Operators were audited in their Operating circles by the following activities:

- ✓ Operator Assisted Drive test
- ✓ Sampled MSCs
- ✓ POI Congestion
- ✓ Helpline
- ✓ Customer Care Centre
- ✓ Independent Drive Test

In the Fourth quarter, on receipt of a request from TRAI to conduct drive tests for all operators in the selected cities of Bihar Telecom circle, 20 independent drive tests were conducted. The detailed findings have been attached as Annexure 1[Section 7.1 of this report].

3.2 QOS - CELLULAR SERVICES

3.2.1 CELLULAR MSC AUDIT (WITH CUSTOMER CARE CENTRE)

3.2.1.1 COVERAGE

Table 4 [Listed Active CMSPs]

Type	Nos. of Operators	Name Of Operators
Cellular (GSM+CDMA) Services	14 as per PMR	BPL
		IDEA
		BSNL
		BHARTI
		RCOM
		TATA
		HUTCH
		SPICE
		AIRCEL
		RTL
		MTNL
		HFCL
		DISHNET
		RISL

Table 5 [Listed Active Circles in Cellular Services]

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle
1	BHARTI	ND	AP	HR	AM
		MB	GJ	KL	BH
		CH	KR	MP	HP
		KK	MH	PB	NE
			TN	RJ	J&K
				UP (E)	OR
				UP(W)	
		WB			
2	HUTCH	ND	AP	HR	NO
		MB	GJ	PB	
		CH	KR	RJ	
		KK	MH	UP(E)	
			TN	UP(W)	
				WB	
		KL			
3	TATA	ND	AP	HR	BH
		MB	GJ	KL	HP
		CH	KR	MP	OR
		KK	MH	PB	
			TN	RJ	
				UP (E)	
				UP(W)	
		WB			
4	IDEA	ND	AP	HR	NO
			GJ	KL	
			MH	MP	
				UP(W)	
5	MTNL	MB	NO	NO	NO
		ND			
6	RCOM	ND	AP	HR	BH
		MB	GJ	KL	HP
		CH	KR	MP	OR
		KK	MH	PB	
			TN	RJ	
				UP (E)	
				UP(W)	
		WB			
7	BPL	MB	NO	NO	NO
8	AIRCEL	CH	TN	NO	NO
9	RISL	KK	NO	NO	NO
10	RTL	NO	NO	WB	AM

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle
				MP	BH
					HP
					NE
					OR
11	SPICE	NO	KR	PB	NO
12	BSNL	CH	AP	HR	AM
		KK	GJ	KL	BH
			KR	MP	HP
			MH	PB	NE
			TN	RJ	J&K
				UP (E)	OR
				UP(W)	
		WB			
13	HFCL	NO	NO	PB	NO
14	DISHNET			WB	AM
		NO	NO		NE
					J&K
					OR
Total Required as per PMR	14	24	30	48	27
Total Covered	14	24	30	48	27
%age Coverage	100%	100%	100%	100%	100%
Operators Circle Coverage				129/129x100 = 100%	

3.2.1.2 PERFORMANCE

Table 6 [Parameter based performance (All Circles) of the CMSP's]

Parameters	Benchmark	Metro Circle		Circle-A		Circle-B		Circle-C		All Circle		% operators meeting bench-mark
		No of CMSP's Audited	No of operator not meeting bench-mark	No of CMSP's Audited	No of operator not meeting bench-mark	No of CMSP's Audited	No of operator not meeting bench-mark	No of CMSP's Audited	No of operator not meeting bench-mark	No of CMSP's Audited	No of operator not meeting bench-mark	
		24		30		48		27		129		
Accumulated downtime of community isolation	< 24Hrs	24	0	30	3	48	1	27	1	129	5	96.12
Call Setup Success Rate	> 95%	24	0	30	3	48	3	27	2	129	8	93.80
Service Access Delay	< 20 Sec	24	0	28	0	46	0	26	1	124	1	99.19
SDCCH	< 1%	24	0	29	0	48	3	27	7	128	10	92.19
TCH Congestion	< 2%	24	2	29	1	48	5	27	8	128	16	87.50
Call Drop Rate	< 3%	24	0	30	0	48	0	27	2	129	2	98.45
% of connections with good voice quality	> 95%	23	3	30	3	47	4	26	4	126	14	88.89
POI Congestion	< 0.5 %	29	18	45	32	23	18	23	15	120	83	30.83%
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	23	5	27	6	41	1	20	3	111	15	86.49
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	23	6	27	7	41	3	19	2	110	18	83.64
% of Calls Answered by Operator within 60 sec	> 80%	24	11	28	13	43	17	24	7	119	48	59.66
% of Calls Answered by Operator within 90 sec	> 95%	23	15	28	19	43	24	24	6	118	64	45.76
Complaints per 100 bills issued	< 0.1%	22	7	30	8	45	8	25	3	122	26	78.69
% of Billing complaints resolved within 4 weeks	100%	22	3	30	1	45	5	23	1	120	10	91.67
Period of refunds from the date of resolution of complaints	100%	23	5	25	3	44	6	23	4	115	18	84.35

Note : The shortfall noticed in the nos. of operators audited in any of the circles are either due to data not provided by the service provider or “Not applicable” at some of the service providers. Details are provided in “Footnote” of respective Tables & Graphs.

3.2.1.3 CRITICAL ANALYSIS

The overall compliance with the benchmark is better in respect of the parameters Service Access Delay (99.19%), Call Drop Rate (98.45%), Call Setup Success Rate (93.80%), Accumulated Downtime (96.12%), % complaints resolved with in 4 weeks (91.67%), SDCCH congestion (92.19%).

The parameters, which are of concern, are *Billing complaints per 100 bills* issued: 21.31% of the operators audited are not meeting the criteria. *Percentages of Calls answered by operator within 60 Seconds*: 40.34% of the operators are not meeting the criteria. *Percentages of Calls answered by operator within 90 Seconds*: 54.24% of the operators are not meeting the criteria.

The operators whose performance on a particular parameter is significantly lower are listed in subsequent table:

Table 7 [Performance (All Circles) significantly lower than the benchmark (Cellular)]

Parameters	Metro Circles		A Circles		B Circles		C Circles		
Accumulated downtime of community isolation	None		None		UP(W)-BHARTI	54.20	BH-BSNL	1608.00	
Call Setup Success Rate	None		None		None		J&K-BSNL	51.69	
SDCCH	None		None		None		BH-BHARTI	7.550	
							AM-DISHNET	3.730	
							NE-DISHNET	3.230	
							OR-BHARTI	2.480	
							BH-RTL	2.780	
TCH Congestion	None		KR-SPICE	4.950	WB-RTL	27.750	OR-RTL	13.710	
					MP-RTL	10.186	NE-RTL	7.300	
							HP-RTL	6.100	
							BH-BHARTI	4.790	
							AM-RTL	4.700	
Call Drop Rate	None		None		None		J&K-BSNL	19.26	
% of Calls Answered Electronically [IVR] within 20 sec	CH-BHARTI	39.00	MH-BSNL	22.82	None		NE-BHARTI	10.36	
			TN-BSNL	38.00			AM-BSNL	20.00	
% of Calls Answered Electronically [IVR] within 40 sec	None		MH-BSNL	22.82	None		None		
% of Calls Answered by Operator within 60 sec	CH-BSNL	38.00	TN-BSNL	37.00	Raj-BSNL	6.05	HP-BSNL	7.73	
					PB-BSNL	8.49	J&K-BSNL	22.71	
					UP(E)-BSNL	10.21			
					UP(W)-BSNL	10.92			
					HR-BSNL	11.07			
					KL-BHARTI	20.34			
% of Calls Answered by Operator within 90 sec	None		MH-BSNL	41.83	Raj-BSNL	9.13	HP-BSNL	11.71	
					PB-BSNL	12.62	J&K-BSNL	31.58	
					UP(E)-BSNL	14.94			
					UP(W)-BSNL	15.86			
					HR-BSNL	16.34			
							KL-BHARTI	20.68	
Complaints per 100 bills issued	CH-TATA	1.000	TN-TATA	1.410	UP(W)-TATA	1.197	BH-TATA	1.800	
	ND-TATA	0.770	TN-BHARTI	1.250	HR-RCOM	0.800	NE-BHARTI	0.710	
	MB-TATA	0.480	TN-AIRCEL	0.670	PB-TATA	0.700	HP-TATA	0.420	
	KK-BSNL	0.320	GJ-TATA	0.360	HR-IDEA	0.640			
	CH-AIRCEL	0.240	AP-IDEA	0.310					
% of Billing complaints resolved within 4 weeks	KK-BSNL	32.00	None		None		OR-BSNL	0.00	
Period of refunds from the date of resolution of complaints	ND-MTNL	3.87	None		None		OR-BSNL	0.00	
	KK-BSNL	26.44					BH-BSNL	40.00	
	KK-TATA	33.88							

3.2.2 INTER OPERATOR CALL ASSESSMENT(POI)

3.2.2.1 COVERAGE

Practical calls were made for all possible combinations for checking POI Congestion. The observations have been tabulated.

3.2.2.2 PERFORMANCE OF POI BASED ON PRACTICAL ASSESSMENT

Table 8 [Practical Assessment of POI Performance (Cellular)]

Circle/ Operators	BHARTI	HUTCH	TATA	IDEA	MTNL	BSNL	RCOM	RISL	RTL	DISHNET	HFCL	SPICE	BPL	Aircel
Metro	1/33	1/32	4/31	0/6	1/19	3/13	2/31	3/6	NO	NO	NO	NO	1/11	0/7
A Circle	3/34	10/34	5/34	5/22	NO	14/34	4/34	NO	NO	NO	NO	4/6	Merged with Hutch	0/7
B Circle	14/55	17/46	8/55	8/28	NO	14/50	4/57	NO	6/14	1/7	0/6	0/6	Merged with Hutch	NO
C Circle	11/28	NO	11/16	NO	NO	13/26	7/18	NO	15/25	9/16	NO	NO	NO	NO
All Circles Total	29/150	28/112	28/136	13/56	1/19	44/123	17/140	3/6	21/39	10/23	0/6	4/12	1/11	0/14
% Congestion	19.33	25	20.58	23.21	5.26	35.77	12.14	50	53.84	43.47	0	33.33	9.09	0

Note: The figures are presented as [A/B] where “A” is number of interconnections where congestion is observed and “B” is total number of interconnections established.

3.2.2.3 PERFORMANCE OF POI BASED ON DATA FROM MSC'S

Table 9 [Performance of POI based on MSC Data – (1)]

Circle/ Operators	BHARTI	HUTCH	TATA	IDEA	MTNL	BSNL	RCOM
Metro Circle	14/131	12/199	13/214	0/84	8/36	1/26	2/75
A Circle	118/301	4/245	23/356	12/275	NO	59/524	15/126
B Circle	58/270	16/273	19/335	28/183	NO	7/320	46/196
C Circle	28/135	NO	13/90	NO	NO	5/54	11/44
All Circles Total	218/837	32/717	68/995	40/542	8/36	72/924	74/441
% Congestion	26.05	4.46	6.83	7.38	22.22	7.79	16.78

Table 10 [Performance of POI based on MSC Data – (2)]

Circle/ Operators	RISL	RTL	DISHNET	HFCL	SPICE	AIRCEL	BPL
Metro Circle	6/14	NO	NO	NO	NO	1/23	9/27
A Circle	NO	NO	NO`	NO`	0/22	8/32	With HUTCH
B Circle	NO	28/83	0/4	DNP	3/23	NO	With HUTCH
C Circle	NO	14/48	12/67	NO	NO	NO	NO
All Circles Total	6/14	42/131	12/71		3.45	9/55	9/27
% Congestion	42.85	32.06	16.90		6.66	16.36	33.33

Note: - DNP means – Data Not Provided by operator, “NO” means not operating

3.2.2.4 CRITICAL ANALYSIS

The POIs are found congested in case of RISL (42.85%), BPL (33.33), RTL (32.06%), BHARTI (26.05%), MTNL (22.22%), Dishnet (16.90%), RCOM (16.78%), Aircel (16.36%), IDEA (7.38%), BSNL (7.8%), TATA (6.83%), SPICE (6.66%), & HUTCH (4.46%). Significantly 13 operators (92.85%) are found congested out of 14 Operators setting up priority for improvement.

3.2.3 HELPLINE SERVICES [PRACTICAL ASSESSMENT] CELLULAR

3.2.3.1 COVERAGE

In this section all existing 129 service providers were covered. Calls were made to their helpline centers [published helpline no] for verification, resulting in performance depicted in next section.

3.2.3.2 PERFORMANCE BASED ON PRACTICAL ASSESSMENT

Table 11 [Circle wise Helpline performance (Practical Assessment)]

Parameters	Benchmark	Metro Circle		Circle-A		Circle-B		Circle-C		All Circle		% operators meeting benchmark
		No of CMSP's Audited	No of operator not meeting benchmark	No of CMSP's Audited	No of operator not meeting benchmark	No of CMSP's Audited	No of operator not meeting benchmark	No of CMSP's Audited	No of operator not meeting benchmark	No of CMSP's Audited	No of operator not meeting benchmark	
		24		30		48		27		129		
% of Calls Answered Electronically [IVR] within 20 sec	>80%	23	2	29	2	46	9	23	4	121	17	85.95%
% of Calls Answered Electronically [IVR] within 40 sec	>95%	23	3	29	9	46	10	23	2	121	24	80.17%
% of Calls Answered by Operator within 60 sec	>80%	24	4	30	11	48	21	27	9	129	45	65.12%
% of Calls Answered by Operator within 90 sec	>95%	24	4	30	16	48	23	27	9	129	52	59.69%

3.2.3.3 CRITICAL ANALYSIS

Percentage Of call answered by operator (voice to voice) within 60 sec: 34.88% of the operators audited are not meeting the criteria.

Percentage Of call answered by operator (voice to voice) within 90 sec: 40.31 % of the operators audited are not meeting the criteria.

3.2.4 DRIVE TEST [CELLULAR SERVICES]

3.2.4.1 COVERAGE

Total no. of drive test required to be conducted was 360. 360 Drive Tests were conducted as detailed in following table.

Table 12 [Drive Test in Quarter 4]

Region	Circle	Cities
North	H.P	Bilaspur, Ghumarwain, Sundernagar
North	PB	Kapurthla, Gurdaspur, Hoshiarpur
North	HR	Kurshetra, Rohtak, Nornoul
North	UP(W)	Roorki, Muzaffarnagar, Bulandshahar
North	UP(E)	Gorakhpur, Jhansi, Varanashi
North	RJ	Jaisalmer, Ganganagar, Hanumangarh
North	MP	Bilaspur, Satna, Bhind
North	ND	Delhi
North	J&K	Jammu, Samba, Katra,
East	W.B	Ranigang, PortBlair
East	KK	Central Kolkata, Howrah
East	BH	Bhahalpur, Purnia, Katihar
East	JD	Deoghar, Giridi, Chaibhasa
East	OR	Sambalpur, Bargarh, Angul
East	AM	Tejpur, Dekiajuli, Rangapara
East	NE	Agartala, Udaypur, Belonia
East	A & N	Port Blair
South	CH	Chennai
South	AP	Tirupathi, Anantpur, Kurnool
South	KR	Madikeri, Gulbarga, Bijapura
South	KL	Malapuram, Kolayam, Ambalapucha
South	TN	Tirupur, Karoor, Trichy
West	MH	Nagpur, Sangli, Nanded
West	GJ	Jamnagar, Bhuj, Junagadh
West	MB	Mumbai

Note: In B Circle drive test was not conducted for HFCL- Punjab as it has recently been upgraded to full mobility.



3.2.4.2 PERFORMANCE [DRIVE TEST –CELLULAR]

Table 13 [Drive Test Performance (“Metro” Circle)]

Parameters		ND						MB						KK					CH						
Benchmarks		BHARTI	HUTCH	TATA	IDEA	MTNL	RCOM	BHARTI	HUTCH	TATA	BPL	MTNL	RCOM	BHARTI	HUTCH	TATA	BSNL	RCOM	RISL	BHARTI	AIRCEL	BPL (HUTCH)	TATA	BSNL	RCOM
% Connections with Good Voice Quality	>95%	90.15	97.52	96.02	91.11	96.09	97.97	91	93.46	95.6	94.94	82	98.2	96.45	98.23	98.31	97.29	97.81	97.88	90.08	95.39	96	95.17	94.4	97.68
Call Drop Rate	<3%	1.9	0	0.46	1.47	0.73	0.5	2.9	4.91	1.8	3.62	6.5	0.8	1.38	0.78	0.66	0.42	0	0.82	1	0	0	0.1	1.5	0
Call Success Rate	>95%	99.2	100	99.5	99.71	99.36	100	100	100	100	99.67	95.5	98.8	98.56	99	100	99.5	100	98.67	98.72	99	100	98.5	100	100
Blocked Calls	<3%	0	0	0.5	0	0.97	0	0	0	0	0.62	6.39	1.2	1.43	1.22	0	0	0	1.65	2	2.16	0	0.3	0	0

Table 14 [Drive Test Performance ("A" Circle)]

Parameters / Benchmarks		AP						GJ						KR					
		BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	SPICE	BSNL	RCOM	HUTCH	TATA
% Connections with Good Voice Quality	>95%	97.88	97.7	98.86	91.6	99.97	99.21	97.58	98.21	98.18	89.47	98.32	96.77	74.81	98.81	93.47	98.32	94.67	98.28
Call Drop Rate	<3%	0	0	0	0	0	0	0.26	0	0.27	3.67	0.57	0	0.45	0	1.89	0	0.19	0.19
Call Success Rate	>95%	100	100	99.1	97.23	100	100	100	100	100	94.42	100	100	99.52	100	98.12	99.62	99.67	99.85
Blocked Calls	<3%	0	0	0.6	2.8	0	0	0	0	0	1.94	0	0	0	0	0.98	0	0.33	0

Parameters / Benchmarks		MH						TN					
		RCOM	BHARTI	BSNL	HUTCH	TATA	IDEA	RCOM	BHARTI	Aircel	BSNL	TATA	HUTCH
% Connections with Good Voice Quality	>95%	98	91.06	89.82	97.97	96.93	98.09	95.61	83	82.75	85.6	95.6	85.6
Call Drop Rate	<3%	1.19	1.06	0.91	0.2	0.83	0	0	0	1	0	0	0
Call Success Rate	>95%	98.66	96.2	98.84	99.77	100	100	99	100	99	100	99	100
Blocked Calls	<3%	0.44	3.8	1.15	0.22	0	0	0	0	0	0	0	0



Table 15 [Drive Test Performance ("B" Circle)]

Parameters/ Benchmarks		HR						KL						MP					
		HUTCH	IDEA	Relince	BSNL	TATA	BHARTI	HUTCH	BHARTI	BSNL	TATA	IDEA	RCOM	Rel tel	IDEA	RCOM	BSNL	TATA	BHARTI
% Connections with Good Voice Quality	>95%	97.31	96.4	99.43	97.56	97.7	DNP	98.97	98.69	96.39	99.26	98.08	100	90.973	98.47	89.69	97.5	98.128	97.96
Call Drop Rate	≤3%	0	0	0.41	0.3	0	DNP	0	1.5	2.02	0	0	0	0.962	0.266	0	0.85	0	0.2
Call Success Rate	95%	100	100	99.6	99.93	98.2	DNP	100	100	99	100	100	100	94.73	100	100	100	100	100
Blocked Calls	<3%	0	0	0.4	0.07	0	DNP	0	0	1.01	0	0	0	3.44	0	0	0	0	0
Parameters/ Benchmarks		PB						RJ						UP (E)					
		Spice	HUTCH	RCOM	BSNL	TATA	HFCL	BHARTI	HUTCH	BHARTI	BSNL	TATA	RCOM	HUTCH	BHARTI	BSNL	TATA	Reliane	
% Connections with Good Voice Quality	>95%	99.16	94.45	99.25	99.32	98.62	N\AApp	99.36	83.86	97.56	87.8	99.67	99.51	85.41	76.86	85.68	98.62	96.36	
Call Drop Rate	≤3%	1.23	0	3.52	0	0	N\AApp	0	0.86	0	0.63	0	0.08	0.7	1.93	2.6	0.26	0.584	
Call Success Rate	95%	98.29	100	98.56	100	100	N\AApp	100	98.93	100	97.58	100	99.97	99.73	87.33	89.9	99.53	98.93	
Blocked Calls	<3%	0	0	0	0	0	N\AApp	0	5.3	0	0.84	0	0	0	11	18.34	0.29	0.35	
Parameters / Benchmarks		UP(W)						WB											
		HUTCH	IDEA	BSNL	TATA	Relince	BHARTI	Rel tel	HUTCH	RCOM	BSNL	TATA	Dishnet	BHARTI					
% Connections with Good Voice Quality	>95%	97.23	96.67	93.54	98.78	99.12	95.06	97.46	97.55	97.44	92.52	98.61	98.55	95.08					
Call Drop Rate	≤3%	1.274	0	0	0	1.43	0	0.31	0	13.9	1.63	0.88	0	0.55					
Call Success Rate	95%	98.12	99.47	99.51	100	99.35	99.76	99.04	100	96.7	99.27	99.06	100	100					
Blocked Calls	<3%	1.87	0.533	0.49	0	0	0.2307	0.95	0	3.27	1.49	0.26	0	0					

Table 16 [Drive Test Performance ("C" Circle)]

Parameters / Benchmarks		AM				BH					HP				
		RTL	BHARTI	Dishnet	BSNL	RTL	RCOM	TATA	BSNL	BHARTI	RTL	RCOM	TATA	BSNL	BHARTI
% Connections with Good Voice Quality	>95%	97.23	96.57	80.74	69.4	95.92	99.63	99.54	94.81	87.95	97.26	99.36	97.09	98.5	98.11
Call Drop Rate	<3%	0.32	0.65	0	0.06	0	0.57	1.22	4.82	0	0	0	0	2.78	0
Call Success Rate	>95%	98.2	99.47	98.15	98.45	99.75	99.26	96.95	90.33	98.59	97.94	100	100	94.42	100
Blocked Calls	<3%	2.23	0.92	2.73	1.54	0.88	0.86	2.36	6.07	1.42	2.06	0	0	0.48	0
Parameters/ Benchmarks		NE				J & K			OR						
		RTL	BHARTI	Dishnet	BSNL	Dishnet	BHARTI	BSNL	RTL	RCOM	TATA	Dishnet	BSNL	BHARTI	
% Connections with Good Voice Quality	>95%	96.45	96.4	95.59	87.51	96.55	96.84	98.32	98.73	99.35	98.96	94.98	81.8	94.84	
Call Drop Rate	<3%	0.58	0.86	4.16	1.47	0	0	0	0	0	0	0.6	0.26	0	
Call Success Rate	>95%	98.26	99.71	96.38	87.65	100	100	100	98.75	98.93	100	99.22	100	100	
Blocked Calls	<3%	1.16	0.48	0	3.3	0	0	0	1.8	0	0	0.3	1.2	0	

Note : Despite repeated follow up with BSNL- NE Circle the drive test log files were not provided to us for our review and comment. BHARTI-HR was also not able to provide the actual log-files for the conducted drive test.

3.2.4.3 CRITICAL ANALYSIS

- In the “Metro” Circle only 16 out of 24 operators (66.66%) are meeting all the parameters. The MTNL-MB is topping the list for non conformance against the benchmark with *Call Drop Rate* at as high as 6.5% and *Blocked call rate* towering at 6.39%.
- In “A” Circle only 19 out of 30 operators (63.33%) are meeting all the parameters. BHARTI-KR is at bottom of the list for parameter *% Connections with Good Voice Quality* dipping down to lowest at 74.81% followed by Aircel-TN(82.75%), BHARTI - TN (83%).
- In “B” Circle only 34 out of 46 operators (73.91%) are meeting all the parameters. The **Call drop rate** is found highest at 13.9% for RCOM-WB among all other operators.
- In “C” Circle only 17 out of 27 operators (62.96%) are meeting all the parameters. The BSNL-BH is not meeting benchmark for any parameter raising concerns while *% Connections with Good Voice Quality* is found to be lowest for BSNL-AM at 69.4% followed by DISHNET-AM (80.74%), BSNL-OR (81.8%)



3.3 **QOS – BASIC SERVICES**

3.3.1 **BASIC EXCHANGE AUDIT (WITH CUSTOMER CARE CENTRE)**

The following operators were covered in Quarter 4

3.3.1.1 **COVERAGE**

Table 17 [Listed Active Basic Service Providers]

Type	Nos.of Operators	Name Of Operators
Basic Services	7 as per PMR	MTNL
		BSNL
		RCOM
		BHARTI
		TATA
		SHYAM
		HFCL

Table 18 [Listed Active Circles in Basic Services]

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle
1	BSNL	CH	AP	MP	BH
		KK	GJ	CG	A & N
			MH	PB	AM
			TN	RJ	HP
			KR	HR	JD
			KL	J&K	
			UP(E)	NE1	
			UP(W)	NE2	
			WB	OR	
			UC		
2	MTNL	ND	NO	NO	NO
		MB			
3	RCOM	ND	AP	MP	BH
		MB	GJ	PB	OR
		CH	MH	RJ	HP
		KK	TN	HR	
			KR	KL	
			UP (E)		
			UP (W)		
	WB				
4	TATA	ND	AP	NO	NO
		MB	GJ		
		CH	MH		
			TN		
			KR		
5	BHARTI	ND	AP	MP	NO
		MB	TN	PB	
		KK	KR	UP(W)	
		CH	GJ	HR	
			MH	UP(E)	
				KL	
6	SHAYAM	NO	NO	RJ	NO
7	HFCL	NO	NO	PB	NO
Total required to be covered as per PMR	7	15	20	26	12
Total Covered	7	15	20	26	12
Percentage Covered	100%	100%	100%	100%	100%
Operators-Circle Coverage			73/73 x 100 = 100%		

3.3.1.2 PERFORMANCE

Table 19 [Parameter based (All Circles) performance of BSO's]

Parameters	Benchmark	Circle-A		Circle-B		Circle-C		Metro Circle		All Circle		% operators meeting benchmark
		No of operators Audited	No of operator not meeting benchmark	No of operators Audited	No of operator not meeting benchmark	No of operators Audited	No of operator not meeting benchmark	No of operators Audited	No of operator not meeting benchmark	No of operators Audited	No of operator not meeting benchmark	
		20		26		10		15		71		
Provision of telephone after registration of demand	100 %	20	18	26	25	9	6	15	15	70	64	8.57
Fault incidence	< 5 %	20	5	23	15	6	4	15	5	64	29	54.69
Fault repaired by next working day	> 90 %	20	7	23	8	7	6	15	3	65	24	63.08
Mean Time to Repair (MTTR)	< 8 Hrs	20	4	23	6	6	3	15	1	64	14	78.13
Grade of Service (Junction between local exchange)	< 0.002	20	8	24	12	6	4	15	7	65	31	52.31
Call completion rate in local network	> 55 %	19	4	24	8	8	5	15	3	66	20	69.70
Metering & billing credibility	< 0.1 %	19	4	26	3	8	1	15	2	68	10	85.29
Customer care promptness (Shifts)	> 95 %	19	10	22	12	5	4	15	8	61	34	44.26
Customer care promptness (Closures)	> 95 %	17	6	24	11	5	3	14	5	60	25	58.33
Customer care promptness (Additional facility)	> 95 %	19	6	25	8	4	1	15	3	63	18	71.43
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	7	3	10	0	6	1	8	4	31	8	74.19
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	6	3	10	2	6	0	8	4	30	9	70.00
% of Calls Answered by Operator within 60 sec	> 80 %	18	7	23	2	9	1	14	6	64	16	75.00
% of Calls Answered by Operator within 90 sec	> 95 %	17	8	23	7	9	1	14	9	63	25	60.32
Timetaken for refund after closures	100 %	20	7	22	9	6	3	12	6	60	25	58.3

Note : The shortfall noticed in the nos. of operators audited in any of the circles are either due to data not provided by the service provider or “Not applicable” at some of the service providers. Details are provided in “Footnote” of respective Tables & Graphs. * A&N and NE II Covered in Q3

3.3.1.3 CRITICAL ANALYSIS

The parameters, which are of concern, are:-

- *Provisions of telephone after registration of demand* 91.43% operators are not meeting the benchmark.
- *Customer care promptness (Shifts)* 55.74% operators are not meeting the benchmark.
- *Grade of Service (Junction between local exchange)* 47.69% operators are not meeting the benchmark.
- *Fault incidence* 45.31% operators are not meeting the benchmark.
- *Customer care promptness (Closures)* 41.67% operators are not meeting the benchmark.
- *Times taken for refund after closures* 41.67% operators are not meeting the benchmark.

The operators whose performance on a particular parameter is significantly lower than the benchmark are detailed in subsequent table.

Table 20 [Performance (All Circles) significantly lower than the benchmark (BSO's)]

Parameters	Metro Circles		A Circles		B Circles		C Circles	
Provision of Telephone after registration of demand (100% IN 7 DAYS)	None		GJ-BSNL	46.2	HR-BSNL	16.66	AM-BSNL	10.9
			KR-BSNL	32.89	KL-BSNL	19.39	BH-BSNL	24.78
			MH-BSNL	36.24	RJ-BSNL	43.51	JD-BSNL	27.2
					UP(E)-BSNL	39.72		
				WB-BSNL	27.81			
Fault Incidences (<5%)	KK-BSNL	13.7	KR-BSNL	17.05	UP(E)-BSNL	16.24	NE-I-BSNL	31.55
	MB-MTNL	74			UC-BSNL	12.13	OR-BSNL	23.84
					WB-BSNL	12.2	BH-BSNL	18.34
							JD-BSNL	15.9
Fault repair by Next Working Day (90%)	None		KR-BSNL	34.68	UP(W)-BHARTI	43.96	J&K-BSNL	49.57
Mean time for Repair (<8 HRS)	MB-MTNL	12			HR-BSNL	15.36		
			GJ-BSNL	12.79	UP(E)-BSNL	12.42	NE-I-BSNL	12.72
			GJ-TATA	12.77	UC-BSNL	14.18		
Grade of Service Junction between Local Exch (0.002%)	ND-TATA	0.55	MH-BSNL	4.86	KL-RCOM	0.23	HP-RCOM	1.36
	KK-BSNL	0.47	TN-BSNL	0.235	UP(W)-RCOM	0.29	JD-BSNL	0.5
					WB-BSNL	0.173		
					WB-RCOM	1.51		
CCR within local network (>55%)	None		None		WB-BSNL	30.4	AM-BSNL	31.63
							JD-BSNL	34.68
							NE-I-BSNL	37.9
Metering and Billing Credibility (<0.10%)	ND-TATA	0.22	GJ-BSNL	0.798	UP(E)-BHARTI	4.69		
	MB-TATA	0.78			UP(W)-BHARTI	0.651		
			KR-TATA	8.54	WB-BSNL	0.37		
			TN-BSNL	0.9				
Customer Care Promptness Shift Requests (95% in 3 Days)	MB-MTNL	31.51	AP-BSNL	30.17	UP(E)-BHARTI	0	AM-BSNL	35
			GJ-BSNL	42.94	UP(E)-BSNL	37.5	BH-BSNL	40.66
			MH-BHARTI	38.88	UP(W)-BSNL	46.15	JD-BSNL	41.14
					WB-BSNL	45.4		
Customer Care Promptness Closure Requests (95% in 24 Hrs)	KK-BSNL	37.79	None		KL-BHARTI	11.11	AM-BSNL	22.7
					UP(E)-BHARTI	38.91	JD-BSNL	22.22
Customer Care Promptness Additional Facility Requests (95% - 24 Hrs)	None		GJ-BSNL	49.39	HR-BHARTI	57	None	
			TN-BSNL	50				
Time taken for refund of deposit after closure (100% in 60 Days)	CH-TATA	0	MH-BSNL	31.13	MP -BHARTI	3.81	JD-BSNL	26.46
	ND-BHARTI	41.12			UP(E)-BHARTI	28.43		
	KK-BHARTI	22.22						

3.3.2 HELPLINE SERVICES [PRACTICAL ASSESSMENT] BASIC

3.3.2.1 COVERAGE

In this section all existing 7 service providers were covered. Calls were made to their helpline centers [published helpline no] for verification, resulting in performance depicted in table given below.

3.3.2.2 PERFORMANCE BASED ON PRACTICAL ASSESSMENT

Table 21 [Circle wise Helpline Performance (Practical Assessment)]

Parameters	Circle-A		Circle-B		Circle-C		Metro Circle		All Circle		% operators meeting bench-mark
	No of operators Audited	No of operator not meeting bench-mark	No of operators Audited	No of operator not meeting bench-mark	No of operators Audited	No of operator not meeting bench-mark	No of operators Audited	No of operator not meeting bench-mark	No of operators Audited	No of operator not meeting bench-mark	
	20		26		10		15		71		
% of Calls Answered Electronically [IVR] within 20 sec	17	1	22	1	7	1	14	0	60	3	95.00%
% of Calls Answered Electronically [IVR] within 40 sec	17	2	22	2	7	2	14	0	60	6	90.00%
% of Calls Answered by Operator within 60 sec	20	3	25	2	8	1	14	0	67	6	91.04%
% of Calls Answered by Operator within 90 sec	20	3	25	4	8	3	14	1	67	11	83.58%

3.3.2.3 CRITICAL ANALYSIS

- ✓ In the case of % of Calls Answered by Operator within 90 sec overall considering all circles 83.58% operators are meeting the bench mark with “Metro” Circle showing good results where except one operator remaining all of the operators are meeting the benchmark
- ✓ In the case of % of Calls Answered Electronically [IVR] within 40 sec overall considering all circles 90% operators are meeting the bench mark with “Metro” Circle showing good results where all of the operators are meeting the benchmark
- ✓ In the case of % of Calls Answered by Operator within 60 sec overall considering all circles 91.04% operators are meeting the bench mark with “Metro” Circle showing good results where all of the operators are meeting the benchmark
- ✓ In the case of % of Calls Answered Electronically [IVR] within 20 sec overall considering all circles 95% operators are meeting the bench mark with “Metro” Circle showing good results where all of the operators are meeting the benchmark

Table 22 [Helpline Performance (All Circles) significantly lower than the benchmark]

Parameters	Metro Circles		A Circles		B Circles		C Circles	
% of Calls Answered Electronically [IVR] within 20 sec	None		MH RCOM	10	RJ RCOM	0	None	
% of Calls Answered Electronically [IVR] within 40 sec	None		MH RCOM	22	RJ RCOM	0	None	
% of Calls Answered by Operator within 60 sec	None		MH RCOM	10	RJ RCOM	0	JK BSNL	19
			AP TATA	32	PB BSNL	0		
% of Calls Answered by Operator within 90 sec	None		MH RCOM	22	RJ RCOM	0	JK BSNL	23
			AP TATA	42	PB BSNL	44		

3.4 CUSTOMER SATISFACTION SURVEY (CELLULAR)

3.4.1 COVERAGE

Table 23 [CSS Coverage (Cellular Services)]

State	AIRCEL	BHARTI	BPL	BSNL	HFCL	HUTCH	IDEA	MTNL	RCOM	RTL	SPICE	TATA	Grand Total
AP		401		401		401			402			400	2406
AM	197	245		251						250			943
BH		266		273					270	269		267	1345
CH	596	601		598		597			627			265	3284
ND		600				600	611	356	666			600	3433
GJ		394		406		412	403		403			229	2247
HR		250		266		238	238		250			218	1460
HP		275		158					117	215		214	979
JK	26	217		238									481
KR		395		399		401			799		400	800	3194
KL		302		255		251	253		464			408	1933
KK		601		606		603			604	600		601	3615
MH		400		404		399	400		403			198	2204
MP		258		276			253		257	259		235	1538
MB		599	604			600		595	600			601	3599
NE	254	254		253						250			1011
OR	250	250		250					250	250		250	1500
PB		245		64	43	191			254		226	195	1218
RJ		241		188		219			230			151	1029
TN	503	455		464		397			554			400	2773
UP(E)		306		291		273			400			343	1613
UP(W)		266		276		270	277		277			275	1641
WB	249	249		249		249			249	254		252	1751
Grand Total	2075	8070	604	6566	43	6101	2836	951	8076	2346	626	6902	45197

3.4.2 PERFORMANCE

Table 24 [CSS : Parameter based performance (All Circle) of the CMSPs]

Parameters	Metro Circle		A Circle		B Circle		C Circle		All Circles		% Operators meeting Benchmark
	No. of operators Audited	No. of operator not meeting benchmark	No. of operators Audited	No. of operator not meeting benchmark	No. of operators Audited	No. of operator not meeting benchmark	No. of operators Audited	No. of operator not meeting benchmark	Total operators Audited	No. of operator not meeting benchmark	
Total Audit	24		30		48		27		129		
% Satisfied with provision of service (95%)	24	4	30	8	47	5	27	9	128	26	79.68
% Satisfied with Prepaid Billing services (90%)	24	0	30	9	48	10	27	5	129	24	81.39
% Satisfied with Post-paid Billing services (90%)	23	14	30	10	46	29	22	9	121	62	48.76
% Satisfied with help services (90%)	24	21	30	25	48	47	27	27	129	120	6.97
% Satisfied with Network Performance (95%)	24	18	30	17	48	47	27	27	129	109	15.5
% Satisfied with maintainability (95%)	20	19	24	13	44	28	22	15	110	75	31.81
Satisfaction with supplementary services (95%)	24	11	30	20	48	34	27	11	129	76	41.08
Overall customer satisfaction (95%)	24	20	30	27	48	48	27	27	129	122	5.42
Overall Summary									1004	614	38.84

Note: Any variation in no of operators audited implies that Subscriber unable to answer (NR) or did not access the service or no incidences reported (NI) and these are not counted when calculating percentage of operators meeting the benchmark.

3.4.3 CRITICAL ANALYSIS

- ✓ Over all customer satisfaction is very low for all circle only 5.42% of operators are meeting the benchmark.. The “B” and “C” circles are noticed with none of the operator are meeting the benchmark.
- ✓ In the case of % Satisfied with help services only 6.97% of operators are meeting the benchmark The “C” circles are noticed with none of the operator are meeting the benchmark.
- ✓ In the case of % Satisfied with Network Performance only 15.5 % of operators are meeting the benchmark. The “C” circles are noticed with none of the operator are meeting the benchmark.

The operators whose performance on a particular parameter is significantly lower than the benchmark are detailed as below

Table 25 [CSS : Performance (All circles) significantly lower of the benchmark (Cellular)]

Parameters	Metro Circle	A Circle	B Circle	C Circle
% Satisfied with provision of service (>95%)	--	--	--	BSNL NE – 44% BHARTI NE -43% AIRCEL NE - 42%
% Satisfied with Prepaid Billing services (>90%)	--	--	--	--
% Satisfied with Postpaid Billing services (>90%)	--	--	--	--
% Satisfied with help services (>90%)	--	--	BSNL WB – 48%	--
% Satisfied with Network Performance (>95%)	--	--	--	--
% Satisfied with maintainability (>95%)	--	--	BSNL KL – 47%	BSNL J&K - 27%
Satisfaction with supplementary services (>95%)	--	--	--	--
Overall customer satisfaction (>95%)	--	--	--	--

3.5 CUSTOMER SATISFACTION SURVEY (BASIC)

3.5.1 COVERAGE

Table 26 [CSS Coverage (Basic Services)]

State	BHARTI	BSNL	HFCL	MTNL	RCOM	SHYAM	TATA	Grand Total
A&N		250						250
AP	250	601			150		282	1283
Assam		250						250
Bihar		270			LSB			270
Chennai	606	606			17		31	1260
Chhatisgarh		261						261
Delhi	602			601	601		600	2404
Gujarat	LSB	260			LSB		LSB	260
Haryana	118	255			LSB			373
HP		251			LSB			251
Jharkhand		249						249
JK		234						234
Karnataka	600	799			LSB		LSB	1399
Kerala	39	326			119			484
Kolkata	8	602			3			613
Maharashtra	403	402			402		404	1611
MP	286	263			24			573
Mumbai	602			799	600		601	2602
NE		490						490
NE2		250						250
Orissa		250			2			252
Punjab	145	252	205		13			615
Rajasthan		236			81	153		470
TN	340	532			LSB		LSB	872
UP(E)	152	260			182			594
UP(W)	101	290			LSB			391
Uttranchal		254						254
WB		251			LSB			251
Grand Total	4252	8944	205	1400	2194	153	1918	19066

Note:- LSB implies for low subscriber base, On many efforts actual subscribers telephone nos were not found.

3.5.2 PERFORMANCE

Table 27 [CSS Parameter based performance (All Circles) of the BSOs]

Parameters	Metro Circle		A Circle		B Circle		C Circle		All Circles		% Operators meeting Bench-mark
	No. of operators Audited	No. of operator not meeting bench-mark	No. of operators Audited	No. of operator not meeting bench-mark	No. of operators Audited	No. of operator not meeting bench-mark	No. of operators Audited	No. of operator not meeting bench-mark	Total operators Audited	No. of operator not meeting bench-mark	
	15		17		24		9		65		
% Satisfied with provision of service (95%)	15	9	13	4	24	8	9	8	61	29	52.45
% Satisfied with Billing services (90%)	15	5	13	2	24	5	9	6	61	18	70.49
% Satisfied with help services (90%)	15	14	13	9	23	22	8	8	59	53	10.16
% Satisfied with Network Performance (95%)	15	3	13	2	24	7	9	7	61	19	68.85
% Satisfied with maintainability (95%)	10	7	9	3	21	12	8	8	48	30	37.5
Satisfaction with supplementary services (95%)	14	5	12	2	19	6	7	1	52	14	73.05
Overall customer satisfaction (95%)	15	12	13	5	24	15	9	8	61	40	34.42
Overall Summary									403	203	49.62

Note: Any variation in no of operator audited implies that subscriber is either offered no response [NR] or did not access the service or no incidences [NI] reported.

3.5.3 CRITICAL ANALYSIS

- ✓ % Satisfied with help services is very low for all circle only 10.16 % of operators are meeting the benchmark. In "C" Circle none of the operator out of audited 8 nos meeting the benchmark
- ✓ In the case of Overall customer satisfaction only 34.42 % of operators are meeting the benchmark.
- ✓ Looking at % Satisfied with maintainability only 37.5% of operators are meeting the benchmark. In "C" Circle none of the operator out of audited 8 nos meeting the benchmark

Table 28 [CSS : Performance (All circles) significantly lower of the benchmark (Basic)]

Parameters	Metro Circle	A Circle	B Circle	C Circle
% Satisfied with provision of service (>95%)	--	--	--	BSNL NE II – 48%
% Satisfied with Billing services (>90%)	--	--	--	--
% Satisfied with help services (>90%)	--	--	--	--
% Satisfied with Network Performance (>95%)	--	--	--	--
% Satisfied with maintainability (>95%)	--	--	--	--
Satisfaction with supplementary services (>95%)	--	--	--	--
Overall customer satisfaction (>95%)	--	--	--	--

4 **COMPLIANCE REPORTS**

4.1 PERFORMANCE COMPLIANCE – QOS CELLULAR

4.1.1 “METRO” CIRCLE

Table 29 [“Metro” Circle : Parameter based Performance compliance]

Parameters / Benchmark		CH						ND						KK						MB					
		AIRCEL	BHARTI	BSNL	HUTCH	RCOM	TATA	BHARTI	HUTCH	IDEA	MTNL	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	RISL	TATA	BHARTI	BPL	HUTCH	MTNL	RCOM	TATA
Accumulated downtime of community isolation	<24Hrs	0.00	0.00	1.85	7.95	0.00	3.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.03	0.00	0.50	0.00	0.00	0.00	0.00	
Call Setup Success Rate	>95 %	98.50	98.85	99.05	99.65	99.53	99.75	98.50	99.07	99.98	96.59	99.71	98.10	97.00	100.00	99.92	99.51	99.00	97.82	99.20	99.30	98.50	96.40	99.56	98.51
Service Access Delay	< 20 Sec	7.600	6.80	3.07	2.40	1.52	4.19	15.40	8.03	8.22	14.00	1.85	9.53	17.51	15.05	14.00	2.70	8.36	8.65	3.01	11.03	10.50	5.29	2.00	13.00
SDCCH	< 1%	0.730	0.215	0.240	0.420	0.000	0.000	0.350	0.006	0.660	0.570	0.000	0.000	0.200	0.370	0.210	0.000	0.650	0.000	0.930	0.590	0.760	0.690	0.000	0.000
TCH Congestion	< 2%	2.00	0.355	0.970	1.240	0.000	0.010	0.065	0.030	1.880	0.670	0.000	0.320	0.300	0.980	0.600	0.000	2.600	0.100	0.760	3.330	1.700	1.750	0.000	1.330
Call Drop Rate	< 3%	0.77	0.64	0.89	1.10	0.76	0.63	1.28	1.17	0.69	1.34	0.62	0.62	1.30	1.00	0.87	0.73	1.17	0.76	1.13	1.56	1.89	1.98	0.79	0.32
% of connections with good voice quality	> 95%	95.13	94.28	92.40	98.00	98.20	95.17	98.35	100.00	98.26	DNP	98.00	96.01	96.85	97.00	97.88	97.00	99.44	96.70	92.50	98.55	95.72	95.58	98.00	95.60
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	40.00	39.00	40.00	48.00	99.50	50.00	99.97	99.61	100.00	99.96	99.50	100.00	89.00	95.00	100.00	99.50	N/A	86.00	99.90	99.00	99.00	98.50	99.50	100.00



Parameters / Benchmark		CH						ND						KK						MB					
		AIRCEL	BHARTI	BSNL	HUTCH	RCOM	TATA	BHARTI	HUTCH	IDEA	MTNL	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	RISL	TATA	BHARTI	BPL	HUTCH	MTNL	RCOM	TATA
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	50.00	50.00	50.00	50.00	99.50	50.00	99.99	99.61	100.00	100.00	99.50	100.00	91.70	99.00	100.00	99.50	N/A	100.00	99.90	100.00	99.00	100.00	99.50	100.00
% of Calls Answered by Operator within 60 sec	> 80%	44.00	46.00	38.00	44.00	52.20	48.00	95.70	72.12	91.00	83.17	55.41	80.00	86.30	80.00	85.77	66.00	100.00	83.00	97.30	87.36	97.00	98.90	48.27	59.00
% of Calls Answered by Operator within 90 sec	> 95%	50.000	50.00	50.00	50.00	62.62	50.00	97.17	88.41	DNP	91.10	57.76	83.00	89.70	95.00	96.11	69.13	100.00	100.00	98.70	92.00	98.00	100.00	59.58	65.00
Complaints per 100 bills issued	< 0.1%	0.24	0.080	0.010	0.040	0.080	1.000	0.087	0.007	0.004	DNP	0.070	0.770	0.030	0.320	0.070	0.080	N/A	0.190	0.010	0.100	0.200	0.070	0.070	0.480
% of Billing complaints resolved within 4 weeks	100%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	DNP	100.00	100.00	100.00	32.00	100.00	100.00	N/A	100.00	100.00	100.00	100.00	94.50	100.00	97.16
Period of refunds from the date of resolution of complaints	100%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	3.87	100.00	98.61	100.00	26.44	100.00	100.00	N/A	33.88	100.00	100.00	100.00	100.00	100.00	91.34

Table 30 [“Metro” Circle : POI Performance Compliance based on Data from MSC]

Circle / City	Delhi						Mumbai					
Operator	BHARTI	HUTCH	TATA	IDEA	MTNL	RCOM	BHARTI	HUTCH	TATA	BPL	MTNL	RCOM
Total POIs	11	28	106	84	14	13	57	54	40	27	22	40
POIs Not Meeting	0	0	0	0	0	0	7	11	7	9	8	1

Circle / Service providers	Kolkata						Chennai					
	BHARTI	HUTCH	TATA	BSNL	RCOM	RISL	BHARTI	HUTCH	TATA	BSNL	RCOM	Aircel
Total POIs	44	91	27	DNP	10	14	19	26	41	26	12	23
POIs Not Meeting	5	0	3	DNP	1	6	2	1	3	1	0	1

Table 31 ["Metro" Circle: POI Performance Compliance Practical IOC Assessment]

Circle / City	ND						MB					
Operator	BHARTI	HUTCH	TATA	IDEA	MTNL	RCOM	BHARTI	HUTCH	TATA	BPL	MTNL	RCOM
Total POIs	8	9	7	6	8	7	12	11	11	11	11	11
POIs Not Meeting	0	0	0	0	0	0	1	1	2	1	1	1

Circle / City	KK						CH					
Operator	BHARTI	HUTCH	TATA	BSNL	RCOM	RISL	BHARTI	HUTCH	TATA	BSNL	RCOM	Aircel
Total POIs	6	5	6	6	6	6	7	7	7	7	7	7
POIs Not Meeting	0	0	2	3	1	3	0	0	0	0	0	0



Table 32 ["Metro" Circle : Practical Assessment of Helpline Performance Compliance]

Operator	ND						MB					
	BHARTI	HUTCH	TATA	IDEA	MTNL	RCOM	BHARTI	HUTCH	TATA	BPL	MTNL	RCOM
%of call answered (electronically) within 20 sec	100	100	100	100	100	100	100	99	100	90	82	64
% of call answered(electronically) within 40 sec	100	100	100	100	100	100	100	99	100	100	84	100
% of call answered by operator(voice to voice) within 60 sec	100	96	96	94	76	96	94	60	90	72	94	100
% of call answered by operator(voice to voice t within 90 sec	100	100	100	98	86	100	100	90	96	100	100	100

Operator	CH						KK					
	BHARTI	HUTCH	TATA	BSNL	RCOM	AIRCEL	BHARTI	HUTCH	TATA	BSNL	RCOM	RISL
%of call answered (electronically) within 20 sec	100	100	100	100	100	80	98	84	100	100	28	N/A
% of call answered(electronically) within 40 sec	100	100	100	100	100	100	100	84	100	100	28	N/A
% of call answered by operator(voice to voice) within 60 sec	100	97	97	100	100	88	100	84	98	100	26	100
% of call answered by operator(voice to voice t within 90 sec	100	100	100	100	100	100	100	84	100	100	26	100



4.1.2 "A" CIRCLE

Table 33 ["A" Circle: Parameter Based Performance Compliance-1]

Parameters /Benchmark		AP						GJ						KR					
		BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	SPICE	TATA
Accumulated downtime of community isolation	<24 Hrs	3.05	8.50	6.30	9.20	0.52	3.50	5.50	0.00	0.42	5.00	0.33	2.50	5.82	24.20	29.30	0.38	13.33	4.42
Call Setup Success Rate	>95 %	70.00	96.01	99.22	99.99	99.57	98.40	98.01	98.57	97.89	98.98	99.49	98.70	100.00	80.36	98.32	99.51	98.65	97.69
Service Access Delay	< 20 Sec	2.10	7.20	8.00	1.00	1.54	2.60	4.55	DNP	9.66	4.23	1.54	4.93	4.50	2.35	10.22	2.60	8.39	2.66
SDCCH	< 1%	0.650	0.260	0.295	0.225	0.000	0.000	0.190	0.590	0.170	0.810	0.000	0.000	0.980	0.710	0.150	0.000	0.630	0.000
TCH Congestion	< 2%	1.350	1.470	0.430	1.185	0.000	0.950	0.191	1.520	0.930	0.810	0.000	0.020	1.550	1.710	1.680	0.000	4.950	0.640
Call Drop Rate	< 3%	0.97	1.24	1.32	0.62	0.77	0.37	0.45	0.90	1.23	1.70	0.95	0.41	1.42	1.19	1.51	0.77	1.57	0.90
% of connections with good voice quality	> 95%	99.28	96.77	97.61	99.43	99.00	97.00	96.31	98.98	97.94	97.93	98.00	97.93	87.79	95.51	97.01	99.00	98.18	97.96
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	100.00	N/A	98.00	96.00	99.51	100.00	99.95	100.00	96.65	DNP	99.50	100.00	98.00	99.60	81.00	99.50	100.00	N/A
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	100.00	N/A	98.00	96.00	99.51	100.00	99.95	100.00	96.65	DNP	99.50	100.00	98.00	100.00	90.50	99.50	100.00	N/A
% of Calls Answered by Operator within 60 sec	> 80%	90.00	100.00	100.00	90.00	59.29	100.00	95.66	82.00	DNP	DNP	62.79	85.87	87.00	51.00	83.00	43.24	93.30	92.43
% of Calls Answered by Operator within 90 sec	> 95%	100.00	100.00	100.00	100.00	61.66	100.00	98.19	95.00	DNP	DNP	73.40	90.43	90.50	60.00	91.00	51.63	99.00	95.50
Complaints per 100 bills issued	< 0.1 %	0.005	0.004	0.059	0.310	0.080	0.005	0.130	0.120	0.080	0.067	0.070	0.360	0.001	0.002	0.000	0.070	0.000	0.005
% of Billing complaints resolved within 4 weeks	100 %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	95.36	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Period of refunds from the date of resolution of complaints	100 %	NI	100.00	NI	NI	100.00	NI	100.00	DNP	91.79	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00



Table 34 ["A" Circle: Parameter Based Performance compliance -2]

Parameters / Benchmark		MH						TN					
		BHARTI	HUTCH	BSNL	Idea	RCOM	TATA	BHARTI	HUTCH	BSNL	AIRCEL	RCOM	TATA
Accumulated down time of community isolation	<24Hrs	3.20	0.65	31.61	0.80	0.45	1.94	0.00	17.16	7.00	22.33	0.39	5.83
Call Setup Success Rate	>95 %	99.16	99.94	99.39	98.46	99.52	98.41	99.38	99.59	89.85	98.09	99.55	99.08
Service Access Delay	< 20 Sec	9.58	14.00	10.97	9.40	1.10	12.57	1.63	2.40	DNP	1.38	1.70	1.90
SDCCH <1%	< 1%	0.650	0.730	0.640	0.670	0.000	0.000	0.230	0.300	DNP	0.130	0.000	0.000
TCH Congestion < 2%	< 2%	1.090	1.200	1.230	0.600	0.000	0.240	0.220	1.790	DNP	1.760	0.000	0.770
Call Drop Rate	< 3%	0.75	1.20	1.41	1.24	1.00	0.40	1.50	0.01	0.20	0.89	1.09	0.86
% of connections with good voice quality	> 95%	94.57	98.65	93.51	99.60	97.00	96.46	95.46	100.00	97.80	95.61	97.00	95.60
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	100.00	100.00	22.82	99.03	99.50	100.00	50.00	42.00	38.00	48.00	98.50	50.00
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	100.00	100.00	22.82	99.12	99.50	100.00	50.00	50.00	50.00	50.00	99.50	50.00
% of Calls Answered by Operator within 60 sec	> 80%	93.49	89.67	41.82	68.15	66.50	91.59	50.00	41.00	37.00	44.00	52.20	50.00
% of Calls Answered by Operator within 90 sec	> 95%	94.85	89.67	41.83	78.15	77.00	94.87	50.00	50.00	50.00	50.00	52.60	50.00
Complaints per 100 bills issued	< 0.1%	0.007	0.008	0.001	0.008	0.080	0.000	1.250	0.090	0.190	0.670	0.080	1.410
% of complaints resolved within 4 weeks	100%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Period of refunds/payment due to customers from the date of resolution of complaints	100%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	69.61	100.00	100.00	57.14



Table 35 ["A" Circle: POI Performance based on Data from MSC ("A" Circle)]

Circle / City	AP						GJ						KR					
Operator	BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	Spice	BSNL	RCOM	HUTCH	TATA
Total POIs	40	38	50	74	28	59	61	34	53	22	23	65	DNP	22	140	21	37	116
POIs Not Meeting	0	0	4	13	4	0	15	0	1	0	2	0	DNP	0	21	1	0	14

Circle / City	MH						TN					
Operator	RCOM	BHARTI	BSNL	HUTCH	TATA	IDEA	RCOM	BHARTI	Aircel	BSNL	TATA	HUTCH
Total POIs	32	180	249	126	79	151	22	20	32	39	58	10
POIs Not Meeting	6	103	20	0	4	12	2	0	8	5	0	4

Table 36 ["A" Circle: POI Performance Compliance Practical Inter Operator Call Assessment]

Circle / City	AP						GJ						KR					
Operator	BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	Spice	BSNL	RCOM	HUTCH	TATA
Total POIs	9	9	9	9	9	9	5	5	5	5	5	5	5	6	5	5	5	5
POIs Not Meeting	0	7	2	6	1	3	0	1	2	2	0	2	0	4	2	2	1	1

Circle / City	MH						TN					
Operator	RCOM	BHARTI	BSNL	HUTCH	TATA	IDEA	RCOM	BHARTI	Aircel	BSNL	TATA	HUTCH
Total POIs	8	8	8	8	8	8	7	7	7	7	7	7
POIs Not Meeting	1	3	4	1	0	0	0	0	0	0	0	0



Table 37 ["A" Circle: Practical Assessment of Helpline Performance Compliance]

Operator	AP						GJ						KR					
	BHARTI	HUTCH	TATA	BSNL	RCOM	IDEA	BHARTI	HUTCH	TATA	BSNL	IDEA	RCOM	BHARTI	Spice	BSNL	RCOM	HUTCH	TATA
%of call answered (electronically) within 20 sec	100	84	98	N/A	96	86	96	100	92	100	100	92	82	100	94	100	60	100
% of call answered(electronically) within 40 sec	100	84	98	N/A	96	86	98	100	92	100	100	92	82	100	96	100	60	100
% of call answered by operator(voice to voice) within 60 sec	84	96	42	98	88	68	92	80	92	100	92	92	48	100	94	32	60	84
% of call answered by operator(voice to voice t within 90 sec	100	96	56	98	88	68	96	90	92	100	94	92	60	100	96	62	64	84

Operator	MH						TN					
	RCOM	BHARTI	BSNL	HUTCH	TATA	IDEA	RCOM	BHARTI	AIRCEL	BSNL	TATA	HUTCH
%of call answered (electronically) within 20 sec	10	96	86	100	98	82	100	100	100	100	99	100
% of call answered(electronically) within 40 sec	22	98	94	100	100	84	100	100	100	100	100	100
% of call answered by operator(voice to voice) within 60 sec	10	92	12	78	46	72	100	100	100	100	78	100
% of call answered by operator(voice to voice t within 90 sec	22	98	32	84	54	85	100	100	100	100	100	100



4.1.3 “B” CIRCLE

Table 38 [“B” Circle: Parameter Based Performance Compliance -1]

Parameters / Benchmark		HR						KL						MP						PB						
		BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	HUTCH	BSNL	IDEA	RCOM	TATA	BHARTI	BSNL	IDEA	RTL	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	SPICE	HFCL	TATA
Accumulated downtime of community isolation	<24Hrs	20.31	1.45	3.80	6.00	0.71	4.83	15.32	8.56	5.31	23.00	0.19	0.00	3.04	0.00	5.00	13.44	0.73	10.50	4.24	1.39	0.00	0.23	1.39	9.50	0.00
Call Setup Success Rate	>95%	99.38	97.50	99.96	99.90	99.47	96.55	99.44	97.53	99.29	98.25	99.57	98.65	98.12	92.90	98.34	100.00	99.38	98.11	91.34	97.65	99.40	99.67	97.72	98.05	98.62
Service Access Delay	< 20 Sec	2.90	3.85	8.96	2.71	1.52	7.48	12.96	6.38	4.26	14.26	1.96	17.68	9.97	1.48	8.18	14.00	1.37	4.43	3.15	3.74	3.70	1.49	9.80	N/A	5.47
SDCCH	< 1%	0.330	0.350	0.100	0.620	0.000	0.000	0.120	0.970	0.340	0.460	0.000	0.000	0.560	1.150	0.640	0.473	0.000	0.000	0.480	0.190	0.040	0.000	0.270	0.000	0.000
TCH Congestion	< 2%	0.380	1.650	1.940	1.160	0.000	0.230	0.390	1.970	2.700	2.330	0.000	0.000	1.760	2.350	1.490	10.186	0.000	0.710	0.225	0.390	0.100	0.000	1.720	0.000	0.000
Call Drop Rate	< 3%	1.52	2.60	1.98	0.72	1.05	0.91	1.80	1.72	1.33	0.27	0.93	0.59	1.39	2.85	1.15	1.60	1.08	0.90	1.46	2.05	1.49	1.07	1.37	0.62	0.69
% of connections with good voice quality	> 95%	98.42	97.95	97.96	99.31	99.00	97.55	98.16	98.88	97.46	97.97	99.00	98.27	98.13	97.50	99.10	96.92	99.00	99.08	99.25	93.74	98.79	98.00	98.32	N/App	98.62



Parameters / Benchmark		HR						KL						MP						PB						
		BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	HUTCH	BSNL	IDEA	RCOM	TATA	BHARTI	BSNL	IDEA	RTL	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	SPICE	HFCL	TATA
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	97.00	99.91	99.86	DNP	99.50	100.00	N/A	88.26	99.30	95.00	99.50	DNP	99.98	DNP	99.76	N/A	99.50	100.00	90.63	99.85	98.50	99.50	100.00	N/A	100.00
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	97.00	99.98	99.86	DNP	99.50	100.00	N/A	94.91	99.99	98.00	99.50	DNP	99.98	DNP	99.82	N/A	99.50	100.00	100.00	99.96	98.70	99.50	100.00	N/A	100.00
% of Calls Answered by Operator within 60 sec	> 80%	93.00	11.07	81.31	DNP	84.80	77.12	20.34	96.83	62.60	90.00	46.52	DNP	98.54	DNP	98.06	98.00	64.49	93.00	97.50	8.49	94.55	84.80	90.00	N/A	81.66
% of Calls Answered by Operator within 90 sec	> 95%	95.50	16.34	96.09	DNP	91.30	80.79	20.68	97.70	81.40	94.00	55.00	DNP	99.33	DNP	99.09	98.02	77.35	96.00	98.82	12.62	98.75	91.30	94.00	N/A	85.33
Complaints per 100 bills issued	< 0.1%	0.090	DNP	0.080	0.640	0.800	0.001	0.007	0.001	0.003	0.008	0.070	0.004	0.005	DNP	0.000	0.000	0.060	0.008	0.072	0.040	0.040	0.080	0.020	0.060	0.700
% of Billing complaints resolved within 4 weeks	100%	100.00	DNP	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.00	100.00	DNP	62.26	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00



Parameters / Benchmark		HR						KL						MP						PB						
		BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	HUTCH	BSNL	IDEA	RCOM	TATA	BHARTI	BSNL	IDEA	RTL	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	SPICE	HFCL	TATA
Period of refunds from the date of resolution of complaints	100%	100.00	DNP	DNP	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.48	100.00	DNP	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 39 ["B" Circle: Parameter Based Performance Compliance -2]

Parameters / Benchmark		RJ					UP(E)					UP(W)					WB							
		BHARTI	BSNL	HUTCH	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	TATA	BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	BSNL	DISHNET	HUTCH	RTL	RCOM	TATA
Accumulated downtime of community isolation	<24Hrs	21.40	22.56	10.07	0.61	8.67	9.04	18.00	0.00	0.76	5.87	54.20	0.00	3.50	5.15	0.18	11.42	0.00	0.00	0.00	0.00	0.00	0.79	20.15
Call Setup Success Rate	>95	98.22	97.26	98.30	99.46	98.34	99.40	98.10	99.59	99.40	96.85	97.57	98.32	99.08	99.65	99.42	97.90	99.80	98.47	99.98	99.59	99.00	99.50	91.36
Service Access Delay	< 20	8.60	3.90	6.30	1.39	3.80	3.00	7.00	9.00	4.84	18.23	7.58	2.42	6.67	11.21	1.43	13.75	6.72	DNP	16.41	14.73	16.30	3.16	16.10
SDCCH	< 1%	0.850	0.450	0.920	0.000	0.000	0.455	0.700	0.420	0.300	0.000	0.490	0.975	0.990	0.890	0.000	0.000	0.040	0.820	1.020	0.560	1.500	0.000	0.000
TCH Congestion	< 2%	1.775	1.725	1.890	0.000	0.620	0.602	1.900	1.670	0.000	0.020	0.740	1.560	1.590	1.900	0.000	0.000	0.060	1.670	1.220	0.800	27.750	0.000	0.000
Call Drop Rate	< 3%	1.60	2.68	1.59	1.04	0.87	0.61	2.60	1.74	1.23	1.39	2.96	1.90	1.96	0.99	1.04	1.51	1.66	2.54	0.02	0.84	1.98	1.41	1.50
% of connections with good voice quality	> 95%	96.88	94.06	95.27	97.00	96.90	97.65	91.39	96.77	93.00	98.11	98.61	95.00	97.00	97.10	98.00	99.05	95.00	95.88	97.77	97.51	98.25	96.10	99.02



Parameters / Benchmark		RJ					UP(E)					UP(W)					WB							
		BHARTI	BSNL	HUTCH	RCOM	TATA	BHARTI	BSNL	HUTCH	RCOM	TATA	BHARTI	BSNL	HUTCH	IDEA	RCOM	TATA	BHARTI	BSNL	DISHNET	HUTCH	RTL	RCOM	TATA
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	98.67	99.46	99.56	99.50	100.00	99.48	99.83	100.00	99.50	100.00	99.85	99.85	99.79	100.00	99.50	86.50	77.63	98.00	97.19	100.00	N/A	99.50	86.00
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	98.70	99.76	99.56	99.50	100.00	99.97	99.95	100.00	99.50	100.00	99.89	99.97	100.00	100.00	99.50	86.50	80.43	99.00	100.00	100.00	N/A	99.50	100.00
% of Calls Answered by Operator within 60 sec	> 80%	93.95	6.05	80.49	61.80	76.50	81.00	10.21	82.03	40.45	86.99	96.00	10.92	99.82	N/A	40.50	69.78	40.97	81.00	100.00	87.46	100.00	66.00	83.00
% of Calls Answered by Operator within 90 sec	> 95%	96.12	9.13	95.90	73.30	82.00	84.00	14.94	93.27	51.69	91.45	97.00	15.86	99.94	N/A	51.69	77.59	100.00	95.00	100.00	97.22	100.00	69.13	100.00
Complaints per 100 bills issued	< 0.1%	0.180	0.022	0.093	0.070	0.140	0.100	0.060	0.002	0.070	0.038	0.141	DNP	0.088	0.079	0.070	1.197	0.110	0.040	0.000	0.083	0.000	0.070	0.003
% of Billing complaints resolved within 4 weeks	100%	100.00	100.00	100.00	100.00	100.00	94.06	100.00	100.00	100.00	100.00	100.00	DNP	100.00	100.00	100.00	100.00	100.00	97.54	100.00	100.00	100.00	100.00	98.00
Period of refunds from the date of resolution of complaints	100%	100.00	99.75	100.00	100.00	100.00	66.67	96.07	100.00	100.00	100.00	100.00	DNP	100.00	100.00	100.00	52.62	100.00	100.00	100.00	100.00	100.00	100.00	97.99



Table 40 ["B" Circle: POI Performance Compliance based on Data from MSC]

Circle / City	HR						KL						MP					
	HUTCH	IDEA	RCOM	BSNL	TATA	BHARTI	HUTCH	BHARTI	BSNL	TATA	IDEA	RCOM	RTL	IDEA	RCOM	BSNL	TATA	BHARTI
Total POIs	23	27	14	40	61	25	10	20	39	58	32	16	60	59	45	14	61	60
POIs Not Meeting	0	1	1	0	3	1	4	0	5	0	8	2	18	18	13	0	0	31

Circle / City	RJ					UP (E)					PB						
	HUTCH	BHARTI	BSNL	TATA	RCOM	HUTCH	BHARTI	BSNL	TATA	RCOM	Spice	HUTCH	RCOM	BSNL	TATA	HFCL	BHARTI
Total POIs	51	59	64	32	26	32	40	78	81	36	23	35	17	33	17	DNP	38
POIs Not Meeting	5	10	0	10	5	3	8	2	6	15	3	2	2	0	0	DNP	4

Circle / City	UP (W)						WB						
	HUTCH	IDEA	BSNL	TATA	RCOM	BHARTI	RTL	HUTCH	RCOM	BSNL	TATA	Dishnet	BHARTI
Total POIs	55	65	52	25	23	27	23	67	19	DNP	DNP	4	1
POIs Not Meeting	2	1	0	0	2	3	10	0	6	DNP	DNP	0	1



Table 41 ["B" Circle: POI Performance compliance Practical Inter Operator Call Assessment]

Circle / City	HR						KL						MP					
	HUTCH	IDEA	RCOM	BSNL	TATA	BHARTI	HUTCH	BHARTI	BSNL	TATA	IDEA	RCOM	RTL	IDEA	RCOM	BSNL	TATA	BHARTI
Total POIs	6	6	7	7	6	7	8	9	4	10	9	9	7	7	6	8	7	4
POIs Not Meeting	0	1	0	0	0	0	1	2	2	1	2	0	2	5	0	0	4	0

Circle / City	RJ					UP (E)					PB						
	HUTCH	BHARTI	BSNL	TATA	RCOM	HUTCH	BHARTI	BSNL	TATA	RCOM	Spice	HUTCH	RCOM	BSNL	TATA	HFCL	BHARTI
Total POIs	6	5	5	5	5	6	8	8	8	9	6	7	7	6	6	6	7
POIs Not Meeting	1	1	3	1	1	5	6	5	2	3	0	1	0	0	0	0	0

Circle / City	UP (W)						WB						
	HUTCH	IDEA	BSNL	TATA	RCOM	BHARTI	RTL	HUTCH	RCOM	BSNL	TATA	Dishnet	BHARTI
Total POIs	6	6	6	6	7	8	7	7	7	6	7	7	7
POIs Not Meeting	6	0	3	0	0	5	4	3	0	1	0	1	0



Table 42 [“B” Circle: Practical Assessment of Helpline Performance Compliance]

Operator	HR						KL						MP					
	HUTCH	IDEA	BSNL	RCOM	TATA	BHARTI	HUTCH	BHARTI	BSNL	TATA	IDEA	RCOM	RTL	IDEA	RCOM	BSNL	TATA	BHARTI
%of call answered (electronically) within 20 sec	100	96	100	100	100	100	100	100	10	97	100	99	N/A	100	94	70	98	100
% of call answered(electronically) within 40 sec	100	100	10	100	100	100	100	100	100	100	100	100	N/A	100	94	70	98	100
% of call answered by operator(voice to voice) within 60 sec	80	100	0	92	90	100	61	26	29	83	70	60	88	98	84	68	92	100
% of call answered by operator(voice to voice) within 90 sec	92	100	98	98	90	100	77	99	37	88	92	71	88	100	84	76	92	100

Operator	PB							U.P.(E)					U.P.(W)					
	Spice	HUTCH	RCOM	BSNL	HFCL	BHARTI	TATA	BHARTI	HUTCH	TATA	BSNL	RCOM	HUTCH	IDEA	BSNL	TATA	RCOM	BHARTI
%of call answered (electronically) within 20 sec	100	100	100	96	100	100	100	98	90	100	66	90	30	100	32	100	80	44
% of call answered(electronically) within 40 sec	100	100	100	100	100	100	100	100	92	100	66	90	30	100	32	100	96	64
% of call answered by operator(voice to voice) within 60 sec	92	90	68	0	96	100	78	100	62	100	0	74	8	96	0	76	60	84
% of call answered by operator(voice to voice) within 90 sec	96	100	84	0	100	100	100	100	64	100	0	86	24	100	0	84	84	84

Operator	W.B.							RJ				
	RTL	HUTCH	RCOM	BSNL	TATA	Dishnet	BHARTI	HUTCH	BHARTI	TATA	BSNL	RCOM
%of call answered (electronically) within 20 sec	N/A	36	100	100	100	100	98	100	100	100	78	12
% of call answered(electronically) within 40 sec	N/A	100	100	100	100	100	100	100	100	1000	100	12
% of call answered by operator(voice to voice) within 60 sec	78	36	100	100	100	100	100	100	100	90	0	4
% of call answered by operator(voice to voice) within 90 sec	100	100	100	100	100	100	100	100	100	100	4	12



4.1.4 “C” CIRCLE

Table 43 [“C” Circle: Parameter Based Performance Compliance -1]

Parameters / Benchmark		AM				BH					HP				
		BHARTI	BSNL	DISHNET	RTL	BHARTI	BSNL	RTL	RCOM	TATA	BHARTI	BSNL	RTL	RCOM	TATA
Accumulated downtime of community isolation	<24Hrs	11.75	3.15	7.07	0.00	1.75	1608.00	3.30	0.79	4.22	6.90	4.00	6.08	0.77	10.21
Call Setup Success Rate	>95	99.33	98.00	98.91	97.00	95.21	97.00	98.70	99.43	97.04	98.94	97.40	98.72	99.65	98.32
Service Access Delay	< 20	12.13	4.20	13.00	8.76	13.14	9.53	3.33	1.62	12.00	3.07	5.50	16.04	DNP	5.55
SDCCH	< 1%	0.960	0.500	3.730	0.970	7.550	0.300	2.780	0.000	0.000	0.280	0.850	0.940	0.000	0.000
TCH Congestion	< 2%	0.910	0.020	1.090	4.700	4.790	0.200	2.650	0.000	0.000	0.560	1.800	6.100	0.000	0.017
Call Drop Rate	< 3%	0.95	0.02	1.09	0.91	1.93	4.08	2.77	0.96	0.90	1.87	1.94	2.47	0.81	0.82
% of connections with good voice quality	> 95%	99.20	78.00	98.11	94.30	99.00	90.50	96.31	99.00	99.20	97.78	98.30	97.97	96.00	97.47
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	78.00	20.00	100.00	N/A	98.99	95.00	N/A	99.50	89.00	93.50	99.93	N/A	99.50	100.00
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	98.00	52.80	100.00	N/A	100.00	99.00	N/A	99.50	95.00	93.90	99.86	N/A	99.50	100.00
% of Calls Answered by Operator within 60 sec	> 80%	98.00	76.60	82.48	100.00	99.50	80.00	100.00	66.00	81.00	96.90	7.73	100.00	84.80	78.13
% of Calls Answered by Operator within 90 sec	> 95%	98.00	99.00	100.00	100.00	100.00	95.00	100.00	69.13	95.00	98.90	11.71	100.00	91.30	88.43
Complaints per 100 bills issued	< 0.1%	0.100	0.002	0.015	0.009	0.000	0.000	0.000	0.080	1.800	0.022	0.000	0.000	0.070	0.420
% of Billing complaints resolved within 4 weeks	100%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	N/App	N/A	100.00	100.00
Period of refunds from the date of resolution of complaints	100%	100.00	100.00	100.00	100.00	DNP	40.00	100.00	100.00	100.00	100.00	56.64	N/A	100.00	100.00

Table 44 ["C" Circle: Parameter Based Performance Compliance -2]

Parameters / Benchmark		J&K			NE				OR					
		BHARTI	BSNL	DISHNET	BHARTI	BSNL	DISHNET	RTL	BHARTI	BSNL	DISHNET	RTL	RCOM	TATA
Accumulated downtime of community isolation	<24Hrs	0.00	0.00	0.00	2.96	2.33	0.00	0.00	0.00	0.00	8.65	18.06	0.72	0.00
Call Setup Success Rate	>95	98.70	51.69	97.61	99.37	99.06	98.06	97.00	99.03	98.42	99.83	98.75	99.68	94.13
Service Access Delay	< 20	3.05	3.90	8.00	13.20	4.22	21.16	8.42	14.49	3.71	3.77	13.75	1.87	12.50
SDCCH	< 1%	0.750	0.760	0.890	0.910	0.500	3.230	1.670	2.480	0.950	0.120	1.590	0.000	0.000
TCH Congestion	< 2%	0.670	1.770	0.970	0.720	2.200	2.350	7.300	0.000	1.770	0.175	13.710	0.000	0.510
Call Drop Rate	< 3%	1.70	19.26	0.77	0.60	0.93	0.00	2.17	0.96	1.60	0.13	2.15	0.97	1.15
% of connections with good voice quality	> 95%	96.82	96.92	99.80	95.42	DNP	99.30	96.86	99.14	87.50	95.55	99.32	97.00	97.95
% of Calls Answered Electronically [IVR] within 20 sec	> 80%	99.99	99.84	99.15	10.36	95.00	100.00	N/A	DNP	DNP	100.00	N/A	99.50	100.00
% of Calls Answered Electronically [IVR] within 40 sec	> 95%	100.00	99.96	99.53	DNP	99.00	100.00	N/A	DNP	DNP	100.00	N/A	99.50	100.00
% of Calls Answered by Operator within 60 sec	> 80%	95.87	22.71	94.50	DNP	80.00	100.00	98.00	DNP	DNP	100.00	100.00	64.49	75.00
% of Calls Answered by Operator within 90 sec	> 95%	97.85	31.58	99.15	DNP	95.00	100.00	100.00	DNP	DNP	100.00	100.00	77.35	100.00
Complaints per 100 bills issued	< 0.1%	0.076	DNP	0.000	0.710	0.000	0.000	0.015	DNP	0.085	0.023	0.000	0.080	0.012
% of Billing complaints resolved within 4 weeks	100%	100.00	DNP	100.00	100.00	100.00	100.00	100.00	DNP	0.00	100.00	100.00	100.00	100.00
Period of refunds from the date of resolution of complaints	100%	100.00	DNP	100.00	100.00	100.00	100.00	100.00	DNP	0.00	80.00	100.00	100.00	100.00

Table 45 ["C" Circle: POI Performance Compliance based on Data from MSC]

Circle / City	AM				BH					HP				
Operator	RTL	BHARTI	Dishnet	BSNL	RTL	RCOM	TATA	BSNL	BHARTI	RTL	RCOM	TATA	BSNL	BHARTI
Total POIs	11	12	17	13	DNP	22	26	DNP	64	13	7	24	31	19
POIs Not Meeting	6	1	6	0	DNP	8	12	DNP	20	3	2	1	0	1

Circle / City	J&K			OR						NE			
Operator	Dishnet	BHARTI	BSNL	RTL	RCOM	TATA	Dishnet	BSNL	BHARTI	RTL	BHARTI	Dishnet	BSNL
Total POIs	14	9	DNP	16	15	40	22	DNP	17	8	14	14	10
POIs Not Meeting	3	3	DNP	1	1	0	3	DNP	0	4	3	0	5

Table 46 ["C" Circle: POI Performance Compliance Practical Inter Operator Call Assessment]

Circle / City	AM				BH					HP				
Operator	RTL	BHARTI	Dishnet	BSNL	RTL	RCOM	TATA	BSNL	BHARTI	RTL	RCOM	TATA	BSNL	BHARTI
Total POIs	4	4	4	4	5	5	3	4	5	6	7	7	6	6
POIs Not Meeting	4	2	3	0	4	3	3	4	4	2	2	7	2	0

Circle / City	J&K			OR						NE			
Operator	Dishnet	BHARTI	BSNL	RTL	RCOM	TATA	Dishnet	BSNL	BHARTI	RTL	BHARTI	Dishnet	BSNL
Total POIs	2	3	2	6	6	6	6	6	6	4	4	4	4
POIs Not Meeting	2	2	1	1	2	1	4	3	0	4	3	0	3



Table 47 [“C” Circle: Practical Assessment of Helpline Performance Compliance]

Operator	AM				BH					HP					NE			
	RTL	BHARTI	Disnet	BSNL	RTL	RCOM	TATA	BSNL	BHARTI	RTL	RCOM	TATA	BSNL	BHARTI	RTL	BHARTI	Dishnet	BSNL
% of call answered (electronically) within 20 sec	N/A	100	100	100	N/A	98	92	36	100	95	94	98	82	100	N/A	100	100	100
% of call answered(electronically) within 40 sec	N/A	100	100	100	N/A	100	100	50	10	95	96	98	90	100	N/A	100	100	100
% of call answered by operator(voice to voice) within 60 sec	100	100	50	24	98	98	58	8	100	95	90	82	30	96	82	100	100	24
% of call answered by operator(voice to voice) within 90 sec	100	100	24	24	100	100	100	22	100	95	92	82	70	96	100	100	100	24

Operator	J & K			OR					
	BHARTI	BSNL	Dishnet	RTL	RCOM	TATA	Dishnet	BSNL	BHARTI
% of call answered (electronically) within 20 sec	70	70	78	N/A	100	100	100	100	100
% of call answered(electronically) within 40 sec	100	100	100	N/A	100	100	100	100	100
% of call answered by operator(voice to voice) within 60 sec	20	18	53	100	96	98	100	90	96
% of call answered by operator(voice to voice) within 90 sec	100	78	100	100	100	100	100	90	96

4.2 PERFORMANCE COMPLIANCE - QOS BASIC

4.2.1 “METRO” CIRCLE

Table 48 [“Metro” Circle - Parameter Based Performance Compliance]

Parameters / Benchmark		CH				ND				KK			MB			
		BHARTI	BSNL	RCOM	TATA	BHARTI	MTNL	RCOM	TATA	BHARTI	BSNL	RCOM	BHARTI	MTNL	RCOM	TATA
Provision of telephone after registration of demand	100 %	84.28	79.18	99.00	86.84	99.63	99.75	98.50	95.33	81.60	58.70	99.50	95.25	80.50	97.50	71.41
Fault incidence	< 5 %	3.77	7.81	2.16	6.00	4.42	8.06	0.55	0.86	4.72	13.70	1.20	3.77	74.00	0.79	3.67
Fault repaired by next working day	> 90 %	99.78	96.00	97.00	100.00	99.15	97.35	98.00	100.00	82.76	60.42	96.50	90.25	74.00	96.50	97.27
Mean Time to Repair (MTTR)	< 8 Hrs	4.76	6.42	6.00	4.00	4.80	5.53	4.70	4.00	5.50	7.88	4.75	4.00	12.00	5.00	7.50
Grade of Service (Junction between local exchange)	< 0.002	0.0004	0.0030	0.0970	0.0005	0.0006	0.0005	0.0000	0.5500	0.0180	0.4700	0.0000	0.0004	0.0010	0.0030	0.0250
Grade of Service (Tax to Local)	< 0.002	NA	0.008	4.78	NA	DNP	0.0013	0.00	N/app	0.007	0.59	0.11	0.00	0.00	0.01	0.03
Grade of Service (Local to Tax)	< 0.002	0.00065	0.0043	0.073	NA	0.018	0.00	0.00	N/app	0.002	0.528	0.03	0.04	0.5	0.00	0.58
Grade of Service (Tax to Tax)	< 0.002	NA	NA	1.50	NA	DNP	N/app	1.31	N/app	NA	NA	0.00	NA	NA	0.56	NA
Call completion rate in local network	> 55 %	63.40	80.00	71.47	64.00	59.27	83.61	75.00	51.30	68.40	53.40	77.67	64.05	54.80	77.00	61.20
Metering & billing credibility	< 0.1 %	0.02	0.00	0.02	0.00	0.03	0.06	0.05	0.22	0.00	0.01	0.08	0.04	0.04	0.07	0.78
Customer care promptness (Shifts)	> 95 %	54.00	70.80	99.00	100.00	94.42	100.00	96.00	98.00	89.25	58.37	98.50	73.00	31.51	98.00	84.00
Customer care promptness (Closures)	> 95 %	75.82	69.14	97.50	100.00	51.75	100.00	95.50	99.14	100.00	37.79	97.50	100.00	87.00	96.00	N/A
Customer care promptness (Additional facility)	> 95 %	98.90	84.00	99.50	100.00	96.92	98.35	95.50	98.55	100.00	100.00	97.50	92.00	90.00	97.00	98.70
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	42.00	45.00	N/A	50.00	35.55	99.64	N/A	100.00	N/A	100.00	N/A	N/A	N/A	N/A	100.00



Parameters / Benchmark		CH				ND				KK			MB			
		BHARTI	BSNL	RCOM	TATA	BHARTI	MTNL	RCOM	TATA	BHARTI	BSNL	RCOM	BHARTI	MTNL	RCOM	TATA
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	50.00	50.00	N/A	50.00	64.50	99.87	N/A	100.00	N/A	100.00	N/A	N/A	N/A	N/A	100.00
% of Calls Answered by Operator within 60 sec	> 80 %	44.00	40.00	96.00	50.00	DNP	81.50	96.00	80.00	88.00	100.00	96.00	73.85	50.30	96.00	59.00
% of Calls Answered by Operator within 90 sec	> 95 %	50.00	50.00	98.00	50.00	DNP	91.33	98.00	84.00	93.00	100.00	98.00	84.44	50.30	98.00	65.00
Timetaken for refund after closures	100 %	100.00	100.00	NI	0.00	41.12	100.00	100.00	100.00	22.22	87.70	NI	100.00	98.80	NI	99.00

Table 49 [“Metro” Circle: - Practical Assessment of Helpline Performance Compliance]

Parameters / Benchmark		CH				ND				KK			MB			
		BHARTI	BSNL	RCOM	TATA	BHARTI	MTNL	RCOM	TATA	BHARTI	BSNL	RCOM	BHARTI	MTNL	RCOM	TATA
% of call answered (electronically) within 20 sec	> 80%	100	100	100	100	100	100	100	100	na	95	100	100	100	100	100
% of call answered(electronically) within 40 sec	> 95%	100	100	100	100	100	100	100	100	na	100	100	100	100	100	100
% of call answered by operator(voice to voice) within 60 sec	> 80%	100	100	100	100	100	90	98	90	86	na	94	98	100	96	100
% of call answered by operator(voice to voice) within 90 sec	> 95%	100	100	100	100	100	96	100	96	100	na	94	100	100	100	100



4.2.2 "A" CIRCLE

Table 50 ["A" Circle - Parameter Based Performance Compliance]

Parameters / Benchmark		AP				GJ				KR				MH				TN			
		BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA
Provision of telephone after registration of demand	100 %	88.81	80.20	99.50	85.50	81.32	46.20	99.00	97.60	94.75	32.89	98.00	91.27	89.00	36.24	98.50	100.00	92.19	98.00	99.50	100.00
Fault incidence	< 5 %	6.16	2.06	2.84	4.50	7.23	5.79	3.30	1.31	2.91	17.05	0.41	1.53	2.80	7.86	0.23	3.90	3.45	1.92	0.83	3.00
Fault repaired by next working day	> 90 %	90.40	85.62	97.00	70.00	93.38	51.14	96.00	76.22	96.76	34.68	97.50	90.61	87.90	80.13	95.50	99.79	99.69	98.50	98.00	100.00
Mean Time to Repair (MTTR)	< 8 Hrs	5.70	6.22	2.37	11.32	7.63	12.79	5.73	12.77	4.33	4.90	3.60	7.50	11.70	7.69	4.40	5.99	3.89	4.33	4.40	4.00
Grade of Service (Junction between local exchange)	< 0.002	0.0005	0.0000	0.1140	0.0120	0.0200	0.0000	0.0024	0.0000	0.0000	0.0000	0.0011	0.0127	0.0000	4.8600	0.0042	0.0000	0.0001	0.2350	0.0014	0.0020
Grade of Service (Tax to Local)	< 0.002	NA	0.0000	1.6800	0.0000	0.0200	0.2880	0.5400	0.0000	0.0000	0.0000	7.1100	0.0000	0.0000	17.4100	19.2700	NA	NA	0.2380	20.1900	NA
Grade of Service (Local to Tax)	< 0.002	0.0019	0.0000	4.3400	0.0770	NA	0.5740	0.0000	0.0770	0.0000	0.0000	7.1100	0.0000	0.0000	19.5300	0.0700	0.0500	0.0004	65.1300	2.6200	NA
Grade of Service (Tax to Tax)	< 0.002	NA	0.0000	3.2700	N/A	0.0110	0.0031	0.4900	NA	0.0000	0.0000	0.6800	N/A	0.0000	NA	0.1100	NA	NA	60.2400	0.1500	NA
Call completion rate in local network	> 55 %	54.00	72.24	73.95	82.90	63.91	50.93	76.12	63.34	60.58	52.26	75.42	N/A	63.68	41.97	80.42	57.01	68.00	63.48	71.43	64.00
Metering & billing credibility	< 0.1 %	0.04	0.00	0.08	0.07	DNP	0.80	0.01	0.15	0.02	0.00	0.035	8.54	0.04	0.00	0.04	0.00	0.02	0.90	0.00	0.00
Customer care promptness (Shifts)	> 95 %	58.00	30.17	100.00	N/A	62.11	42.94	97.00	96.24	89.25	59.38	100.00	85.00	38.88	56.00	100.00	100.00	54.00	99.63	100.00	100.00
Customer care promptness (Closures)	> 95 %	N/A	81.34	96.50	N/A	DNP	75.53	97.00	100.00	73.28	62.29	97.00	100.00	100.00	79.67	98.50	100.00	75.82	100.00	97.00	100.00
Customer care promptness (Additional facility)	> 95 %	93.82	63.53	97.50	N/A	95.31	49.39	98.00	99.04	99.22	62.24	98.00	95.40	97.31	66.00	97.50	100.00	98.90	50.00	99.50	100.00
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	N/A	N/A	N/A	100.00	N/A	87.10	N/A	DNP	N/A	100.00	N/A	N/A	N/A	N/A	N/A	100.00	42.00	50.00	N/A	50.00
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	N/A	N/A	N/A	100.00	N/A	DNP	N/A	DNP	N/A	100.00	N/A	N/A	N/A	N/A	N/A	100.00	50.00	50.00	N/A	50.00
% of Calls Answered by Operator within 60 sec	> 80 %	95.00	100.00	96.00	100.00	69.60	61.28	96.00	DNP	79.71	99.84	96.00	92.01	71.30	N/A	96.00	91.59	44.00	50.00	96.00	50.00
% of Calls Answered by Operator within 90 sec	> 95 %	97.00	100.00	98.00	100.00	77.50	DNP	98.00	DNP	87.87	99.84	98.00	93.13	71.68	N/A	98.00	94.87	50.00	50.00	98.00	50.00
Timetaken for refund after closures	100 %	97.4	96.74	100	97.4	100	97.98	100	100	99.75	62.33	100	100	100	31.13	100	100	100	100	100	100



Table 51 [“A” Circle - Practical Assessment of Helpline Performance Compliance]

Parameters / Benchmark		AP				GJ				KR				MH				TN			
		BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA	BHARTI	BSNL	RCOM	TATA
% of call answered (electronically) within 20 sec	80%	NA	100	100	90	100	100	100	100	NA	100	100	NA	100	100	10	100	100	100	100	100
% of call answered (electronically) within 40 sec	95%	NA	100	100	90	100	100	100	100	NA	100	100	NA	100	100	22	100	100	100	100	100
% of call answered by operator(voice to voice) within 60 sec	80%	98	100	100	32	100	100	100	100	94	99.84	100	96	100	100	10	64	100	100	100	100
% of call answered by operator(voice to voice t within 90 sec	95%	98	100	100	42	100	100	100	100	100	99.94	100	100	100	100	22	74	100	100	100	100



4.2.3 "B" CIRCLE

Table 52 ["B" Circle – Parameter Based Performance Compliance]

Parameters / Benchmark		HR			KL			MP			CG	PB			
		BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BSNL	BHARTI	BSNL	HFCL	RCOM
Provision of telephone after registration of demand	100 %	85.20	16.66	97.00	68.70	19.39	98.00	96.06	78.00	98.00	98.57	97.70	53.41	94.60	98.00
Fault incidence	< 5 %	5.40	6.39	NI	5.91	9.59	0.61	5.20	8.60	2.90	8.29	3.33	8.22	1.17	3.10
Fault repaired by next working day	> 90 %	99.50	50.59	NI	94.74	94.78	98.50	95.73	90.71	96.50	87.63	94.60	62.49	98.58	95.00
Mean Time to Repair (MTTR)	< 8 Hrs	4.60	15.36	NI	4.83	7.64	0.50	7.90	5.94	4.12	6.65	4.04	8.29	6.01	5.50
Grade of Service (Junction between local exchange)	< 0.002	0.0002	0.0020	0.0500	0.0000	0.0000	0.2300	0.0010	0.0180	0.0900	0.0180	0.0002	0.1660	0.0002	0.0300
Grade of Service (Tax to Local)	< 0.002	N/APP	0.0018	19.93	N/APP	0.00	0.00097	0	0.4425	5.54	0.56	NA	0.153	0.0004	22.20
Grade of Service (Local to Tax)	< 0.002	0.00	0.0021	0.01	0.00	0.00	0.00	0	0.4525	0.01	0.566	.0085	0.162	0.00	0.06
Grade of Service (Tax to Tax)	< 0.002	N/APP	NA	0.06	N/APP	0.00	0.0016	NA	0.51	3.45	0.598	NA	NA	NA	4.93
Call completion rate in local network	> 55 %	63.00	56.67	77.60	N/A	79.51	80.76	56.76	54.60	77.93	70.50	53.46	73.80	77.50	78.15
Metering & billing credibility	< 0.1 %	0.05	0.10	0.00	0.01	0.00	0.01	0.00	0.00	0.06	0.00	0.06	0.01	0.01	0.05
Customer care promptness (Shifts)	> 95 %	61.00	100.00	NI	73.53	93.74	100.00	52.74	90.76	100.00	97.22	100.00	77.18	95.18	100.00
Customer care promptness (Closures)	> 95 %	89.00	92.50	100.00	11.11	98.35	95.50	95.52	97.76	96.00	98.14	89.96	92.66	97.66	97.50
Customer care promptness (Additional facility)	> 95 %	57.00	95.83	100.00	96.48	98.47	97.00	99.17	100.00	99.00	91.66	71.38	92.52	96.52	98.00
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	N/A	100.00	N/A	N/A	N/A	N/A	100.00	95.00	N/A	92.00	100.00	100.00	N/A	N/A
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	N/A	100.00	N/A	N/A	N/A	N/A	100.00	95.00	N/A	92.00	100.00	100.00	N/A	N/A



Parameters / Benchmark		HR			KL			MP			CG	PB			
		BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BSNL	BHARTI	BSNL	HFCL	RCOM
% of Calls Answered by Operator within 60 sec	> 80 %	91.80	N/A	96.00	92.99	90.00	96.00	79.87	92.00	96.00	92.00	91.80	92.33	N/A	96.00
% of Calls Answered by Operator within 90 sec	> 95 %	95.40	N/A	98.00	92.99	92.00	98.00	100.00	92.00	98.00	92.00	95.40	97.63	N/A	98.00
Timetaken for refund after closures	100 %	100.00	100.00	100.00	100.00	96.69	DNP	3.81	100.00	100.00	100.00	85.80	100.00	100.00	100.00

Parameters / Benchmark		RJ			UP(E)			UP(W)			UC	WB	
		BSNL	RCOM	SHYAM	BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BSNL	BSNL	RCOM
Provision of telephone after registration of demand	100 %	43.51	99.50	98.02	97.18	39.72	98.00	83.29	70.90	94.00	87.19	27.81	100.00
Fault incidence	< 5 %	8.30	3.30	2.77	7.60	16.24	2.90	7.33	5.96	NI	12.13	12.20	NI
Fault repaired by next working day	> 90 %	80.13	98.00	92.67	92.70	60.30	100.00	43.96	94.19	NI	61.06	71.72	NI
Mean Time to Repair (MTTR)	< 8 Hrs	5.93	4.80	4.85	4.90	12.42	1.20	8.62	4.85	NI	14.18	10.05	NI
Grade of Service (Junction between local exchange)	< 0.002	0.0000	0.0300	0.0003	N/A	0.0003	0.0000	0.0000	0.0134	0.2900	N/A	0.1730	1.5100
Grade of Service (Tax to Local)	< 0.002	0.00	65.59	0.00	NA	0.00027	50.32	NA	0.00	4.88	0.00	0.00	1.45
Grade of Service (Local to Tax)	< 0.002	0.00	0.06	0.00002	13.76	0.0075	0.02	0	0.00	0.00	0.00	NA	0.15
Grade of Service (Tax To Tax)	< 0.002	0.00	1.79	0.00	NA	0.0425	0.49	NA	0.00	0.50	0.00	NA	0.25
Call completion rate in local network	> 55 %	41.94	77.17	N/A	51.10	50.55	73.15	62.63	51.39	78.45	47.28	30.40	77.39



Parameters / Benchmark		RJ			UP(E)			UP(W)			UC	WB	
		BSNL	RCOM	SHYAM	BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BSNL	BSNL	RCOM
Metering & billing credibility	< 0.1 %	0.04	0.00	0.09	4.69	0.08	0.03	0.65	0.10	0.00	0.00	0.37	0.00
Customer care promptness (Shifts)	> 95 %	98.11	NI	58.30	0.00	37.50	100.00	100.00	46.15	NI	88.88	45.40	NI
Customer care promptness (Closures)	> 95 %	100.00	89.30	100.00	38.91	76.55	98.00	93.42	100.00	NI	87.36	61.53	NI
Customer care promptness (Additional facility)	> 95 %	100.00	98.00	96.26	68.47	66.00	97.50	66.00	100.00	100.00	74.52	100.00	NI
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	N/A	N/A	N/A	N/A	100.00	N/A	N/A	100.00	N/A	88.73	100.00	N/A
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	N/A	N/A	N/A	N/A	100.00	N/A	N/A	100.00	N/A	88.73	100.00	N/A
% of Calls Answered by Operator within 60 sec	> 80 %	N/A	96.00	85.00	90.32	95.00	96.00	91.81	100.00	96.00	42.60	99.00	96.00
% of Calls Answered by Operator within 90 sec	> 95 %	N/A	98.00	85.00	94.41	96.00	98.00	95.41	100.00	98.00	78.08	100.00	98.00
Timetaken for refund after closures	100 %	64.03	100.00	91.00	28.43	78.93	NI	66.66	97.64	NI	100.00	100.00	NI

Table 53 [“B” Circle: - Practical Assessment of Helpline Performance Compliance]

Parameters / Benchmark		HR			KL			MP			CG	PB			
		BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BSNL	BHARTI	BSNL	HFCL	RCOM
% of call answered (electronically) within 20 sec	> 80%	N/app	100	100	96	100	100	100	98	98	90	100	100	100	100
% of call answered (electronically) within 40 sec	> 95%	N/app	100	100	96	100	100	100	98	100	92	100	100	100	100
% of call answered by operator (voice to voice) within 60 sec	> 80%	98	100	90	94	100	100	100	98	100	92	98	0	96	100
% of call answered by operator (voice to voice) within 90 sec	> 95%	100	100	96	96	100	100	100	98	100	92	100	44	100	100

Table 54 [“B” Circle: - Practical Assessment of Helpline Performance Compliance]

Parameters / Benchmark		RJ			UP(E)			UP(W)			WB	
		BSNL	RCOM	SHYAM	BHARTI	BSNL	RCOM	BHARTI	BSNL	RCOM	BSNL	RCOM
% of call answered (electronically) within 20 sec	> 80%	100	0	na	na	100	96	100	100	96	94	100
% of call answered (electronically) within 40 sec	> 95%	100	0	na	na	100	96	100	100	98	98	100
% of call answered by operator (voice to voice) within 60 sec	> 80%	98	0	100	96	95	100	92	100	100	82	94
% of call answered by operator (voice to voice) within 90 sec	> 95%	100	0	100	96	100	100	92	100	100	99	100

Please Note that Data for Uttaranchal is merged with UP(W).



4.2.4 "C" CIRCLE

Table 55 ["C" Circle - Parameter Based Performance Compliance]

Parameters / Benchmark		AM	BH		HP		J&K	JD	NE-I	NE-II	OR		A & N
		BSNL	BSNL	RCOM	BSNL	RCOM	BSNL	BSNL	BSNL	BSNL	BSNL	RCOM	BSNL
Provision of telephone after registration of demand	100 %	10.90	24.78	100.00	DNP	100.00	56.80	27.20	77.78	Covered in Q3	52.94	100.00	Covered in Q3
Fault incidence	< 5 %	2.84	18.34	NI	DNP	NI	4.88	15.90	31.55		23.84	NI	
Fault repaired by next working day	> 90 %	76.96	67.40	NI	DNP	NI	49.57	85.90	70.37		88.17	NI	
Mean Time to Repair (MTTR)	< 8 Hrs	7.40	10.60	NI	DNP	NI	6.78	8.18	12.72		7.42	NI	
Grade of Service (Junction between local exchange)	< 0.002	N/A	0.0000	0.0000	DNP	1.3600	DNP	0.5000	0.0400		N/A	0.1000	
Grade of Service (Tax to Local)	< 0.002	0.012	0.00	74.49	DNP	10.81	DNP	0.4	0.07		0.00	0.70	
Grade of Service (Local to Tax)	< 0.002	NA	0.00	0.03	DNP	0.10	DNP	0.97	0.09		0.00	0.49	
Grade of Service (Tax to Tax)	< 0.002	0.063	NA	0.27	DNP	1.81	DNP	NA	0.09		NA	0.02	
Call completion rate in local network	> 55 %	31.63	54.68	77.39	DNP	78.15	DNP	34.68	37.90		43.91	77.93	
Metering & billing credibility	< 0.1 %	0.02	0.00	0.00	DNP	0.00		0.11	0.10		0.03	0.00	
Customer care promptness (Shifts)	> 95 %	35.00	40.66	NI	DNP	NI	DNP	41.14	100.00		80.00	NI	
Customer care promptness (Closures)	> 95 %	22.70	81.45	NI	DNP	NI	DNP	22.22	100.00		100.00	NI	
Customer care promptness (Additional facility)	> 95 %	N/A	93.93	NI	DNP	NI	DNP	100.00	100.00		100.00	NI	
% of Calls Answered Electronically [IVR] within 20 sec	> 80 %	100.00	100.00	N/A	DNP	N/A	100.00	100.00	100.00	41.66	N/A		



Parameters / Benchmark		AM	BH		HP		J&K	JD	NE-I	NE-II	OR		A & N
		BSNL	BSNL	RCOM	BSNL	RCOM	BSNL	BSNL	BSNL	BSNL	BSNL	RCOM	BSNL
% of Calls Answered Electronically [IVR] within 40 sec	> 95 %	100.00	100.00	N/A	DNP	N/A	100.00	100.00	100.00		100.00	N/A	
% of Calls Answered by Operator within 60 sec	> 80 %	100.00	100.00	96.00	DNP	96.00	0.00	100.00	100.00		100.00	96.00	
% of Calls Answered by Operator within 90 sec	> 95 %	100.00	100.00	98.00	FALSE	98.00	20.00	100.00	100.00		100.00	98.00	
Timetaken for refund after closures	100 %	50.00	100.00	NI	DNP	NI	ND	26.46	100.00		99.21	NI	

Table 56 [“C” Circle: - Practical Assessment of Helpline Performance Compliance]

Parameters / Benchmark		AM	BH		HP		J&K	JD	NE-I	OR	
		BSNL	BSNL	RCOM	BSNL	RCOM	BSNL	BSNL	BSNL	BSNL	RCOM
% of call answered (electronically) within 20 sec	> 80%	98	NA	NA	DNP	94	100	100	92	60	92
% of call answered (electronically) within 40 sec	> 95%	100	NA	NA	DNP	96	100	100	100	94	92
% of call answered by operator (voice to voice) within 60 sec	> 80%	98	92	92	DNP	90	19	100	100	NA	86
% of call answered by operator (voice to voice) within 90 sec	> 95%	100	100	100	DNP	92	23	100	100	NA	86

4.3 PERFORMANCE COMPLIANCE CSS - CELLULAR

Table 57 [CSS Cellular - Parameter Based Performance Compliance]

Name of the Service Providers	Sample Size	% Satisfied With Provision of service	% Satisfied with Billing performance		% Satisfied with Help Services	% Satisfied with Network performance reliability and availability	% Satisfied with Maintainability	% Satisfied with Overall customer satisfaction	Supplementary services
			Postpaid	Prepaid					
Benchmark		>95%	>90%	>90%	>90%	>95%	>95%	>95%	>95%
CIRCLE-Metro									
Chennai	3284								
AIRCEL	596	99%	81%	97%	81%	90%	72%	90%	84%
BHARTI	601	99%	90%	98%	83%	91%	81%	91%	85%
BSNL	598	99%	66%	98%	86%	91%	81%	88%	78%
HUTCH	597	99%	63%	97%	79%	90%	67%	89%	84%
RCOM	627	99%	70%	96%	84%	91%	65%	89%	80%
TATA	265	98%	87%	94%	87%	93%	55%	90%	77%
Delhi	3433								
BHARTI	600	96%	81%	99%	69%	75%	81%	85%	97%
HUTCH	600	94%	89%	98%	70%	74%	89%	85%	98%
IDEA	611	97%	81%	99%	73%	74%	66%	86%	98%
MTNL	356	89%	82%	99%	69%	76%	78%	85%	98%
RCOM	666	93%	83%	98%	67%	75%	88%	84%	98%
TATA	600	98%	82%	99%	70%	75%	69%	85%	99%
Kolkata	3615								
BHARTI	601	98%	78%	95%	60%	73%	67%	82%	94%
BSNL	606	93%	89%	98%	58%	70%	80%	82%	98%
HUTCH	603	99%	75%	98%	65%	72%	77%	84%	97%
RCOM	604	98%	94%	99%	58%	72%	67%	83%	98%
RTL	600	99%	NR	100%	59%	72%	80%	84%	99%
TATA	601	97%	100%	96%	58%	71%	60%	82%	98%
Mumbai	3599								
BHARTI	599	100%	99%	99%	98%	100%	100%	98%	84%
BPL	604	99%	99%	100%	98%	99%	NR	99%	91%
HUTCH	600	100%	91%	100%	60%	98%	NR	92%	100%
MTNL	595	100%	91%	100%	61%	99%	90%	93%	99%
RCOM	600	100%	90%	100%	73%	99%	NR	95%	94%
TATA	601	98%	98%	99%	99%	96%	NR	95%	51%
CIRCLE-A									
AP	2406								
BHARTI	401	98%	100%	100%	73%	94%	NR	94%	99%
BSNL	401	98%	100%	100%	85%	95%	100%	94%	86%
HUTCH	401	99%	99%	100%	81%	95%	NR	96%	99%

Name of the Service Providers	Sample Size	% Satisfied With Provision of service	% Satisfied with Billing performance		% Satisfied with Help Services	% Satisfied with Network performance reliability and availability	% Satisfied with Maintainability	% Satisfied with Overall customer satisfaction	Supplementary services
			Postpaid	Prepaid					
Benchmark		>95%	>90%	>90%	>90%	>95%	>95%	>95%	>95%
IDEA	401	97%	100%	100%	70%	92%	NR	93%	96%
RCOM	402	98%	100%	100%	72%	97%	100%	95%	98%
TATA	400	98%	97%	100%	76%	97%	NR	95%	99%
Gujrat	2247								
BHARTI	394	98%	100%	88%	84%	72%	75%	84%	90%
BSNL	406	99%	90%	94%	81%	71%	60%	86%	99%
HUTCH	412	99%	91%	94%	82%	73%	86%	86%	91%
IDEA	403	99%	100%	89%	82%	70%	100%	83%	92%
RCOM	403	92%	100%	96%	83%	73%	100%	86%	95%
TATA	229	84%	100%	90%	86%	70%	NR	82%	96%
Karnataka	3194								
BHARTI	395	78%	82%	84%	73%	98%	85%	86%	88%
BSNL	399	79%	94%	88%	70%	96%	NR	88%	95%
HUTCH	401	82%	97%	86%	61%	97%	93%	87%	89%
RCOM	799	72%	90%	85%	59%	93%	91%	83%	89%
SPICE	400	79%	94%	88%	53%	87%	95%	83%	95%
TATA	800	76%	81%	81%	55%	91%	96%	81%	91%
Maharashtra	2204								
BHARTI	400	99%	92%	96%	99%	98%	100%	93%	61%
HUTCH	399	100%	84%	96%	98%	98%	98%	92%	61%
BSNL	404	99%	86%	87%	83%	97%	100%	89%	59%
IDEA	400	99%	76%	97%	99%	98%	100%	92%	55%
RCOM	403	100%	88%	95%	99%	98%	95%	92%	62%
TATA	198	100%	95%	93%	99%	97%	90%	91%	53%
Tamil nadu	2773								
AIRCEL	503	99%	77%	94%	84%	94%	88%	93%	91%
BHARTI	455	99%	71%	94%	82%	94%	69%	91%	89%
HUTCH	397	99%	91%	91%	78%	92%	71%	91%	90%
BSNL	464	99%	78%	93%	84%	93%	79%	90%	88%
RCOM	554	99%	73%	92%	86%	93%	79%	91%	91%
TATA	400	95%	90%	91%	89%	93%	71%	91%	87%
CIRCLE-B									
Haryana	1460								
BHARTI	250	100%	72%	93%	75%	65%	50%	81%	91%
BSNL	266	100%	90%	97%	75%	70%	90%	84%	98%
HUTCH	238	100%	72%	89%	76%	72%	100%	82%	92%
IDEA	238	100%	86%	91%	74%	73%	93%	83%	96%
RCOM	250	100%	76%	97%	78%	71%	90%	85%	98%
TATA	218	100%	96%	92%	75%	65%	80%	82%	99%
Kerala	1933								
BHARTI	302	93%	56%	88%	77%	95%	94%	90%	91%
HUTCH	251	98%	59%	86%	73%	89%	63%	87%	90%
BSNL	255	98%	74%	86%	66%	92%	47%	85%	90%



Name of the Service Providers	Sample Size	% Satisfied With Provision of service	% Satisfied with Billing performance		% Satisfied with Help Services	% Satisfied with Network performance reliability and availability	% Satisfied with Maintainability	% Satisfied with Overall customer satisfaction	Supplementary services
			Postpaid	Prepaid					
Benchmark		>95%	>90%	>90%	>90%	>95%	>95%	>95%	>95%
IDEA	253	97%	80%	84%	70%	93%	58%	88%	91%
RCOM	464	95%	82%	81%	80%	91%	68%	87%	90%
TATA	408	95%	64%	85%	75%	91%	61%	87%	88%
MP	1538								
BHARTI	258	96%	94%	96%	59%	78%	97%	84%	87%
BSNL	276	93%	95%	95%	63%	73%	67%	82%	81%
IDEA	253	97%	90%	98%	65%	76%	100%	84%	83%
RCOM	257	100%	75%	92%	65%	74%	NR	83%	89%
RTL	259	100%	85%	97%	60%	76%	95%	83%	80%
TATA	235	99%	100%	96%	62%	74%	58%	84%	91%
Punjab	1218								
BHARTI	245	96%	79%	70%	86%	72%	97%	76%	67%
BSNL	64	NR	93%	100%	80%	71%	97%	85%	90%
HFCL	43	100%	74%	93%	95%	72%	50%	81%	100%
HUTCH	191	91%	68%	51%	71%	74%	100%	69%	74%
RCOM	254	99%	92%	96%	84%	72%	92%	85%	94%
SPICE	226	100%	73%	65%	78%	69%	50%	72%	70%
TATA	195	98%	90%	98%	84%	69%	100%	85%	95%
Rajasthan	1029								
BHARTI	241	100%	67%	94%	86%	73%	96%	84%	76%
BSNL	188	100%	89%	97%	86%	72%	99%	86%	88%
HUTCH	219	100%	52%	95%	88%	73%	100%	84%	78%
RCOM	230	99%	82%	97%	85%	73%	96%	86%	84%
TATA	151	97%	67%	100%	85%	68%	100%	86%	88%
UP-E	1613								
BHARTI	306	98%	100%	96%	68%	68%	70%	86%	96%
BSNL	291	97%	50%	98%	78%	69%	78%	84%	99%
HUTCH	273	99%	91%	98%	75%	74%	71%	88%	96%
RCOM	400	100%	97%	99%	86%	70%	96%	88%	99%
TATA	343	97%	89%	99%	73%	70%	82%	87%	99%
UP-W	1641								
BHARTI	266	100%	52%	95%	60%	69%	70%	81%	88%
BSNL	276	100%	70%	95%	61%	69%	NR	82%	87%
HUTCH	270	100%	100%	98%	61%	67%	80%	83%	93%
IDEA	277	100%	70%	98%	63%	70%	84%	84%	95%
RCOM	277	100%	63%	98%	62%	67%	NR	83%	98%
TATA	275	100%	87%	97%	61%	62%	NR	83%	98%
WB	1751								
DISHNET	249	98%	NR	99%	68%	76%	100%	88%	90%
BHARTI	249	100%	NR	100%	63%	76%	100%	85%	87%
BSNL	249	100%	78%	95%	48%	67%	63%	75%	77%
HUTCH	249	98%	100%	99%	60%	75%	60%	84%	89%
RCOM	249	94%	100%	99%	65%	74%	70%	85%	86%

Name of the Service Providers	Sample Size	% Satisfied With Provision of service	% Satisfied with Billing performance		% Satisfied with Help Services	% Satisfied with Network performance reliability and availability	% Satisfied with Maintainability	% Satisfied with Overall customer satisfaction	Supplementary services
			Postpaid	Prepaid					
Benchmark		>95%	>90%	>90%	>90%	>95%	>95%	>95%	>95%
RTL	254	96%	100%	94%	52%	72%	76%	79%	78%
TATA	252	94%	100%	99%	57%	74%	70%	83%	81%
CIRCLE-C									
Assam	943								
DISHNET	197	100%	72%	99%	70%	64%	100%	83%	100%
BHARTI	245	100%	89%	99%	67%	63%	100%	82%	100%
BSNL	251	100%	88%	100%	71%	61%	70%	80%	98%
RTL	250	98%	88%	99%	67%	65%	93%	80%	100%
Bihar	1345								
BHARTI	266	95%	100%	92%	74%	65%	100%	81%	89%
BSNL	273	99%	100%	91%	77%	64%	100%	81%	94%
RCOM	270	97%	NR	95%	78%	67%	50%	83%	92%
RTL	269	100%	NR	95%	74%	64%	100%	82%	94%
TATA	267	82%	NR	96%	83%	62%	NR	81%	100%
HP	979								
BHARTI	275	100%	90%	85%	76%	73%	NR	81%	91%
BSNL	158	100%	97%	91%	74%	71%	73%	83%	94%
RCOM	117	100%	93%	97%	76%	68%	NR	84%	99%
RTL	215	100%	93%	98%	76%	65%	50%	83%	93%
TATA	214	100%	92%	93%	80%	69%	NR	86%	96%
J&K	481								
AIRCEL	26	91%	85%	80%	79%	70%	NR	81%	100%
BHARTI	217	94%	92%	90%	79%	73%	50%	84%	99%
BSNL	238	99%	91%	95%	79%	69%	27%	83%	98%
NE	1011								
DISHNET	254	42%	94%	100%	53%	72%	74%	74%	76%
BHARTI	254	43%	88%	100%	62%	71%	80%	78%	97%
BSNL	253	44%	85%	100%	54%	70%	80%	79%	98%
RTL	250	70%	92%	100%	57%	69%	78%	78%	97%
Orissa	1500								
DISHNET	250	100%	NR	98%	75%	73%	100%	88%	98%
BHARTI	250	95%	63%	80%	69%	69%	85%	76%	81%
BSNL	250	95%	83%	83%	67%	66%	69%	76%	90%
RCOM	250	82%	92%	95%	63%	70%	94%	81%	97%
RTL	250	100%	NR	97%	60%	59%	100%	78%	91%
TATA	250	80%	99%	82%	60%	64%	60%	75%	99%

4.4 PERFORMANCE COMPLIANCE CSS – BASIC SERVICES

Table 58 [CSS Basic - Parameter Based Performance Compliance]

Note : Values against parameters are in “%”

Name of the Service Providers	Sample Size Covered	Provision of service	Billing Postpaid	Help Services	Network performance reliability and availability	Maintainability	Overall customer satisfaction	Supplementary services
Benchmark		>95%	>90%	>90%	>95%	>95%	>95%	>95%
CIRCLE-Metro								
Chennai	1260							
BHARTI	606	96	98	84	97	93	92	76
BSNL	606	70	97	81	97	75	89	71
RCOM	17	78	72	71	88	90	79	88
TATA	31	71	71	76	90	90	80	89
Delhi	2404							
BHARTI	602	88	96	70	98	92	92	99
MTNL	601	74	90	64	96	83	86	96
RCOM	601	62	99	76	98	98	96	99
TATA	600	70	100	78	99	100	97	100
Kolkata	613							
BHARTI	8	100	88	60	97	NR	93	100
BSNL	602	78	61	65	78	77	71	100
RCOM	3	93	78	80	100	100	93	100
Mumbai	2602							
BHARTI	602	100	100	60	99	NR	93	100
MTNL	799	100	100	66	98	NR	94	NR
RCOM	600	100	100	97	100	NR	99	88
TATA	601	99	99	61	96	NR	89	100
CIRCLE-A								
Andhra Pradesh	1283							
BHARTI	250	97	97	73	99	NR	95	99
BSNL	601	96	91	67	93	99	90	99
RCOM	150	99	96	77	95	NR	95	100
TATA	282	99	97	79	98	NR	96	99
Gujrat	260							
BHARTI	LSB							
BSNL	260	100	88	57	92	96	91	100
RCOM	LSB							
TATA	LSB							
Karnataka	1399							
BHARTI	600	88	77	72	95	95	87	100
BSNL	799	85	90	73	96	NR	90	75
RCOM	LSB							

Name of the Service Providers	Sample Size Covered	Provision of service	Billing Postpaid	Help Services	Network performance reliability and availability	Maintainability	Overall customer satisfaction	Supplementary services
Benchmark		>95%	>90%	>90%	>95%	>95%	>95%	>95%
TATA	LSB							
Maharashtra	1611							
BHARTI	403	100	99	99	100	100	100	100
BSNL	402	82	99	91	99	86	95	NR
RCOM	402	99	99	99	100	98	99	96
TATA	404	100	100	99	100	99	99	83
Tamil Nadu	872							
BHARTI	340	99	100	64	99	93	97	97
BSNL	532	77	95	63	97	87	92	97
RCOM	LSB							
TATA	LSB							
CIRCLE-B								
Haryana	373							
BHARTI	118	98	97	71	100	94	93	100
BSNL	255	56	99	69	97	80	88	NR
RCOM	LSB							
Kerala	484							
BHARTI	39	100	100	80	100	NR	99	98
BSNL	326	98	98	64	100	87	93	93
RCOM	119	96	100	60	100	96	96	93
MP	573							
BHARTI	286	98	97	60	87	98	88	73
BSNL	263	95	78	55	85	92	84	93
RCOM	24	73	99	60	90	NR	89	85
Chattisgarh	261							
BSNL	261	83	96	97	95	85	92	90
Punjab	615							
BHARTI	145	96	99	73	99	99	96	100
BSNL	252	67	96	66	99	89	93	100
HFCL	205	95	99	77	99	98	97	NR
RCOM	13	100	100	77	96	NR	93	NR
Rajasthan	470							
BSNL	236	100	91	81	99	99	95	100
RCOM	81	100	93	73	99	100	95	100
Shyam	153	97	94	81	99	100	96	100
UP-E	594							
BHARTI	152	100	99	73	100	100	99	100
BSNL	260	54	84	61	81	77	80	98
RCOM	182	94	99	81	99	99	98	100
UP-W	391							
BHARTI	101	99	98	60	96	93	94	100

Name of the Service Providers	Sample Size Covered	Provision of service	Billing Postpaid	Help Services	Network performance reliability and availability	Maintainability	Overall customer satisfaction	Supplementary services
Benchmark		>95%	>90%	>90%	>95%	>95%	>95%	>95%
BSNL	290	100	62	57	91	84	80	100
RCOM	LSB							
Uttanchal	254							
BSNL	254	99	67	56	90	90	84	100
WB	251							
BSNL	251	57	80	57	83	74	79	NR
RCOM	LSB							
A&N	250							
BSNL	250	67	95	NR	97	83	93	NR
CIRCLE-C								
Assam	250							
BSNL	250	64	64	58	64	60	62	100
Bihar	270							
BSNL	270	71	71	70	82	84	79	100
RCOM	LSB							
HP	251							
BSNL	251	100	99	67	94	78	90	100
RCOM	LSB							
Jharkhand	249							
BSNL	249	63	83	80	84	87	84	NR
J&K	234							
BSNL	234	67	99	71	95	71	92	100
NE	490							
BSNL	490	75	60	79	67	84	70	89
NE2	250							
BSNL	250	48	86	63	65	73	72	NR
Orissa	252							
BSNL	250	90	60	76	89	84	78	100
RCOM	2	92	100	NR	100	NR	98	100

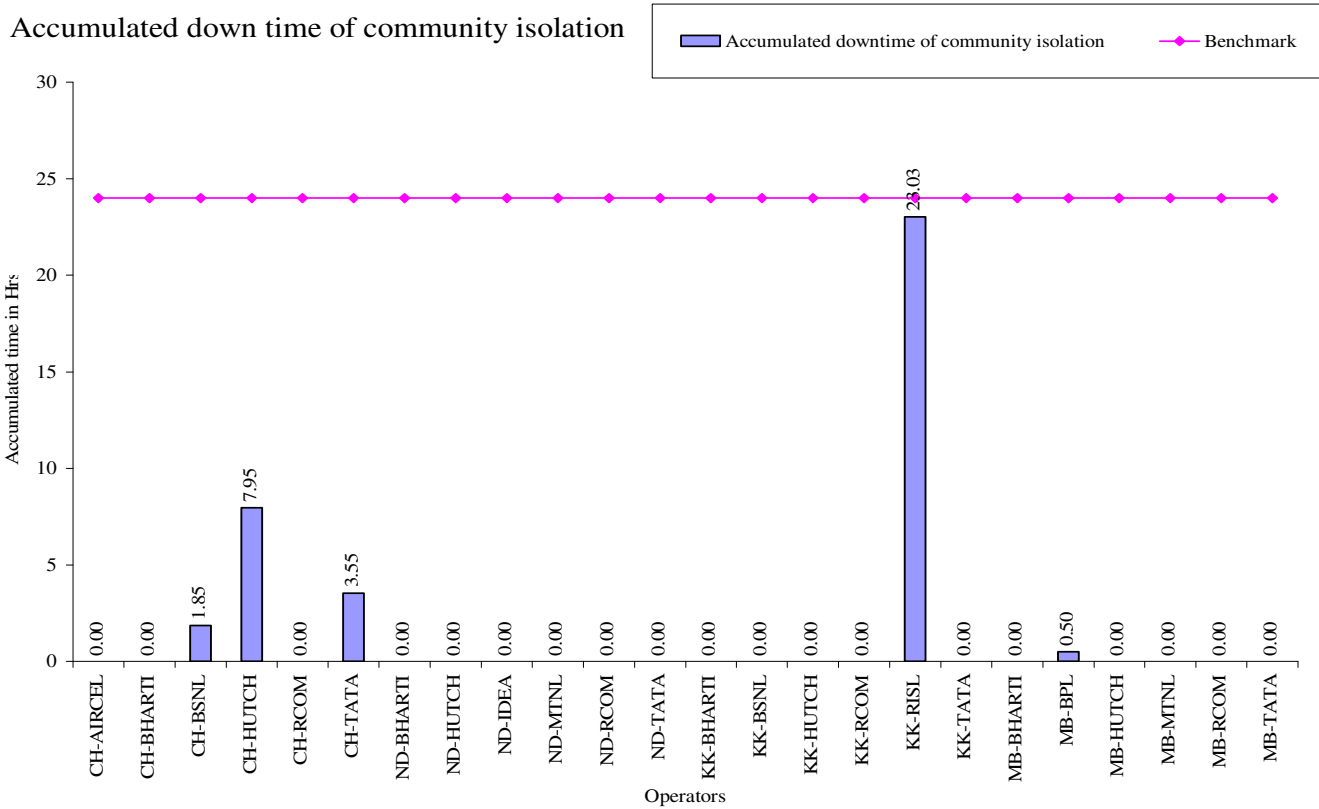
Note: Values against parameters are in “%”

5 **GRAPHICAL PRESENTATION**

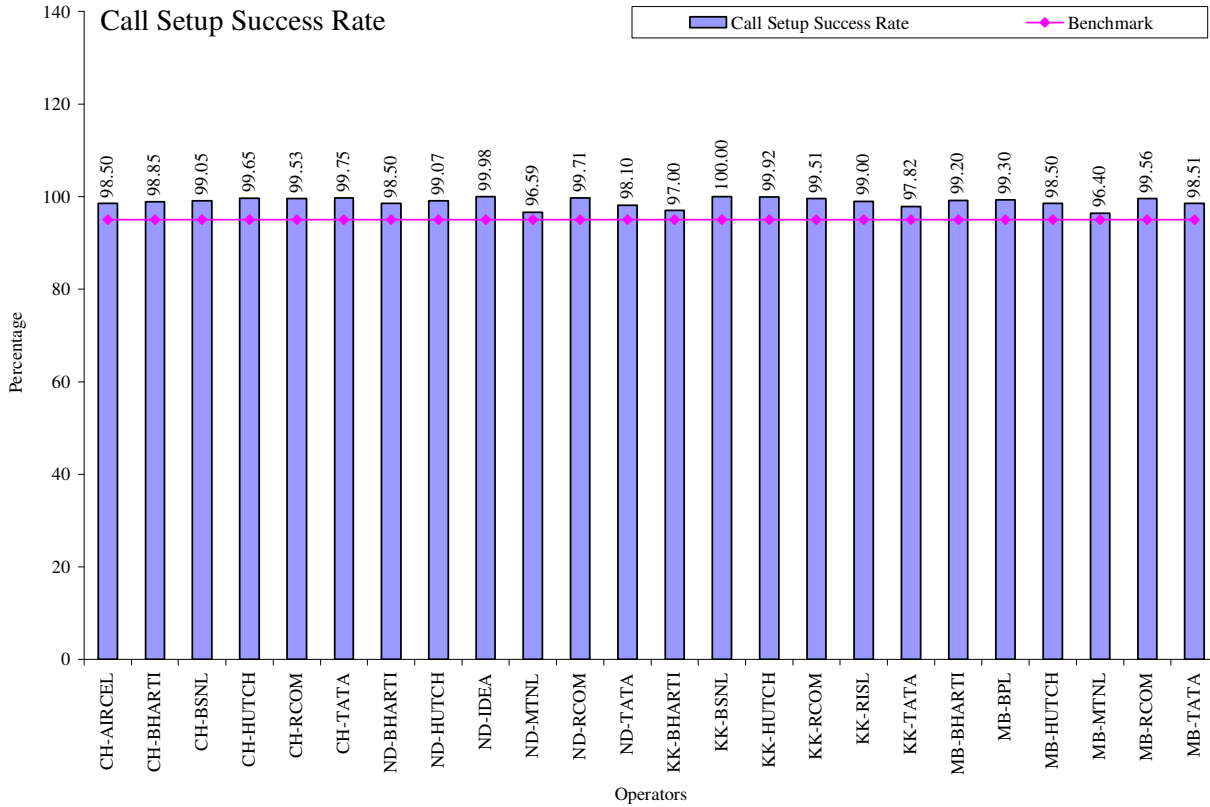


5.1 QOS CELLULAR SERVICES

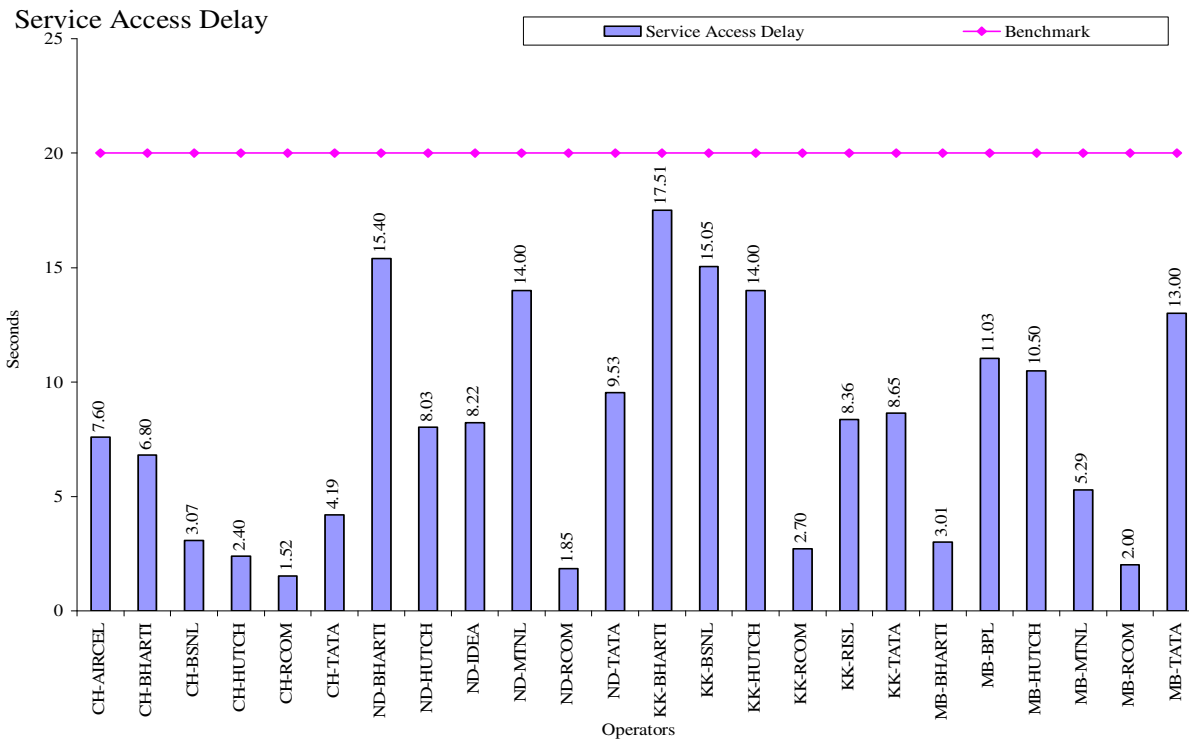
5.1.1 "METRO" CIRCLE



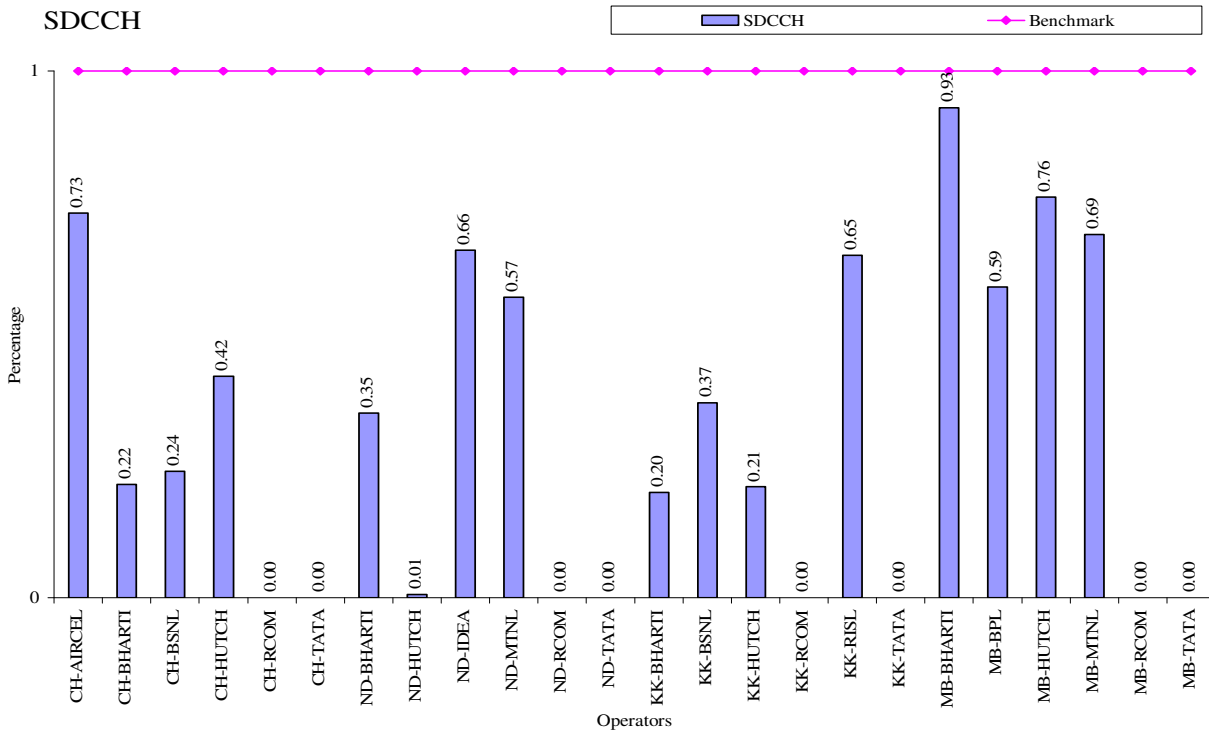
Note : All operators out of 24 audited, are meeting the benchmark



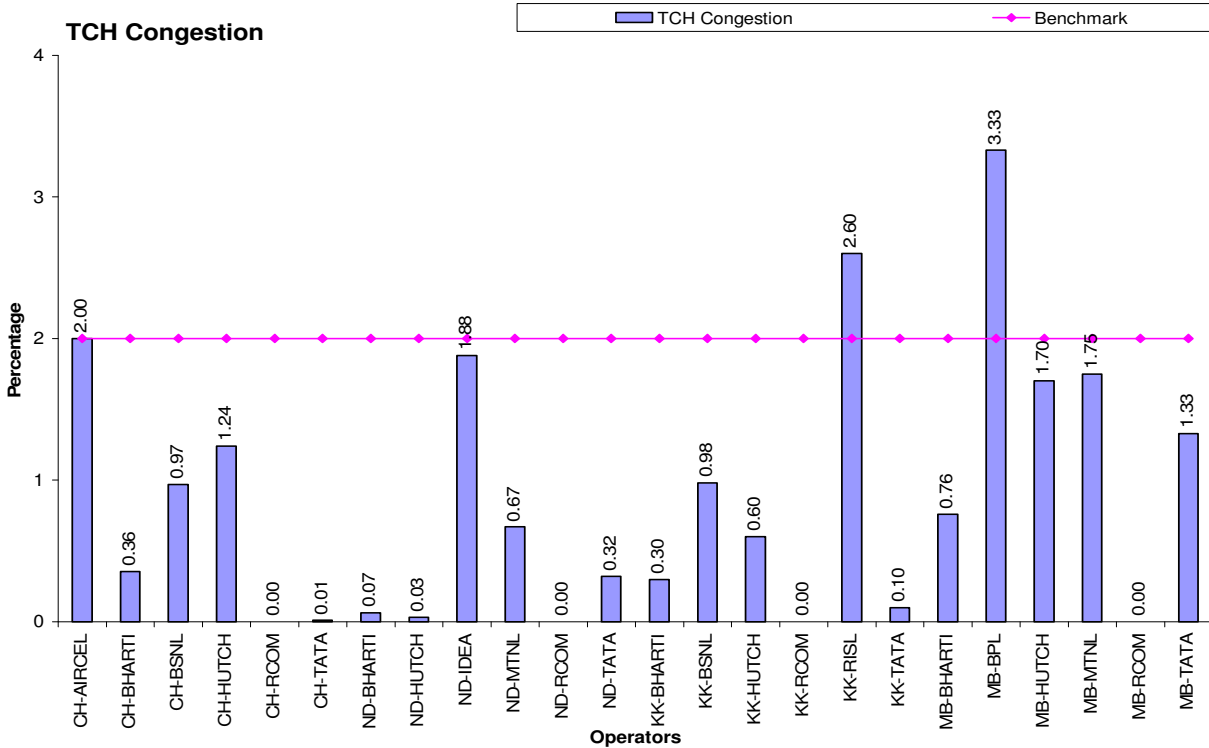
Note: All operators out of 24 audited, are meeting the benchmark



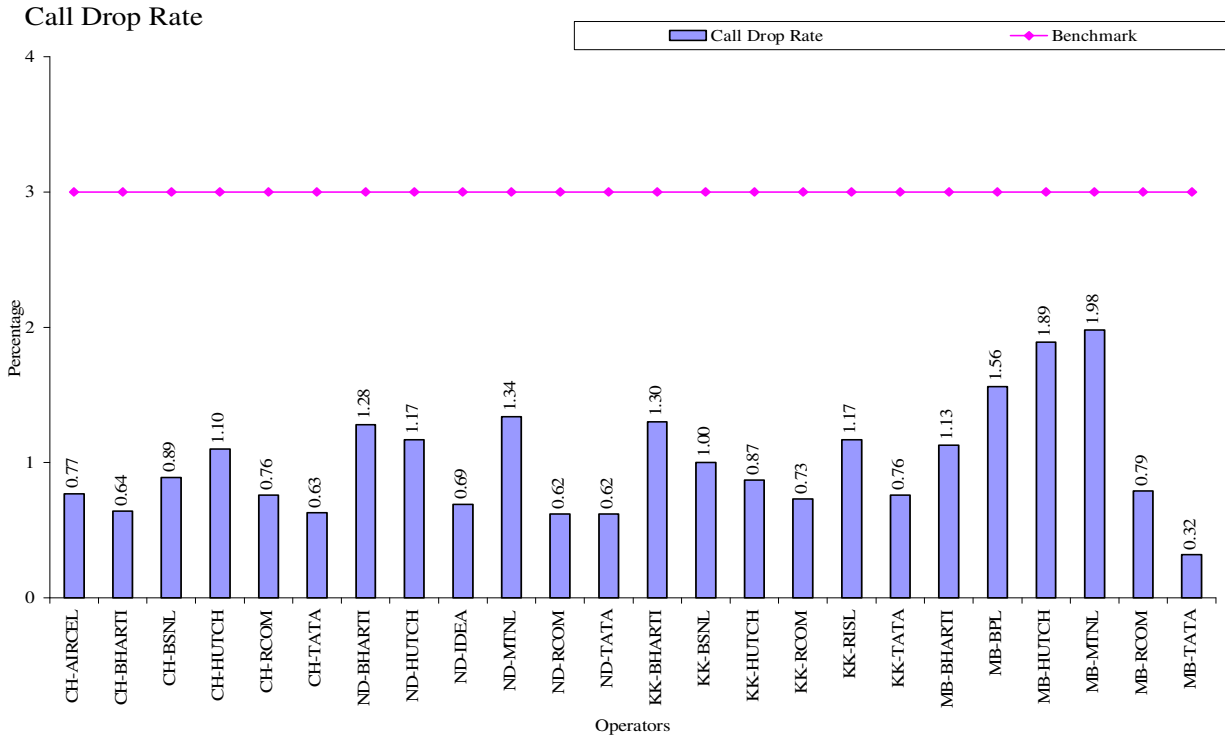
Note :- All operators out of 24 audited, are meeting the benchmark



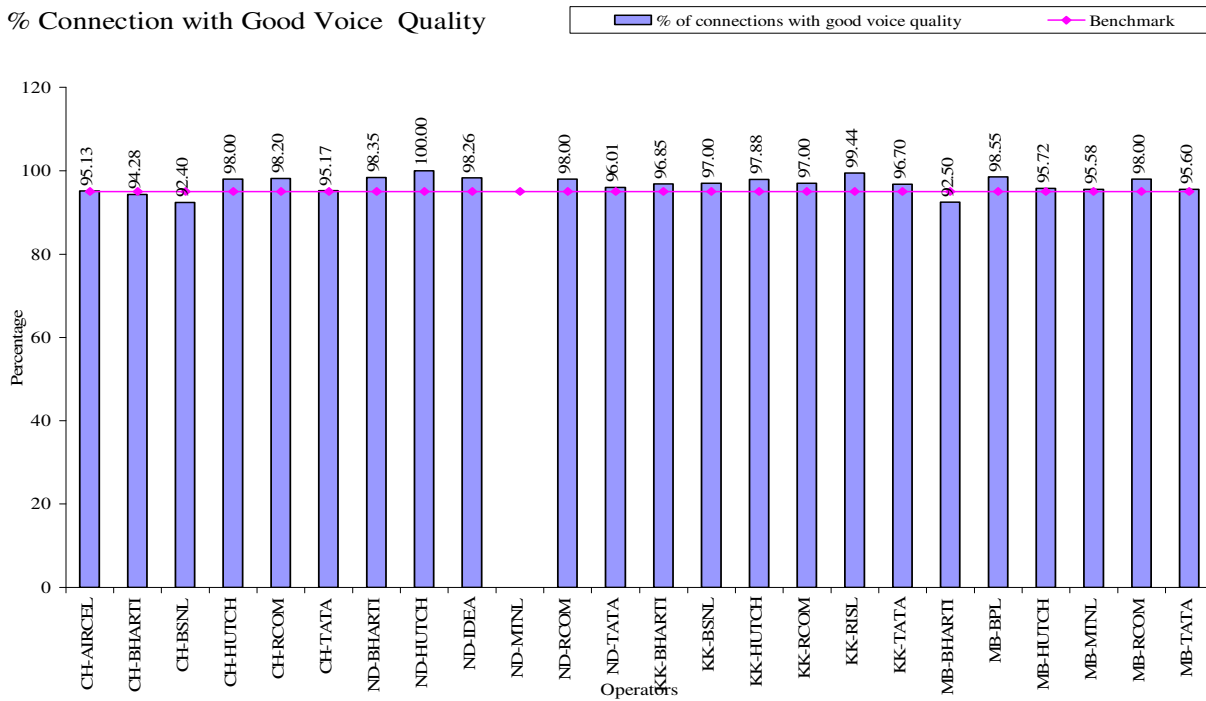
Note :- All operators out of 24 audited, are meeting the benchmark



Note : 2 CMSP's out of 24 audited, are not meeting the benchmark.

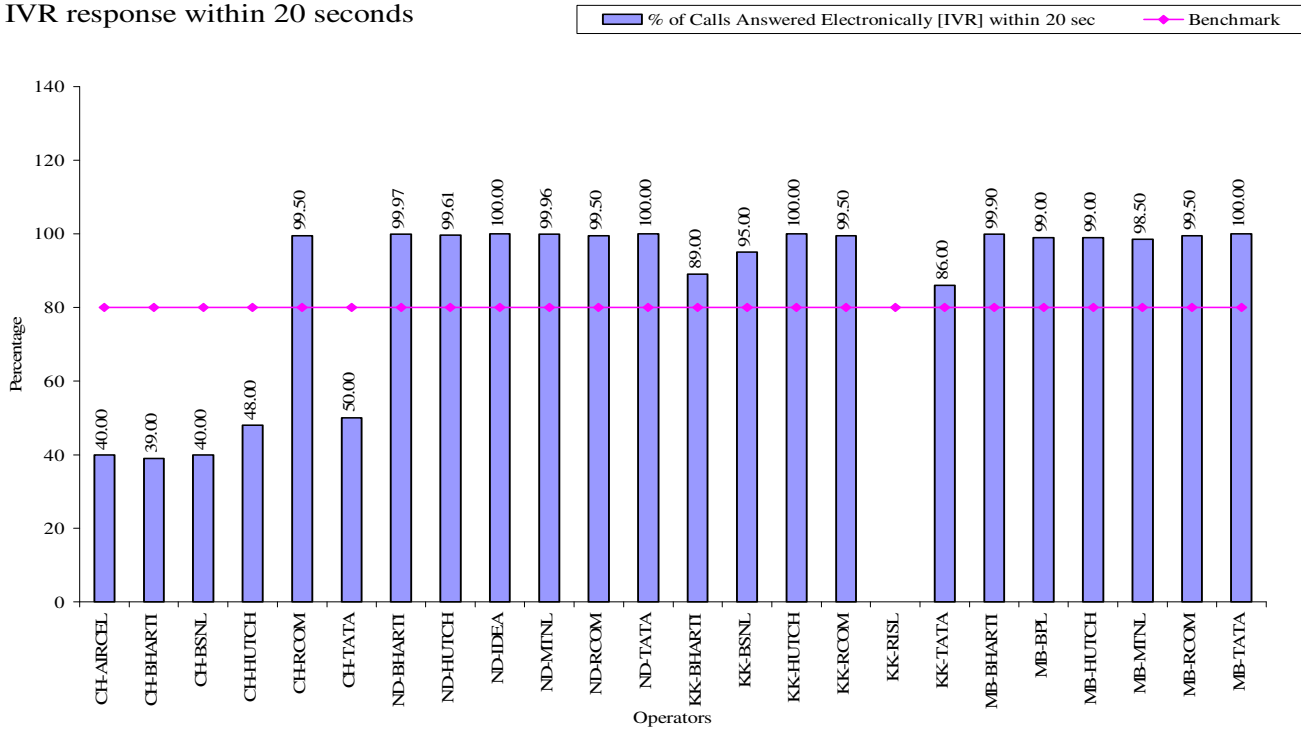


Note : All operators out of 24 audited, are meeting the benchmark



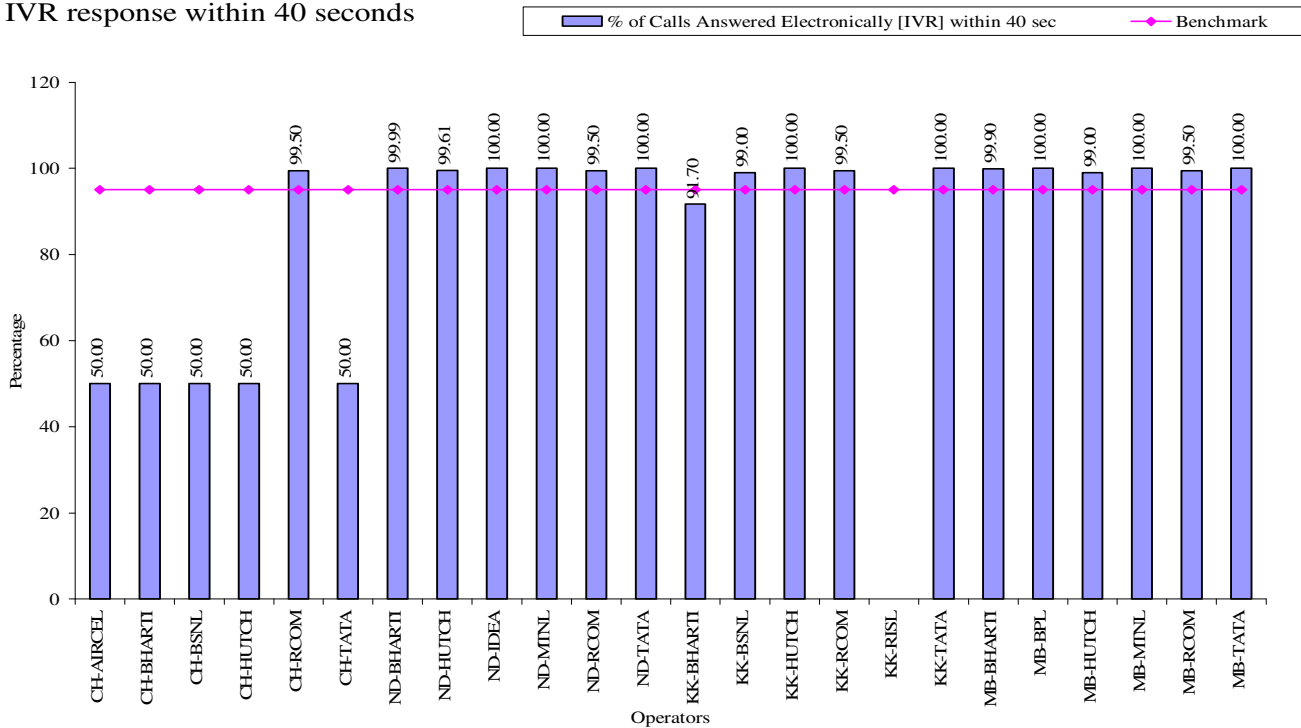
Note : 3 CMSP's out of 24 audited, are not meeting the benchmark. [ND-MTNL is case of DNP]

IVR response within 20 seconds



Note : 5 CMSP's out of 24 audited, are not meeting the benchmark. [KK-RISL is case of NA]

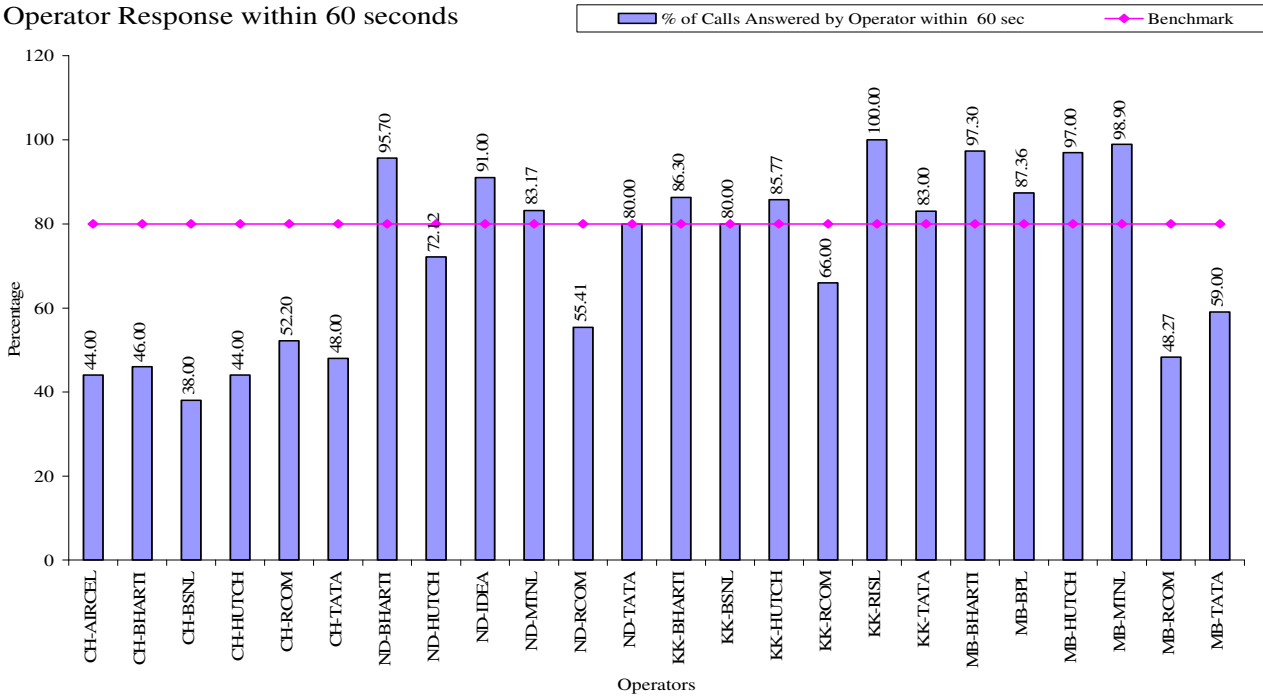
IVR response within 40 seconds



Note : 6 CMSP's out of 24 audited, are not meeting the benchmark. [KK-RISL is case of NA]

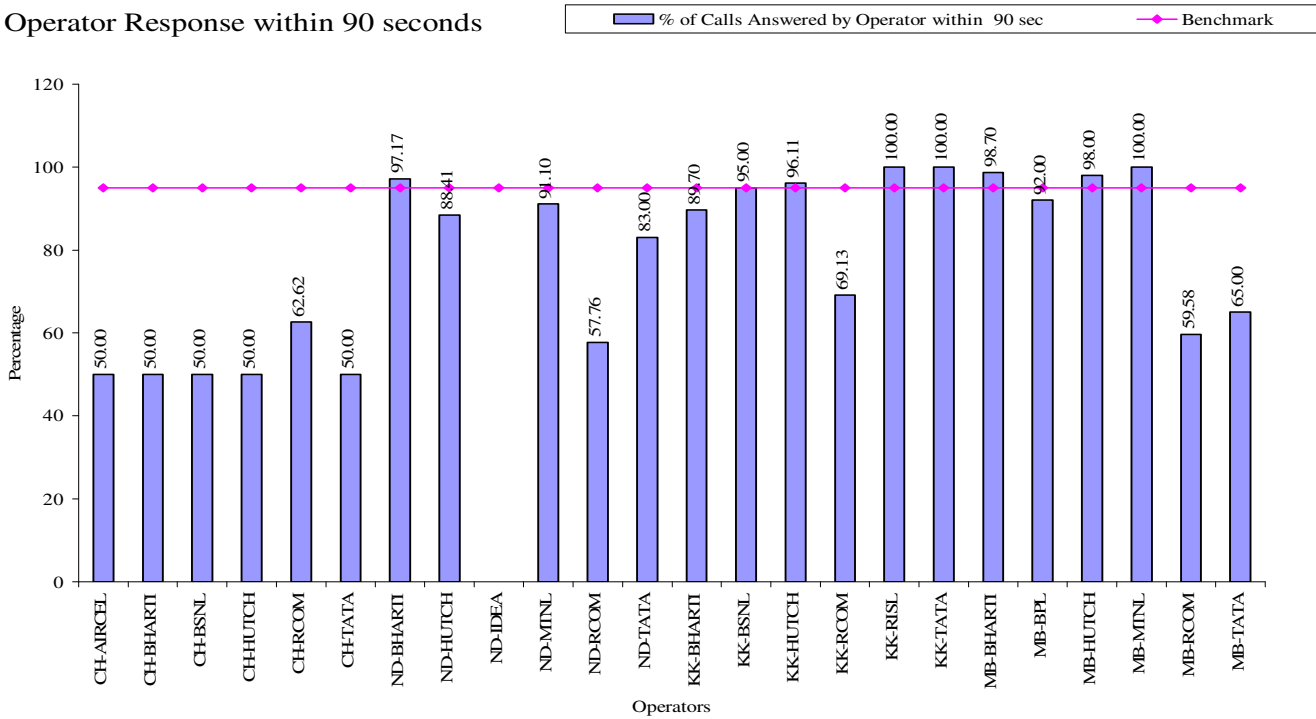


Operator Response within 60 seconds



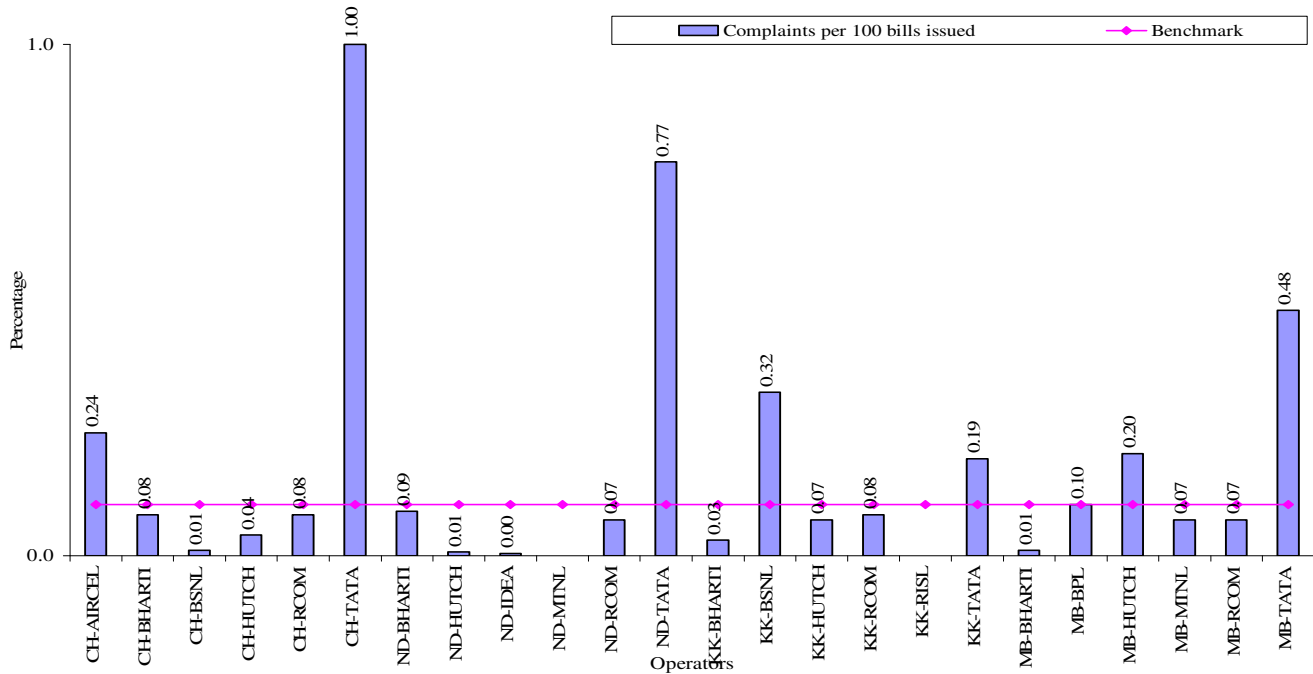
Note : 11CMSP's out of 24 audited, are not meeting the benchmark.

Operator Response within 90 seconds



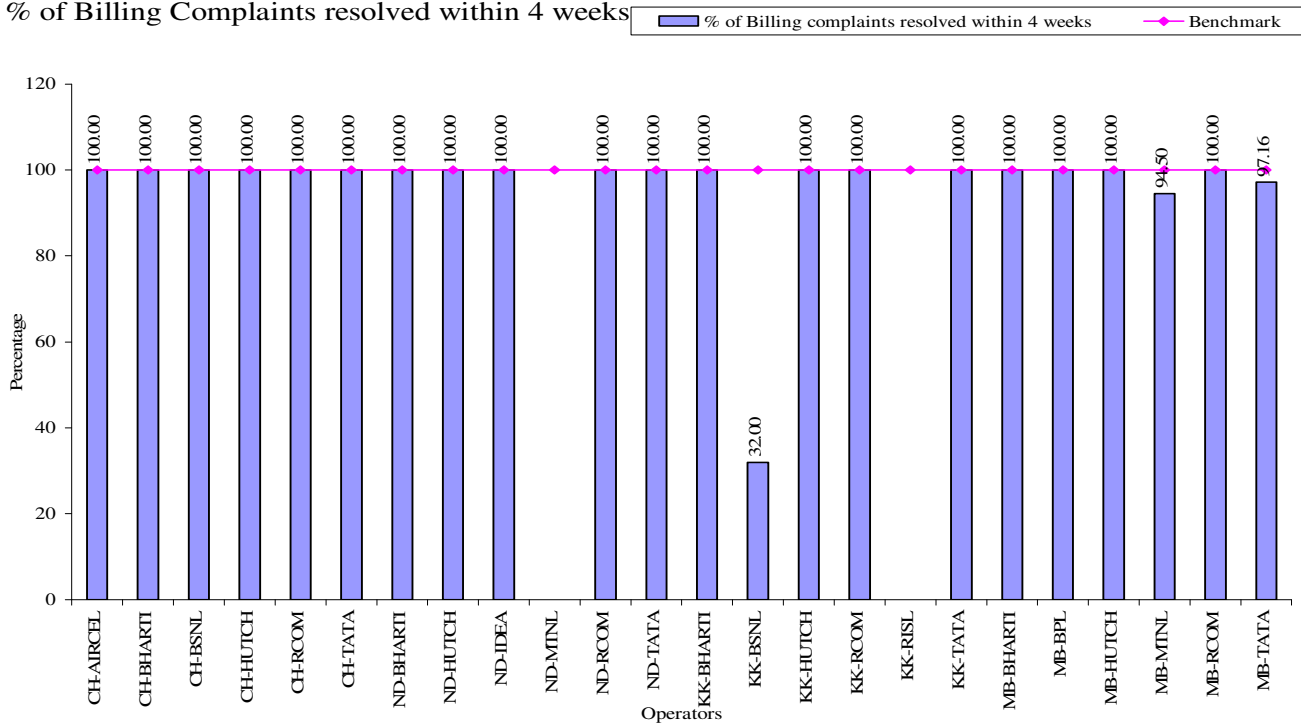
Note: 15 CMSP's out of 24 audited, are not meeting the benchmark. [KK-RISL is case of NA]

Billing Complains per 100 bill issued [Benchmark< 0.1%]



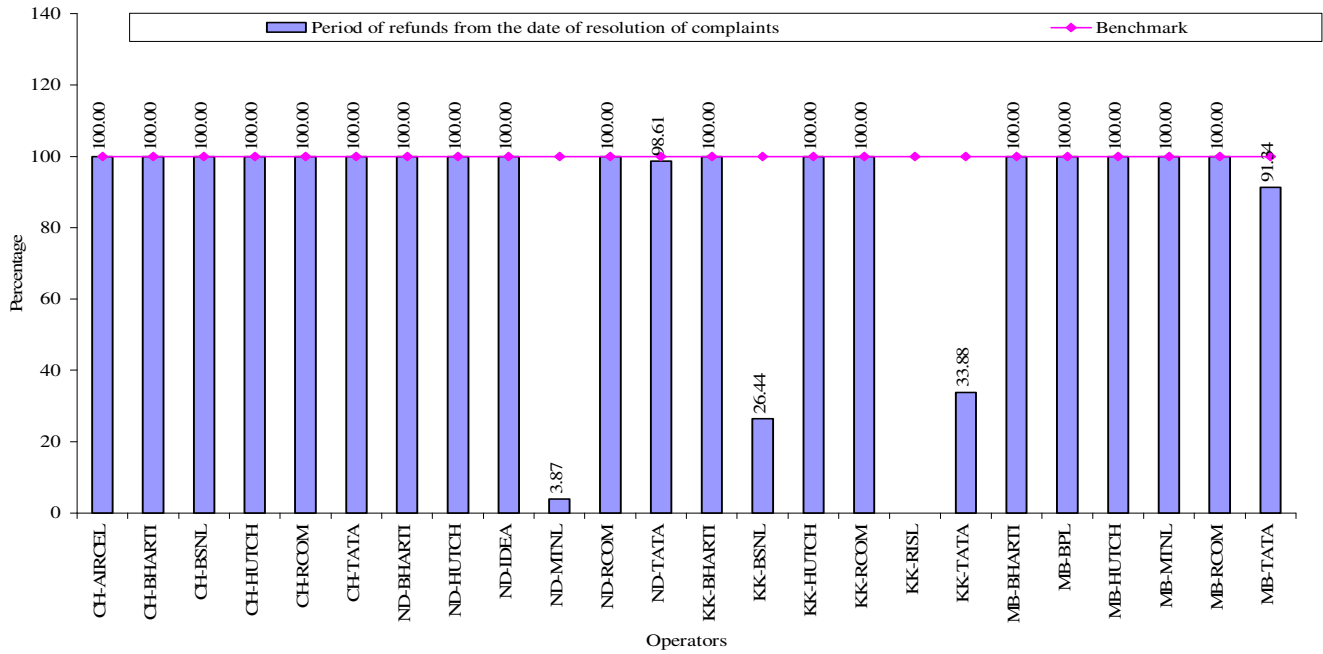
Note : 7 CMSP's out of 24 audited, are not meeting the benchmark. [ND-MTNL is case of DNP, KK-RISL is case of NA]

% of Billing Complains resolved within 4 weeks



Note : 3 CMSP's out of 24 audited, are not meeting the benchmark. [ND-MTNL is case of DNP, KK-RISL is case of NA]

Period of refunds / payment due to customers from the date of resolution of complaints

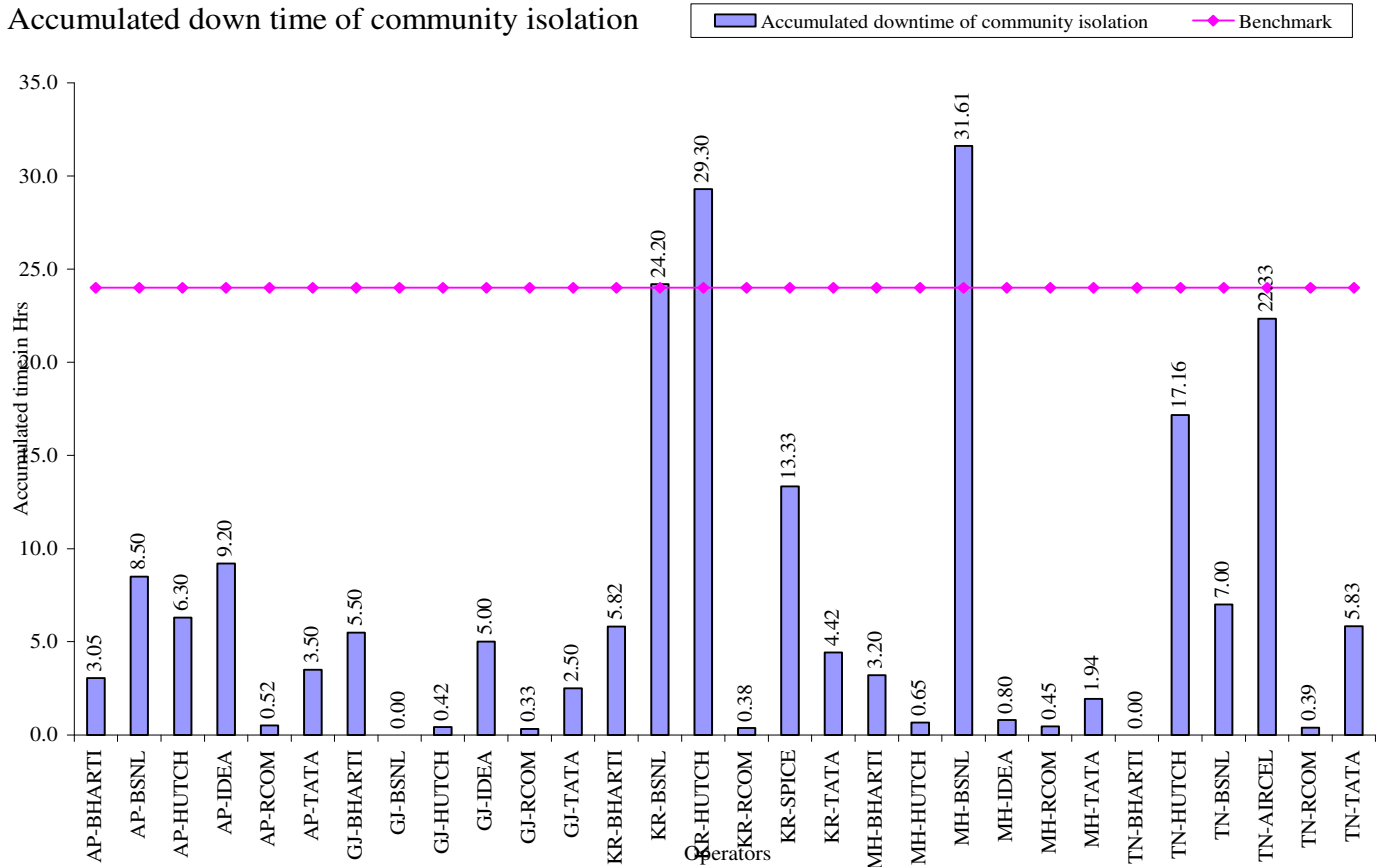


Note : 5 CMSP's out of 24 audited, are not meeting the benchmark. [KK-RISL is case of NA]



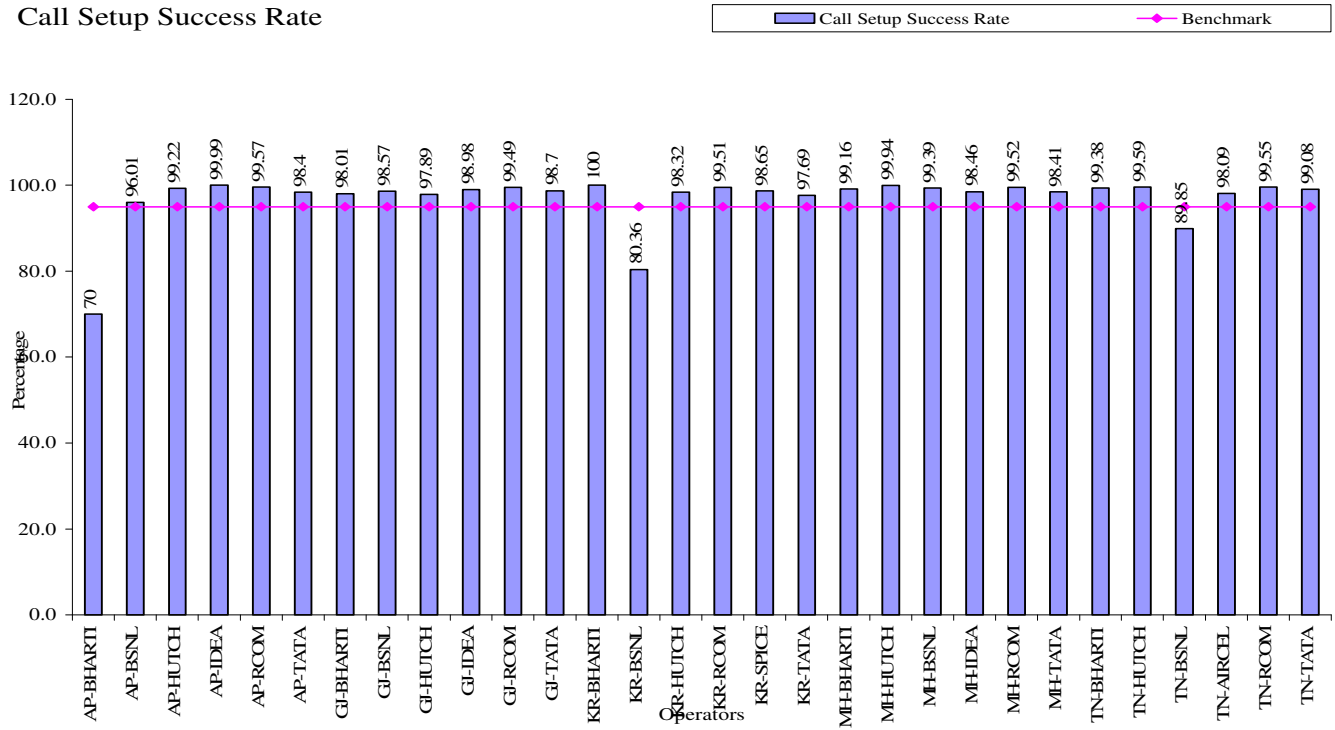
5.1.2 A CIRCLE

Accumulated down time of community isolation



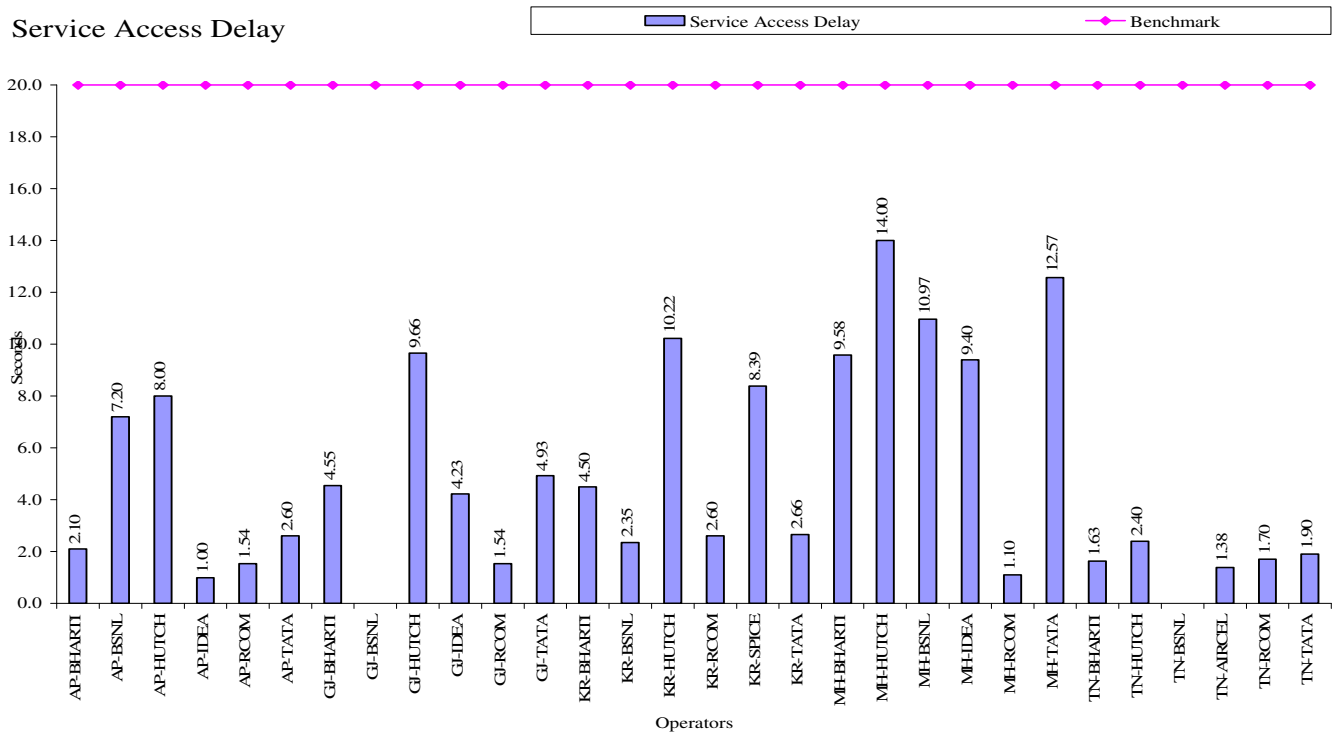
Note :- 3 out of 30 audited are not meeting benchmark.

Call Setup Success Rate

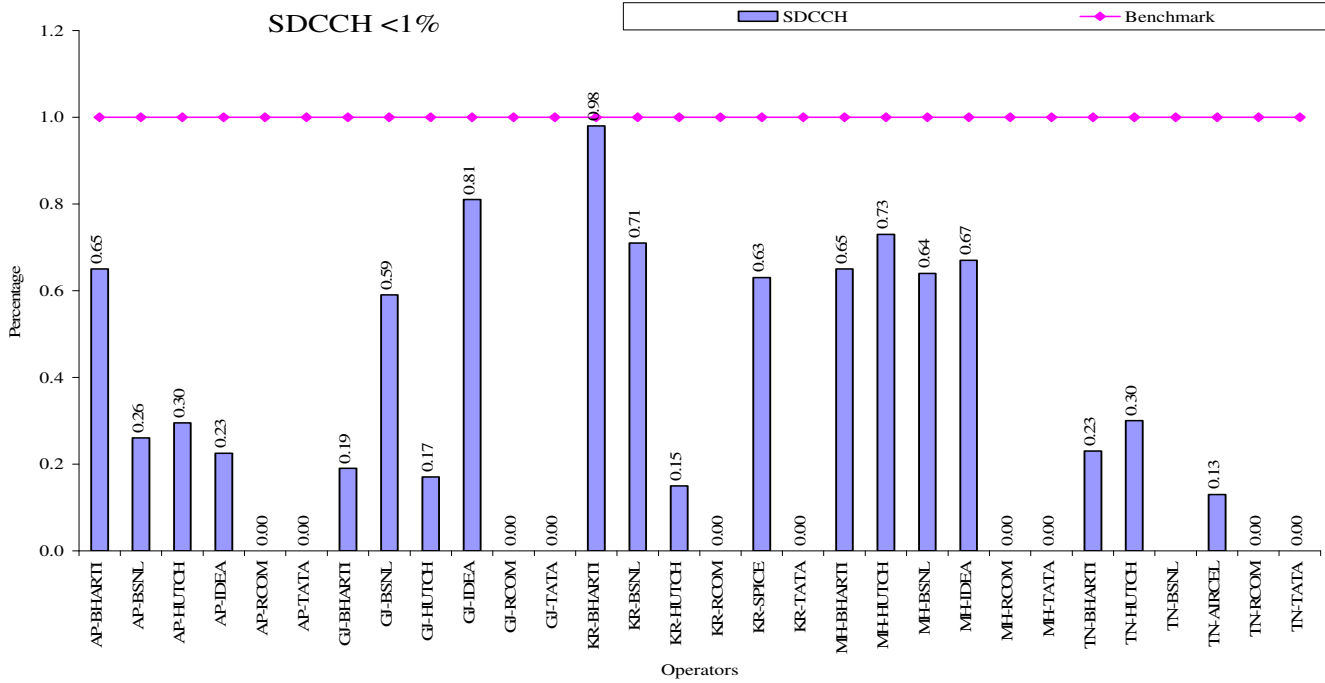


Note :- 3 out of 30 audited are not meeting benchmark.

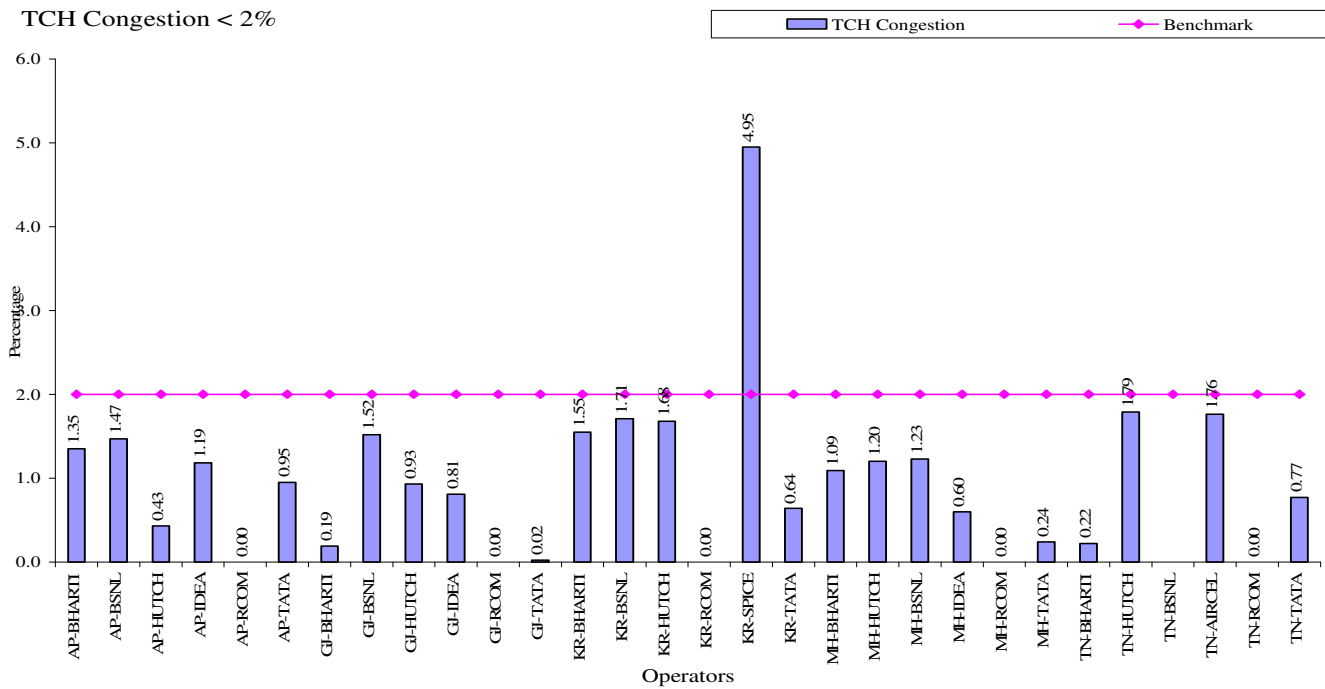
Service Access Delay



Note :- All operators out of 30 audited are meeting benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.



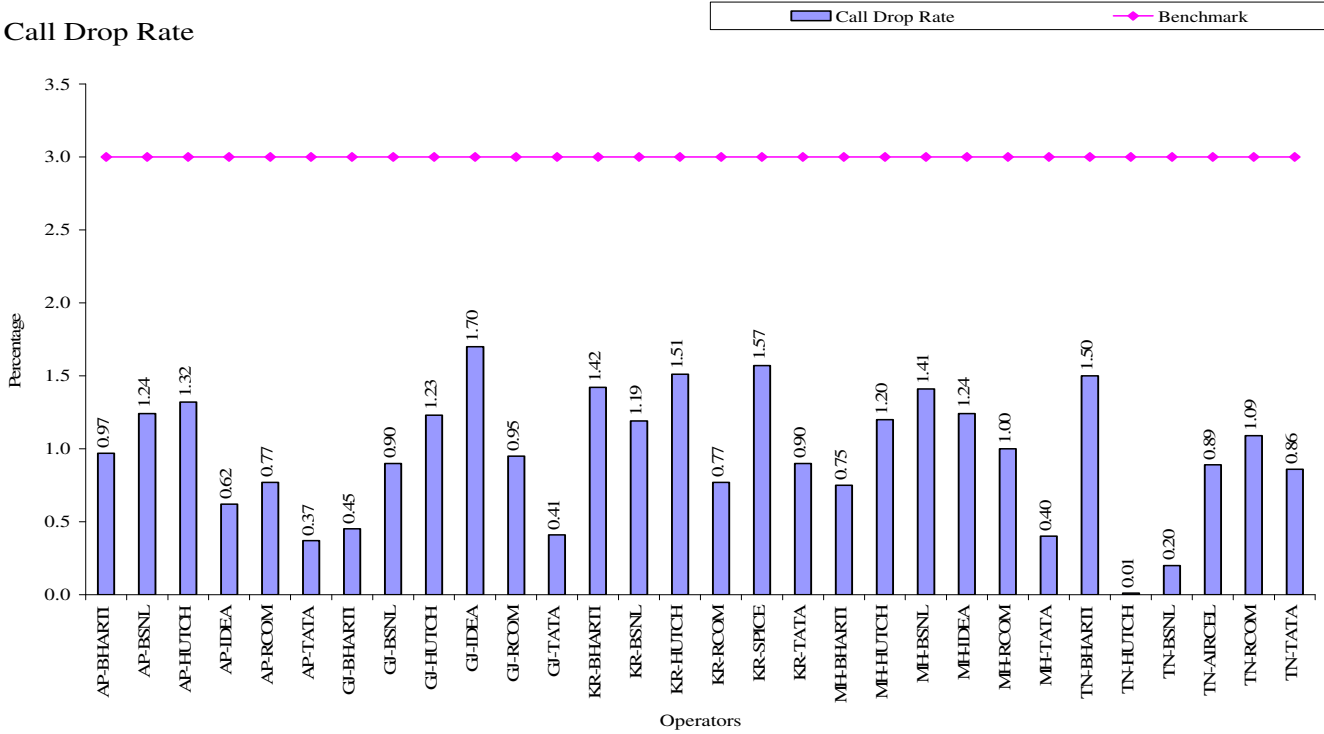
Note : All operators out of 30 audited are meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.



Note : Only (1) operator out of 30 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

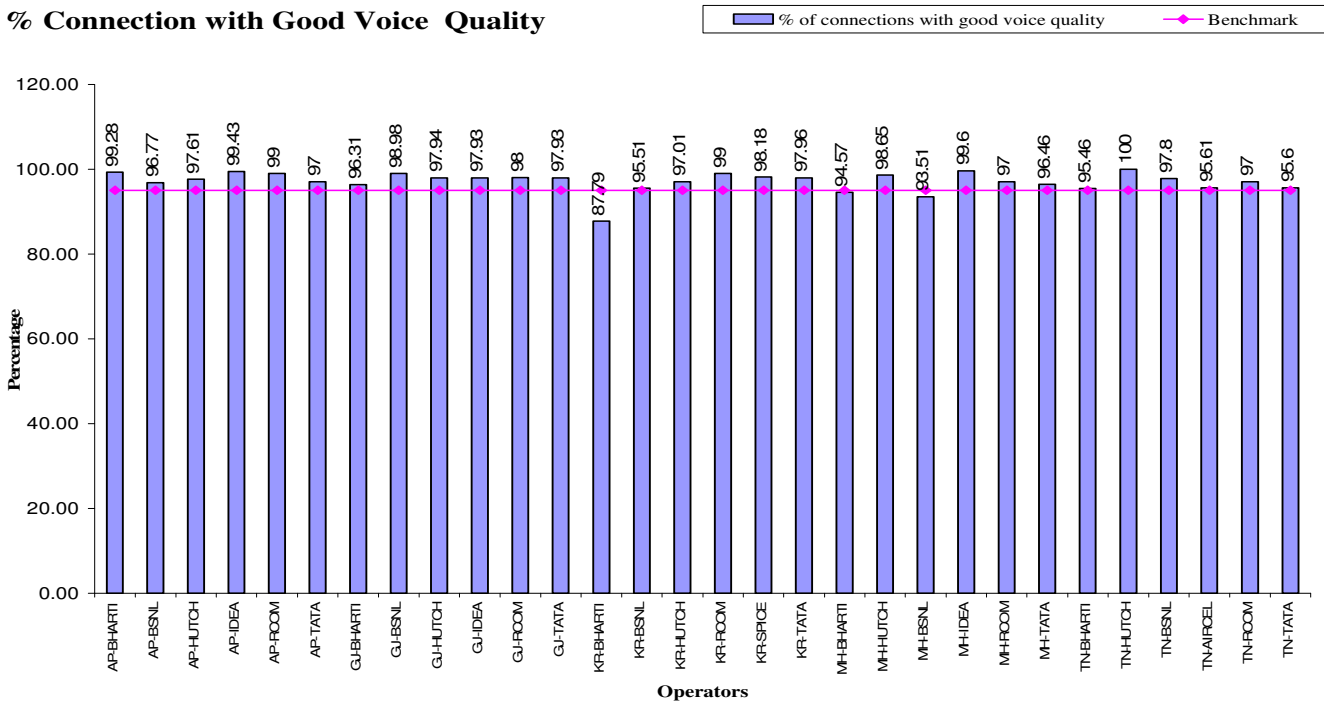


Call Drop Rate



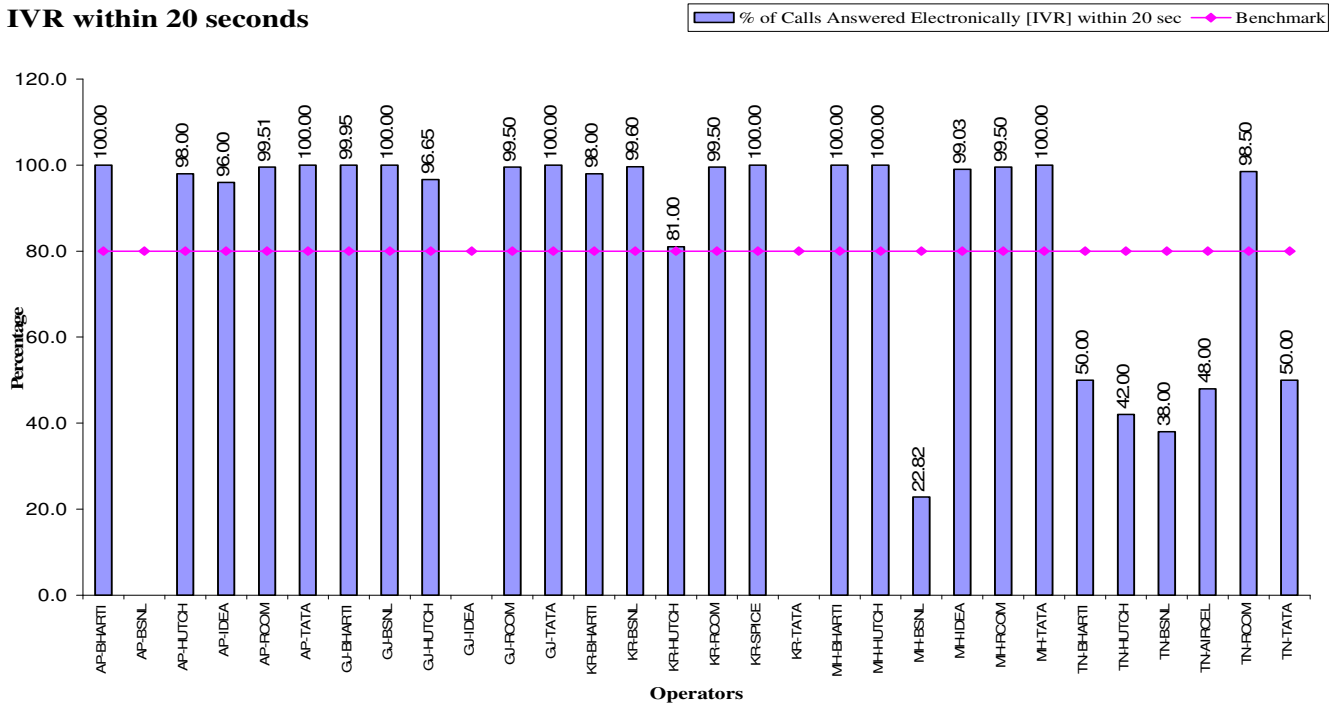
Note : All operators out of 30 audited are meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

% Connection with Good Voice Quality



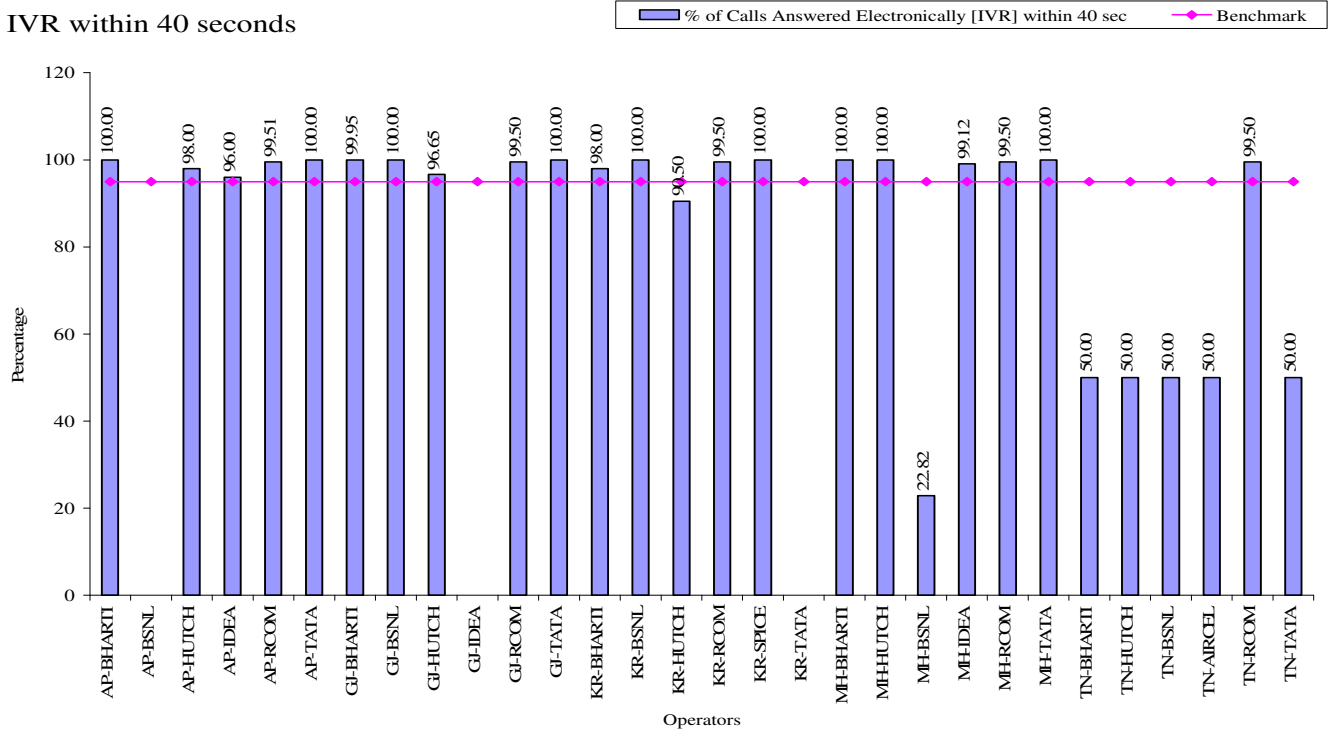
Note : 3 operator out of 30 audited are not meeting benchmark.

IVR within 20 seconds



Note : 6 operator out of 30 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

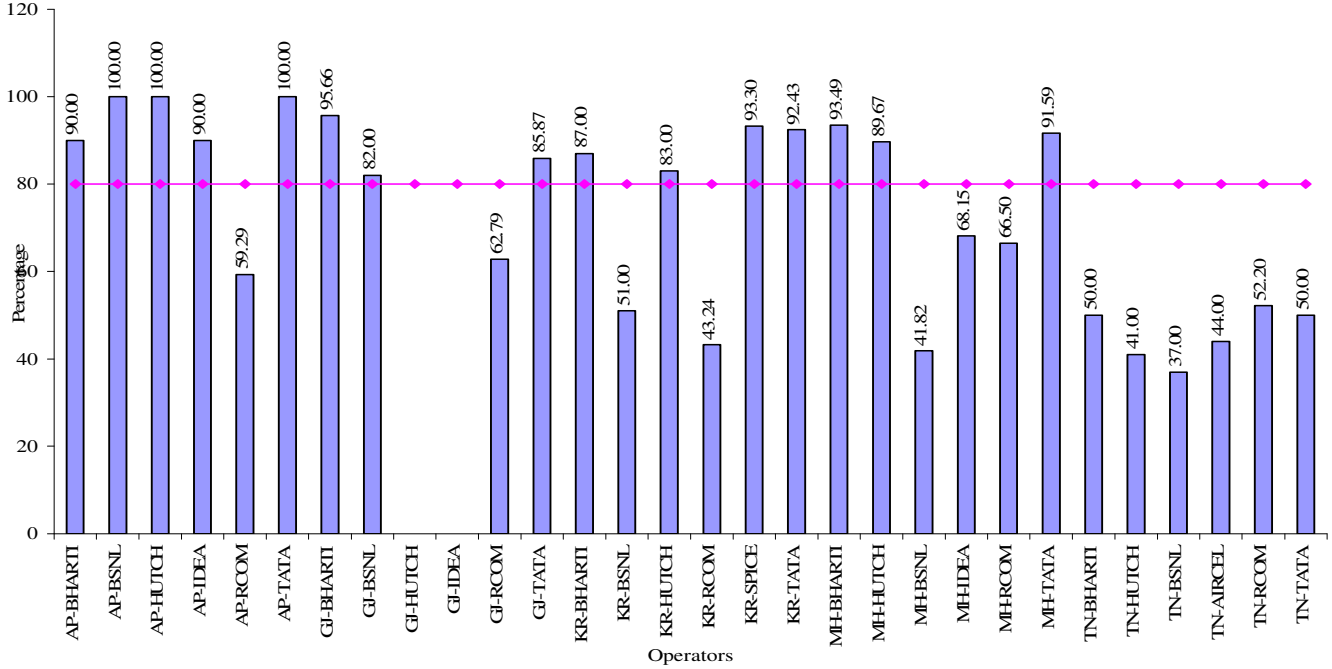
IVR within 40 seconds



Note : 7 operator out of 30 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

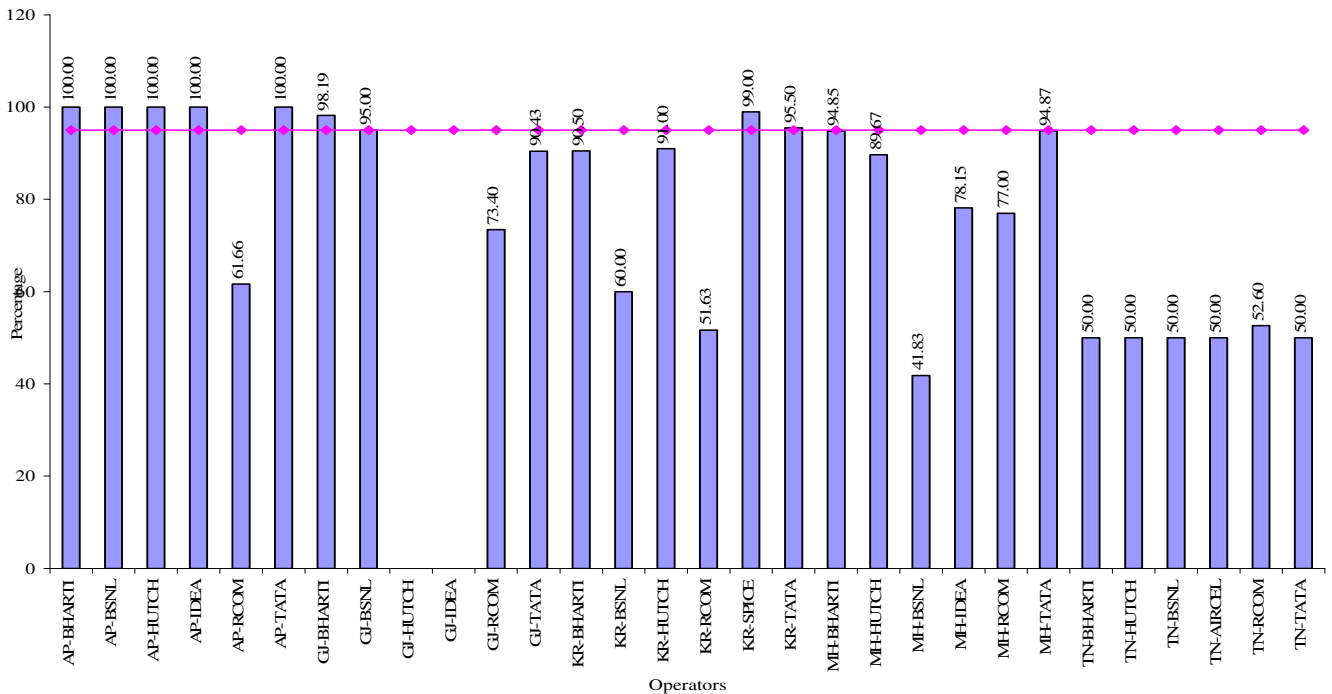


Operator Response within 60 seconds



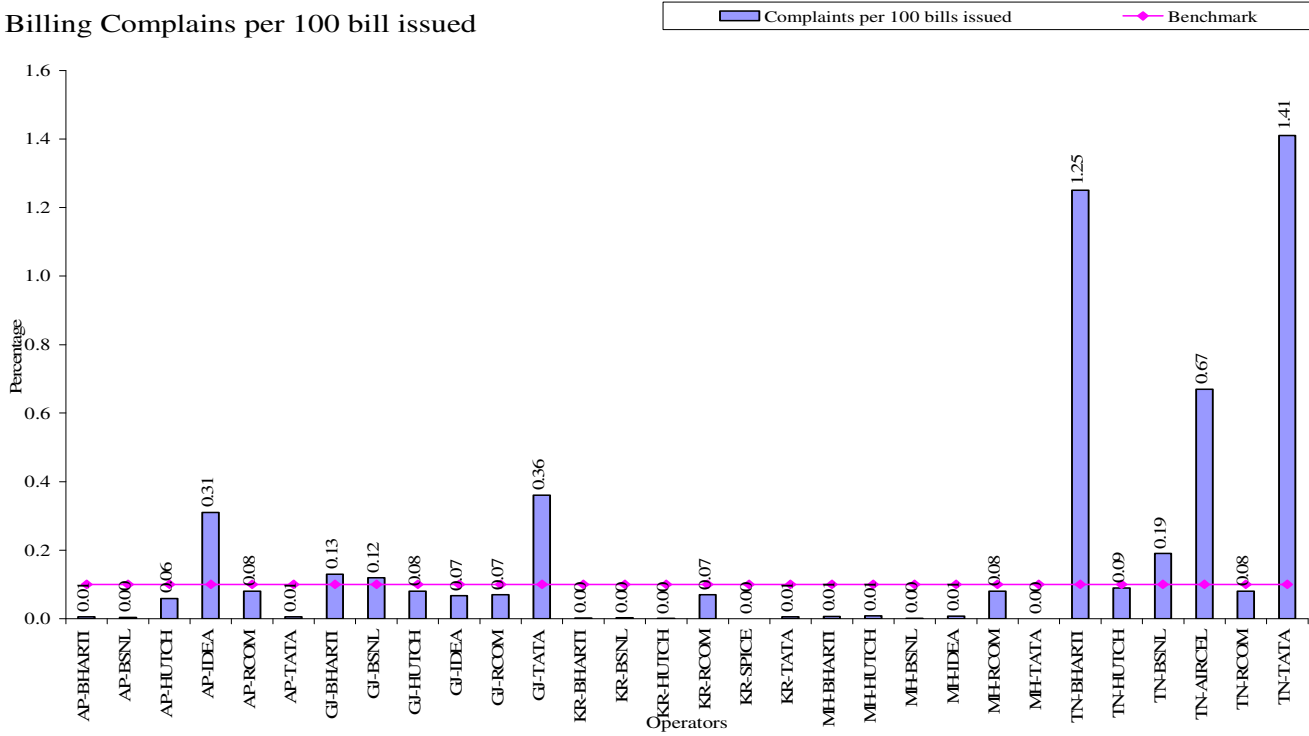
Note : 13 operator out of 30 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Operator Response within 90 seconds



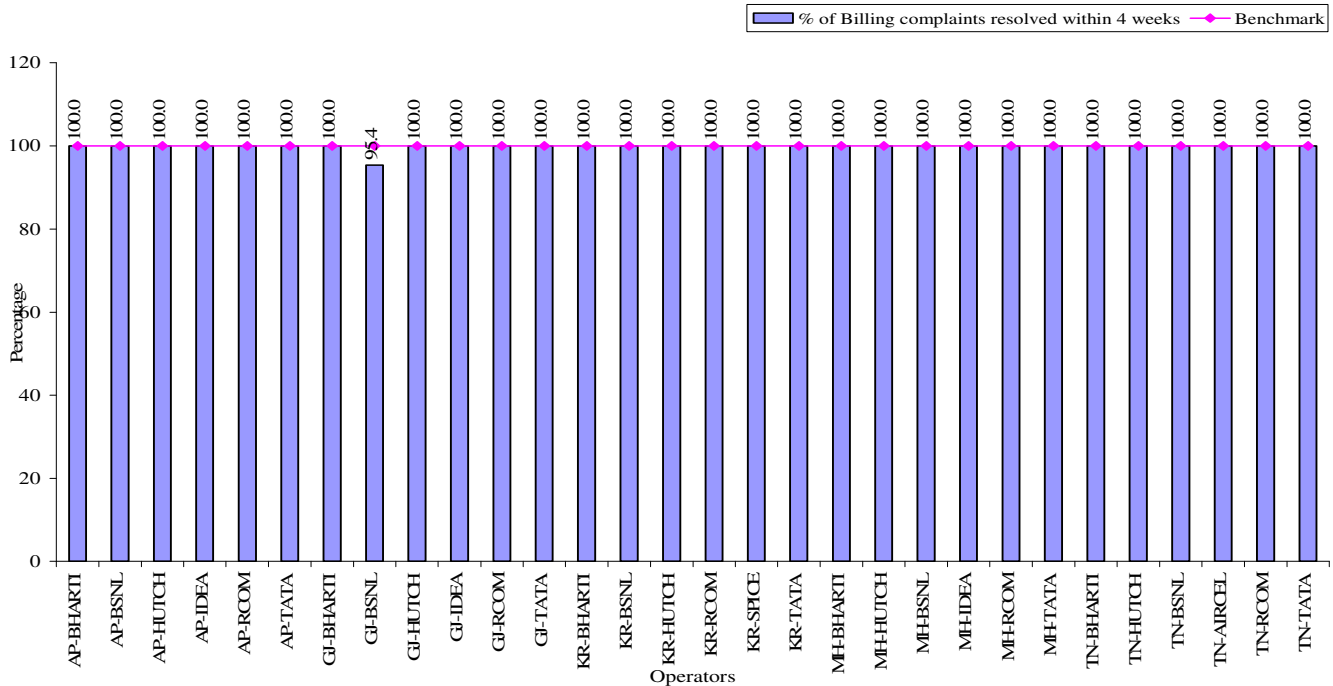
Note : 19 operator out of 30 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Billing Complains per 100 bill issued



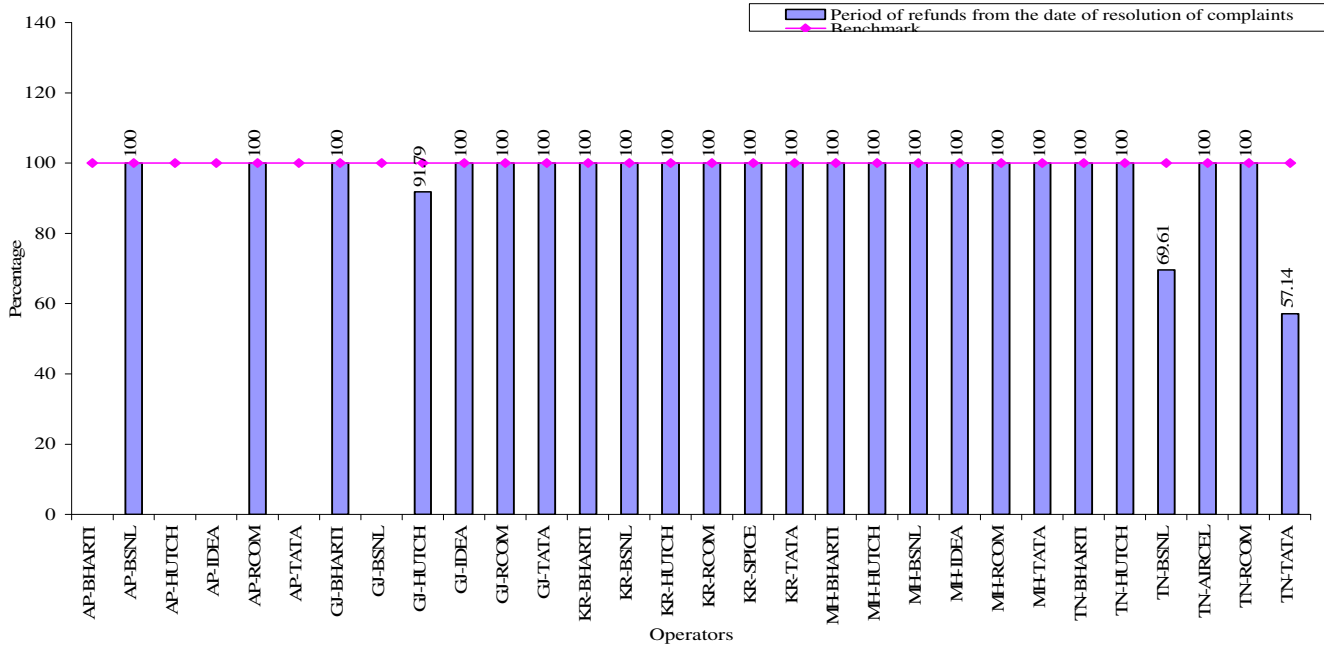
Note : 8 operator out of 30 audited are not meeting benchmark.

% of Billing Complains resolved within 4 weeks



Note : Only (1) operator out of 30 audited are not meeting benchmark.

Period of refunds / payment due to customers from the date of resolution of complaints

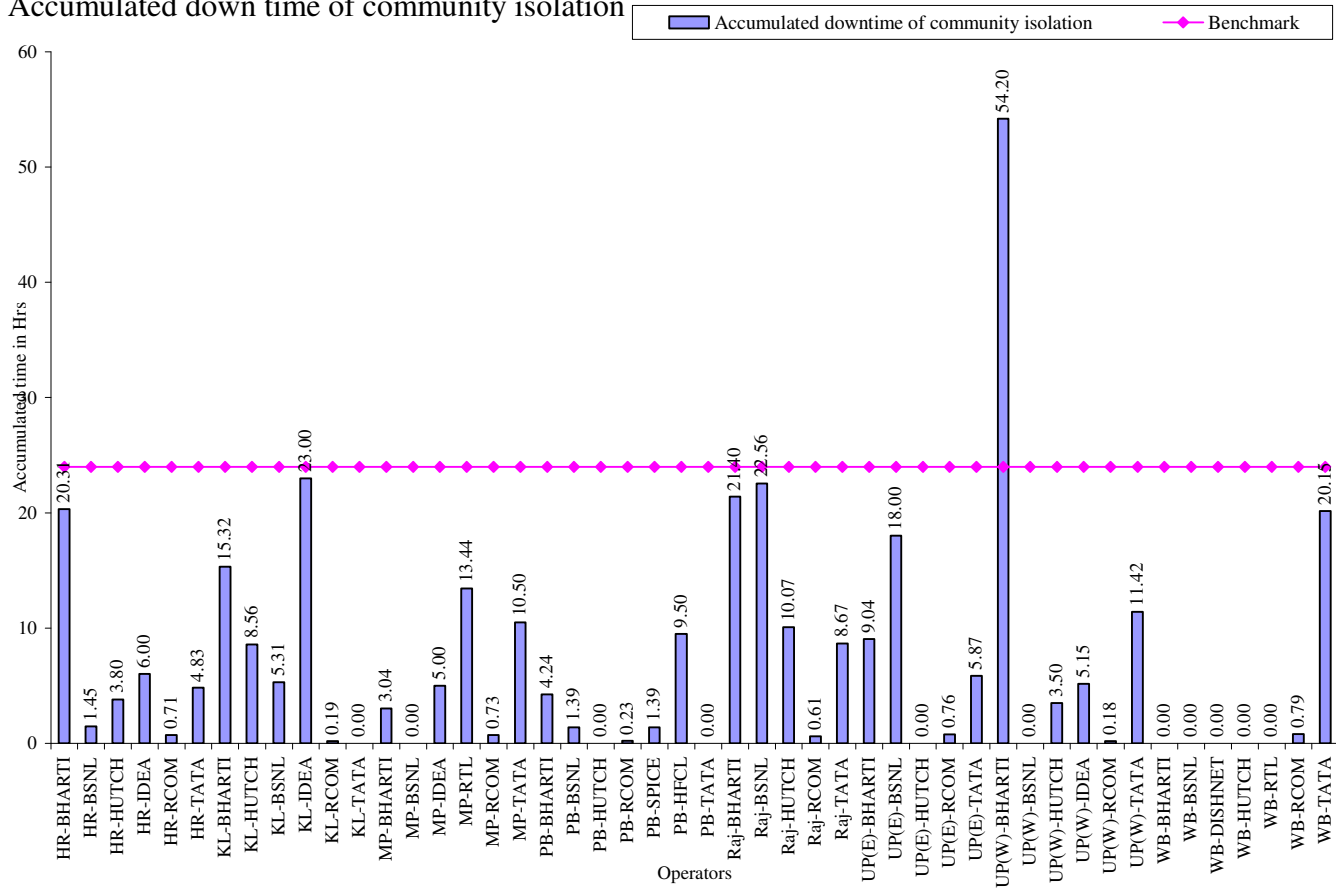


Note : 3 operator out of 30 audited are not meeting benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.



5.1.3 B-CIRCLE

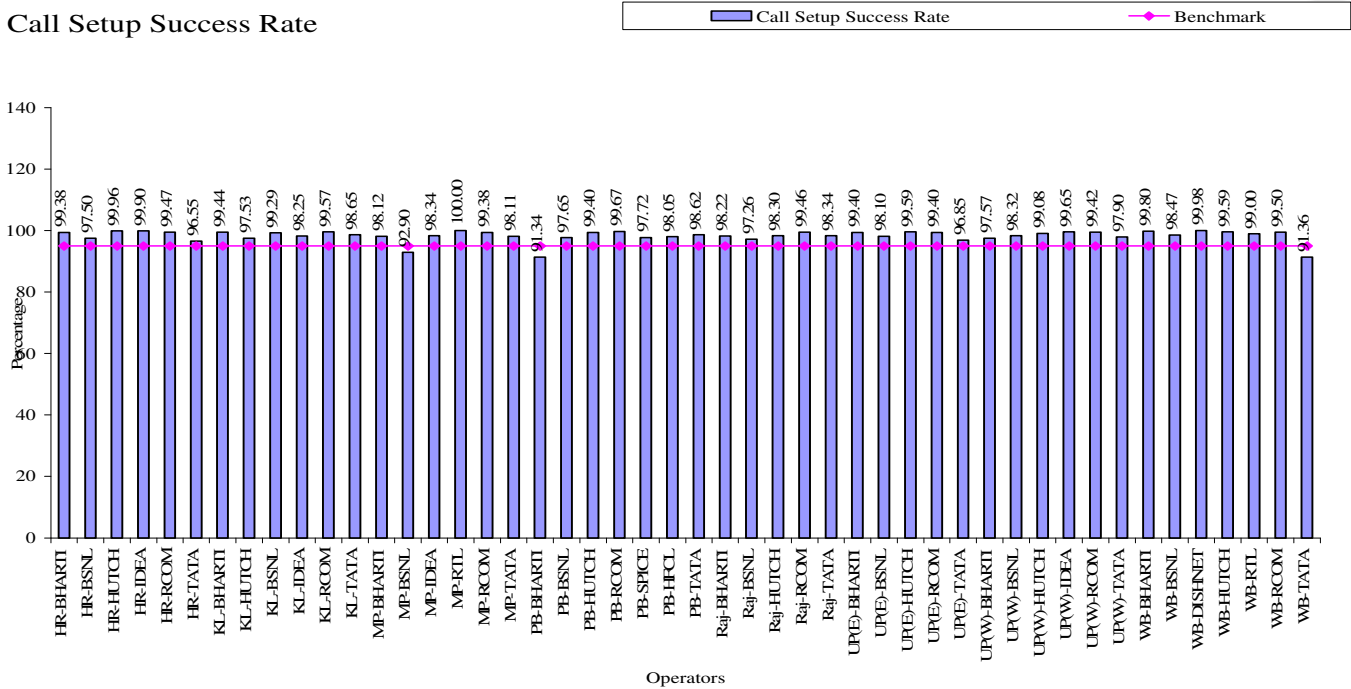
Accumulated down time of community isolation



Note: Only (1) operator out of 48 audited are not meeting benchmark.

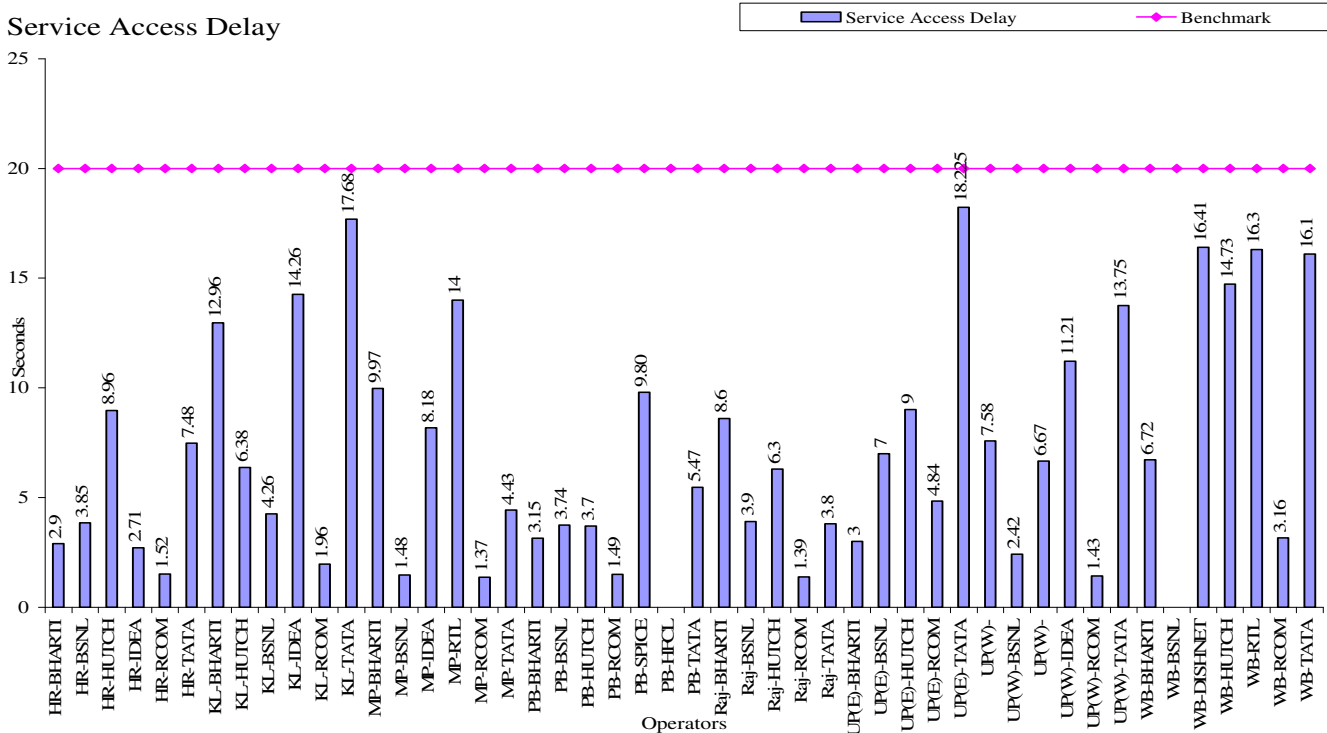


Call Setup Success Rate



Note: 3 operator out of 48 audited are not meeting benchmark.

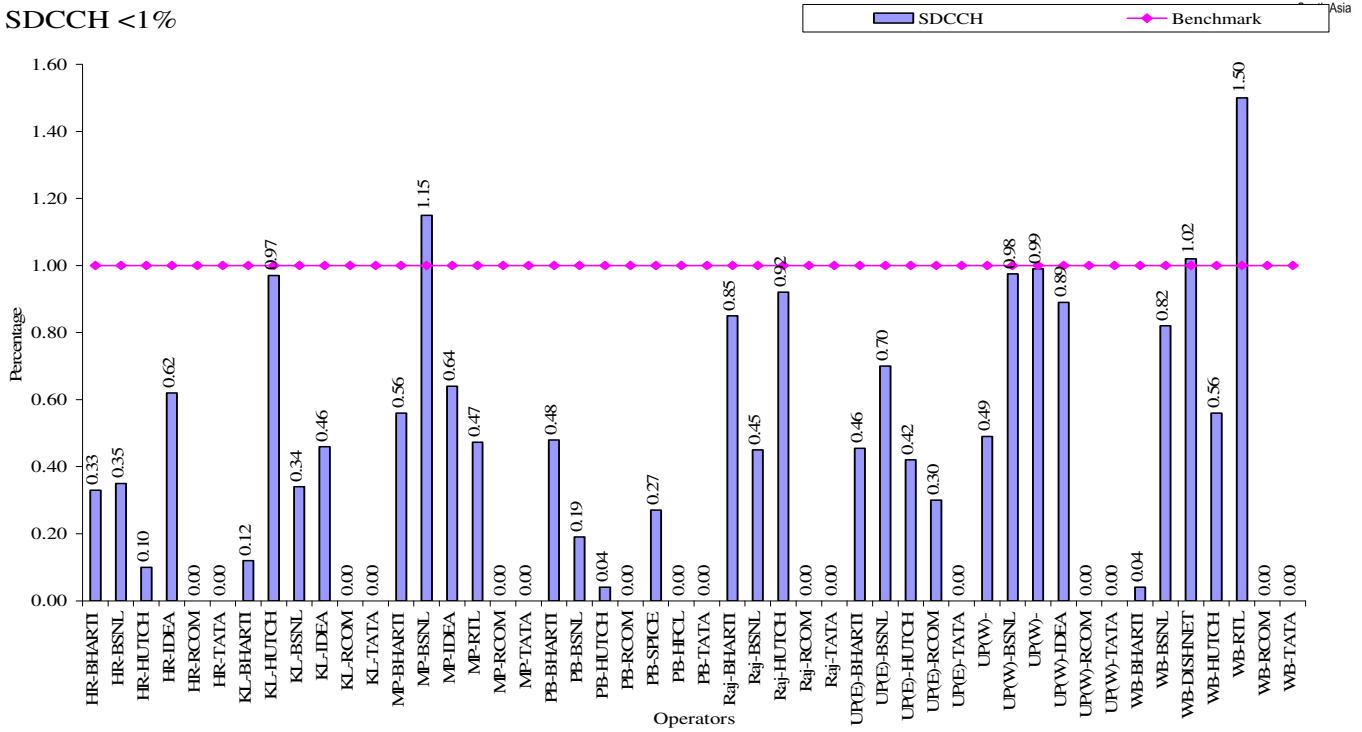
Service Access Delay



Note : All operator out of 48 audited are meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

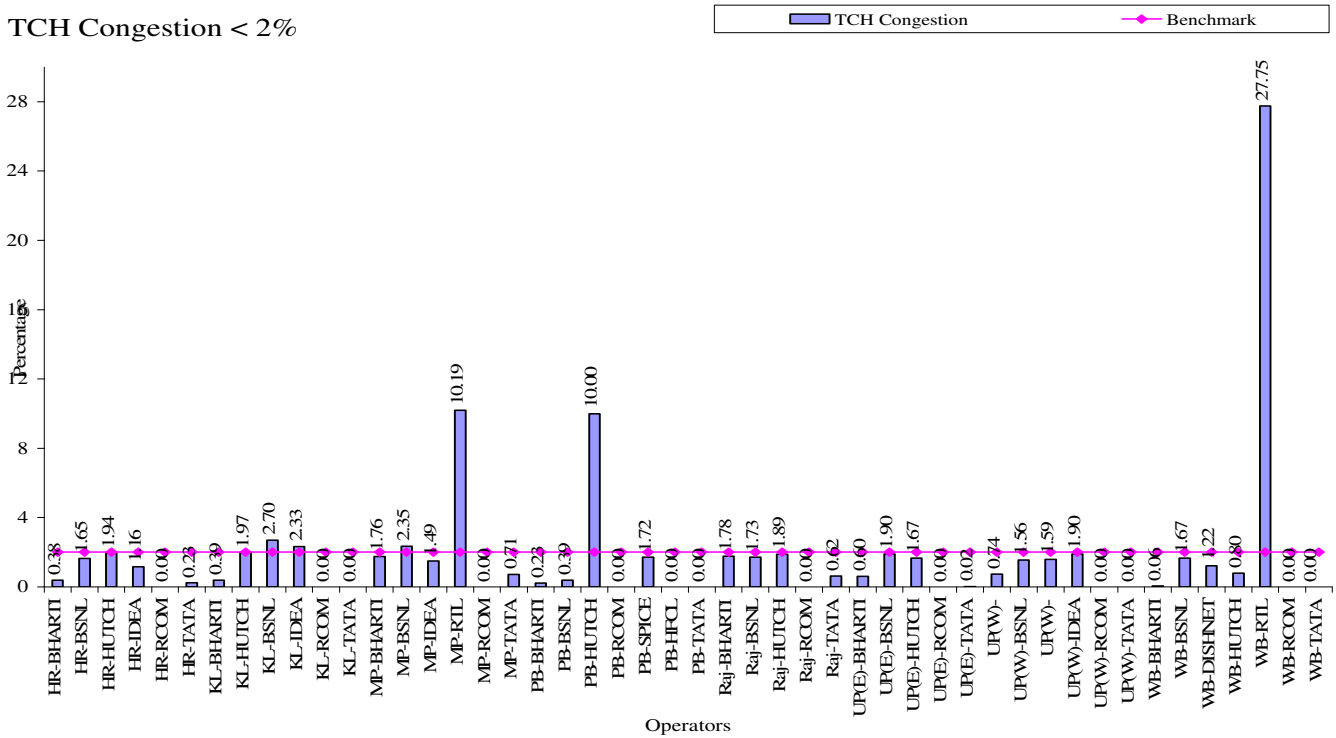


SDCCH <1%



Note: 3 operator out of 48 audited are not meeting benchmark.

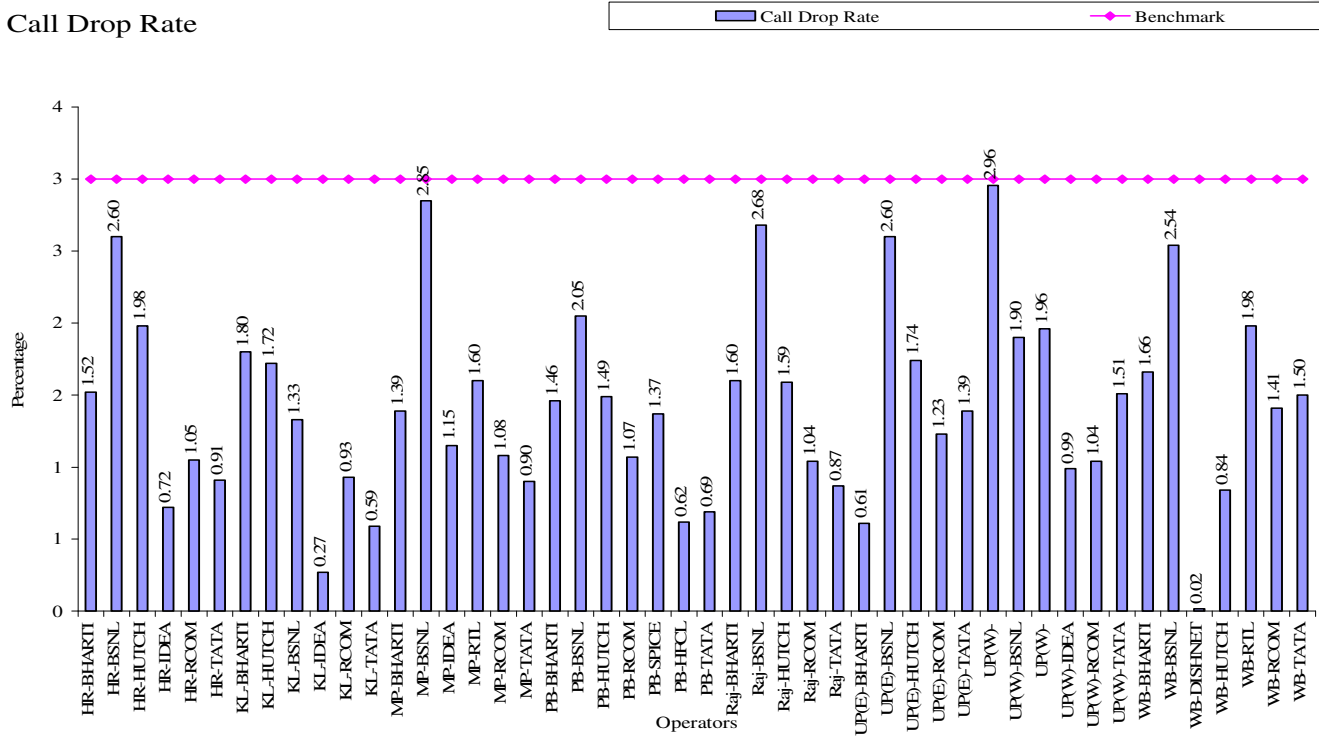
TCH Congestion < 2%



Note: 5 operator out of 48 audited are not meeting benchmark.

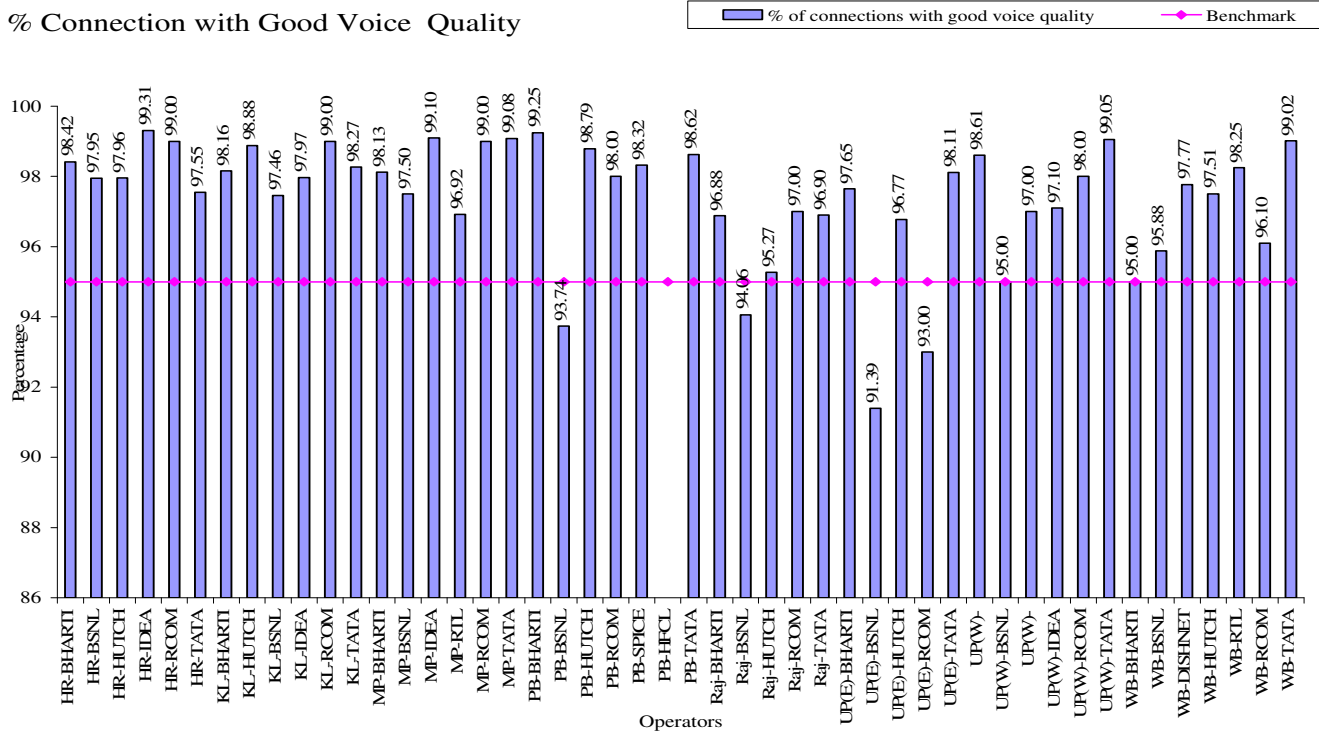


Call Drop Rate



Note: All operators out of 48 audited are meeting benchmark.

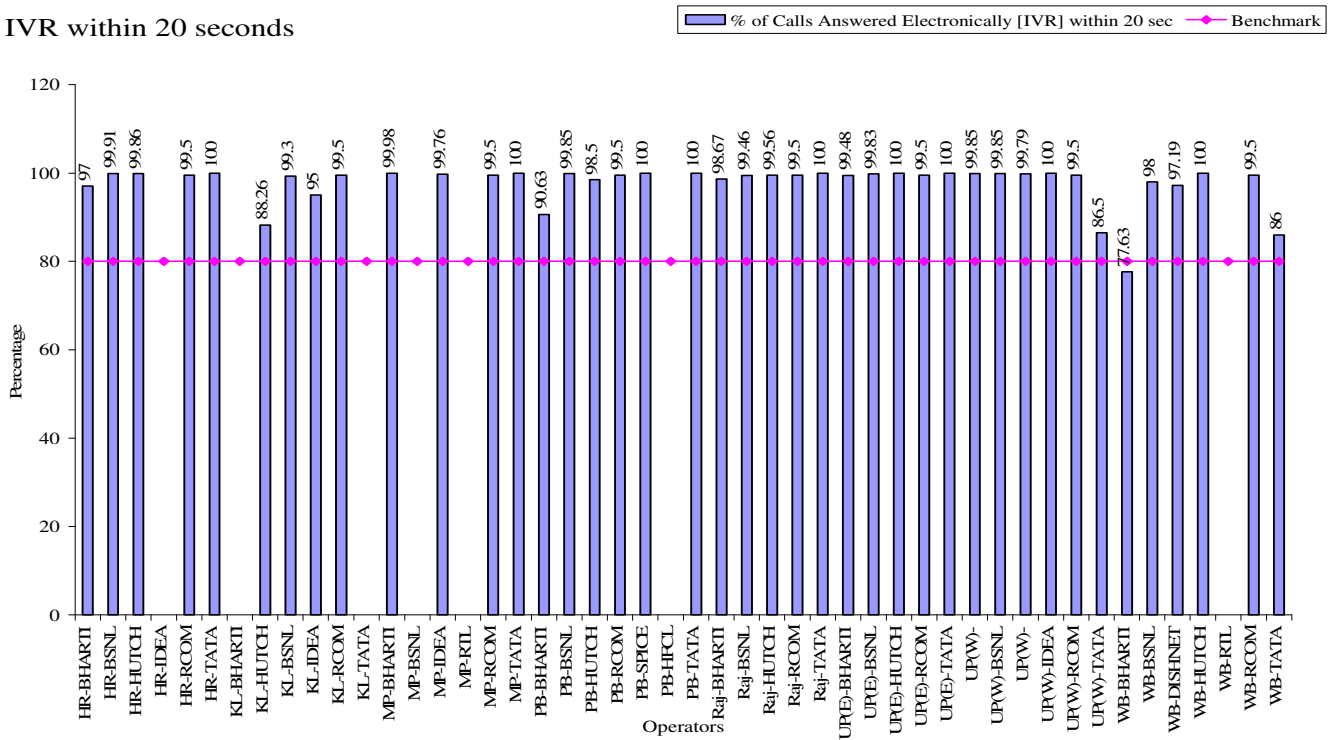
% Connection with Good Voice Quality



Note: 4 operator out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

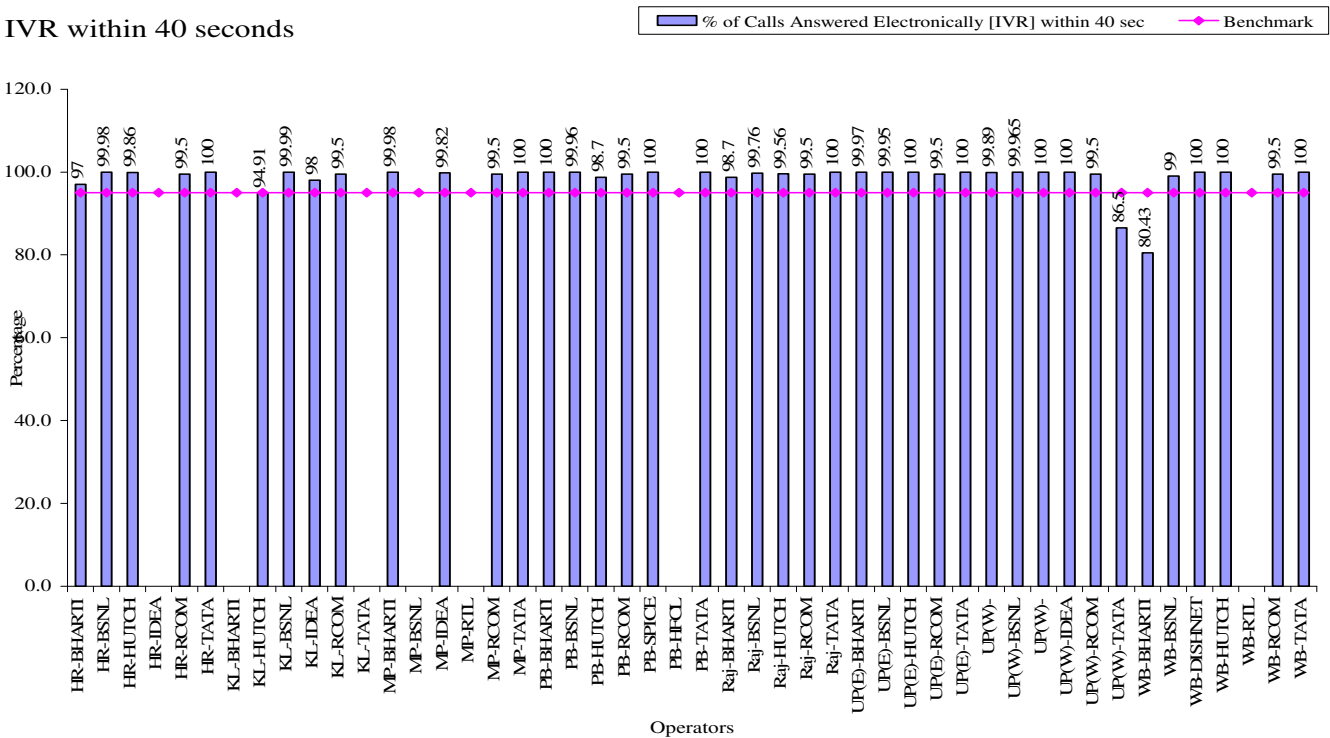


IVR within 20 seconds



Note: Only (1) operator out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

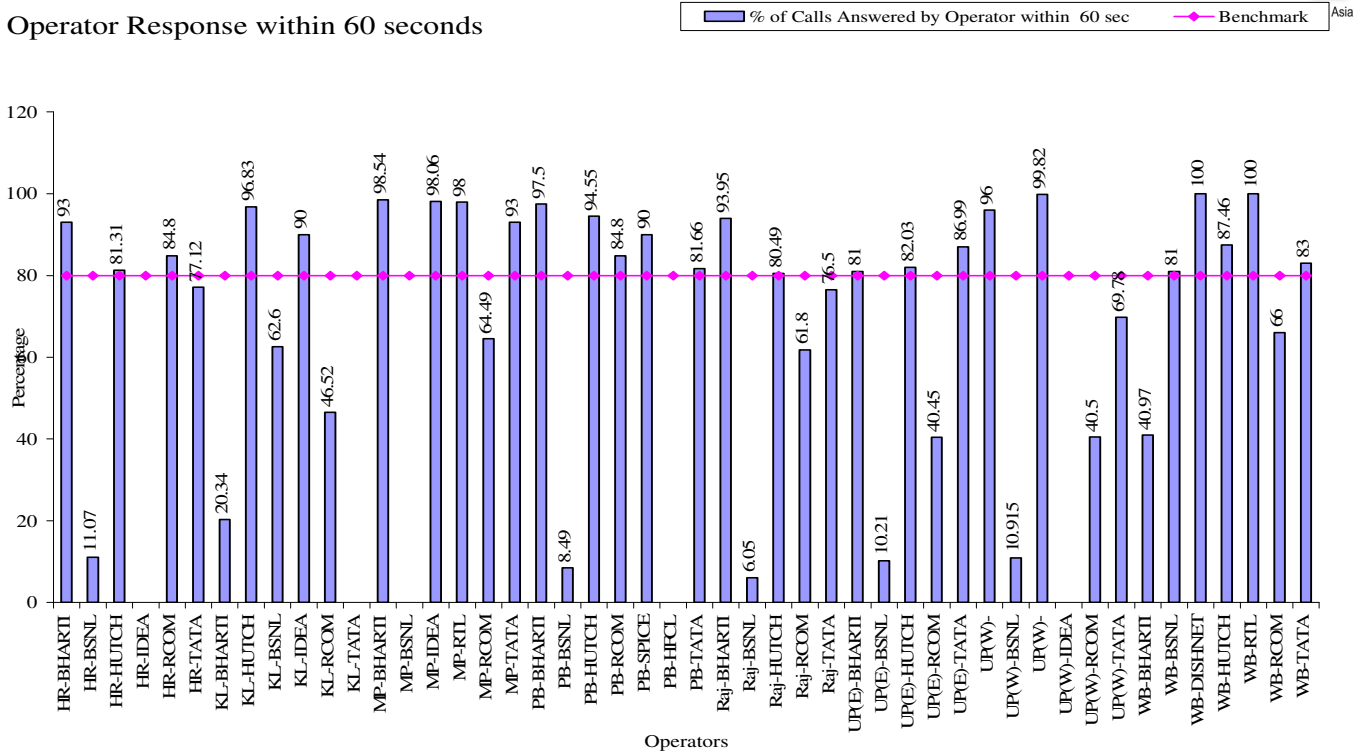
IVR within 40 seconds



Note: 3 operator out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

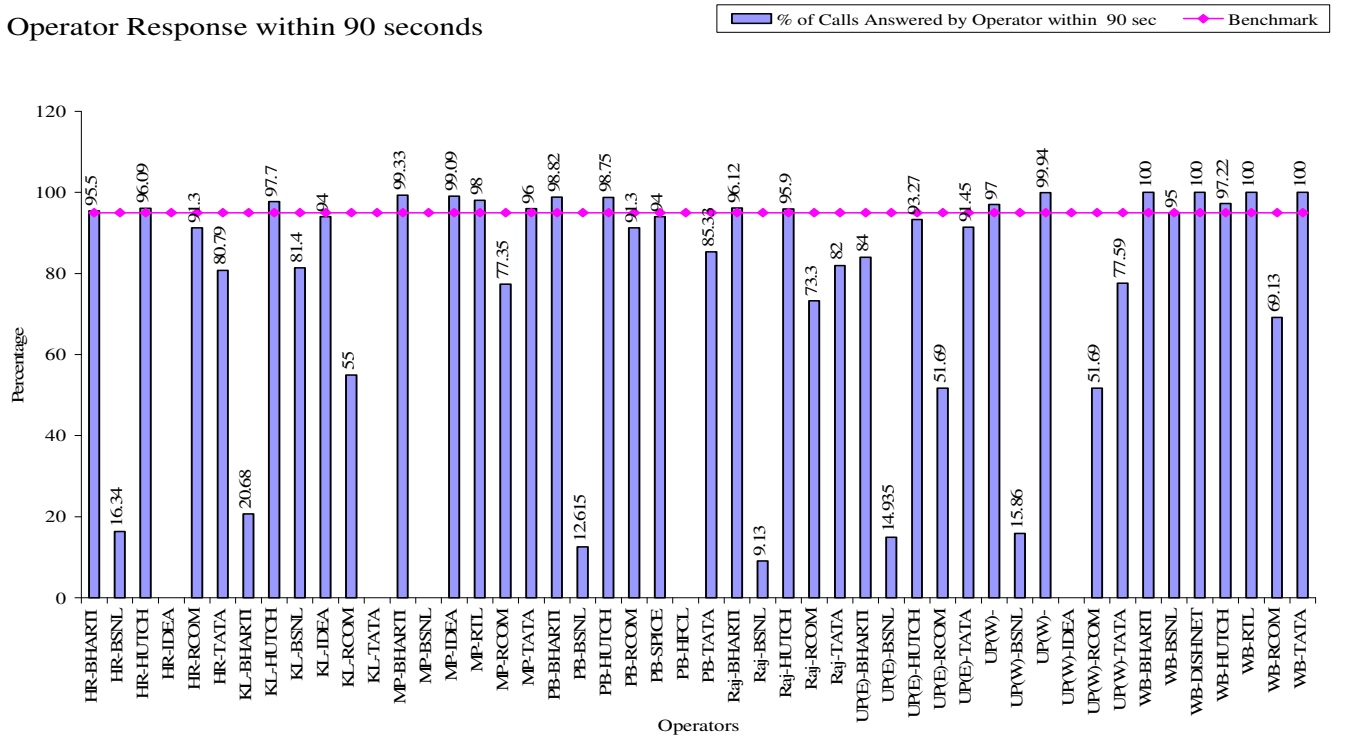


Operator Response within 60 seconds



Note: 17 operators out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

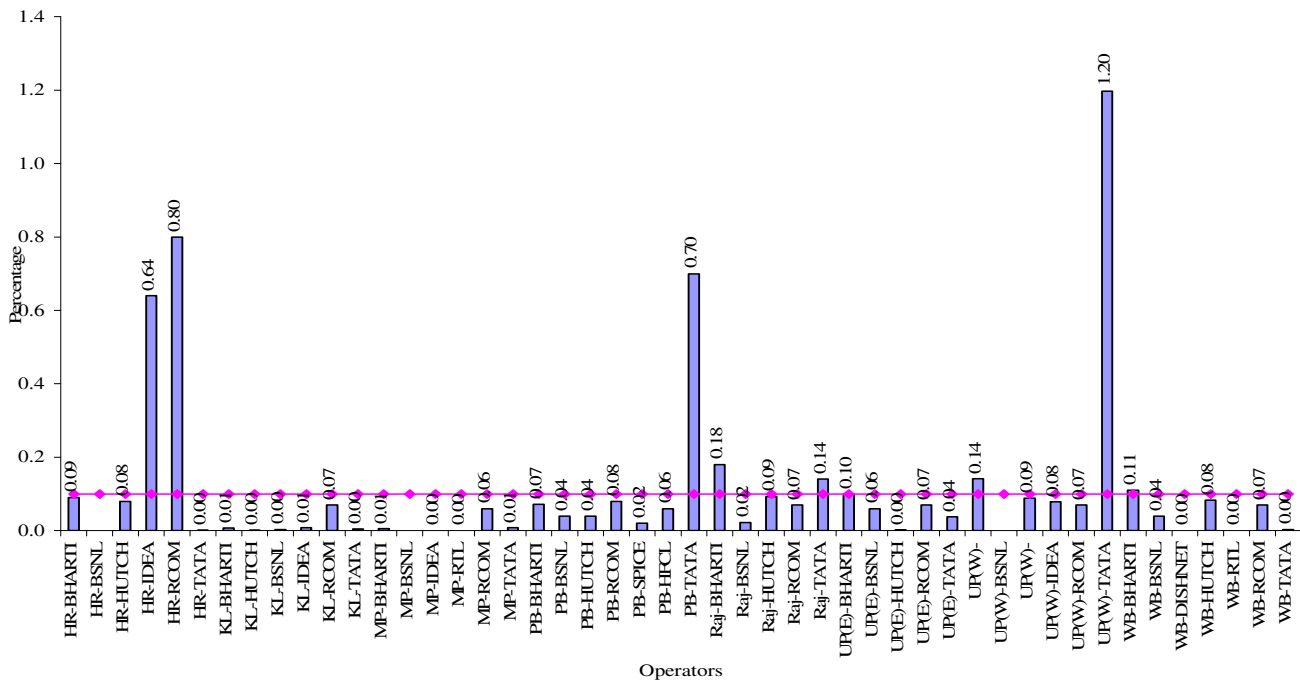
Operator Response within 90 seconds



Note: 22 operators out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

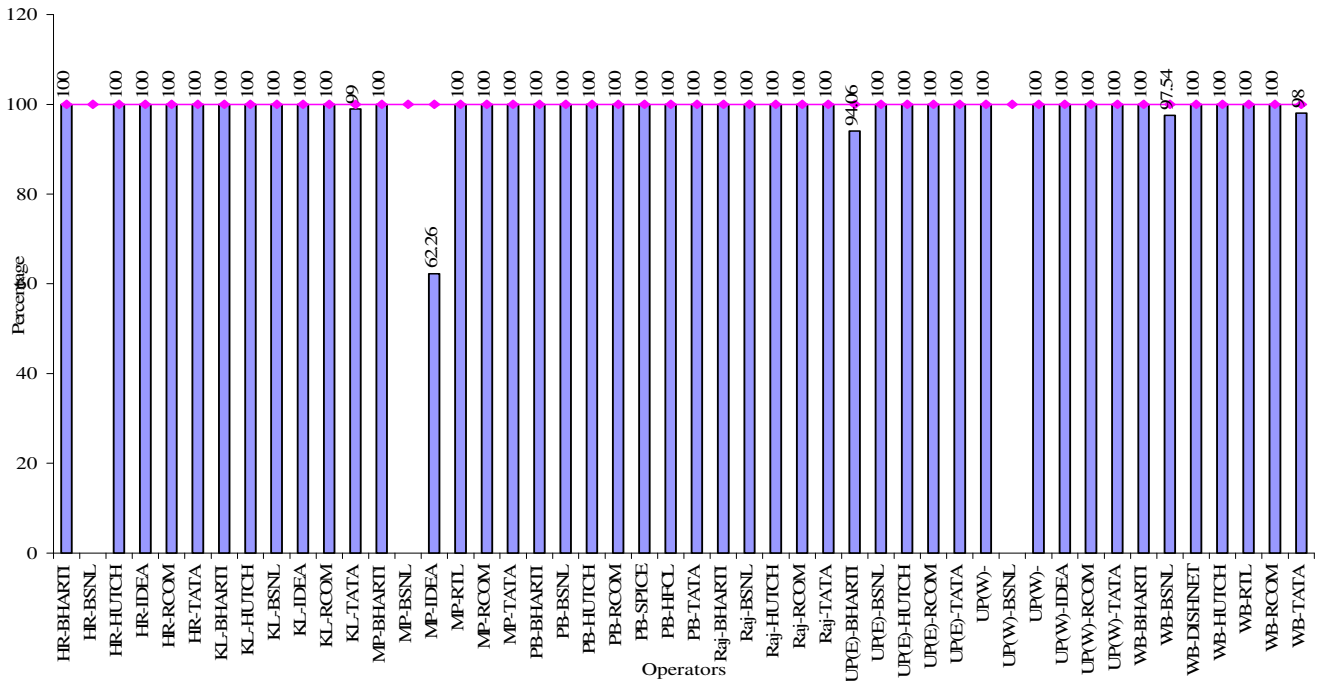


Billing Complains per 100 bill issued



Note: 8 operator out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

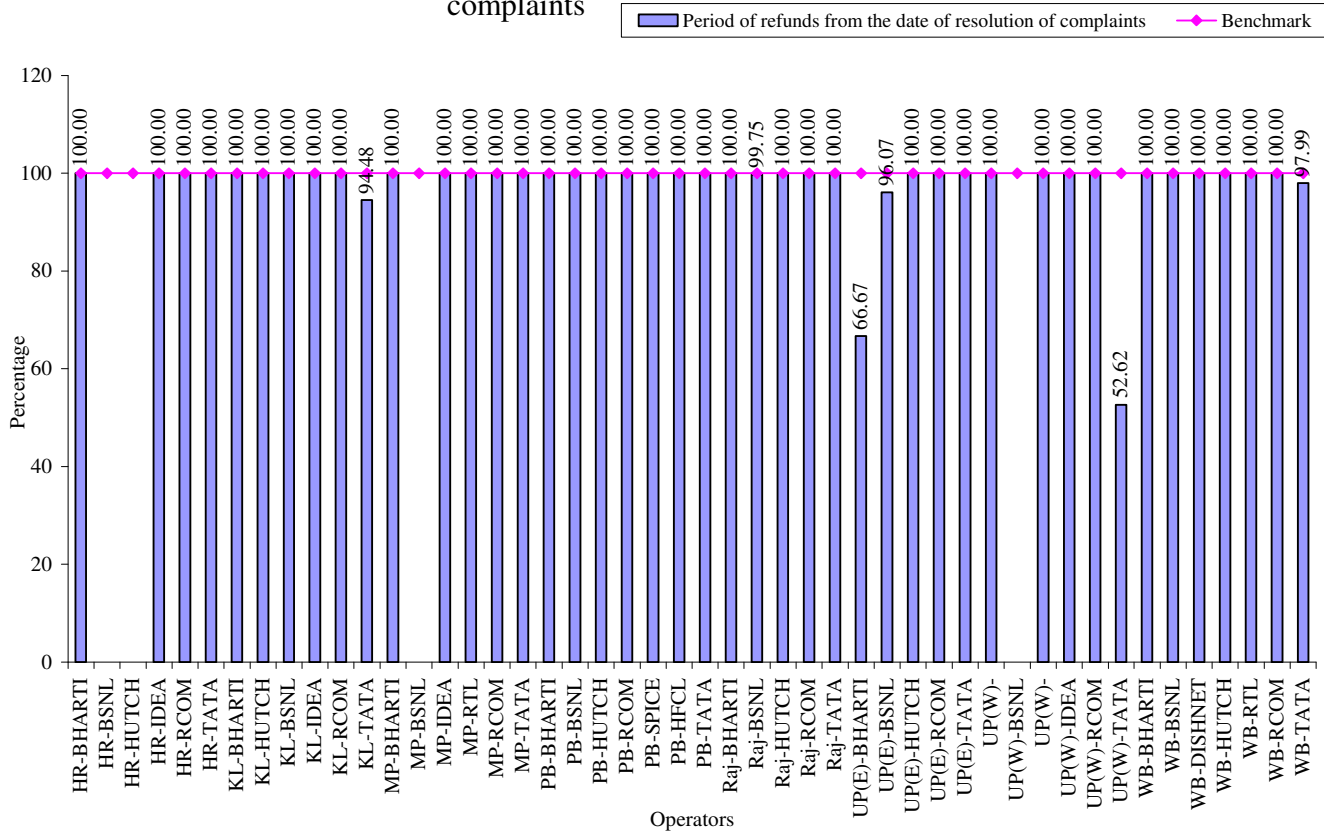
% of Billing Complains resolved within 4 weeks



Note: 5 operator out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.



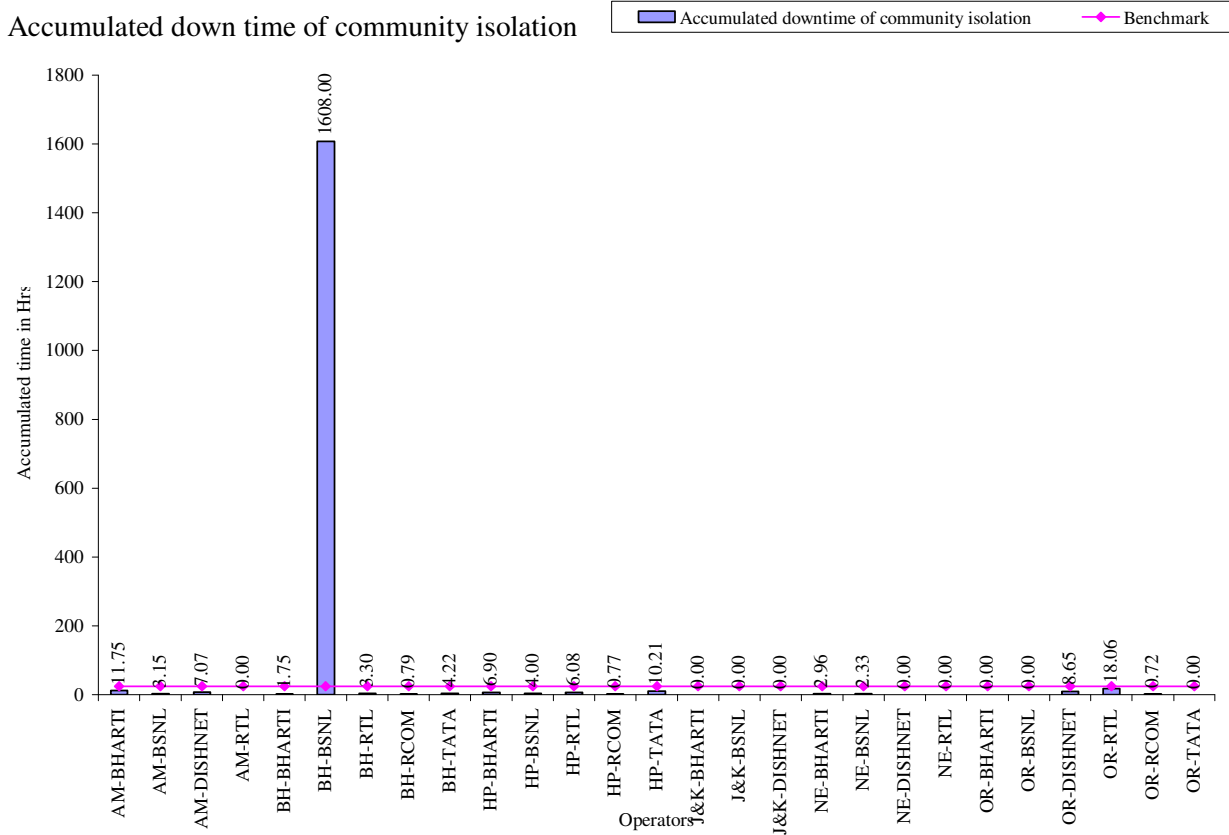
Period of refunds / payment due to customers from the date of resolution of complaints



Note: 6 operator out of 48 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.



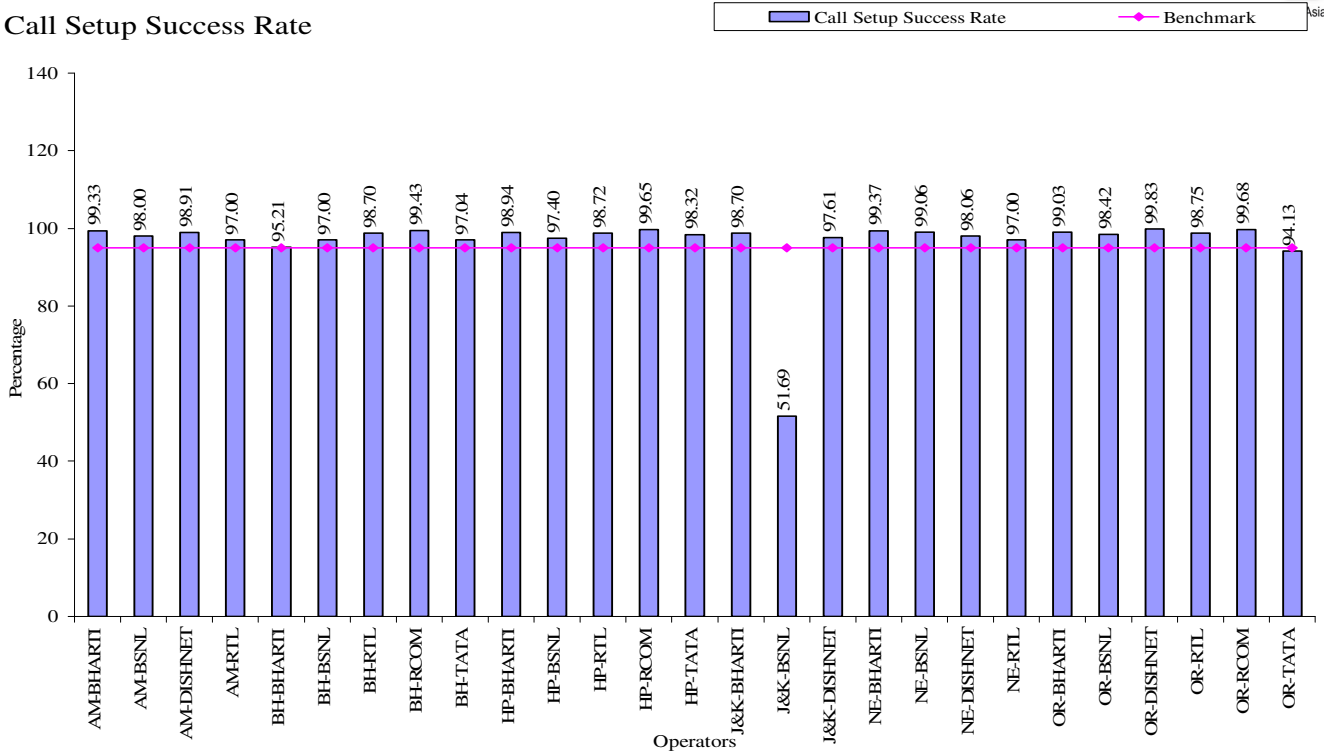
5.1.4 C-CIRCLE



Note: Only (1) operator out of 27 audited is not meeting benchmark.

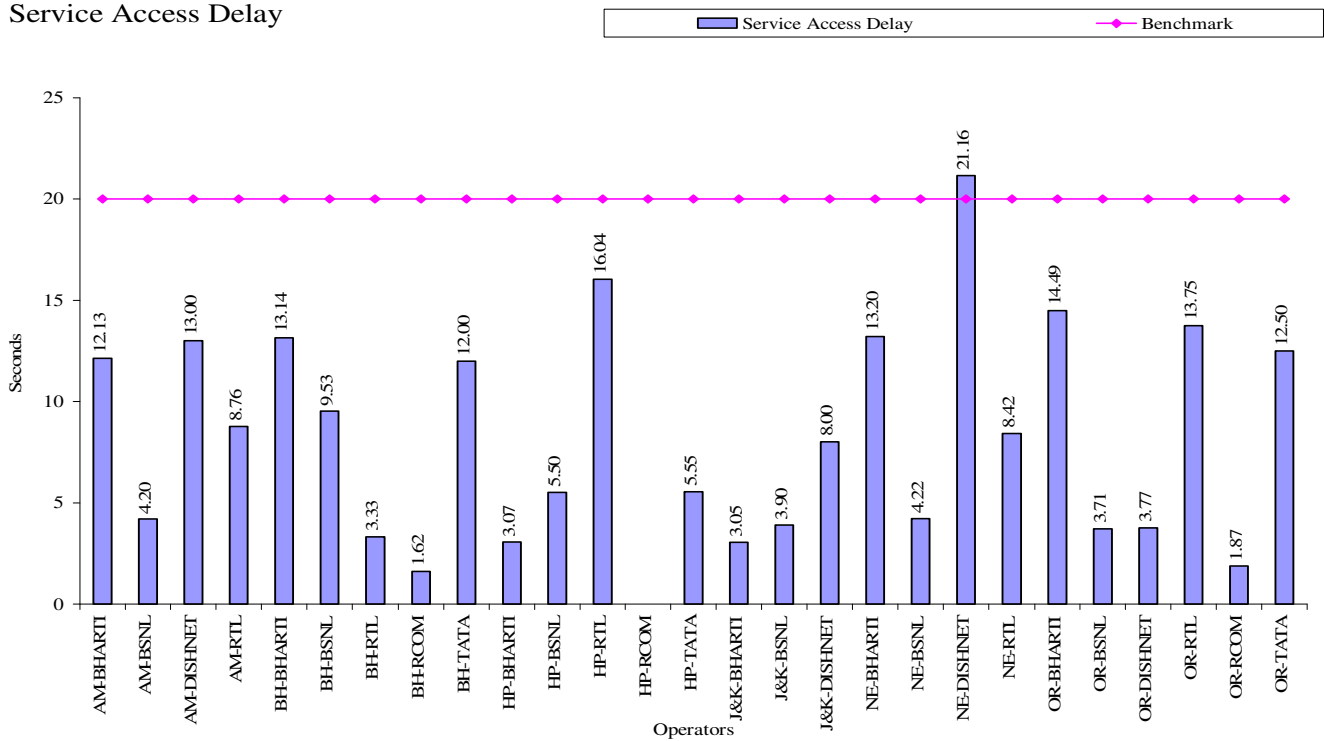


Call Setup Success Rate



Note: 2 operator out of 27 audited are not meeting benchmark.

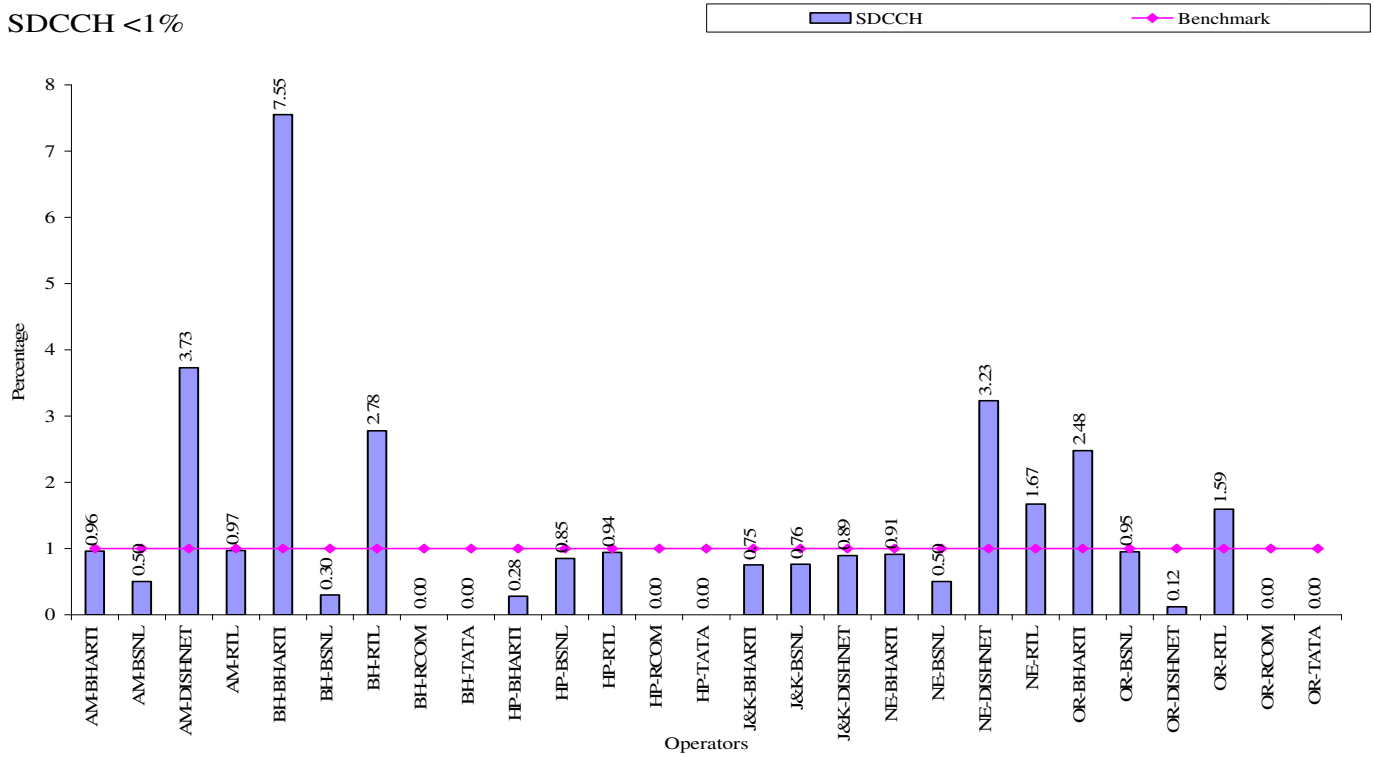
Service Access Delay



Note: Only (1) operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

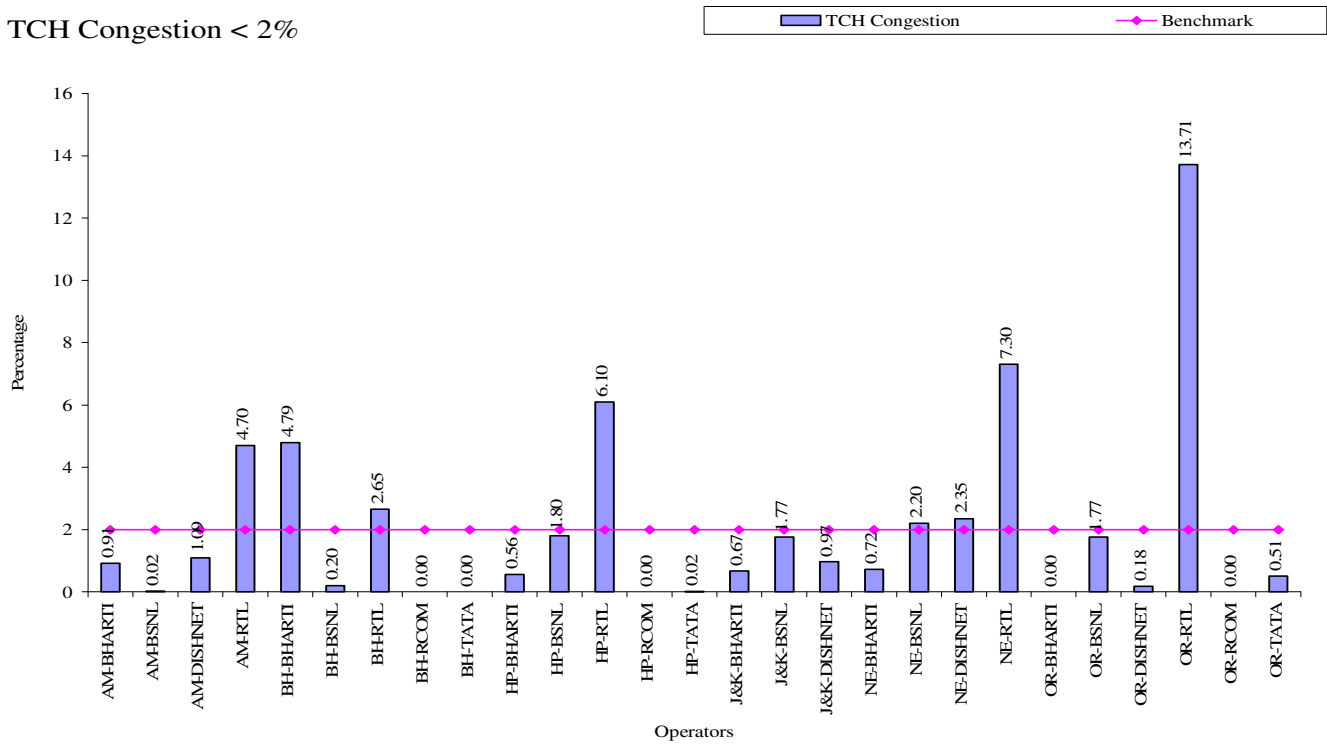


SDCCH <1%



Note: 7 operator out of 27 audited are not meeting benchmark.

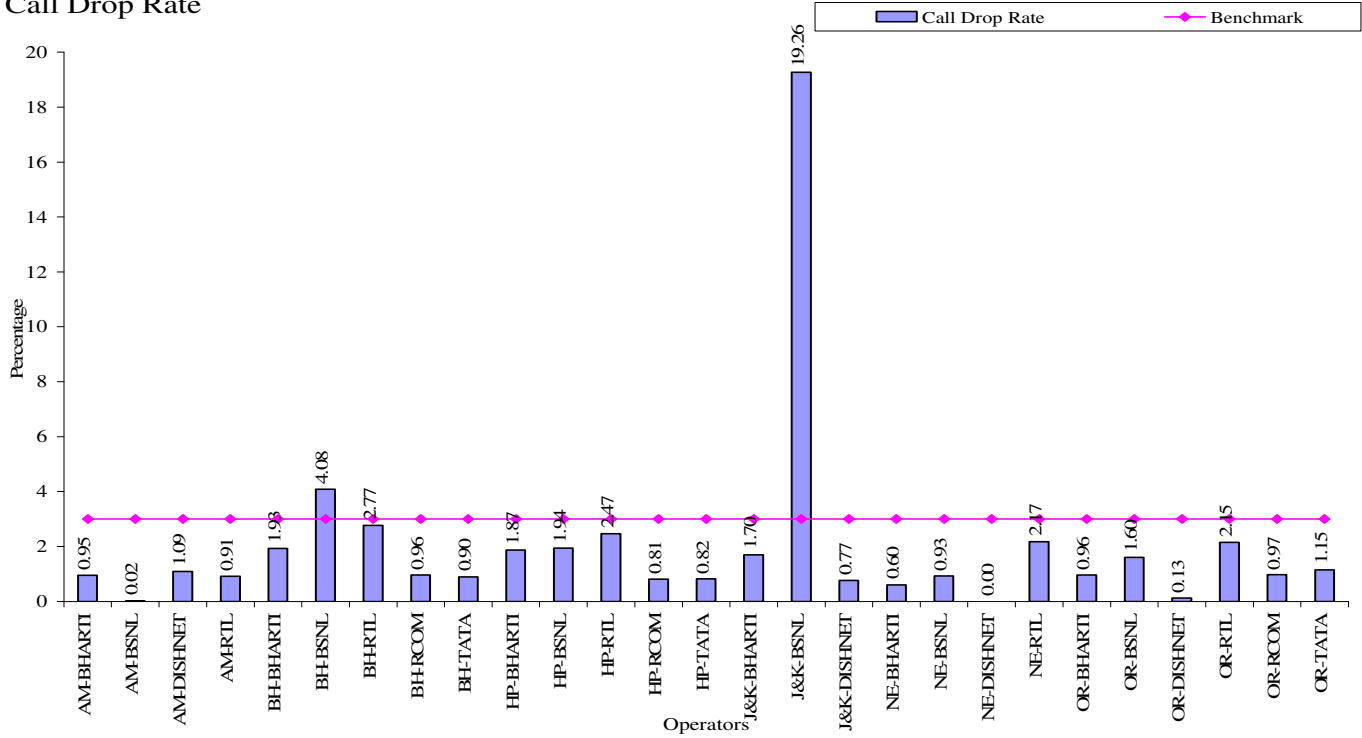
TCH Congestion < 2%



Note: 8 operator out of 27 audited are not meeting benchmark.

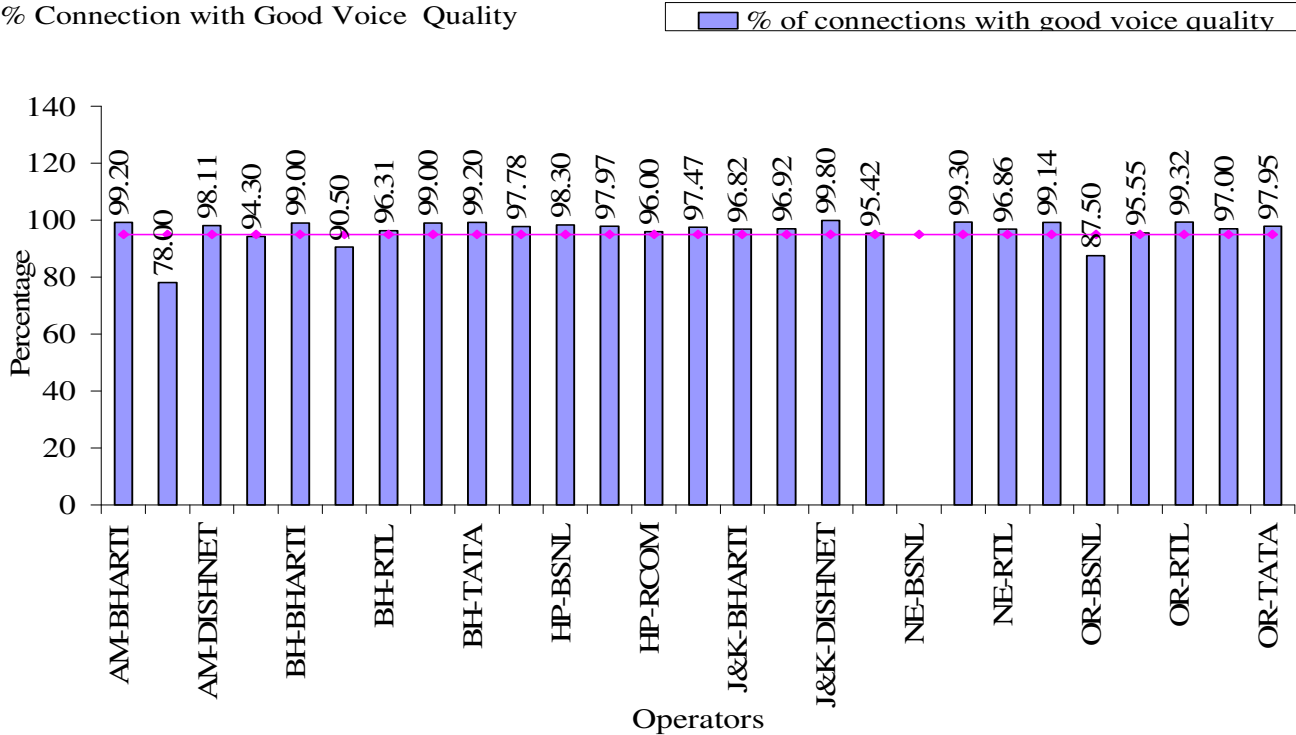


Call Drop Rate



Note: 2 operator out of 27 audited are not meeting benchmark.

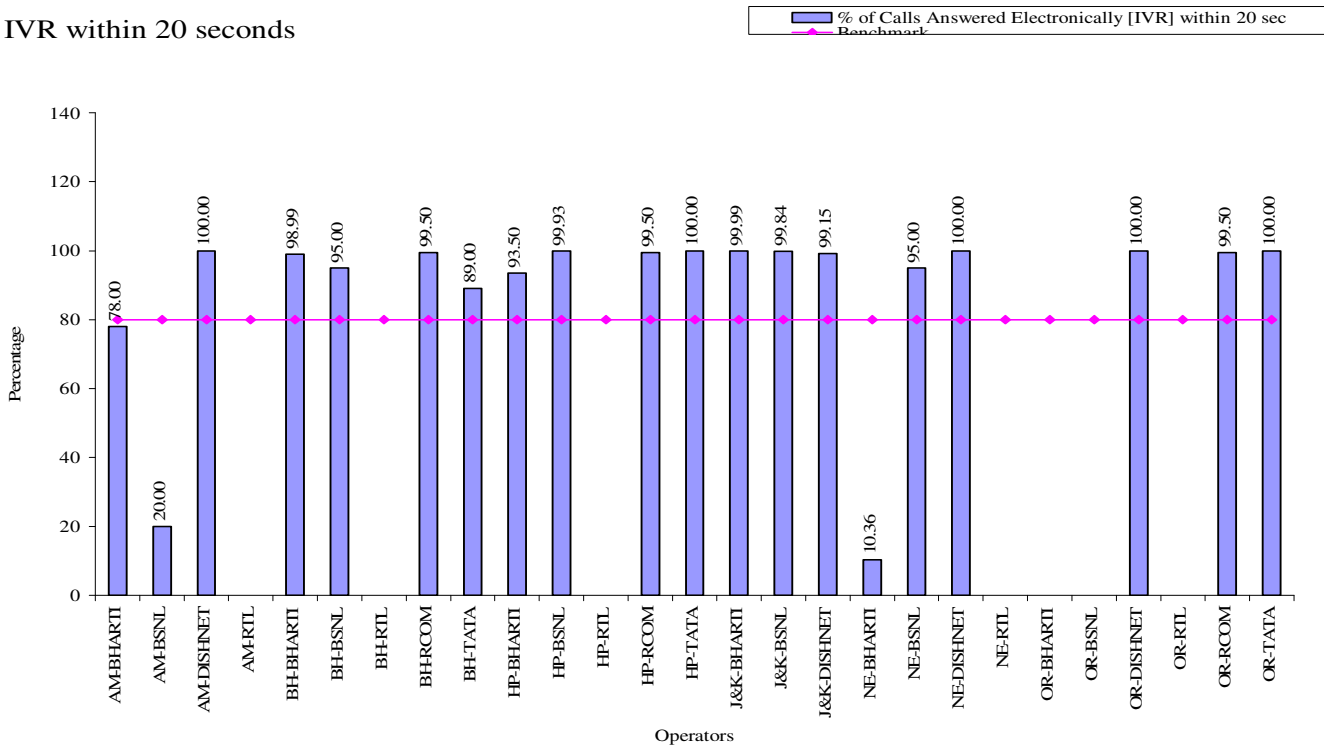
% Connection with Good Voice Quality



Note: 4 operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

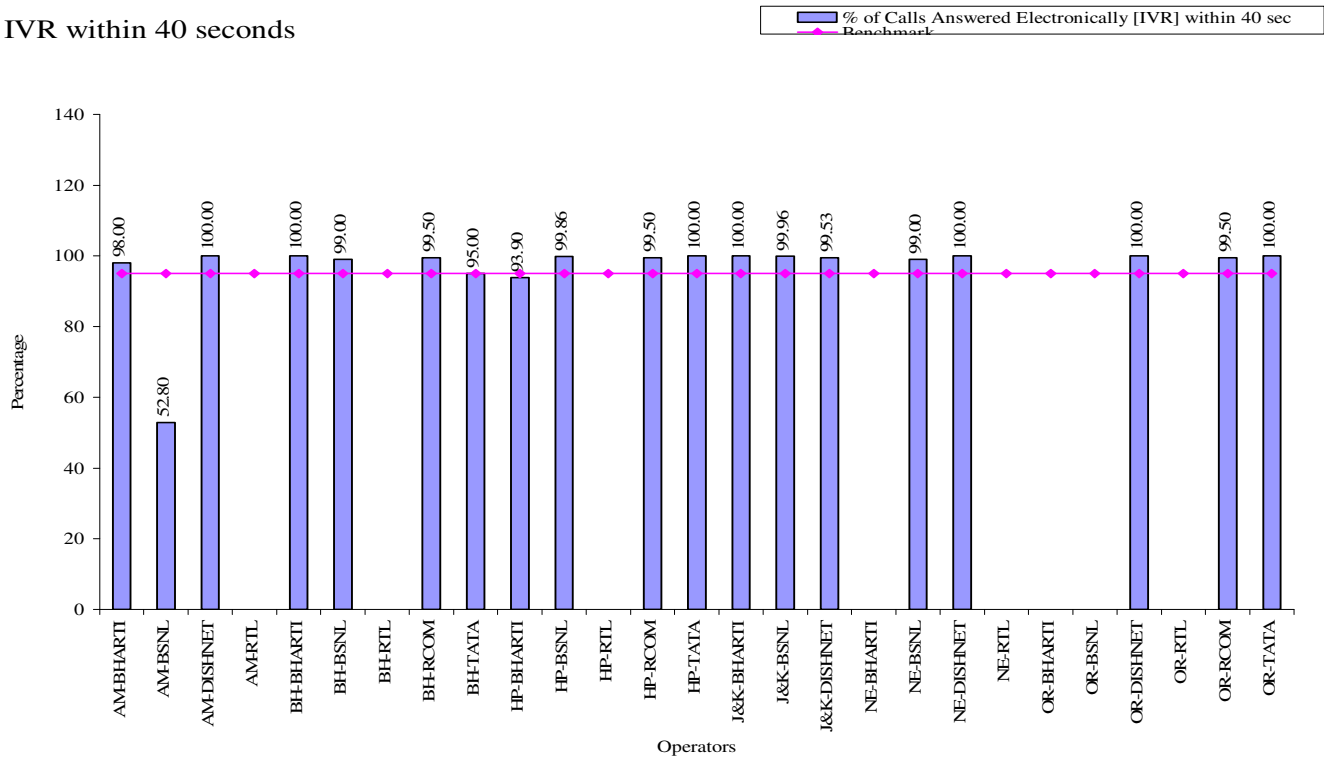


IVR within 20 seconds



Note: 3 operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

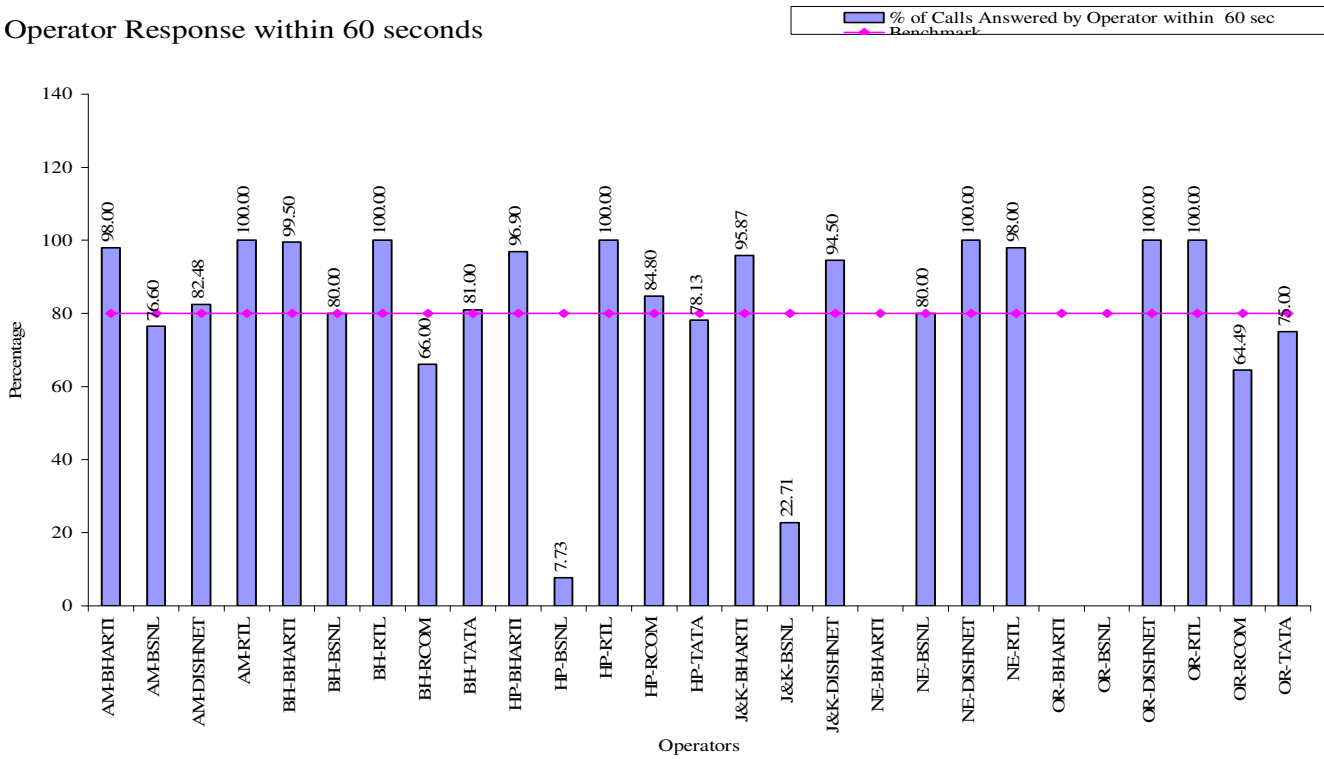
IVR within 40 seconds



Note: 2 operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

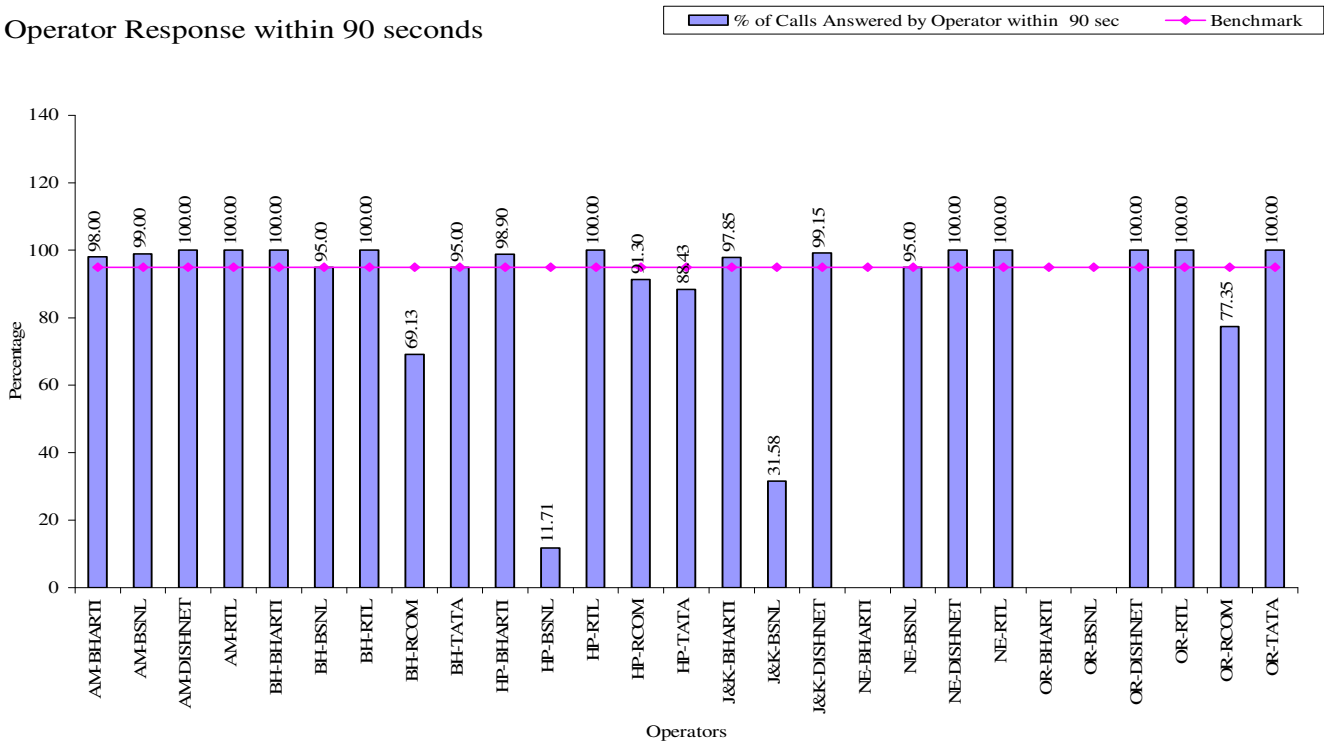


Operator Response within 60 seconds



Note: 8 operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

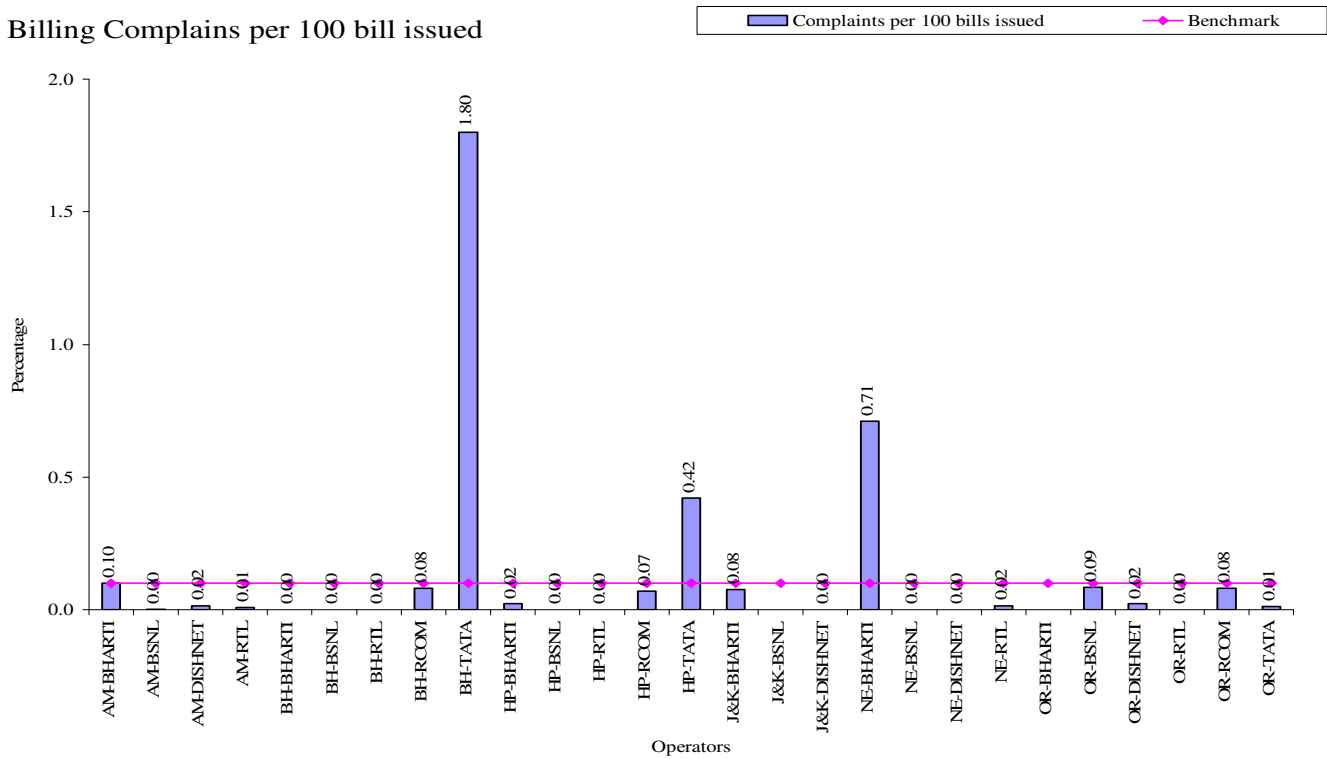
Operator Response within 90 seconds



Note: 6 operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

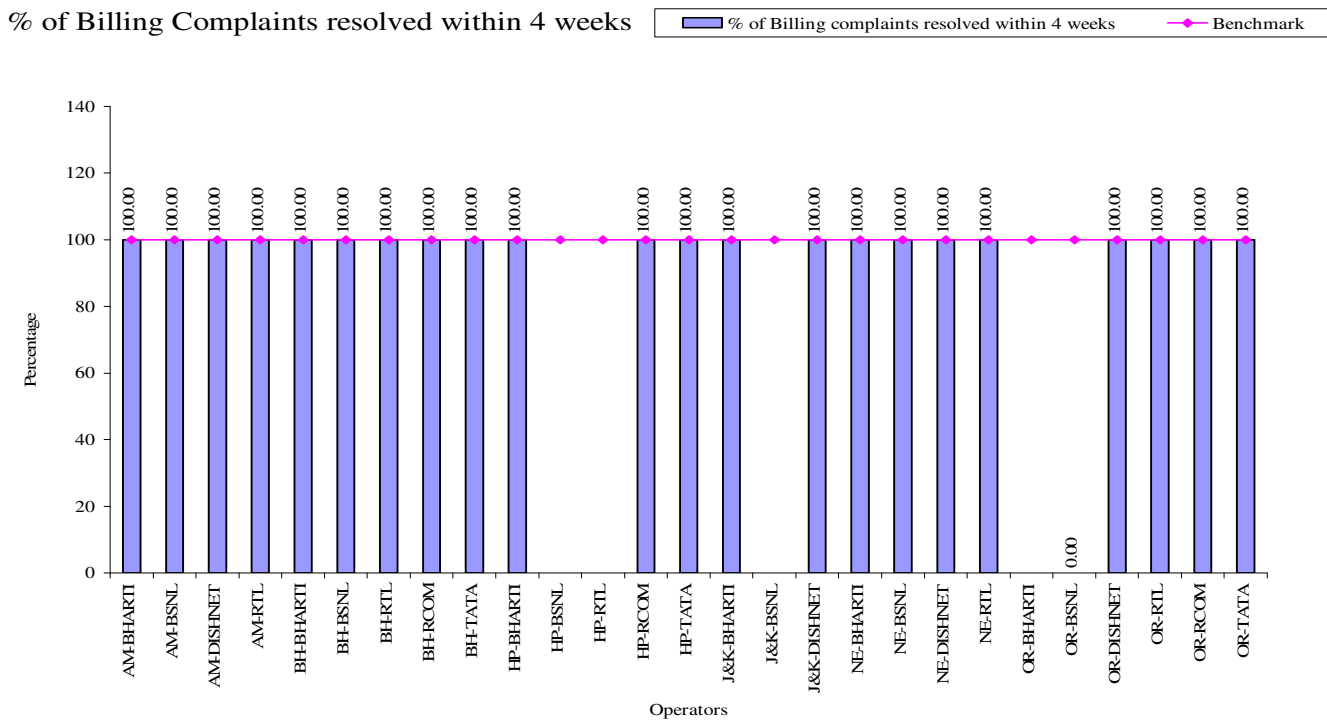


Billing Complains per 100 bill issued



Note: 3 operator out of 27 audited are not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\Aapp as detailed in corresponding table.

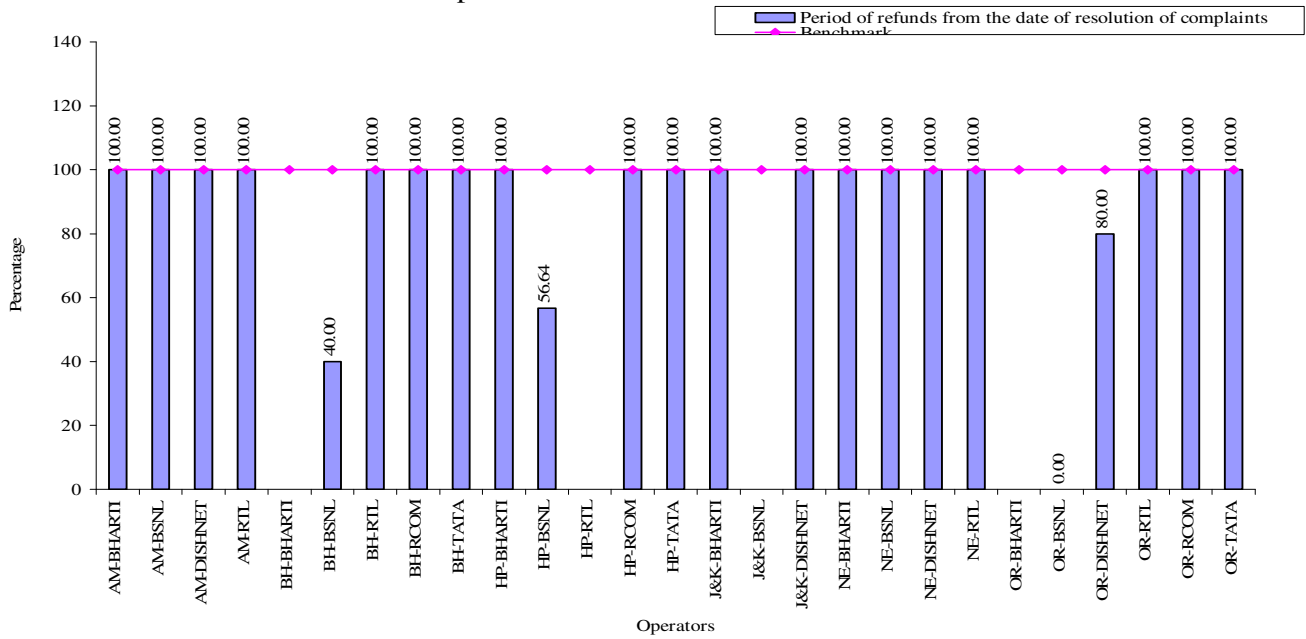
% of Billing Complains resolved within 4 weeks



Note: Only (1) operator out of 27 audited is not meeting benchmark. Any operator with no value are case of DNP / NA/ NI/ NP/ N\Aapp as detailed in corresponding table.



Period of refunds / payment due to customers from the date of resolution of complaints

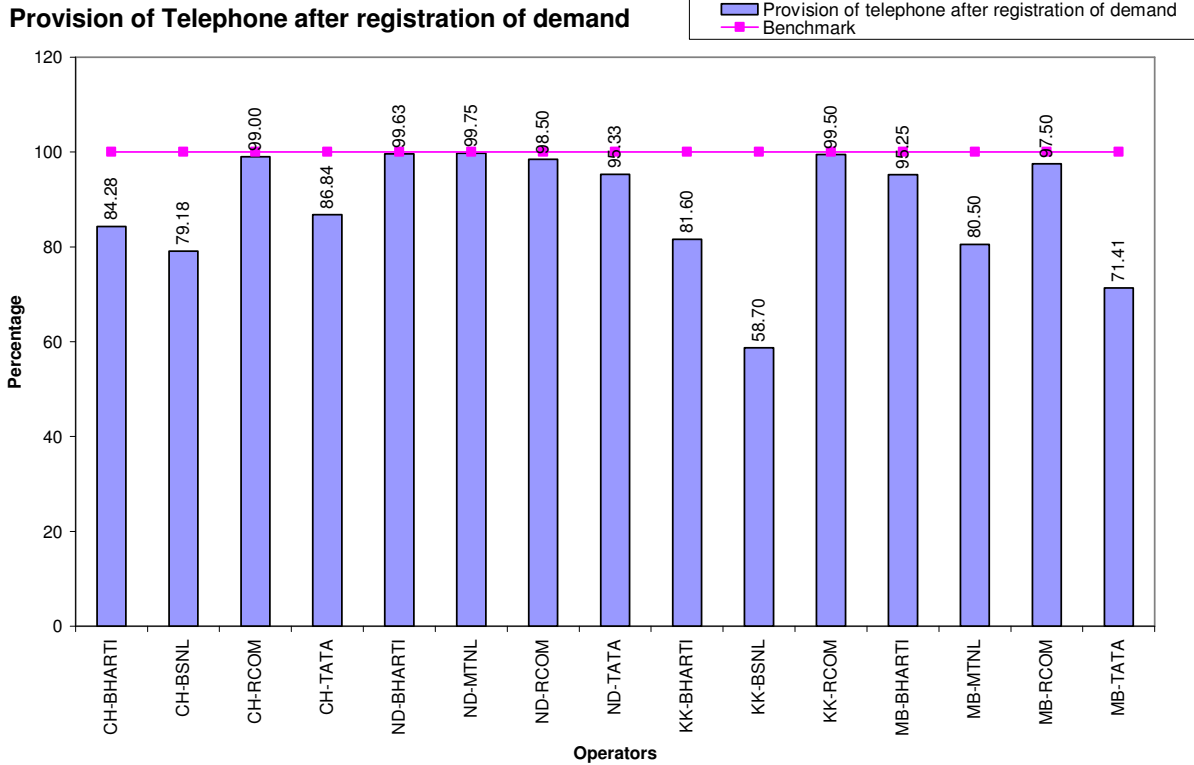


Note: 4 operator out of 27 audited are not meeting benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.



5.2 QOS BASIC SERVICES

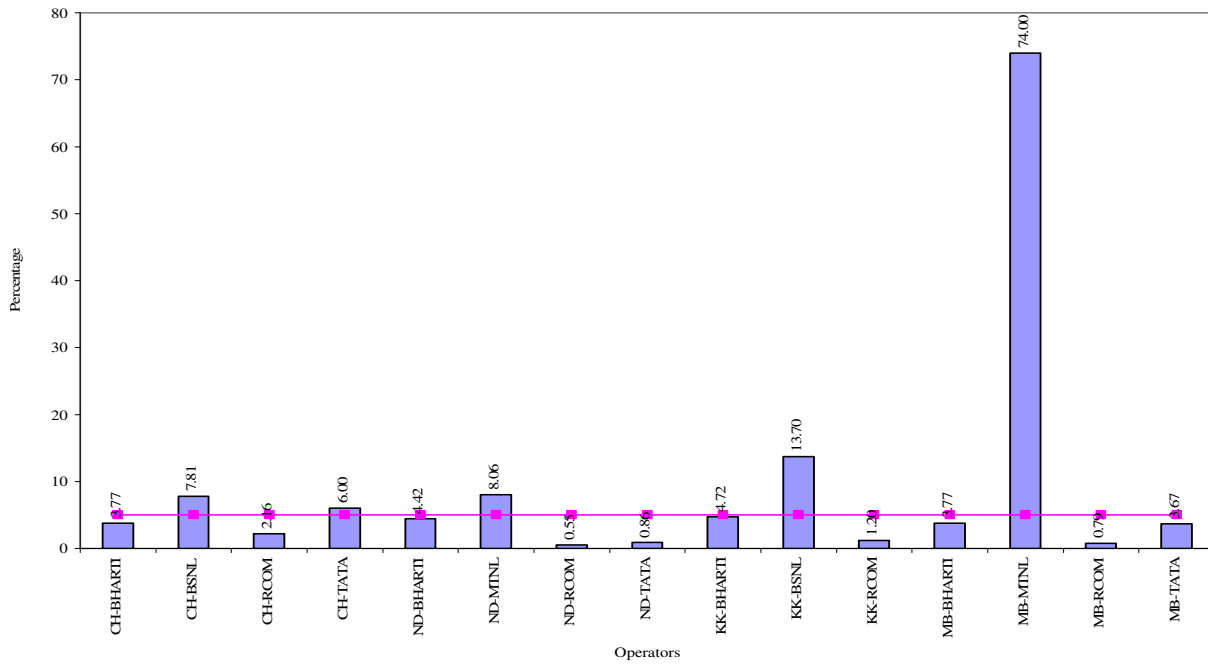
5.2.1 "METRO" CIRCLE



Note : -- of the operator out of 15 audited are meeting the benchmark.

Fault Incidence

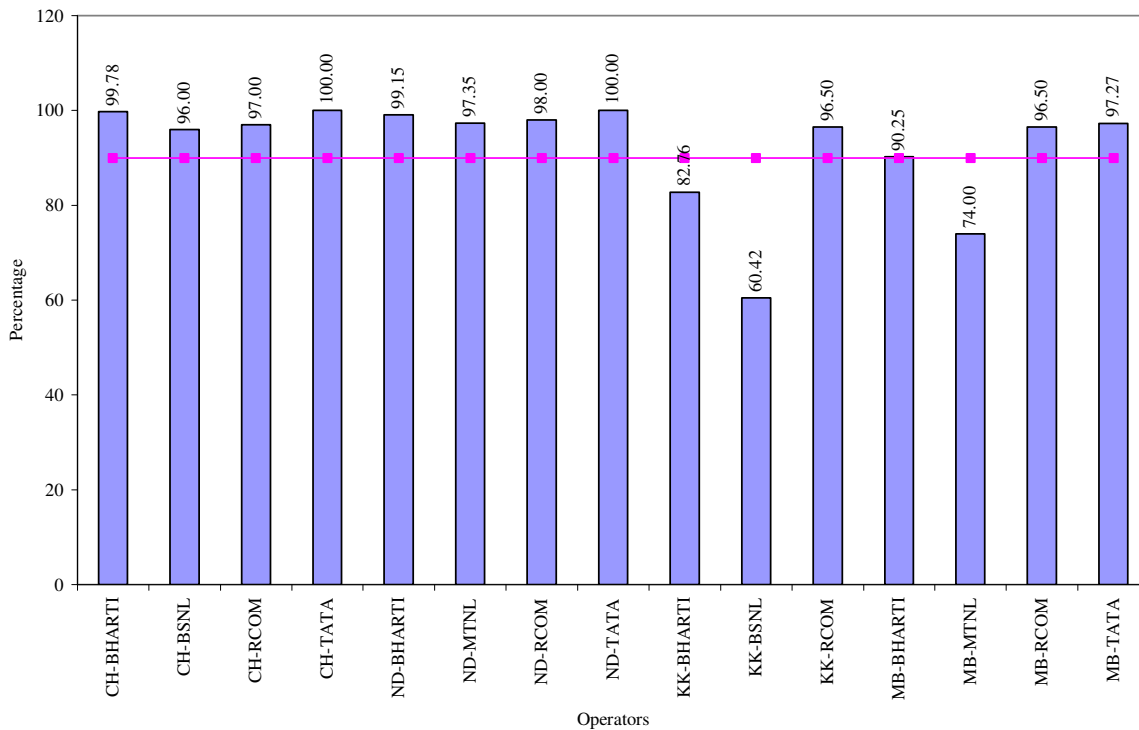
Fault incidence Benchmark



Note: 5 out of 15 Operator audited are not meeting the benchmark.

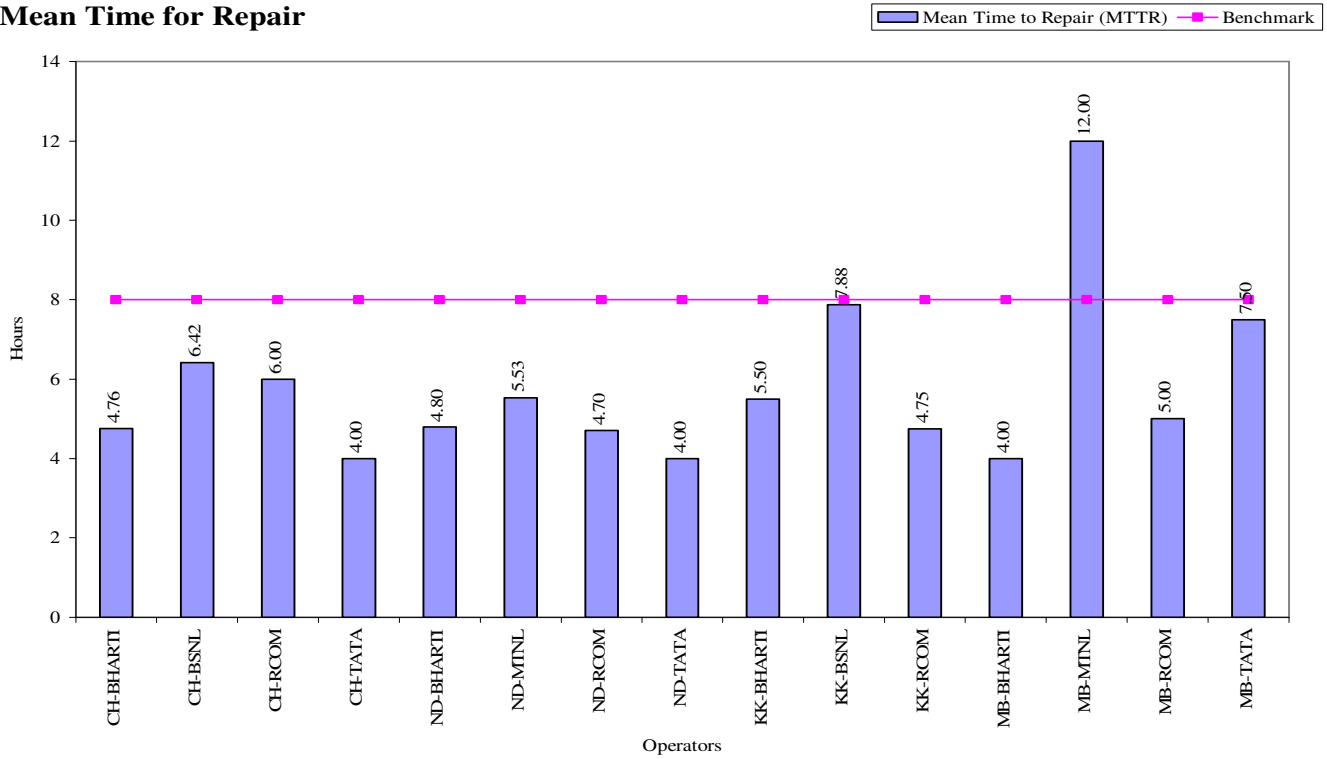
Fault Repair by next working day

Fault repaired by next working day Benchmark



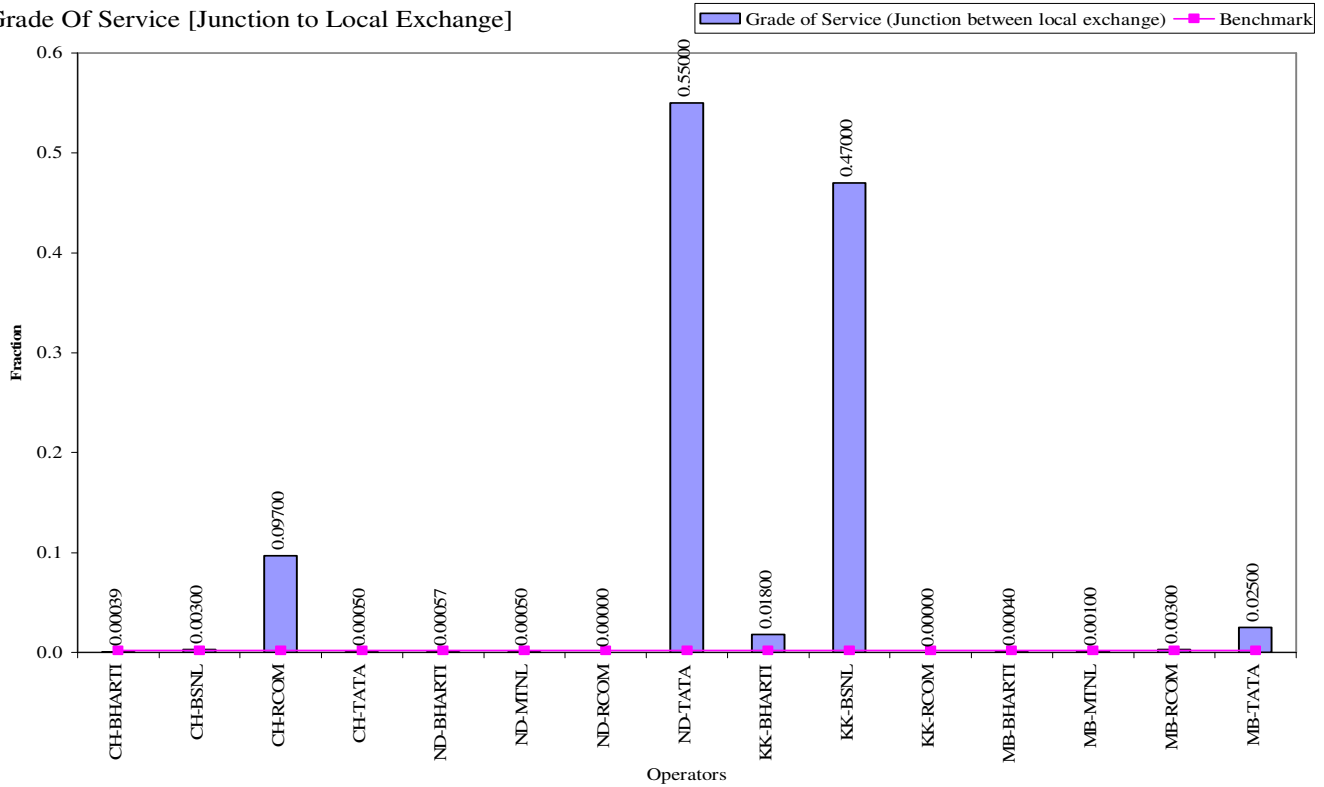
Note : 3 out of 15 Operator audited are not meeting the benchmark.

Mean Time for Repair



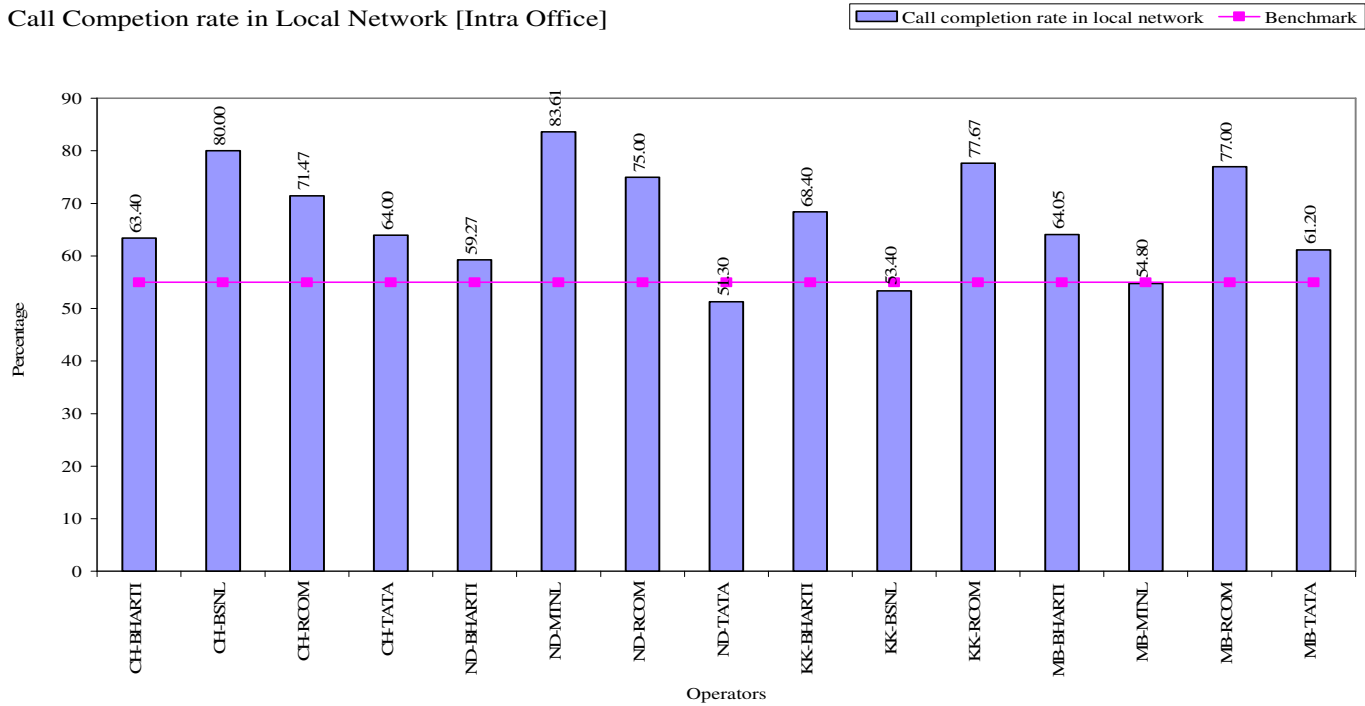
Note : Only one out of 15 Operator audited is not meeting the benchmark.

Grade Of Service [Junction to Local Exchange]

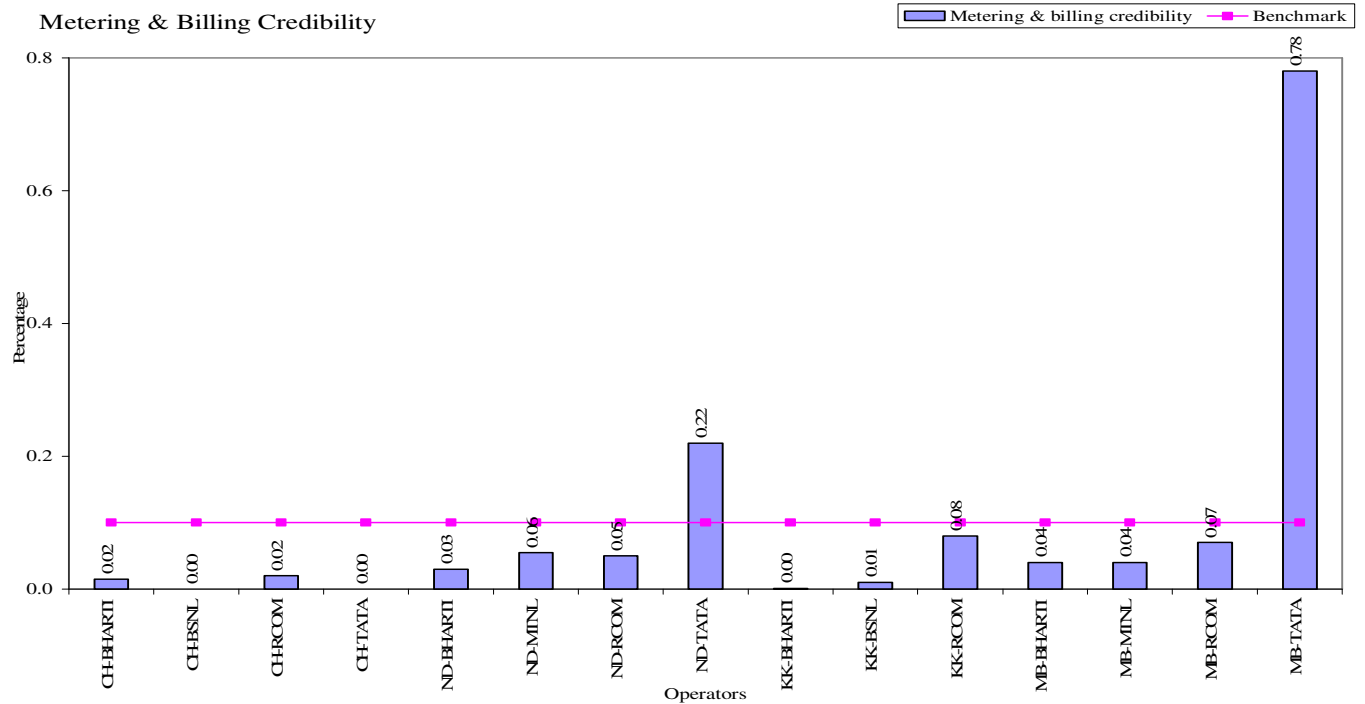


Note : 7 out of 15 Operator audited are not meeting the benchmark.

Call Completion rate in Local Network [Intra Office]

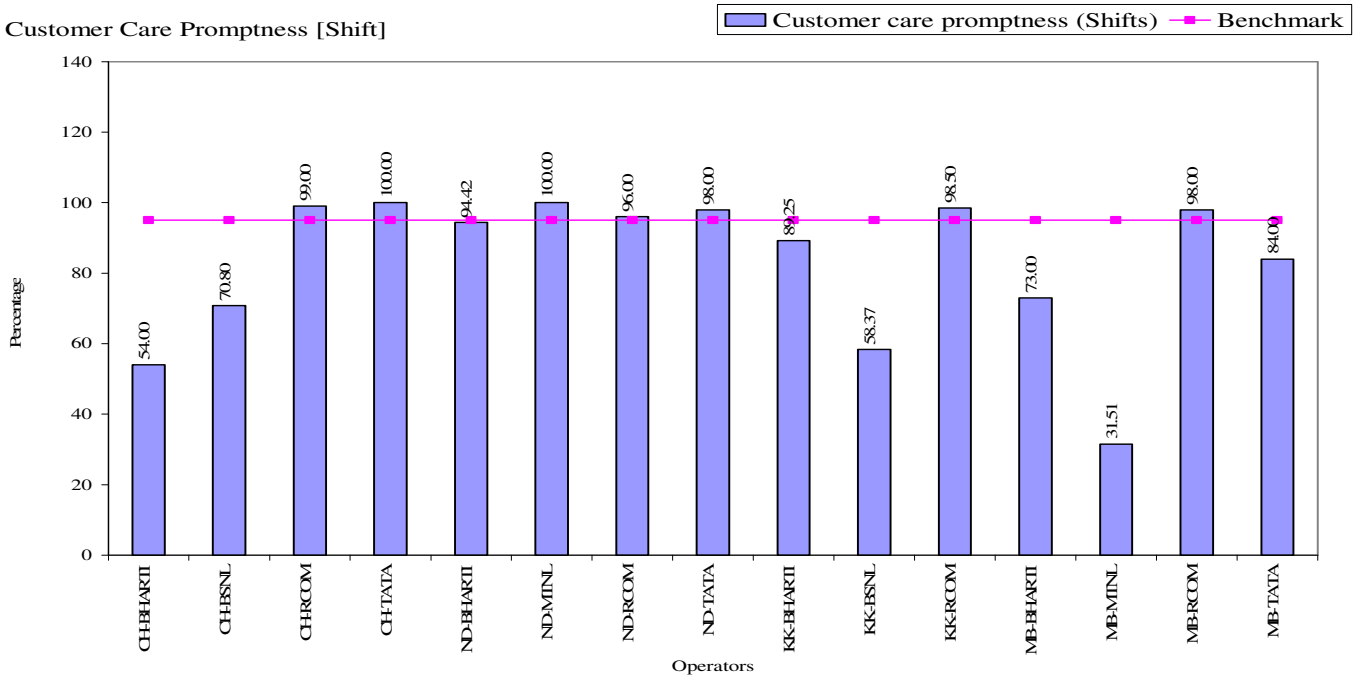


Note : 3 out of 15 Operator audited are not meeting the benchmark.



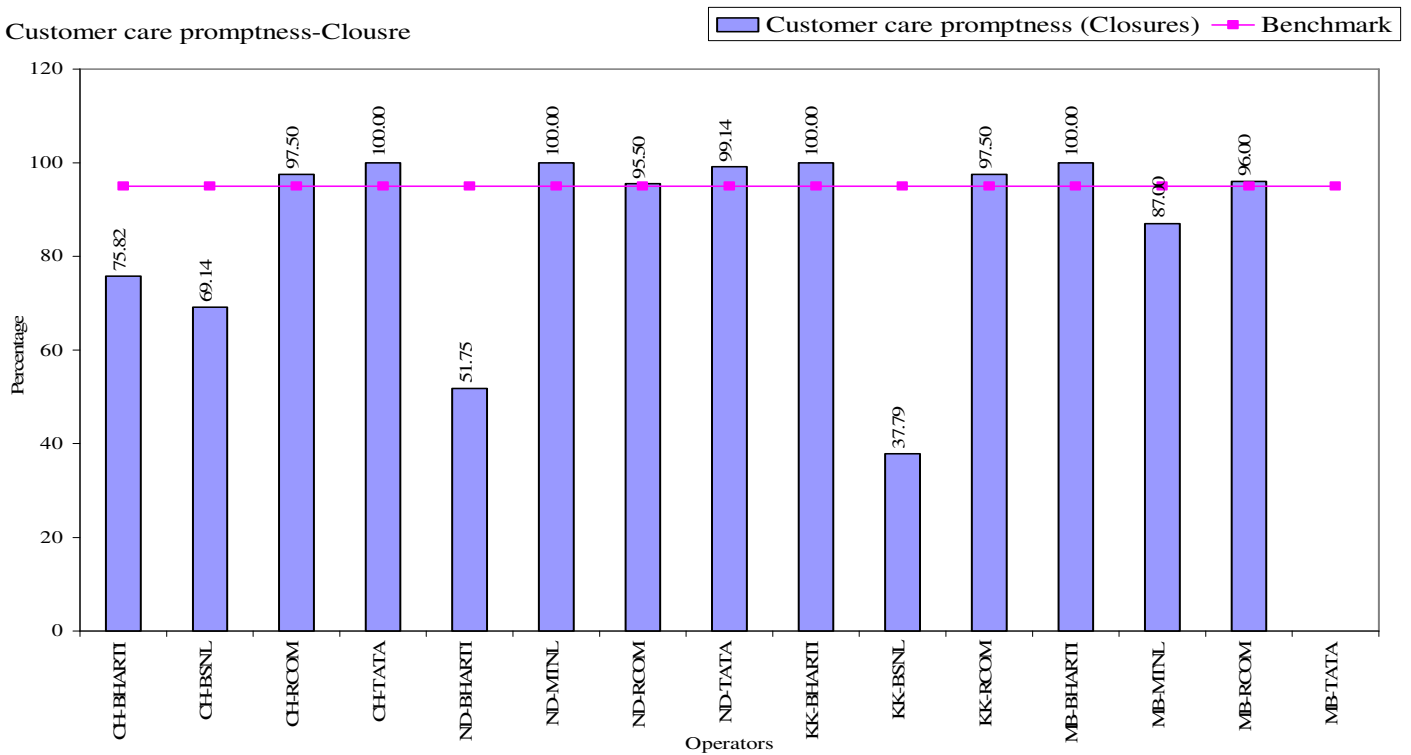
Note: 2 out of 15 Operator audited are not meeting the benchmark.

Customer Care Promptness [Shift]



Note: 8 out of 15 Operator audited are not meeting the benchmark.

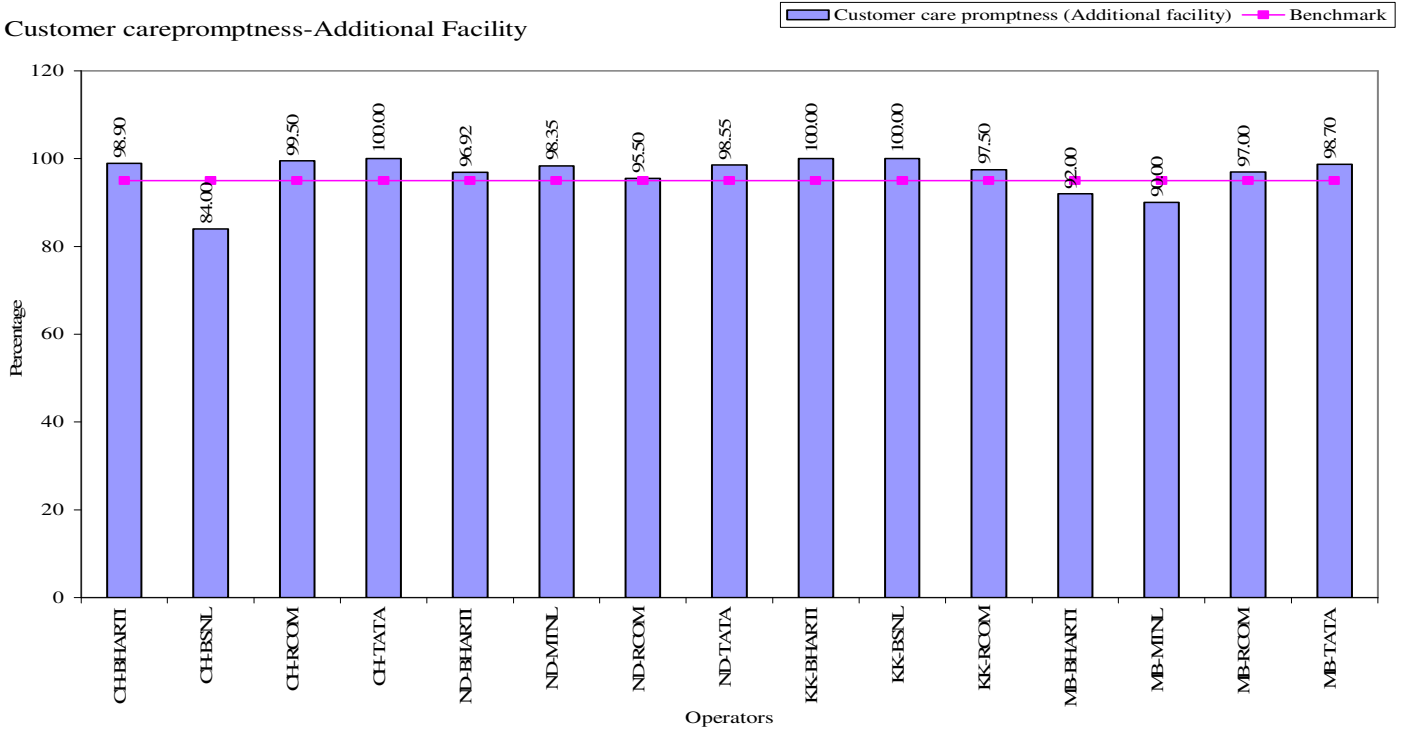
Customer care promptness-Closure



Note: 5 out of 14 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\app as detailed in corresponding table.

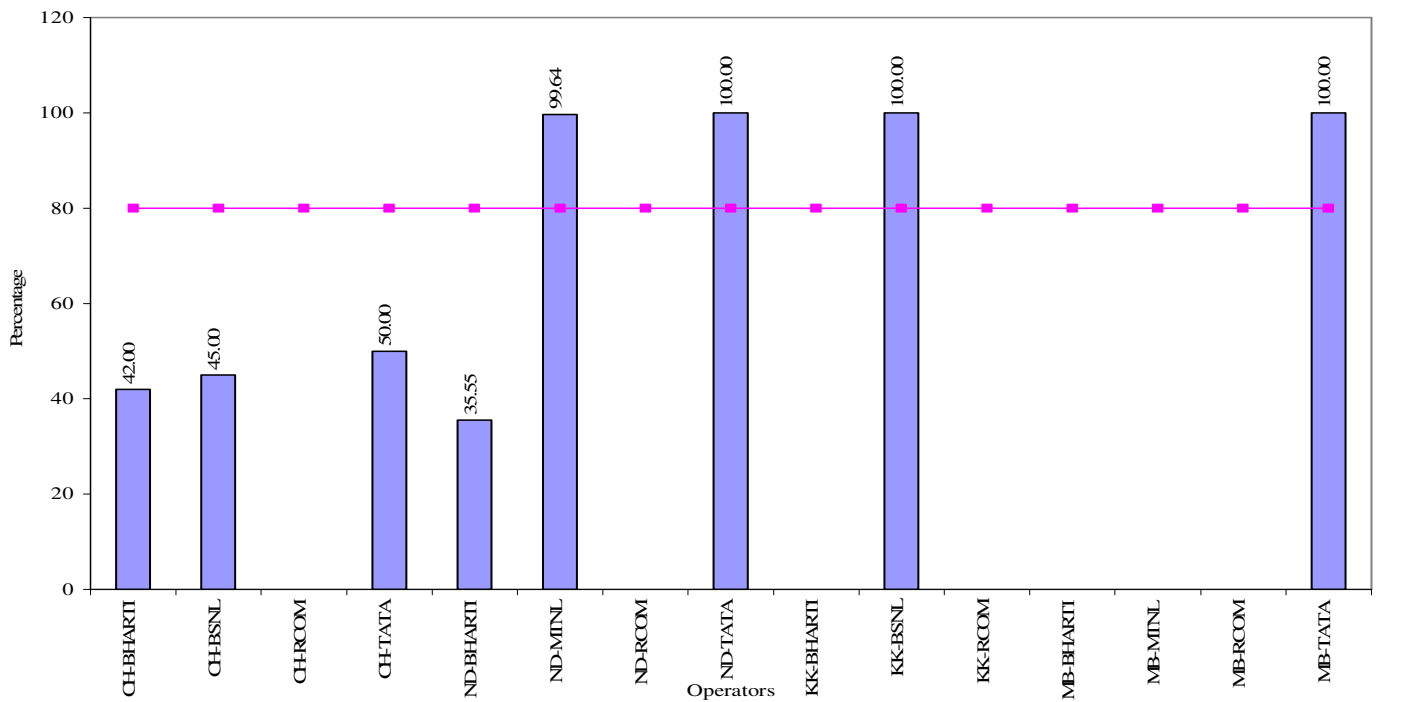


Customer care promptness-Additional Facility



Note: 3 out of 15 Operator audited are not meeting the benchmark.

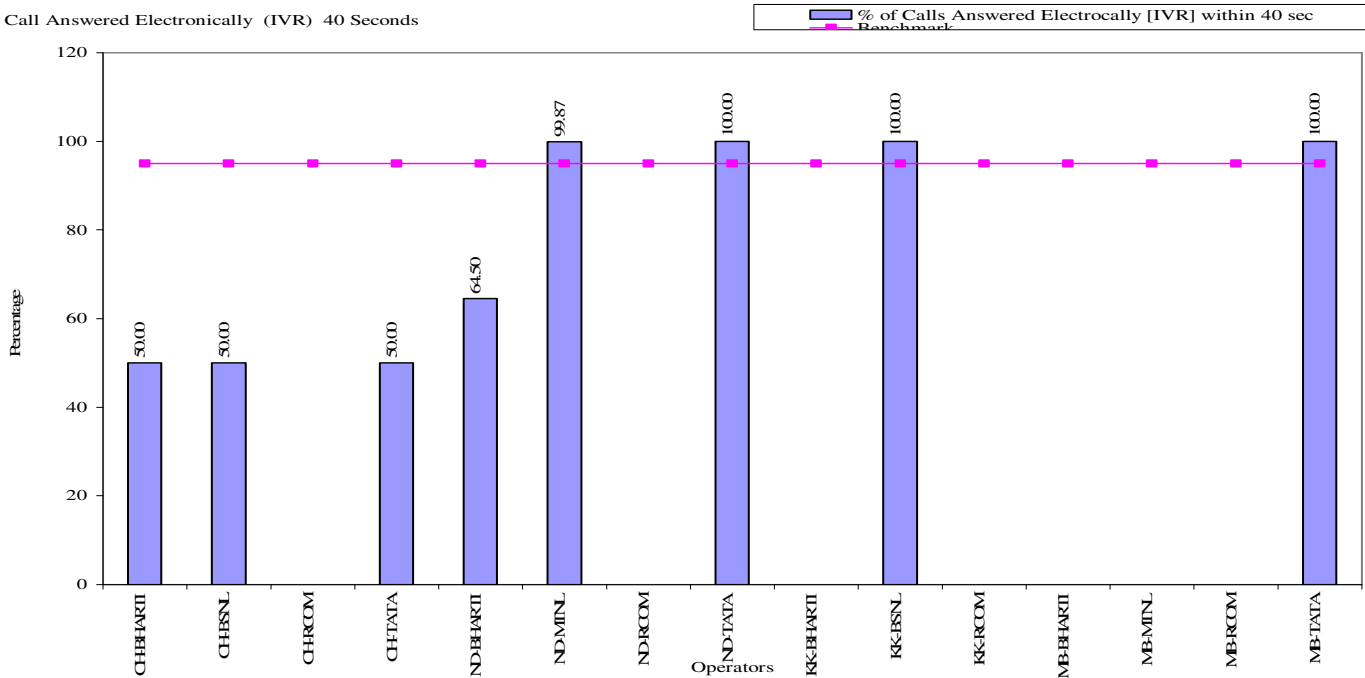
Call Answered Electronically (IVR) 20 Sec



Note: 4 out of 8 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

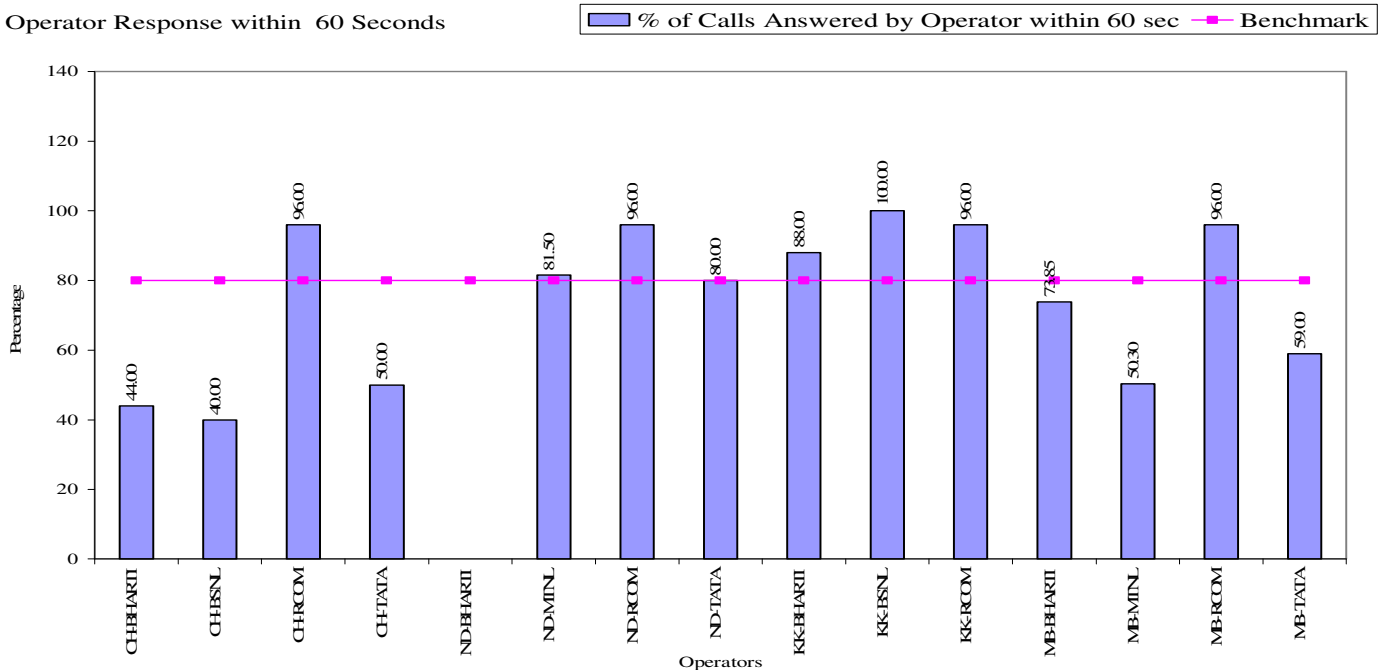


Call Answered Electronically (IVR) 40 Seconds

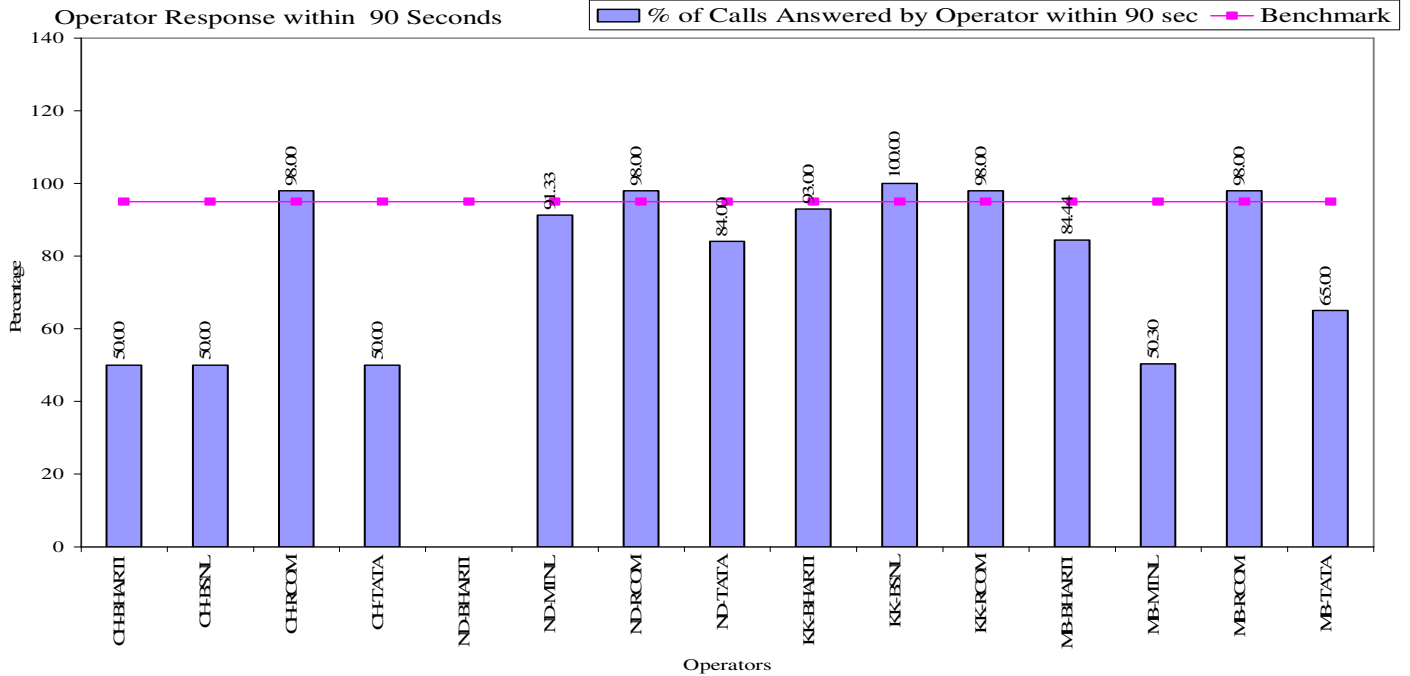


Note: 4 out of 8 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.

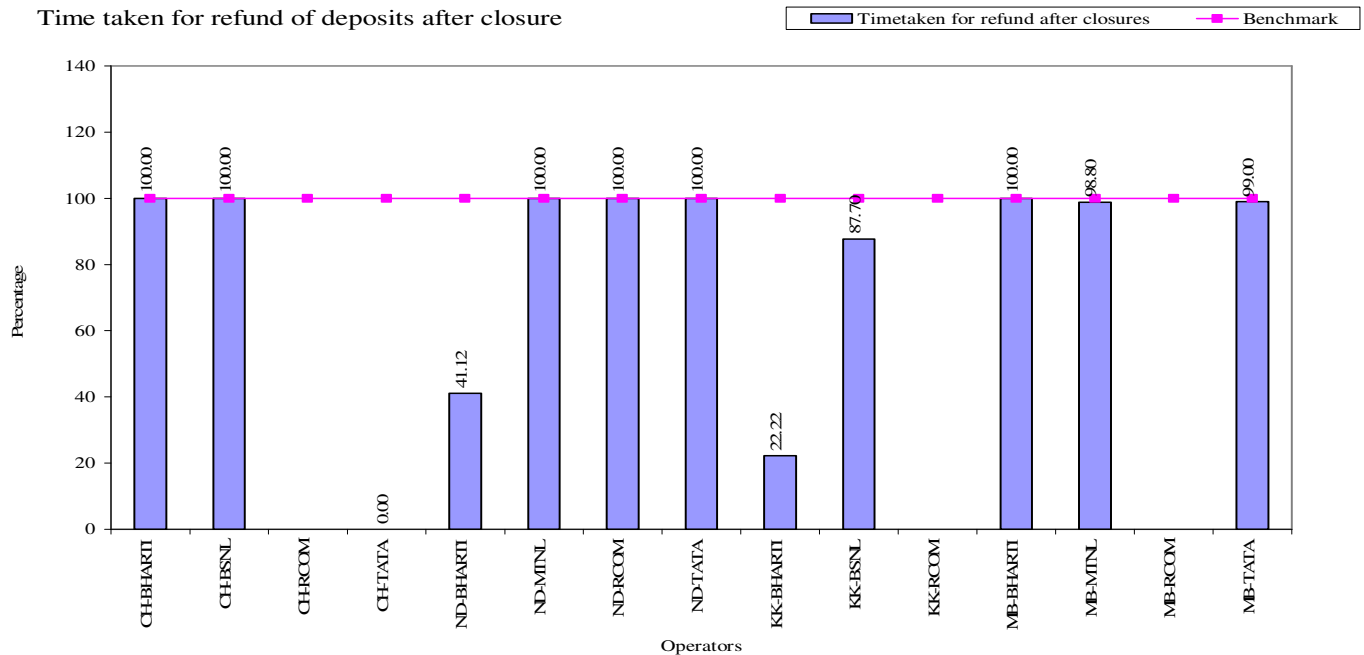
Operator Response within 60 Seconds



Note: 6 out of 14 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.



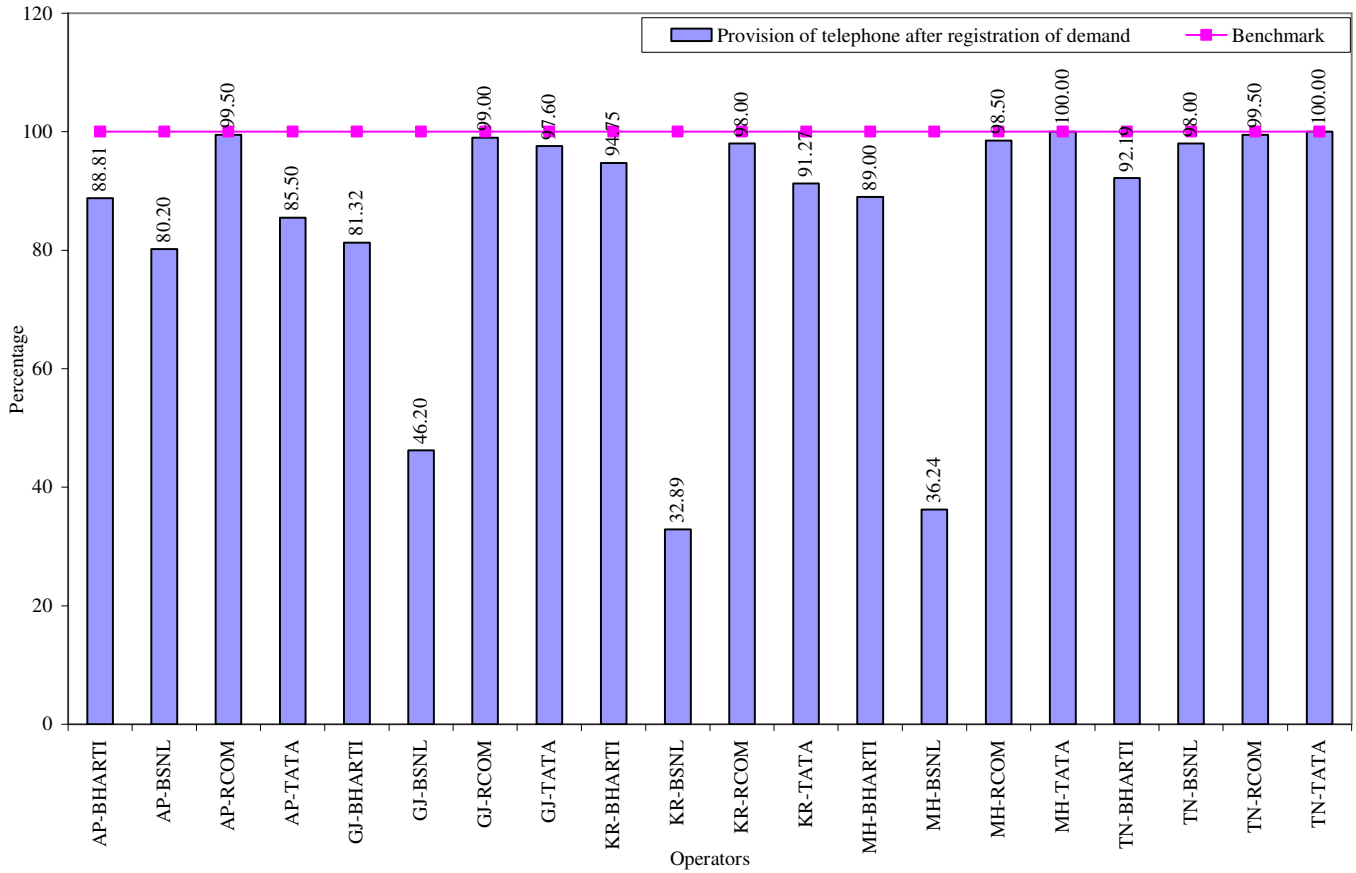
Note: 9 out of 14 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.



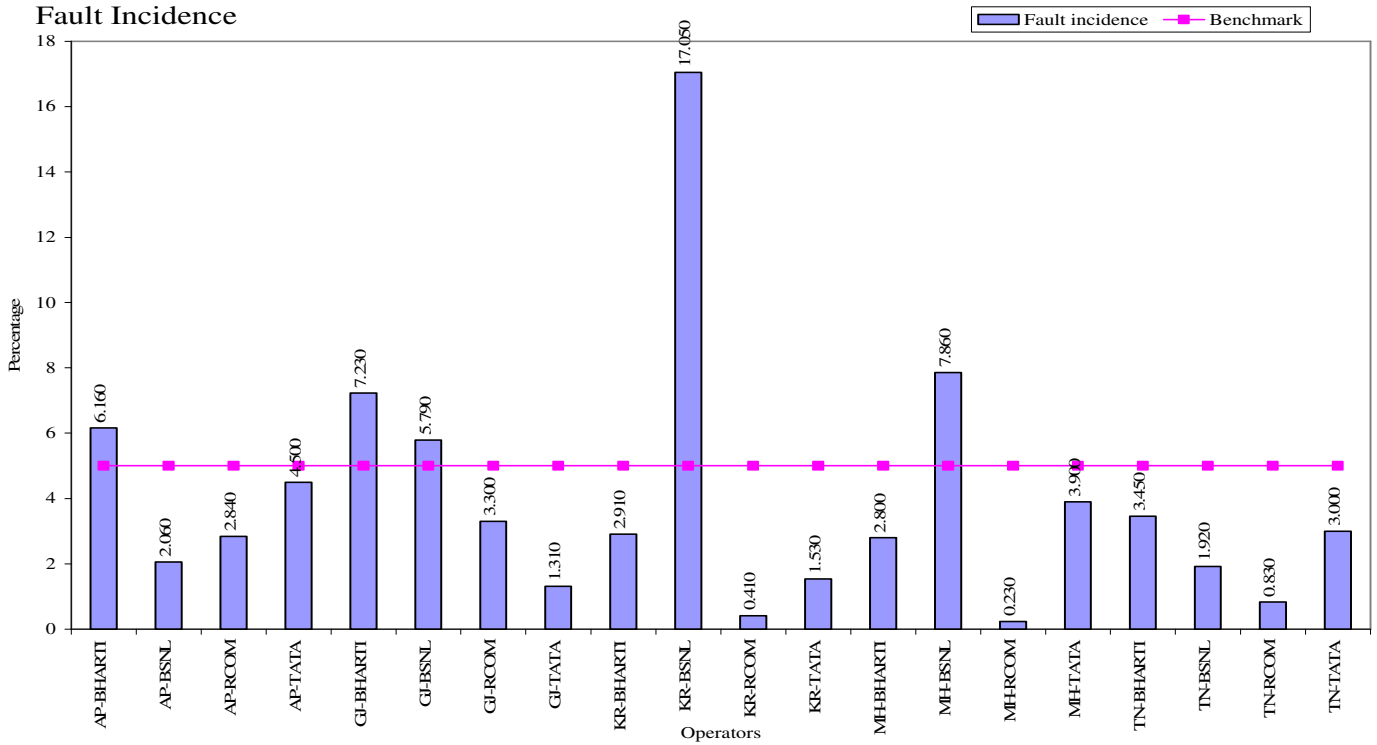
Note: 6 out of 12 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.

5.2.2 A-CIRCLE

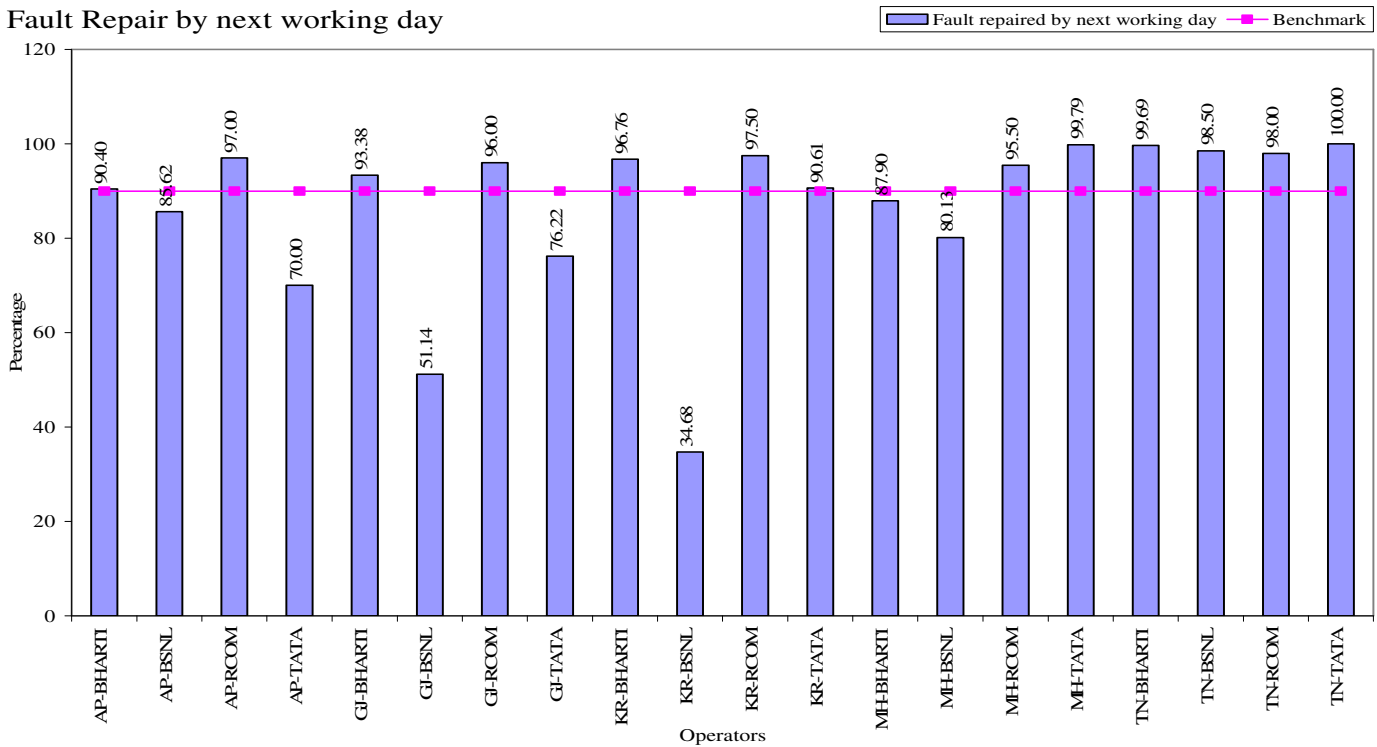
Provision of Telephone after registration of demand



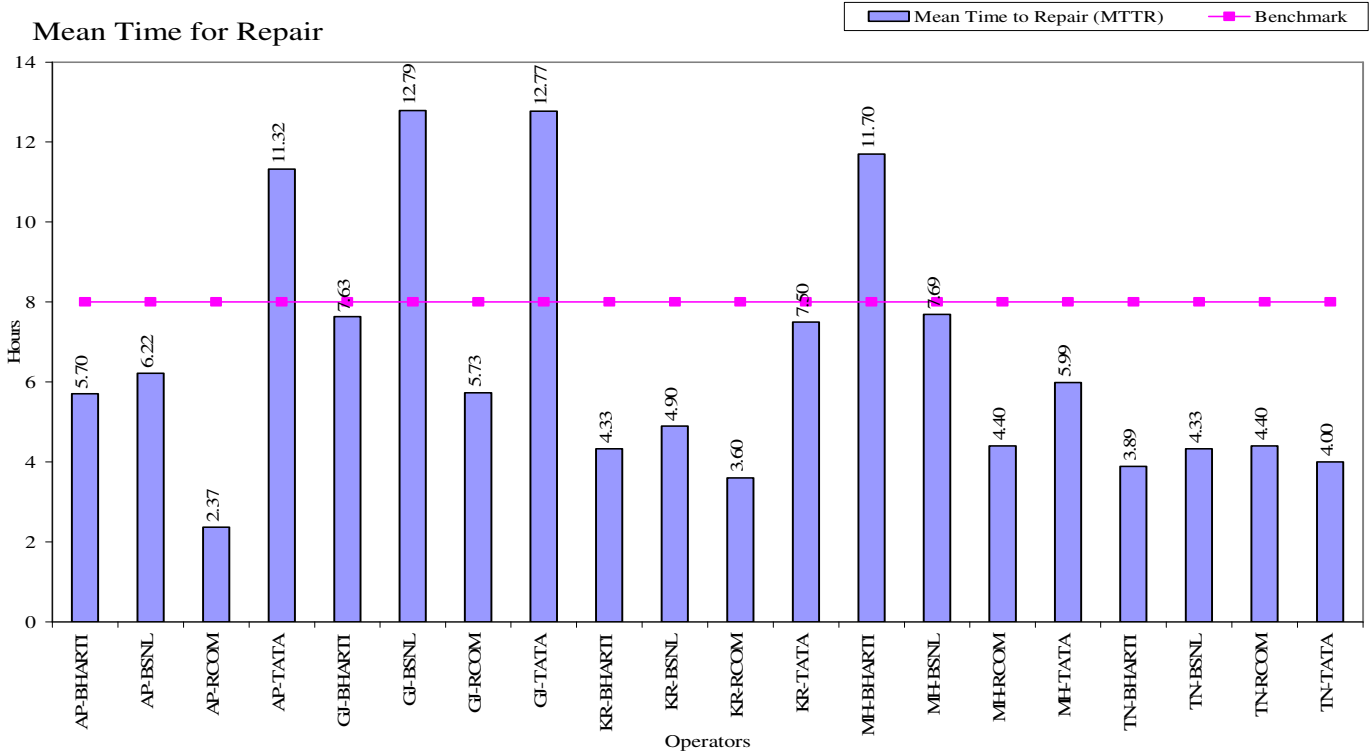
Note: 18 out of 20 Operator audited are not meeting the benchmark.



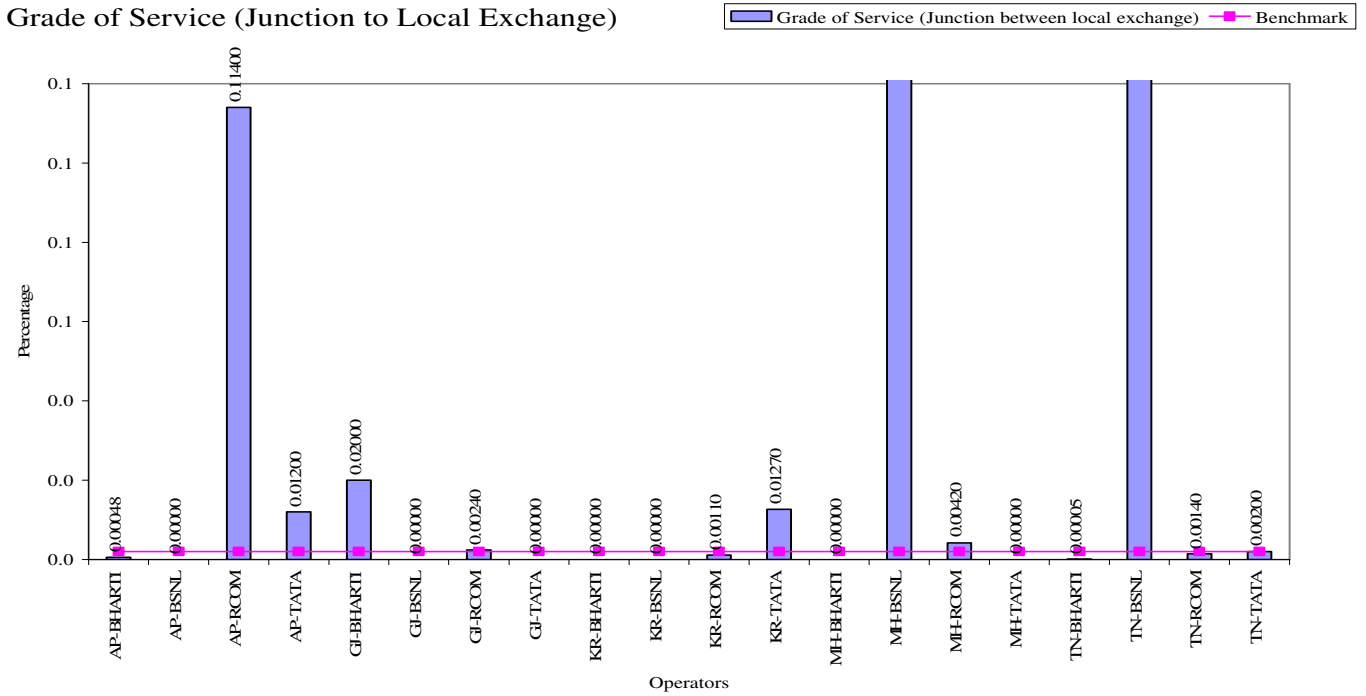
Note: 5 out of 20 Operator audited are not meeting the benchmark.



Note: 7 out of 20 Operator audited are not meeting the benchmark.

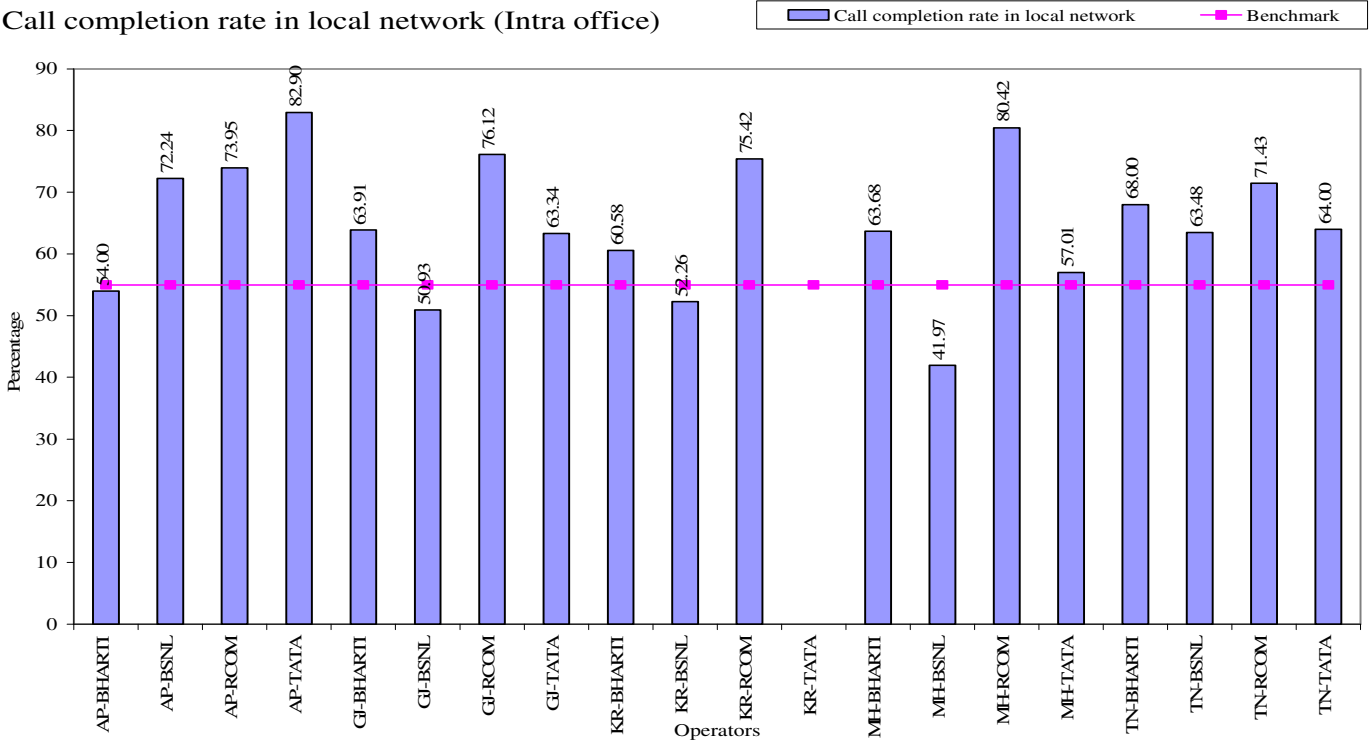


Note: 4 out of 20 Operator audited are not meeting the benchmark.



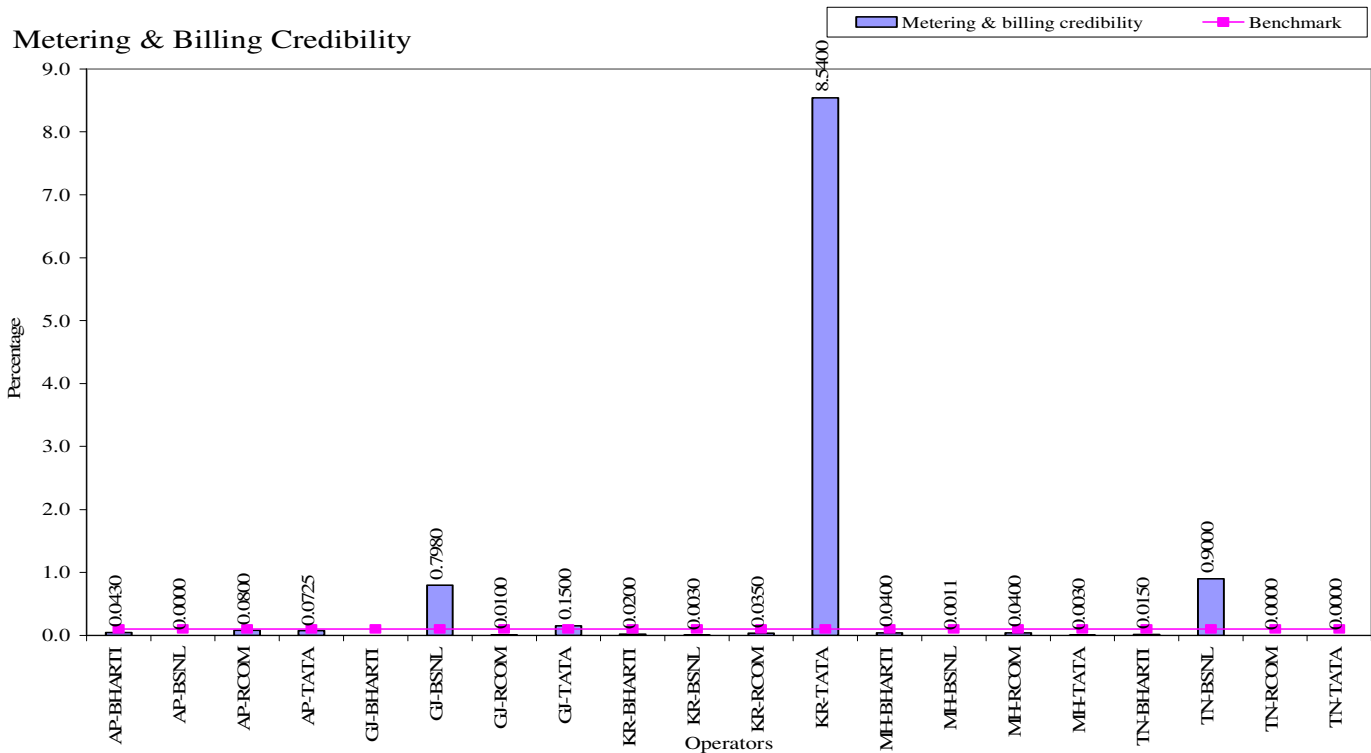
Note: 8 out of 20 Operator audited are not meeting the benchmark.

Call completion rate in local network (Intra office)



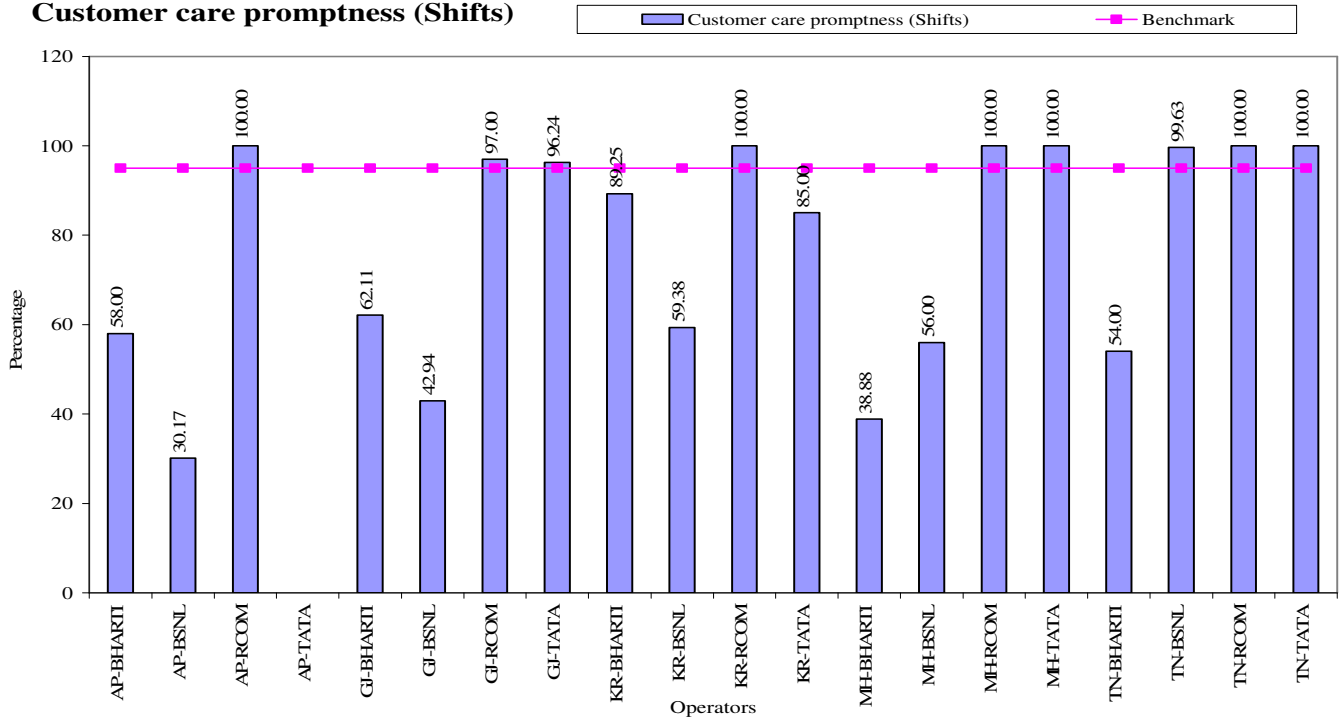
Note: 4 out of 19 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Metering & Billing Credibility



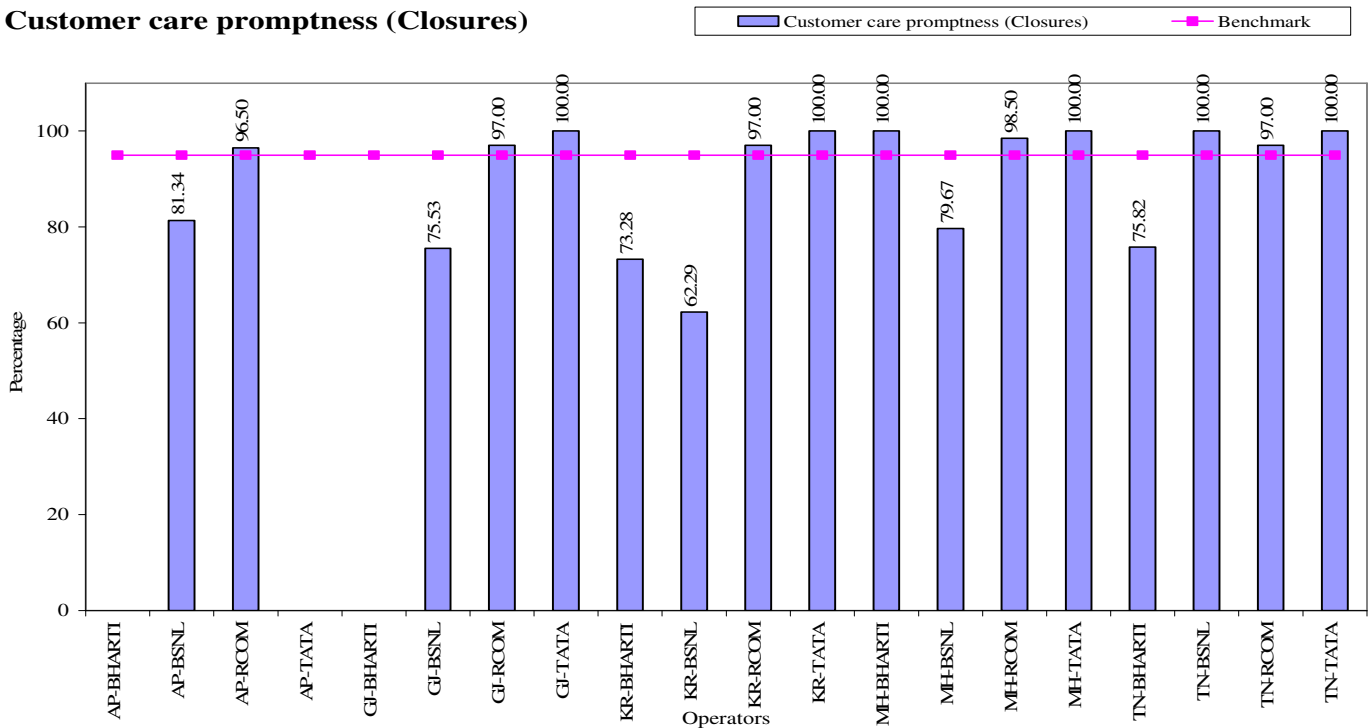
Note: 4 out of 19 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Customer care promptness (Shifts)

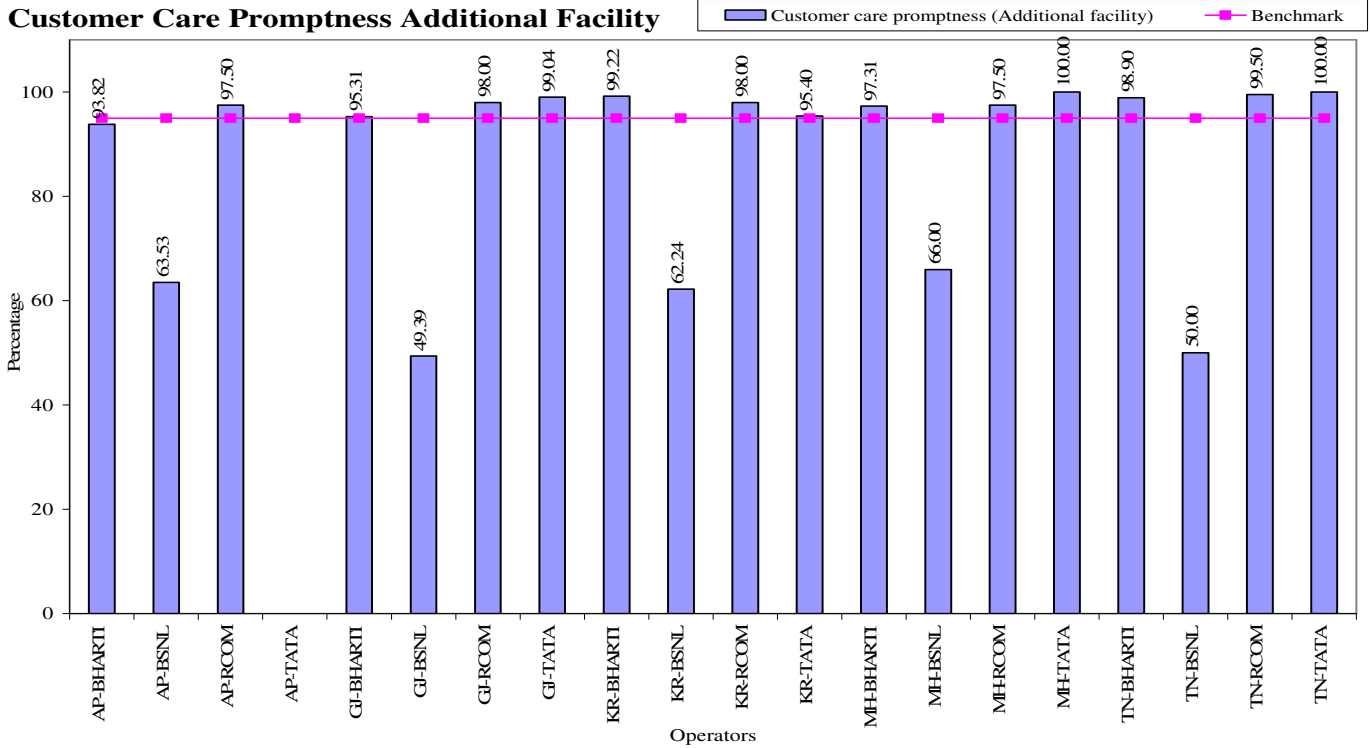


Note: 10 out of 19 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\A as detailed in corresponding table.

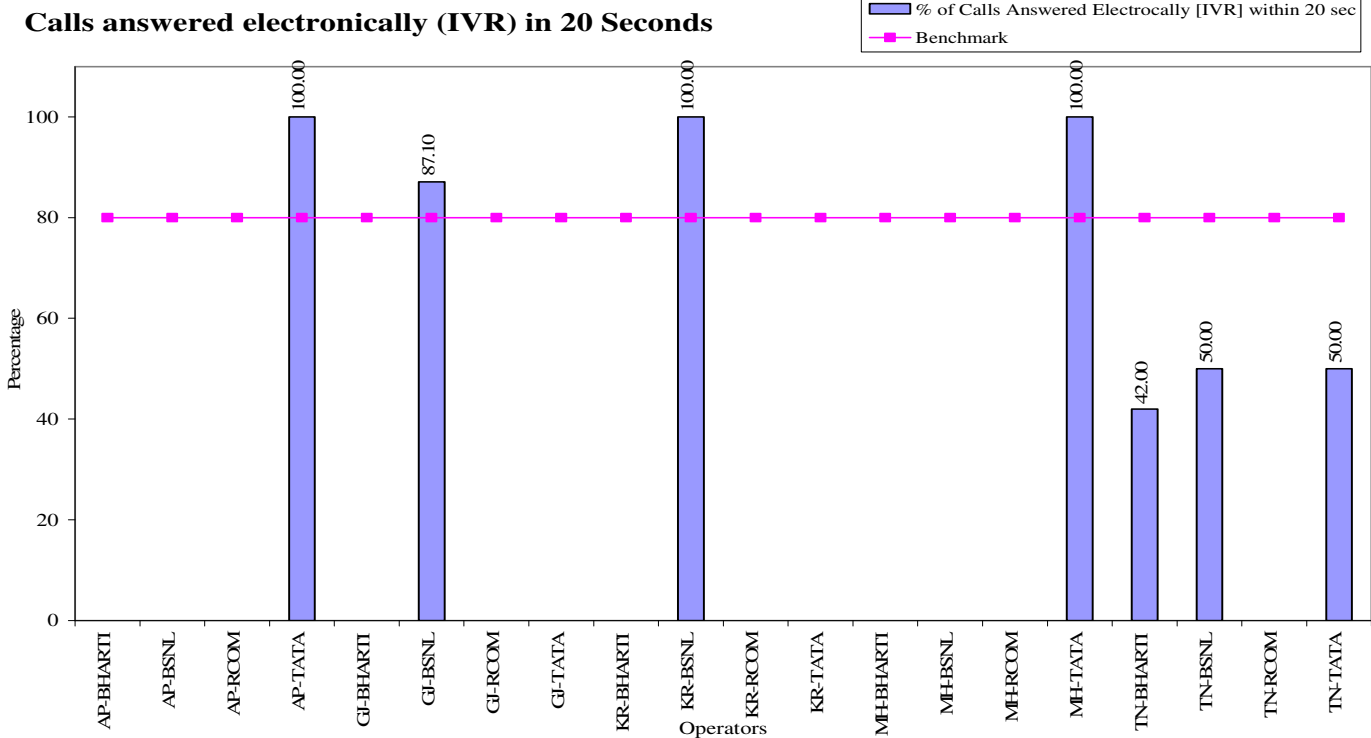
Customer care promptness (Closures)



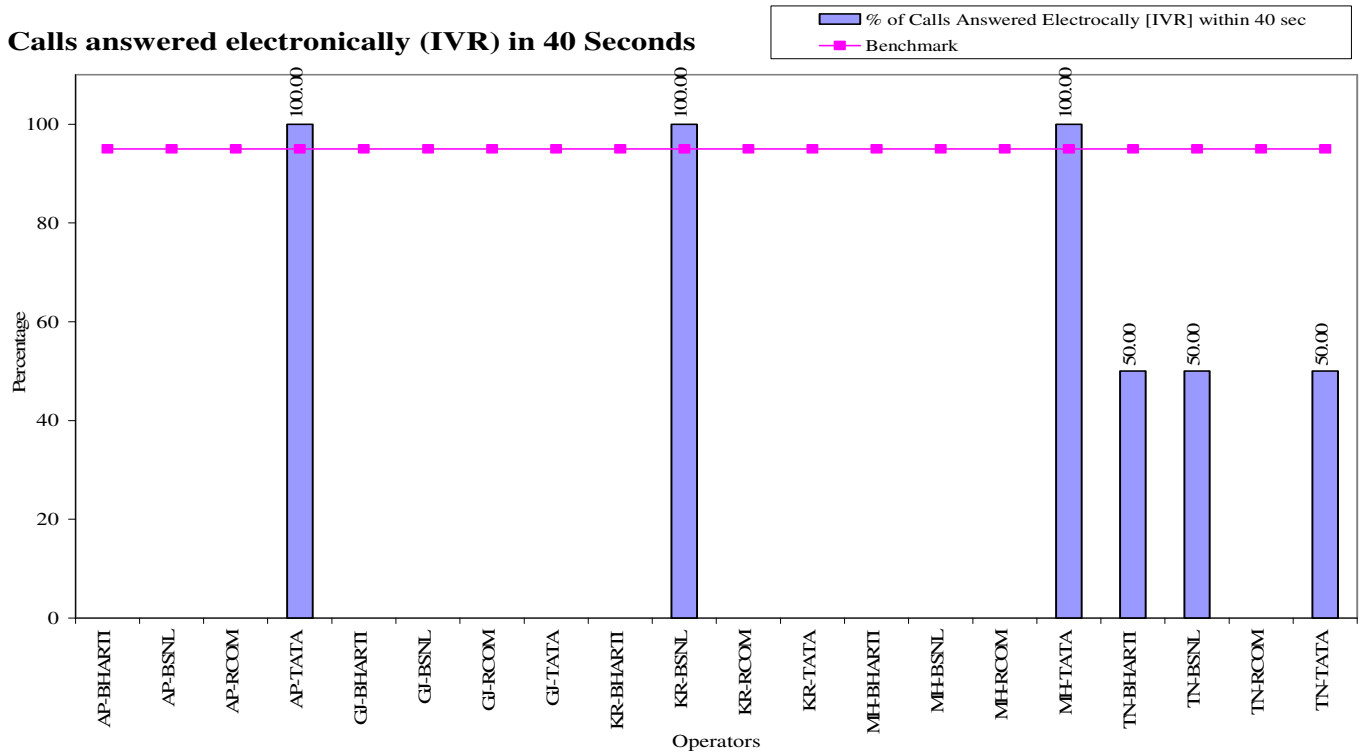
Note: 6 out of 17 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\A as detailed in corresponding table.



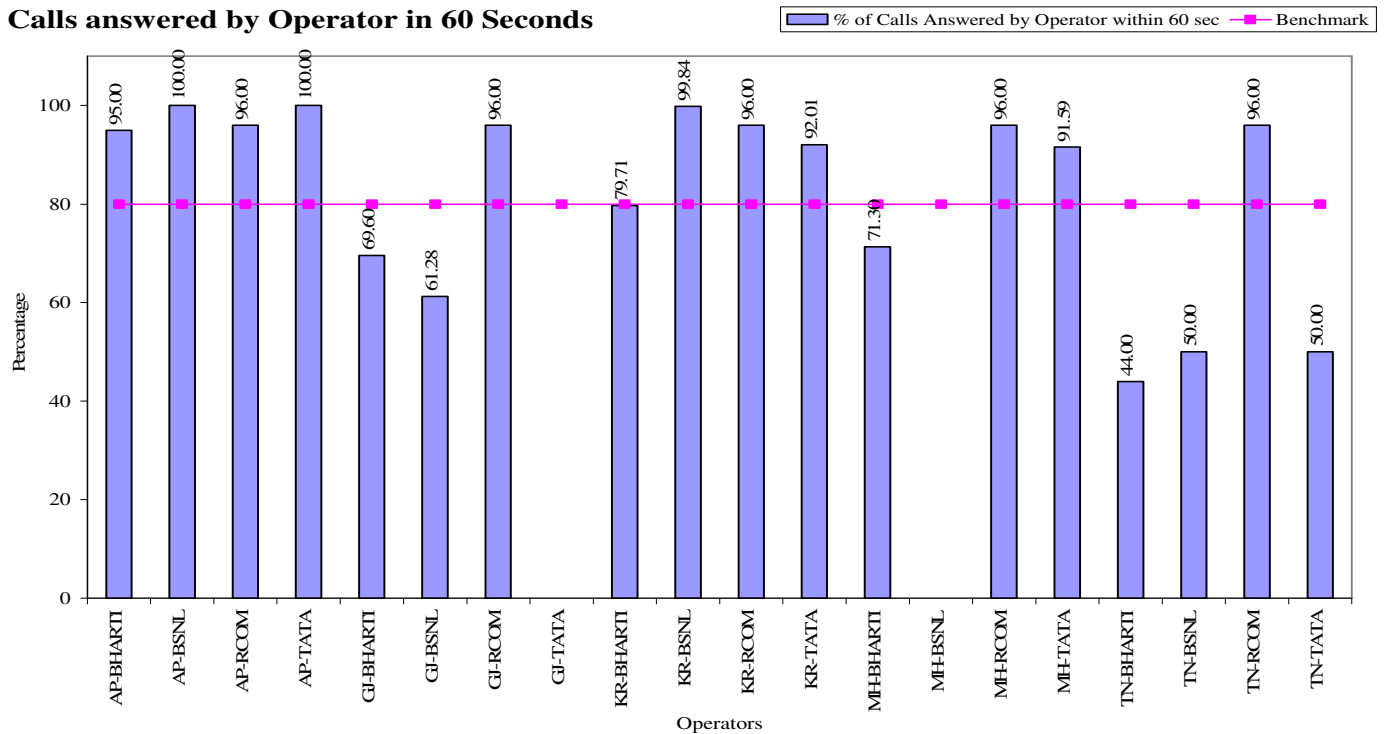
Note: 5 out of 19 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.



Note: 3 out of 7 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

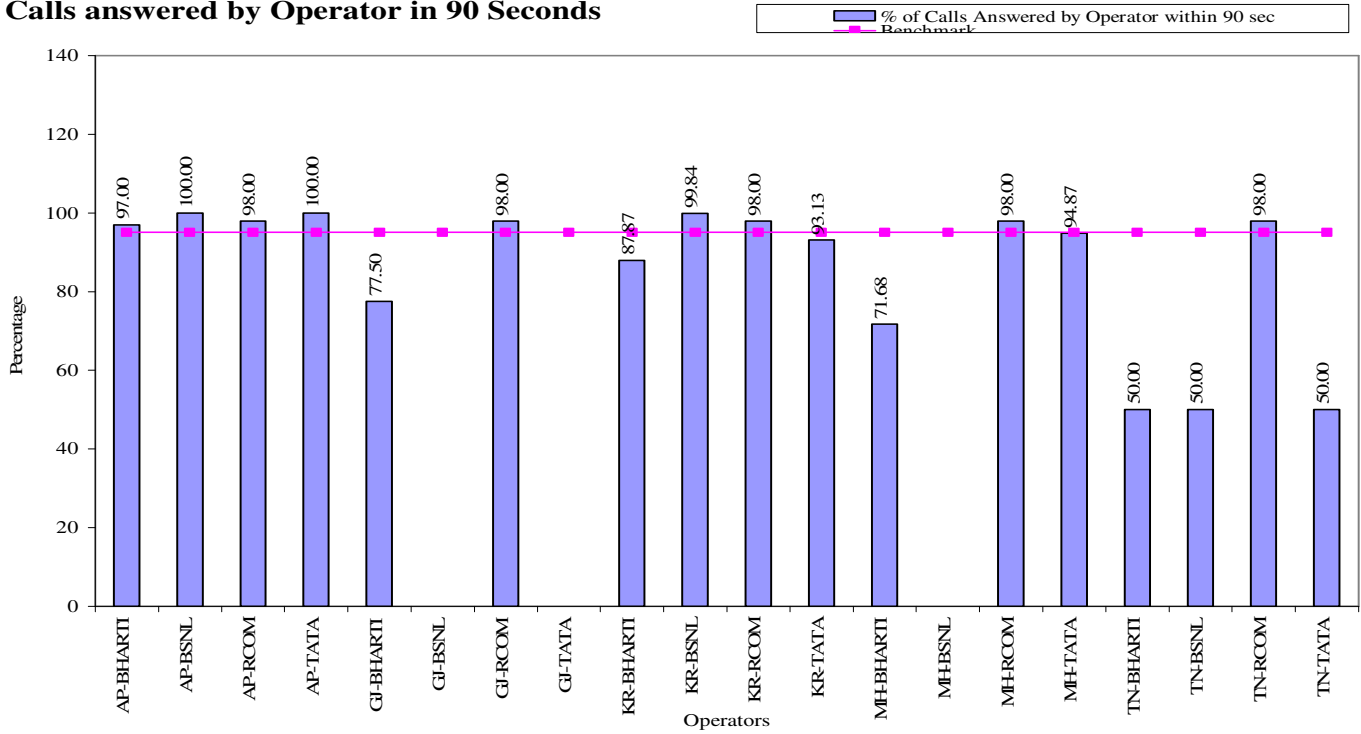


Note: 3 out of 6 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.



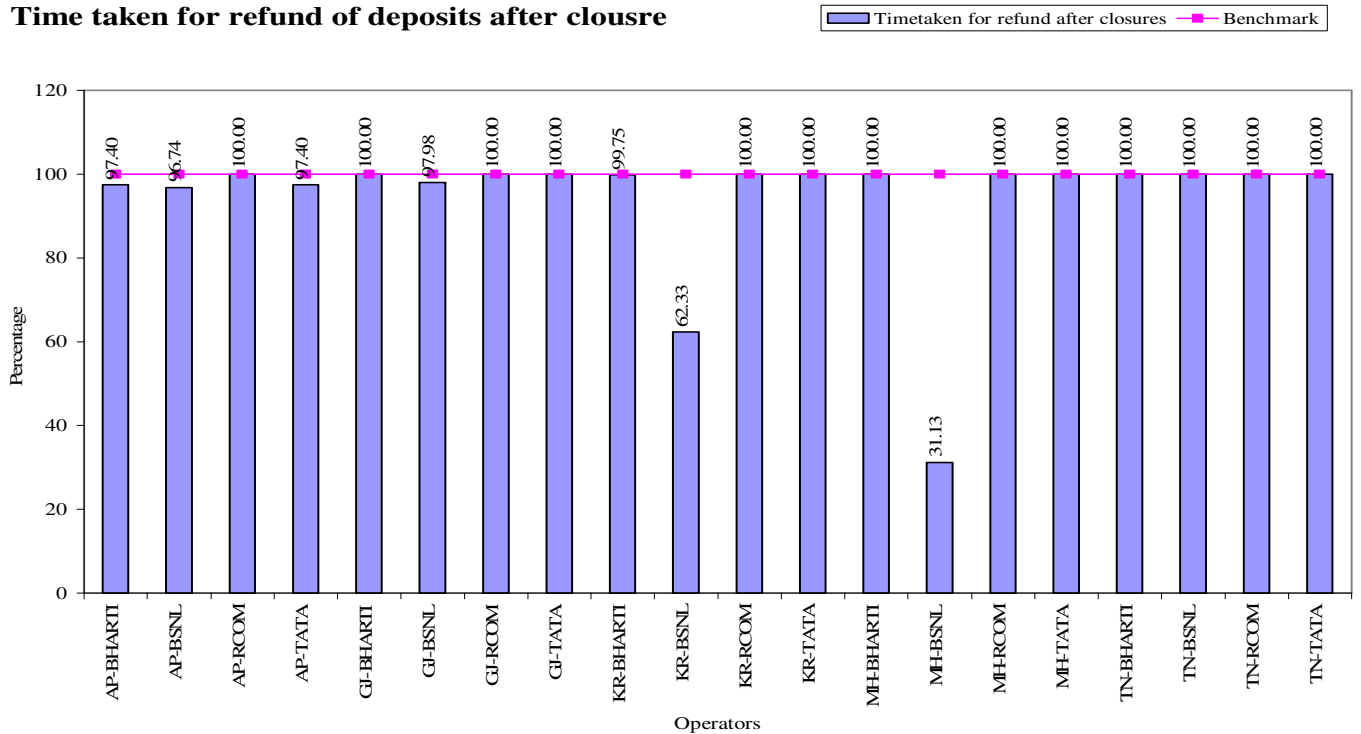
Note: 7 out of 18 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Calls answered by Operator in 90 Seconds



Note: 6 out of 17 Operator audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

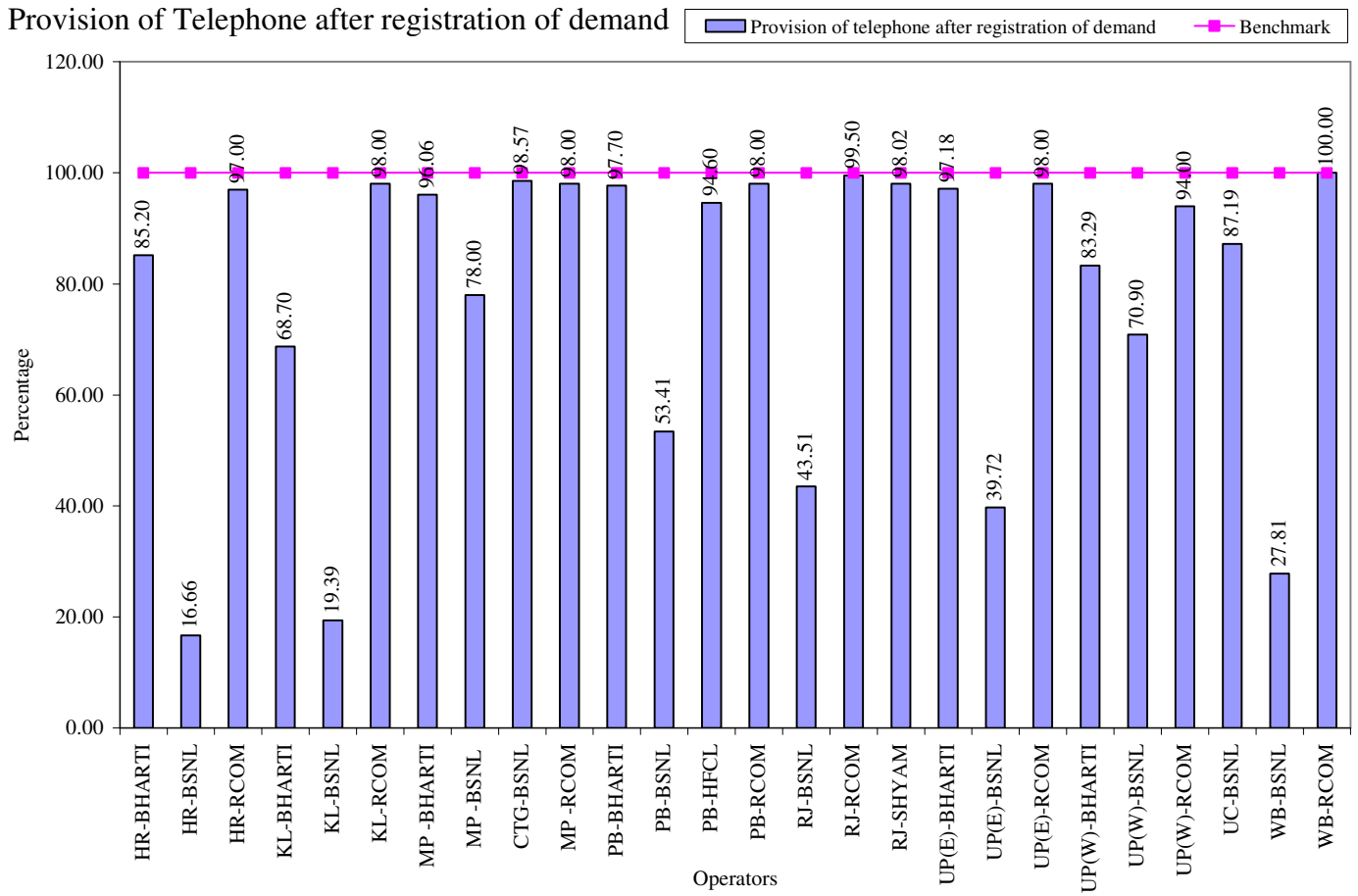
Time taken for refund of deposits after closure



Note: 7 out of 20 Operator audited are not meeting the benchmark.

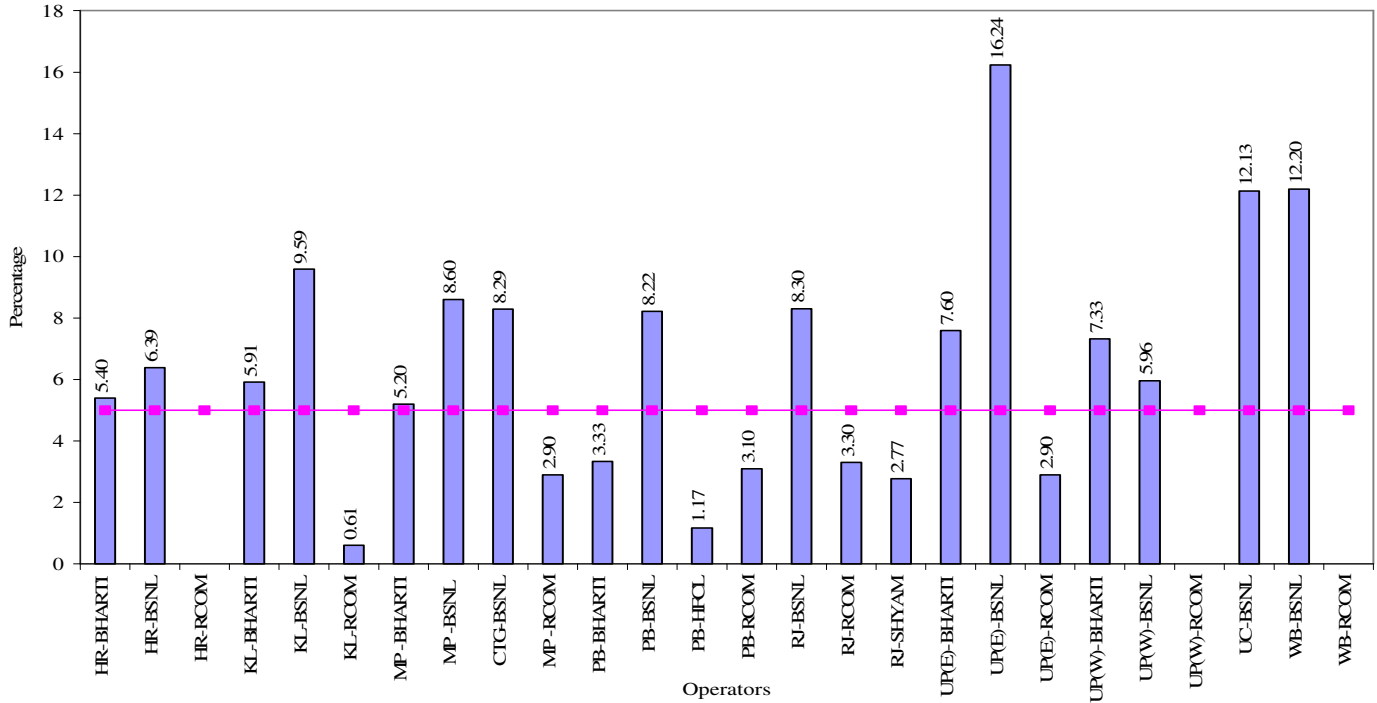


5.2.3 B-CIRCLE



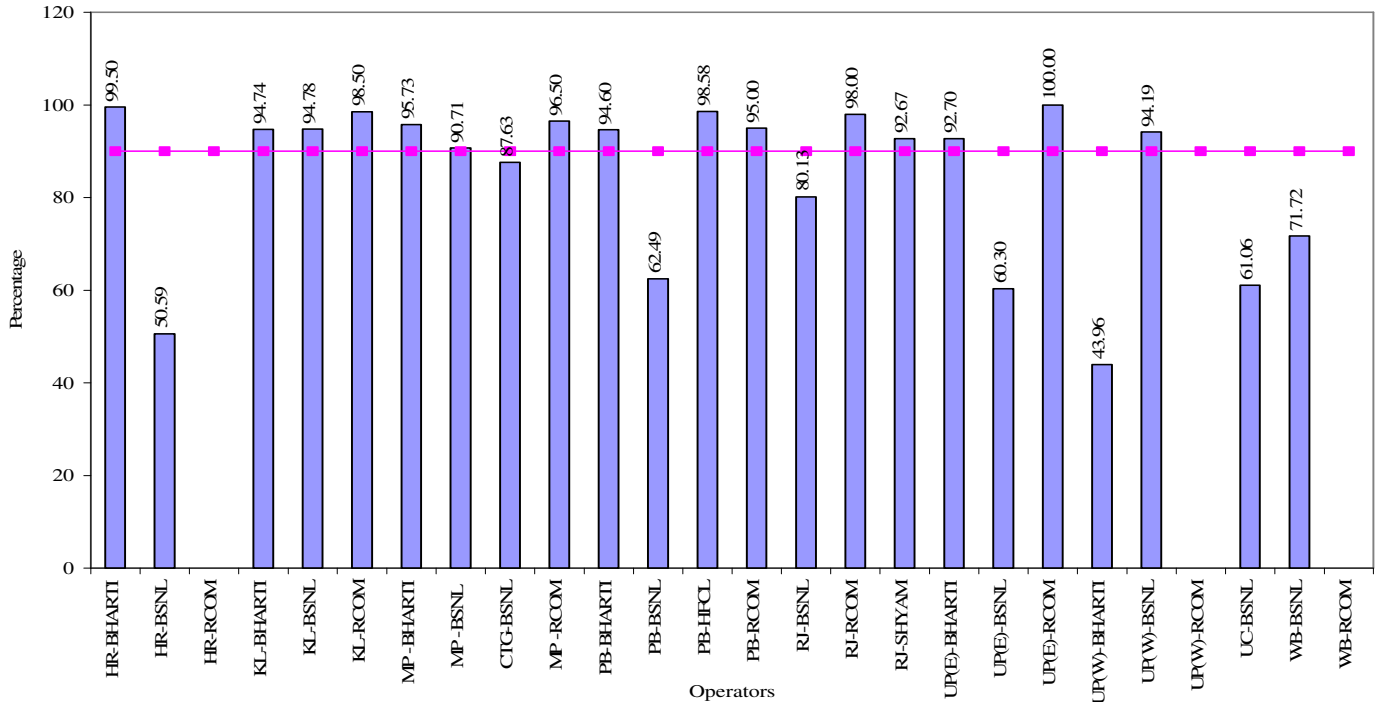
Note: Only (1) operator out of 26 audited is meeting the benchmark.

Fault Incidence



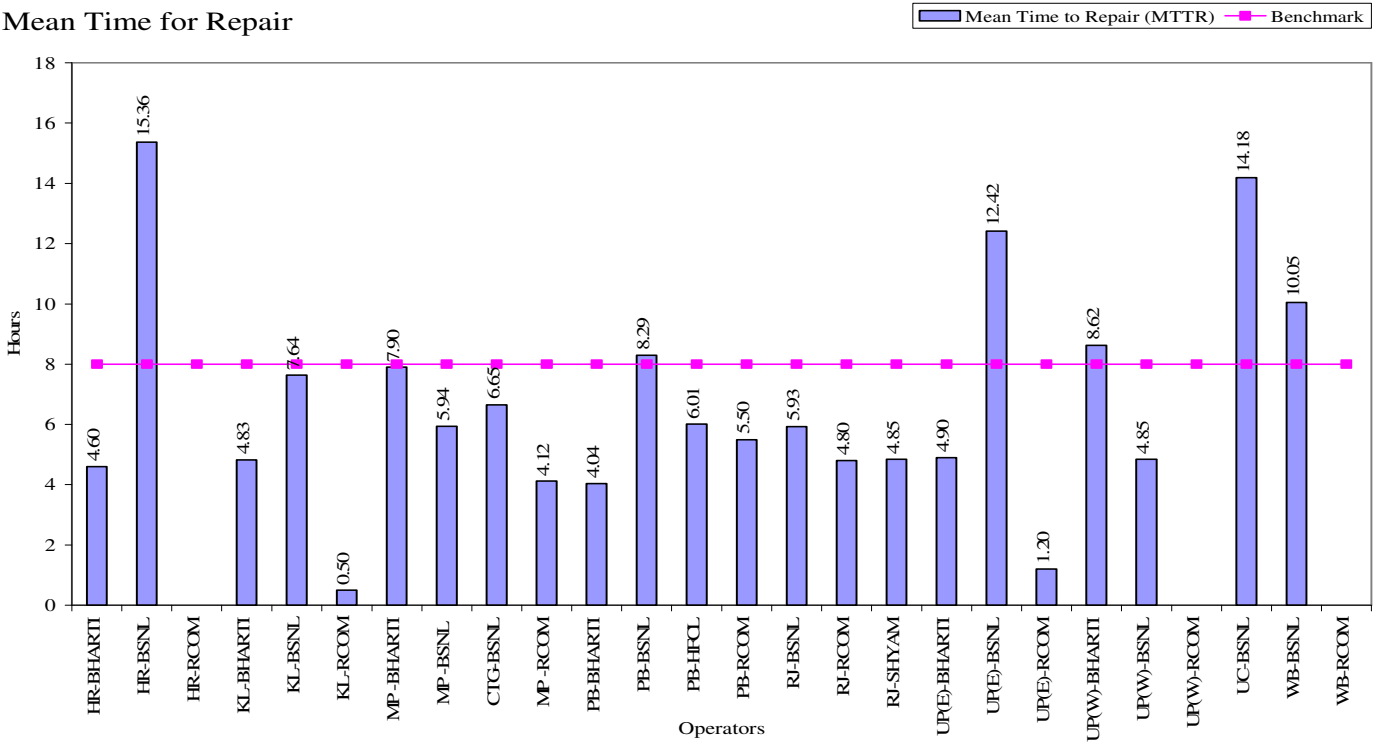
Note: 15 operator out of 23 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.

Fault Repair by next working day



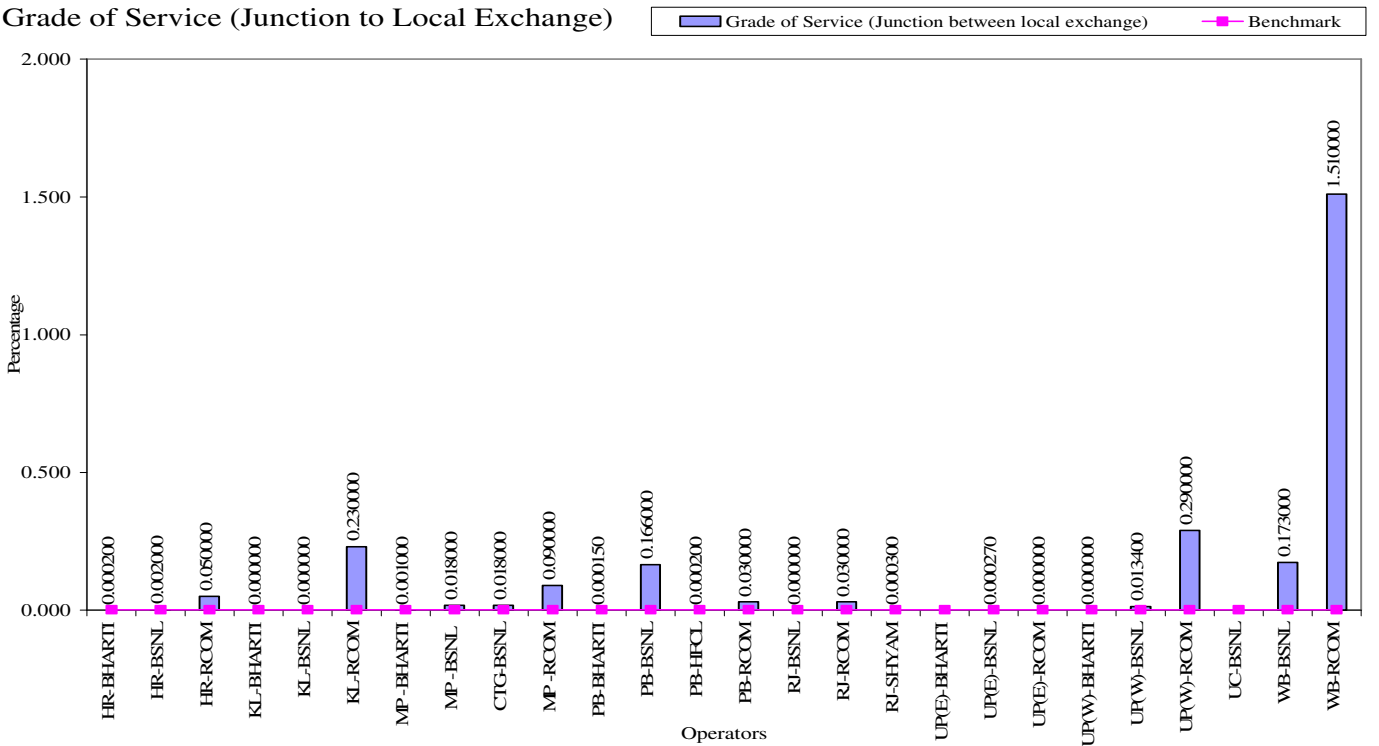
Note: 8 operators out of 23 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.

Mean Time for Repair



Note: 6 operators out of 23 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

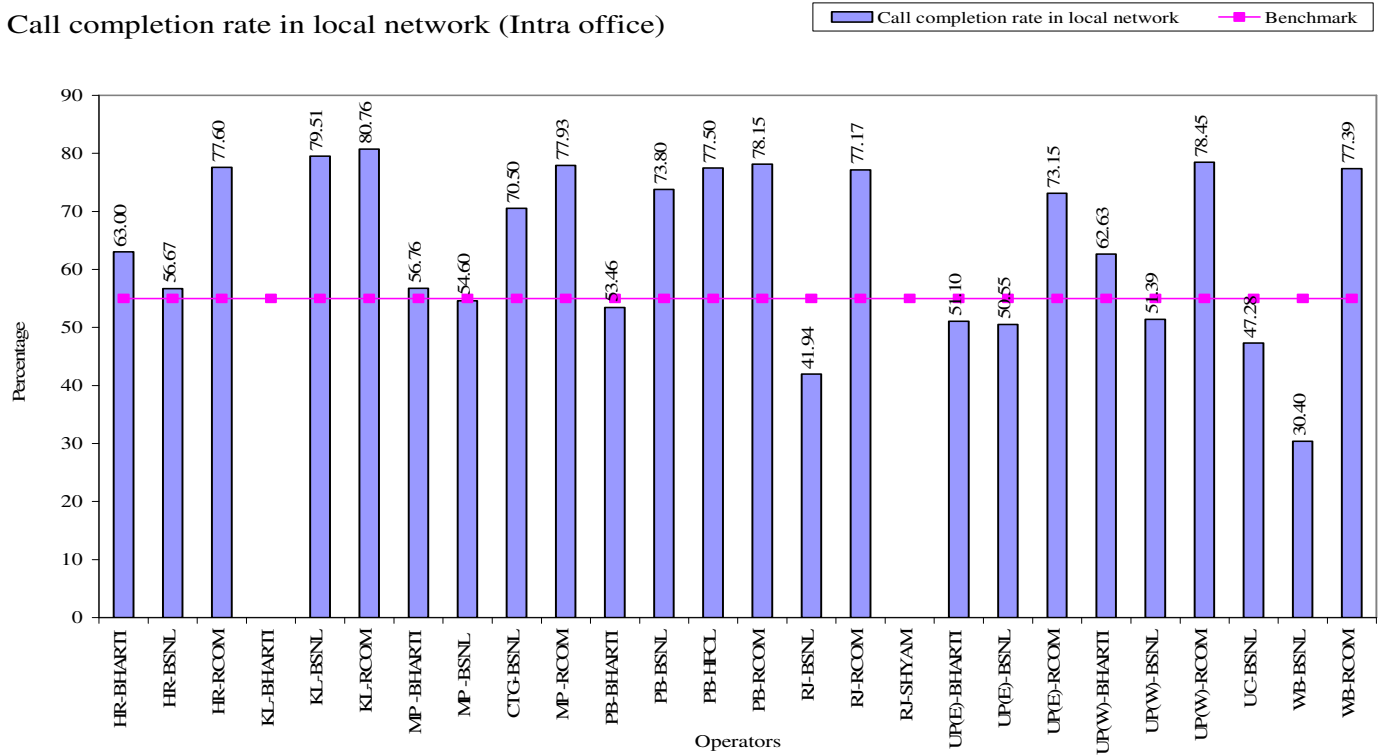
Grade of Service (Junction to Local Exchange)



Note: 11 operators out of 24 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

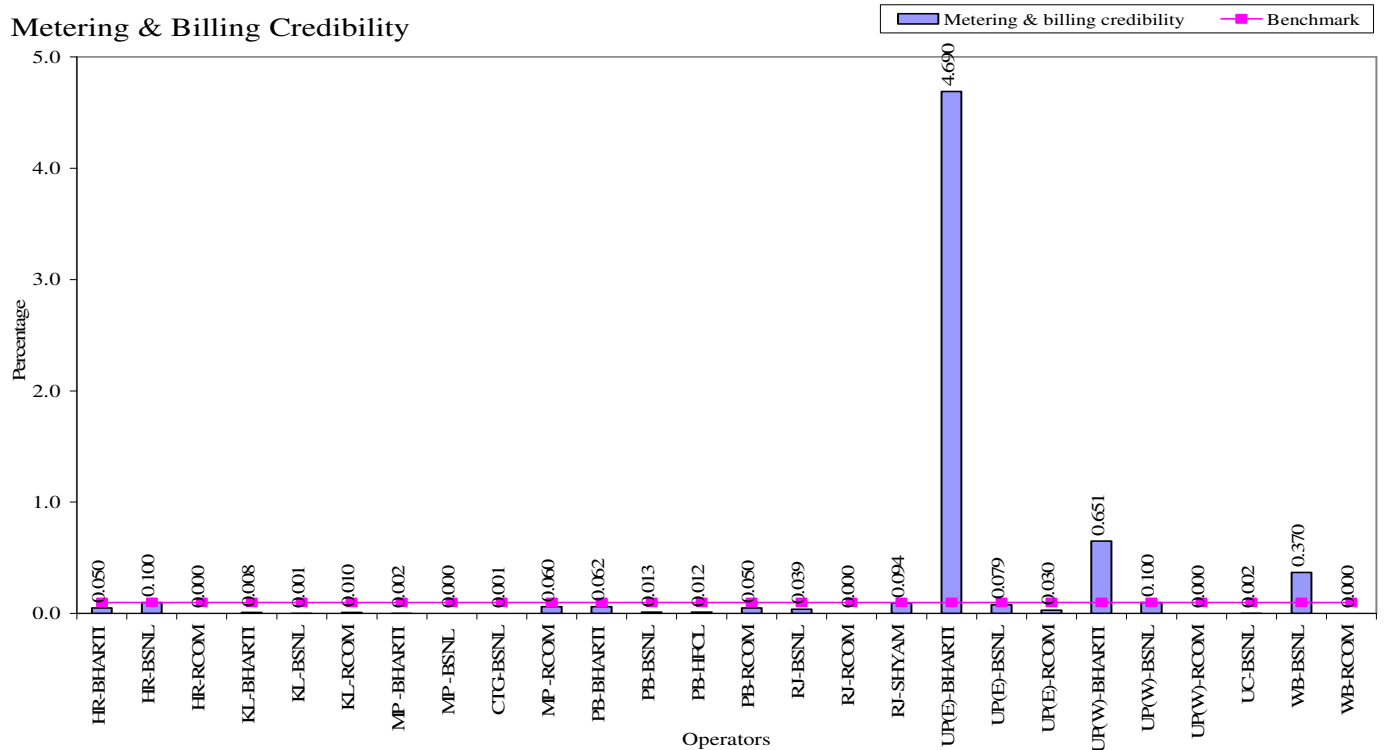


Call completion rate in local network (Intra office)



Note: 8 operators out of 24 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\Aapp as detailed in corresponding table.

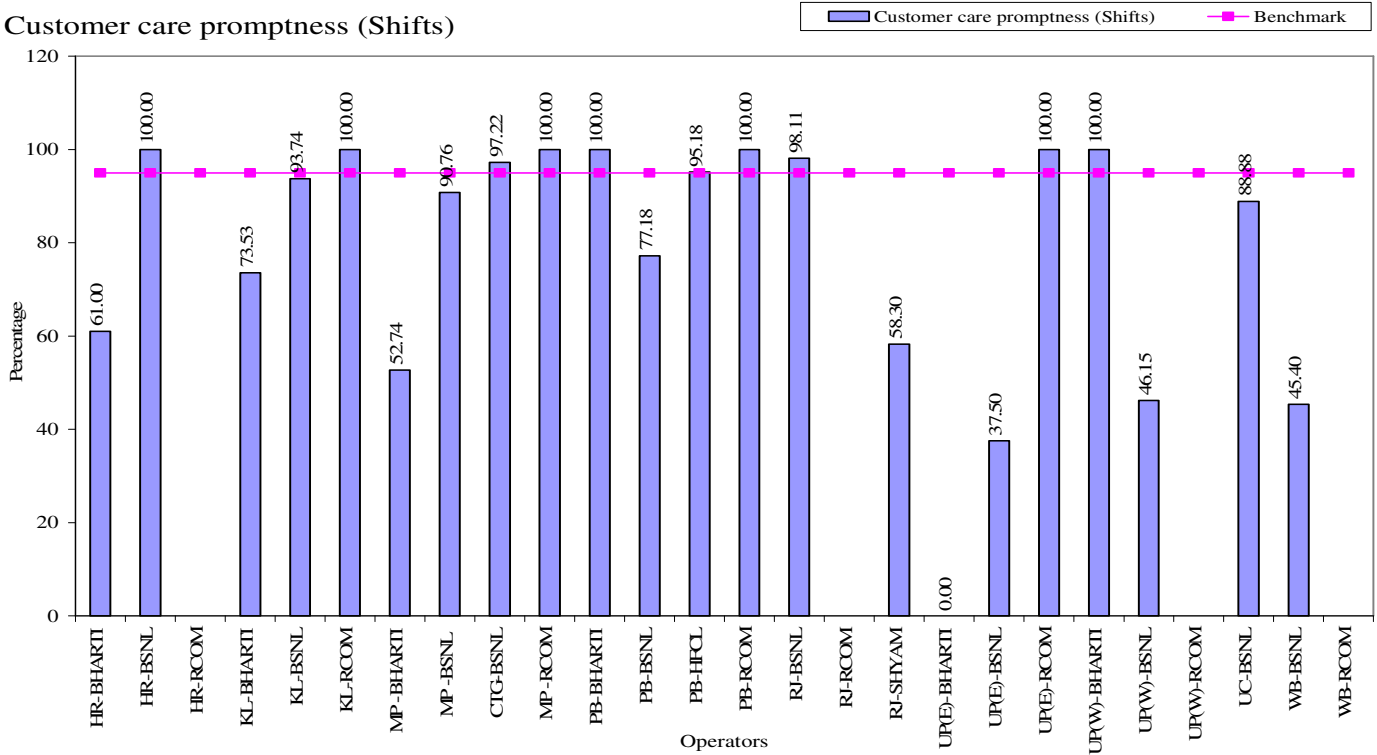
Metering & Billing Credibility



Note: 3 operators out of 26 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\Aapp as detailed in corresponding table.

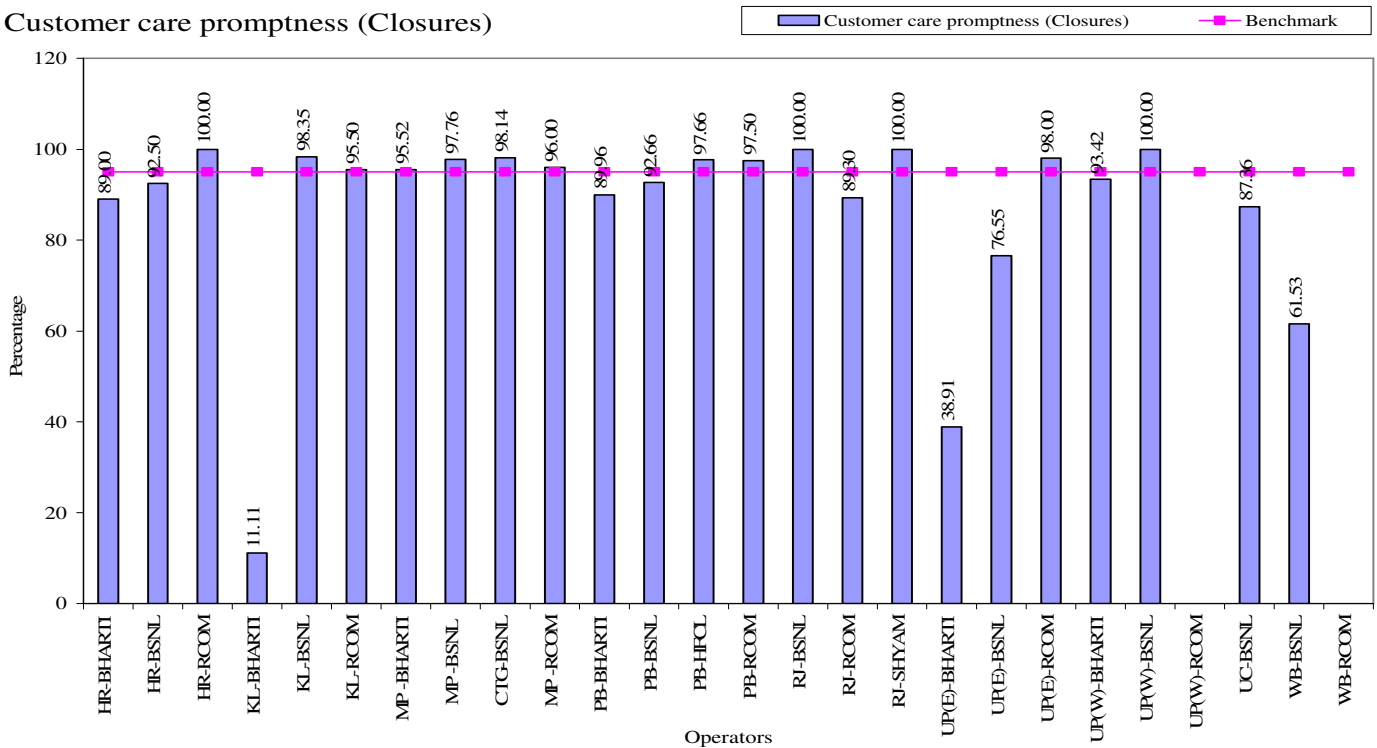


Customer care promptness (Shifts)



Note: 12 operators out of 22 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

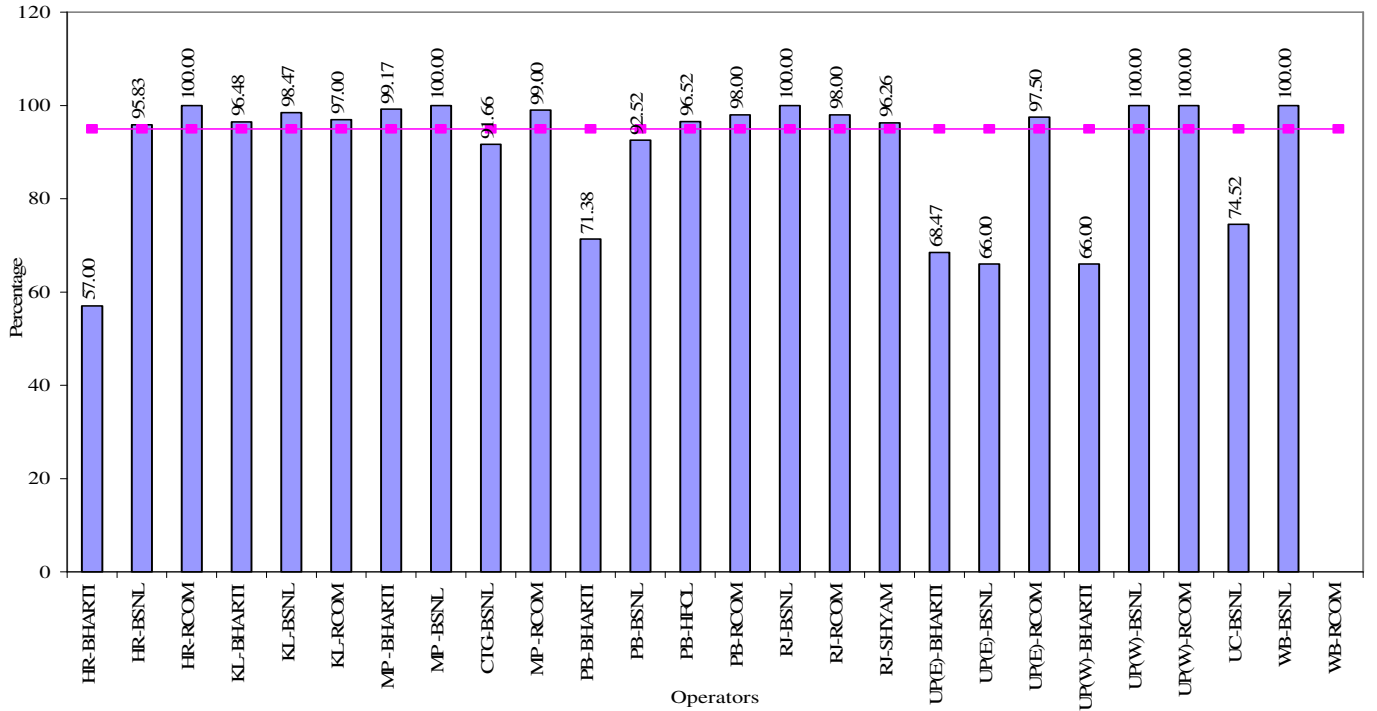
Customer care promptness (Closures)



Note: 11 operators out of 24 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ NApp as detailed in corresponding table.

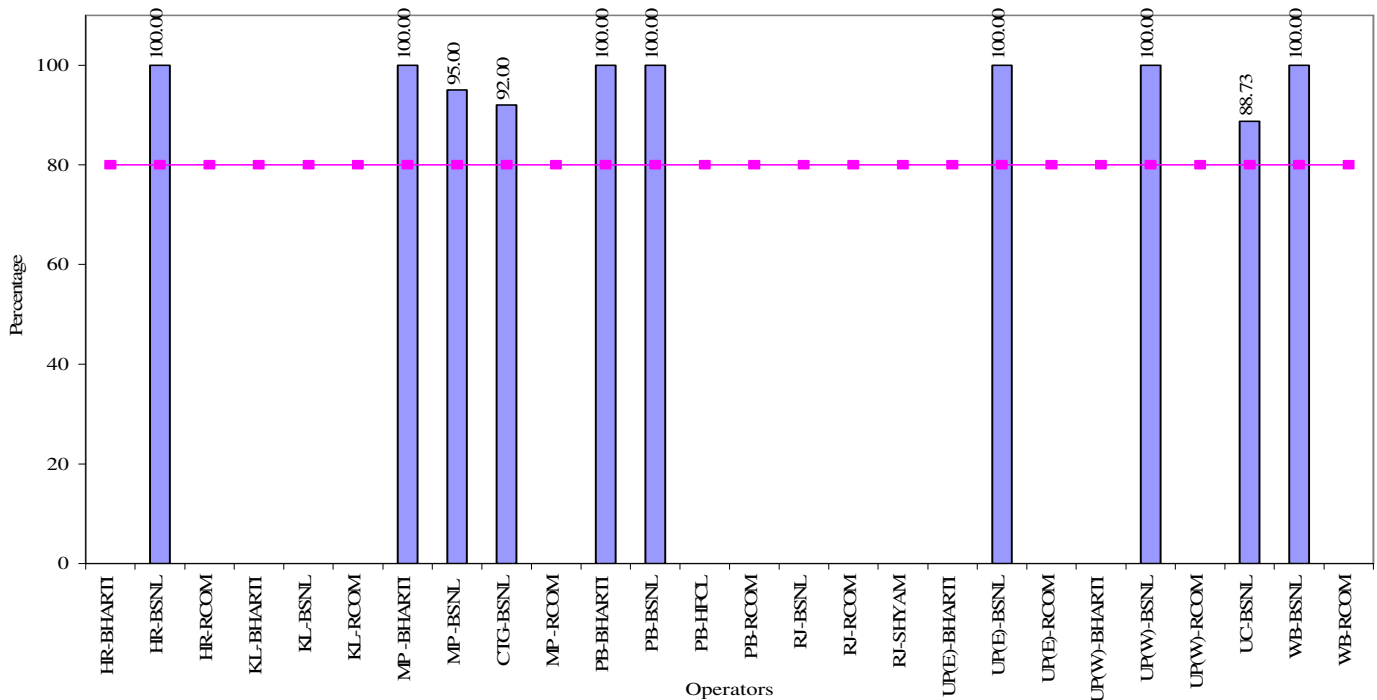


Customer care promptness (Additional facility)



Note: 8 operators out of 25 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

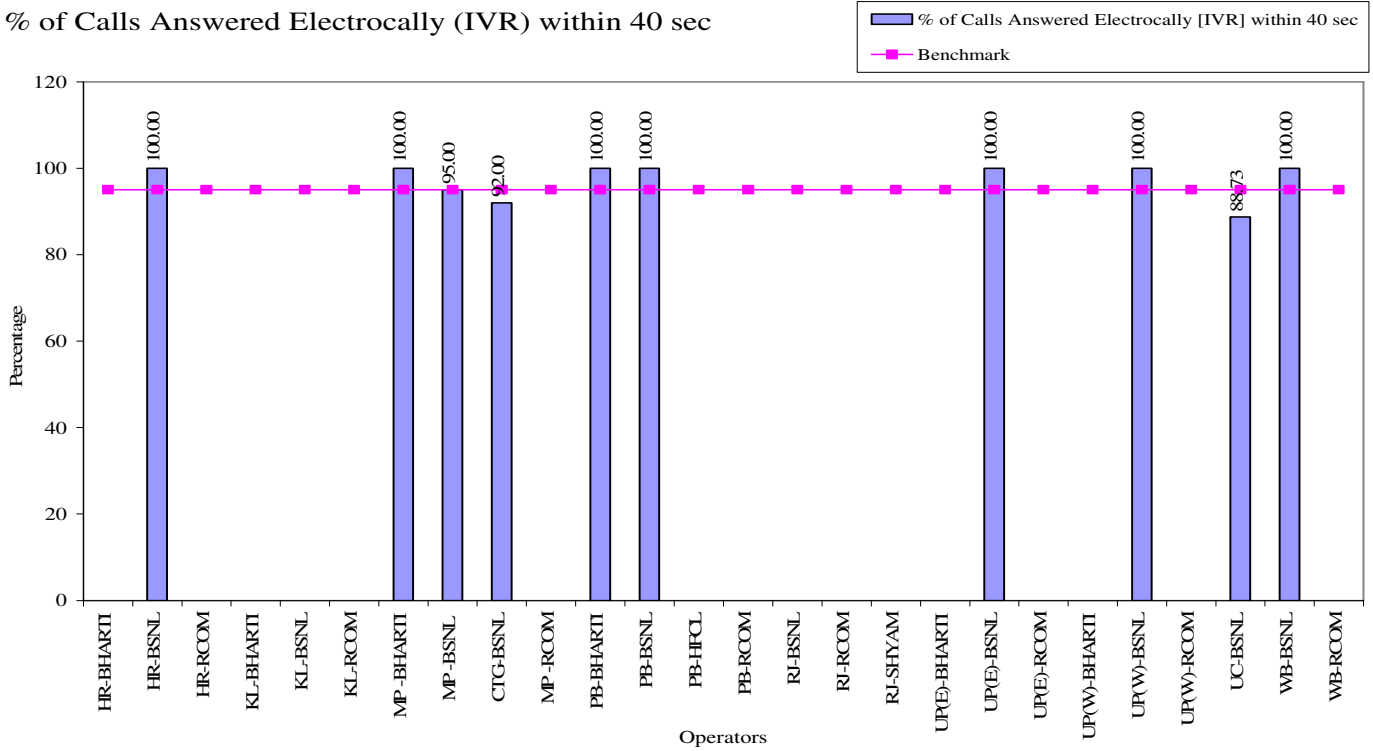
% of Calls Answered Electroccally (IVR) within 20 sec



Note: All operators out of 10 audited are meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

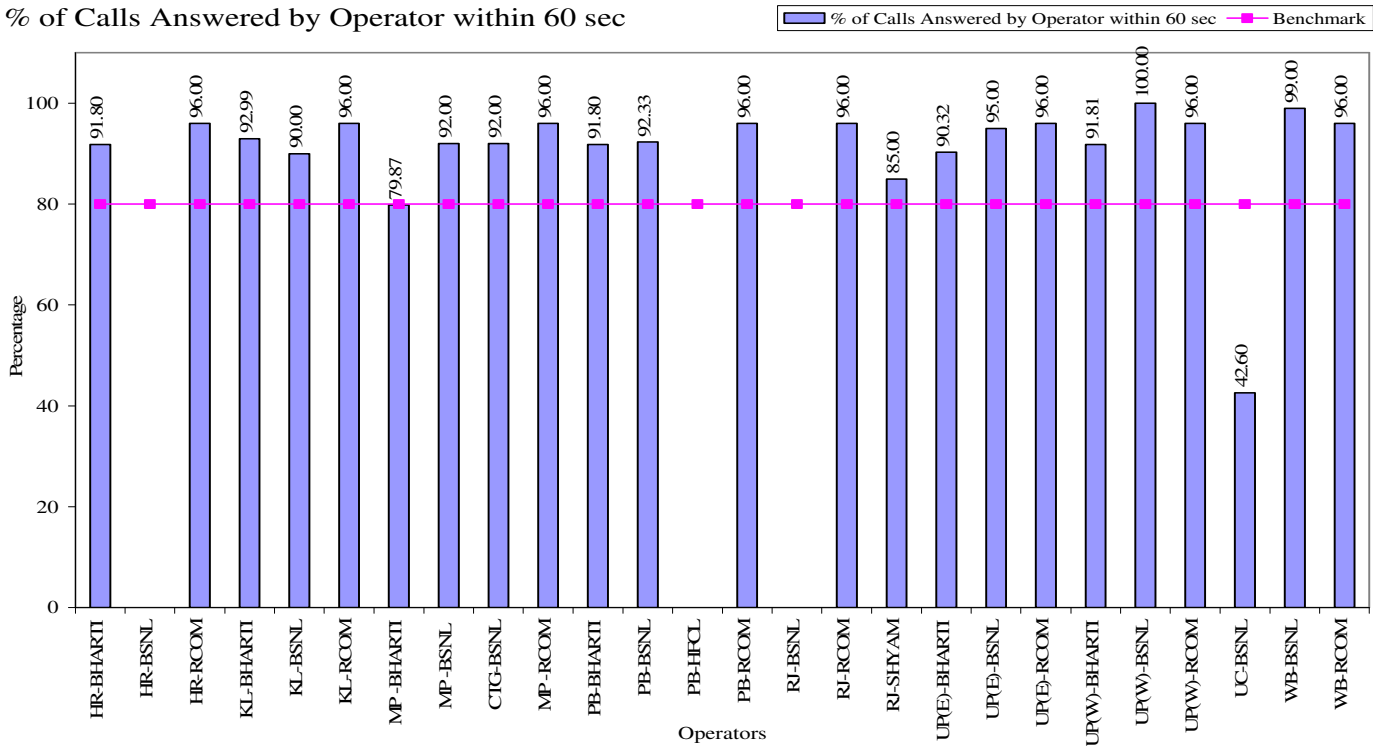


% of Calls Answered Electrocallly (IVR) within 40 sec



Note: 2 operators out of 10 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

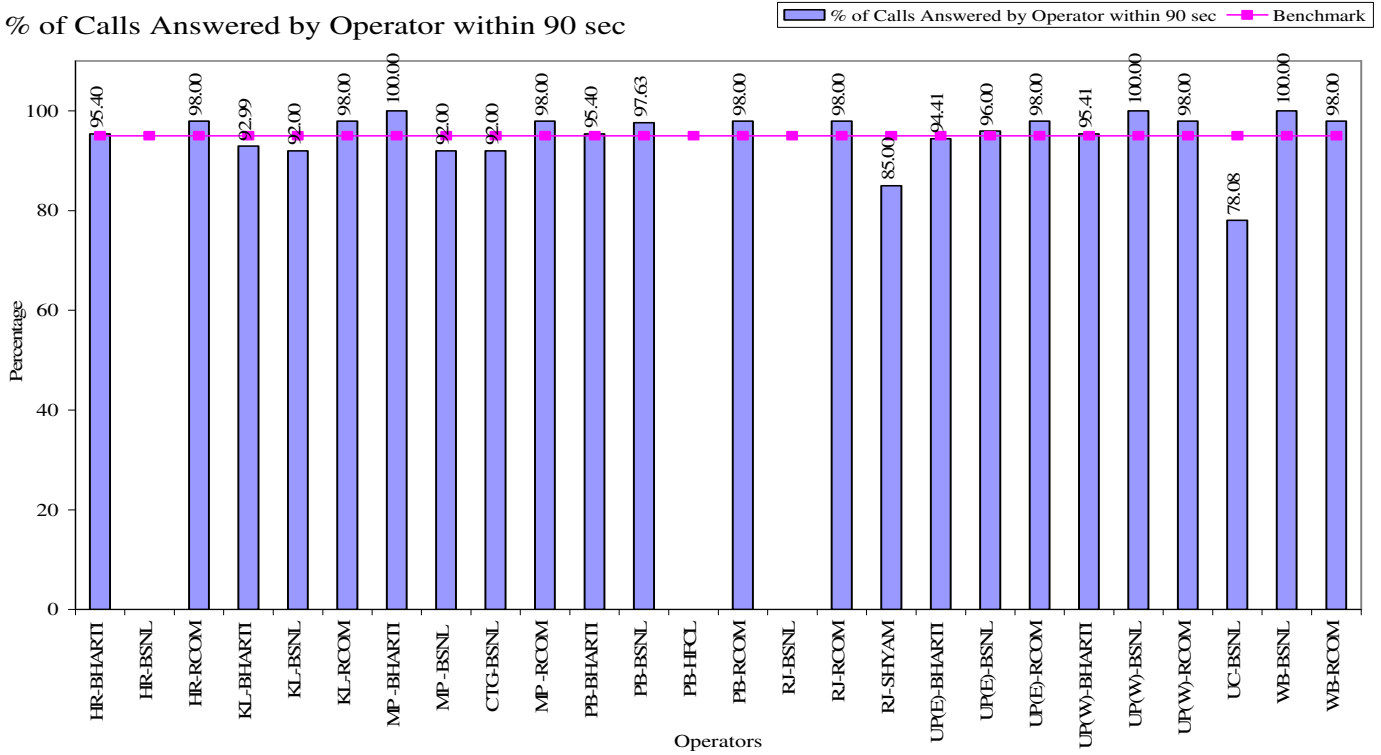
% of Calls Answered by Operator within 60 sec



Note: 2 operators out of 23 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

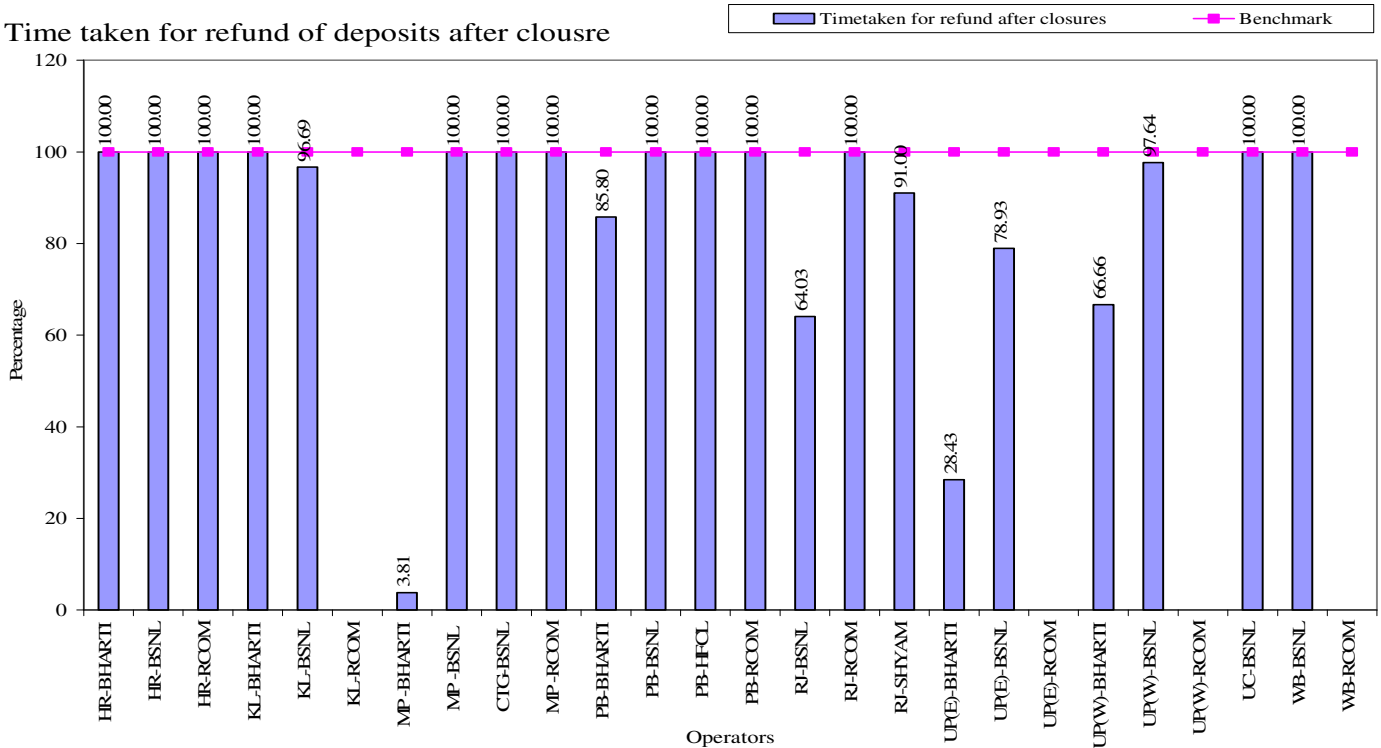


% of Calls Answered by Operator within 90 sec



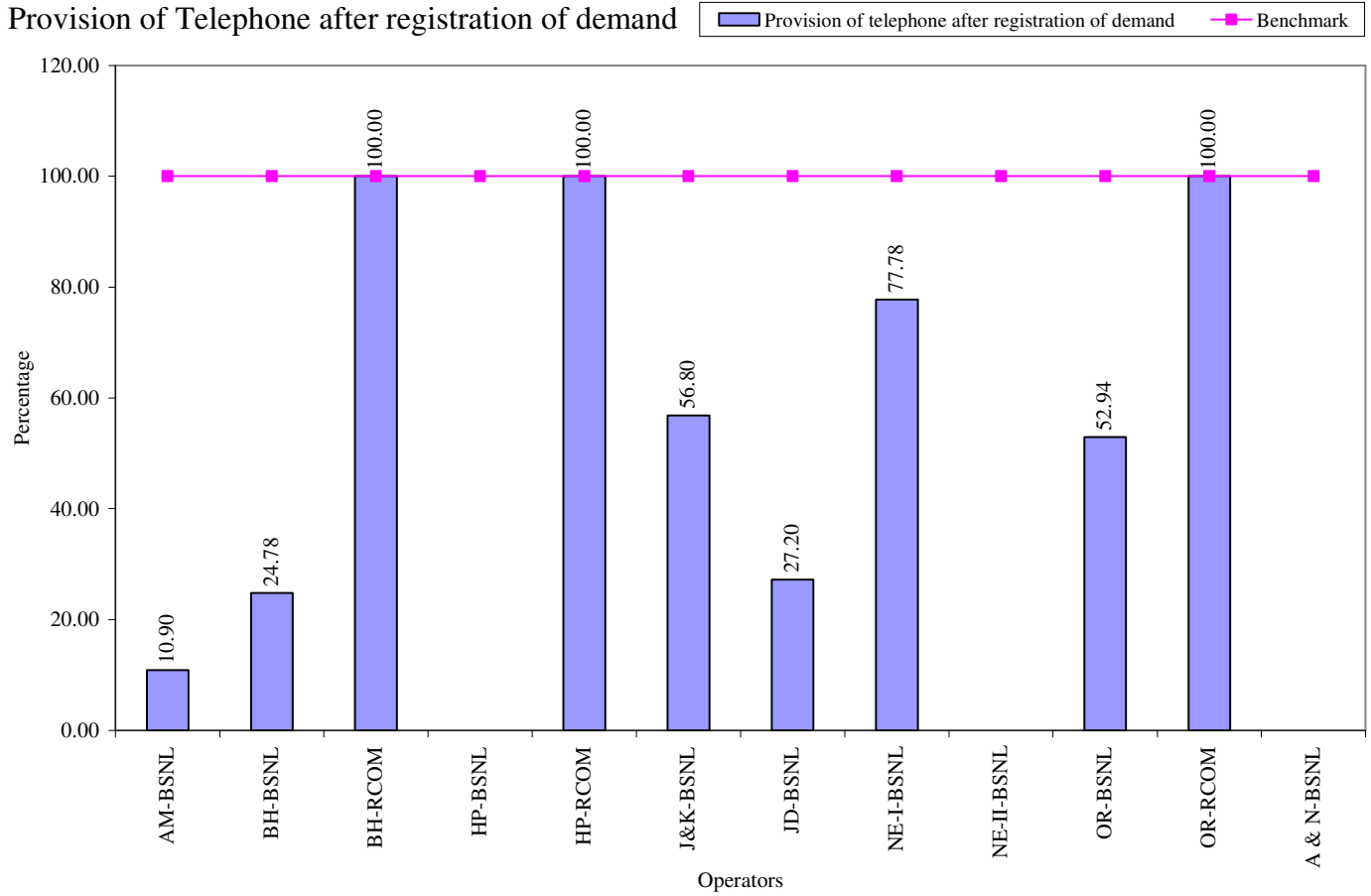
Note: 7 operators out of 23 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Time taken for refund of deposits after closure



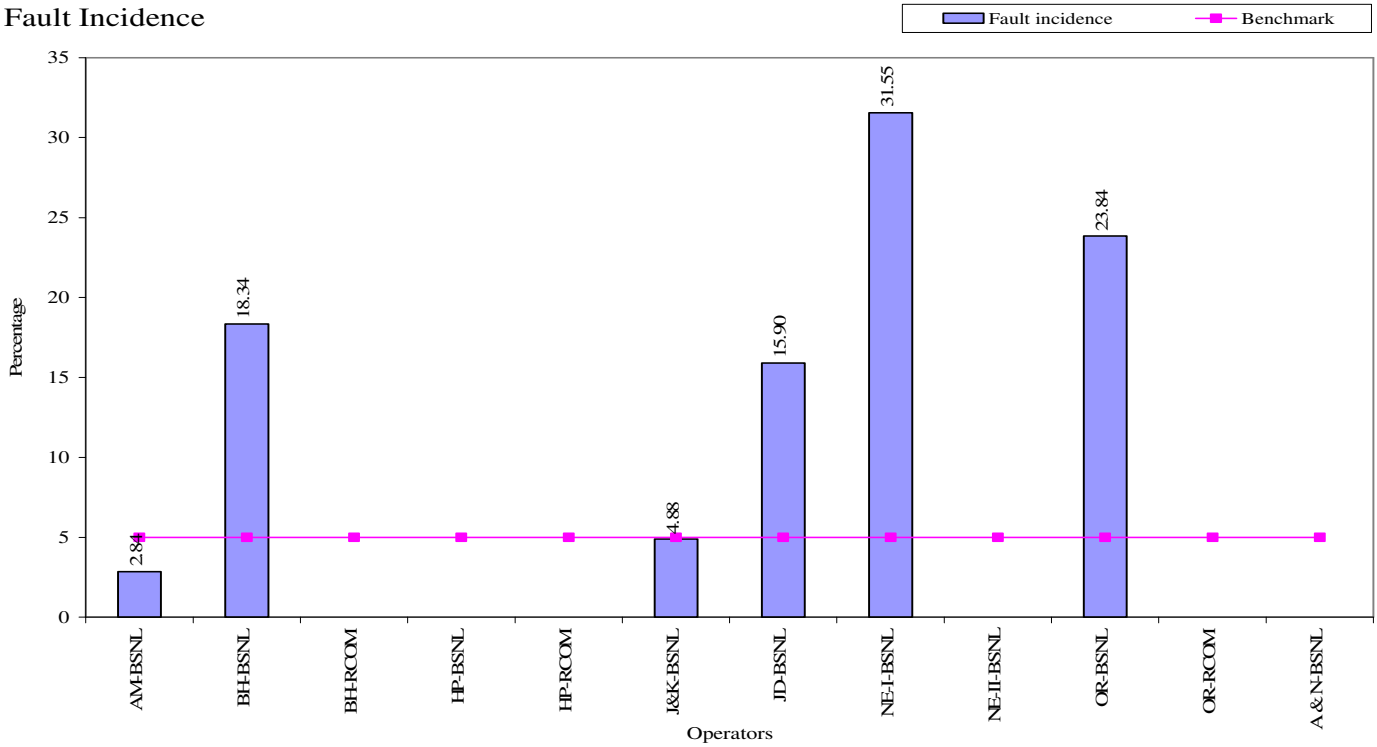
Note: 9 operators out of 23 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

5.2.4 C-CIRCLE



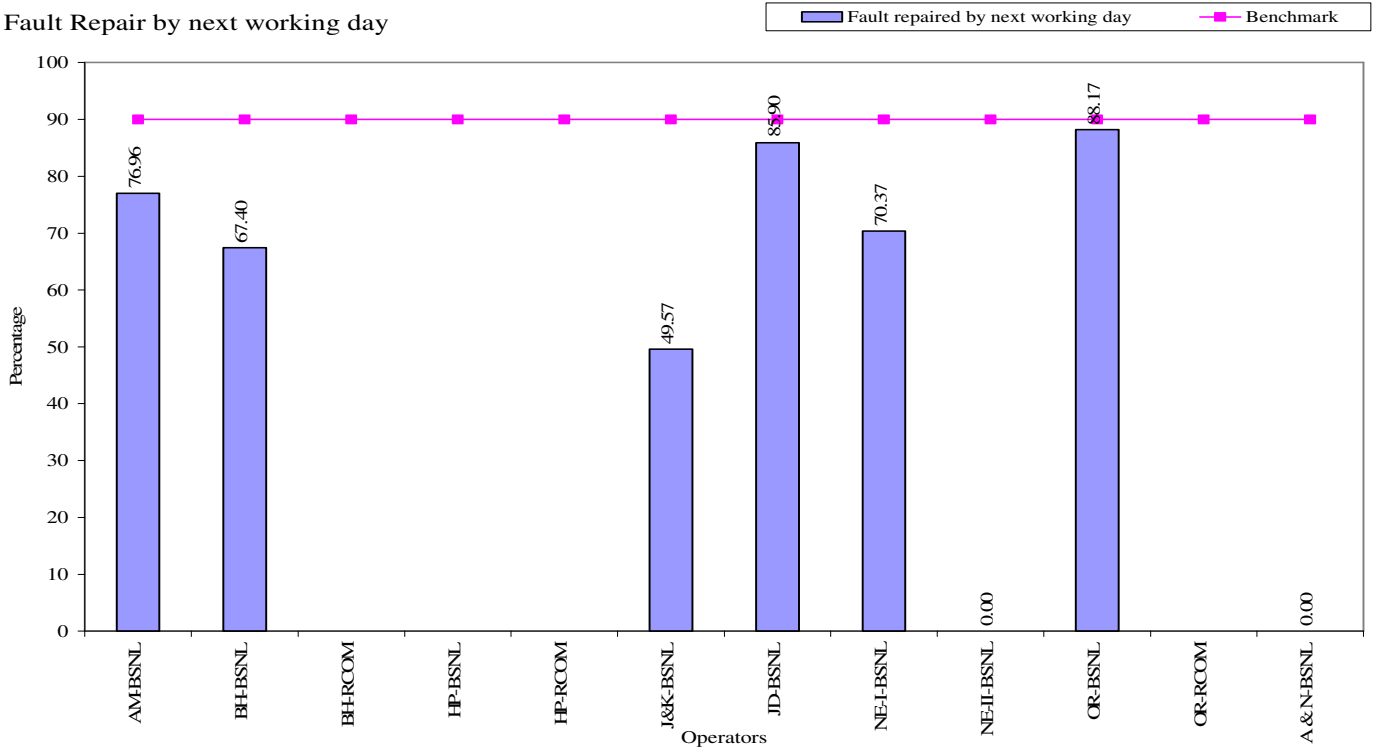
Note: 6 operators out of 9 audited are not meeting the benchmark.

Fault Incidence



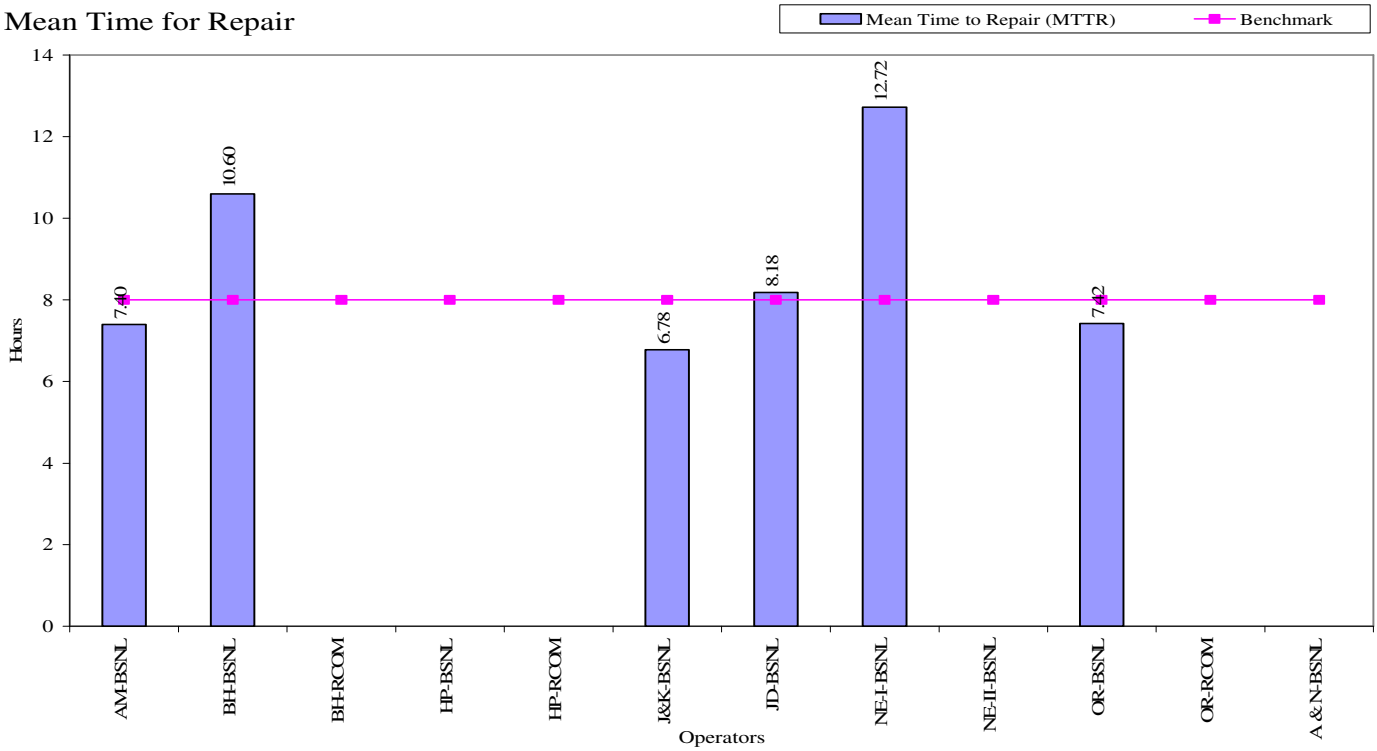
Note: 4 operators out of 6 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Fault Repair by next working day



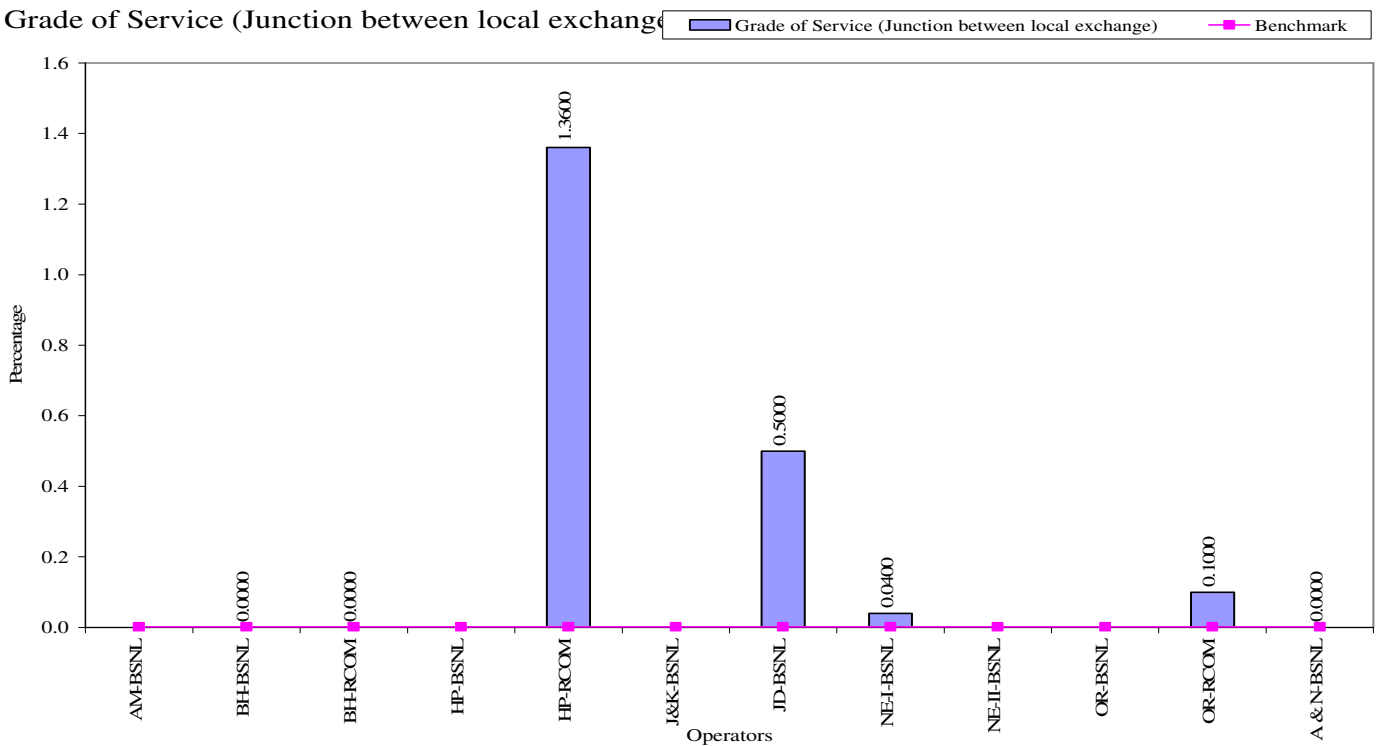
Note: -- out of 6 operators audited are meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Mean Time for Repair



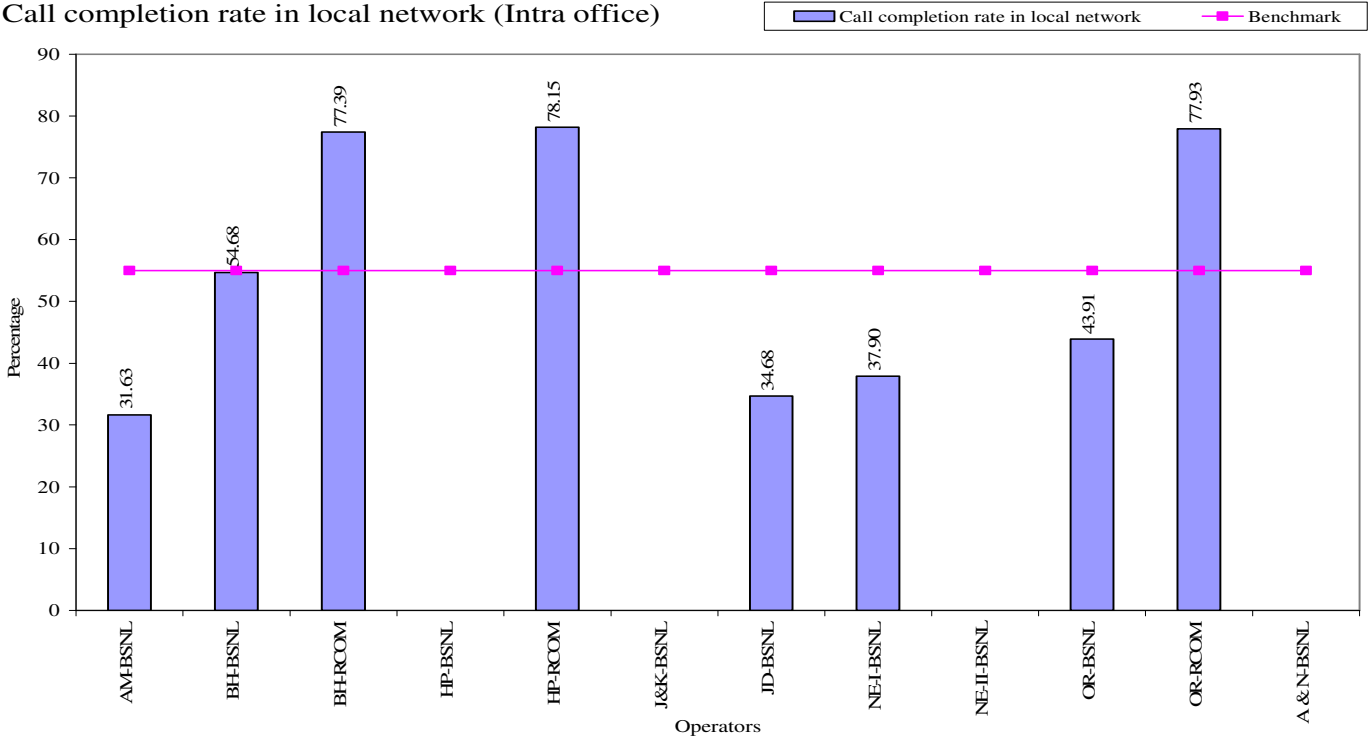
Note: 3 operators out of 6 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Grade of Service (Junction between local exchange)



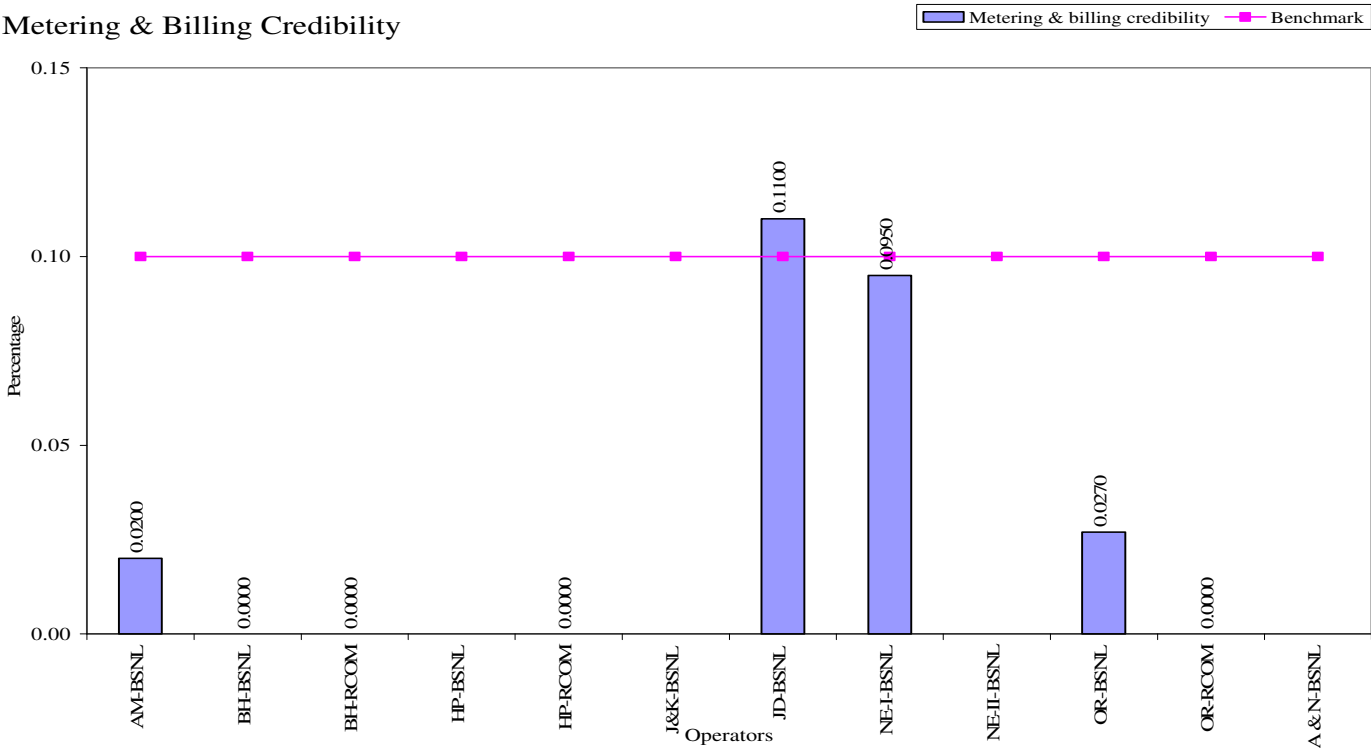
Note: 4 operators out of 7 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Call completion rate in local network (Intra office)



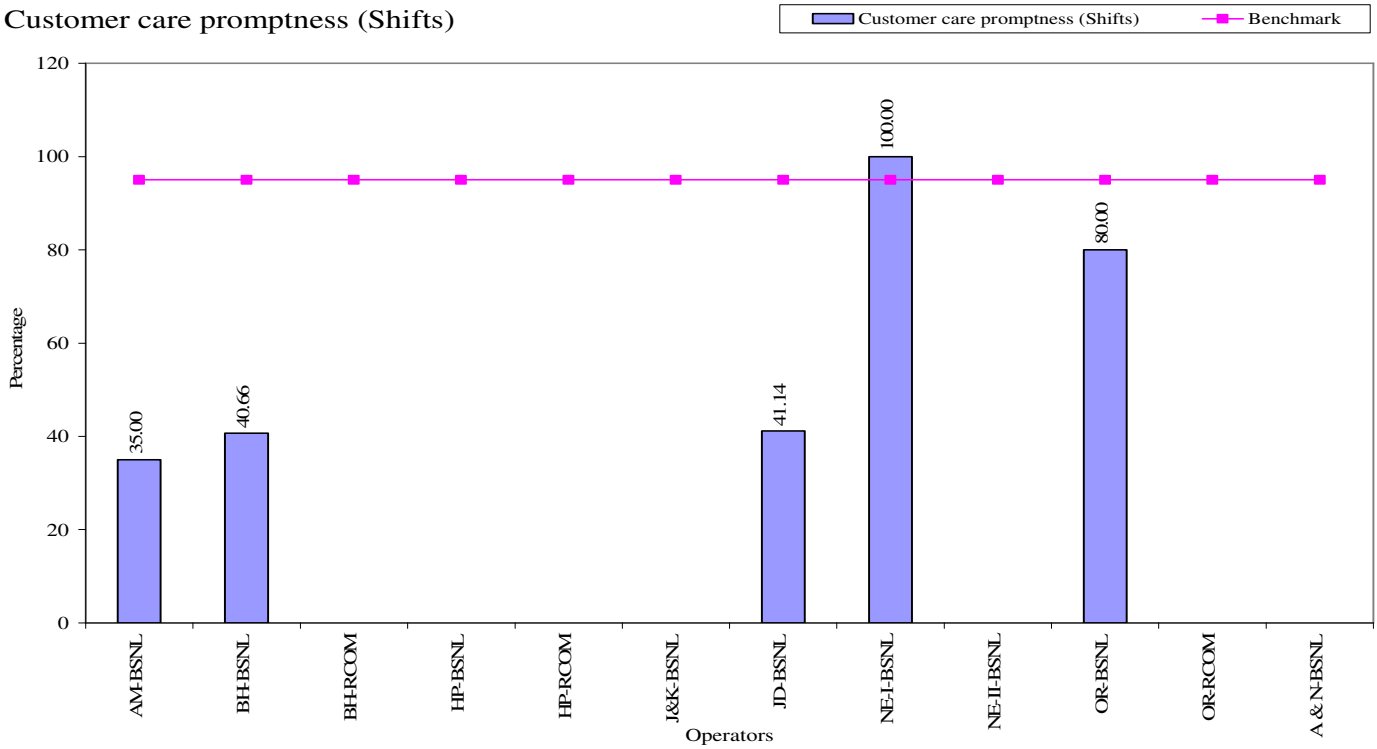
Note: 5 operators out of 8 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.

Metering & Billing Credibility



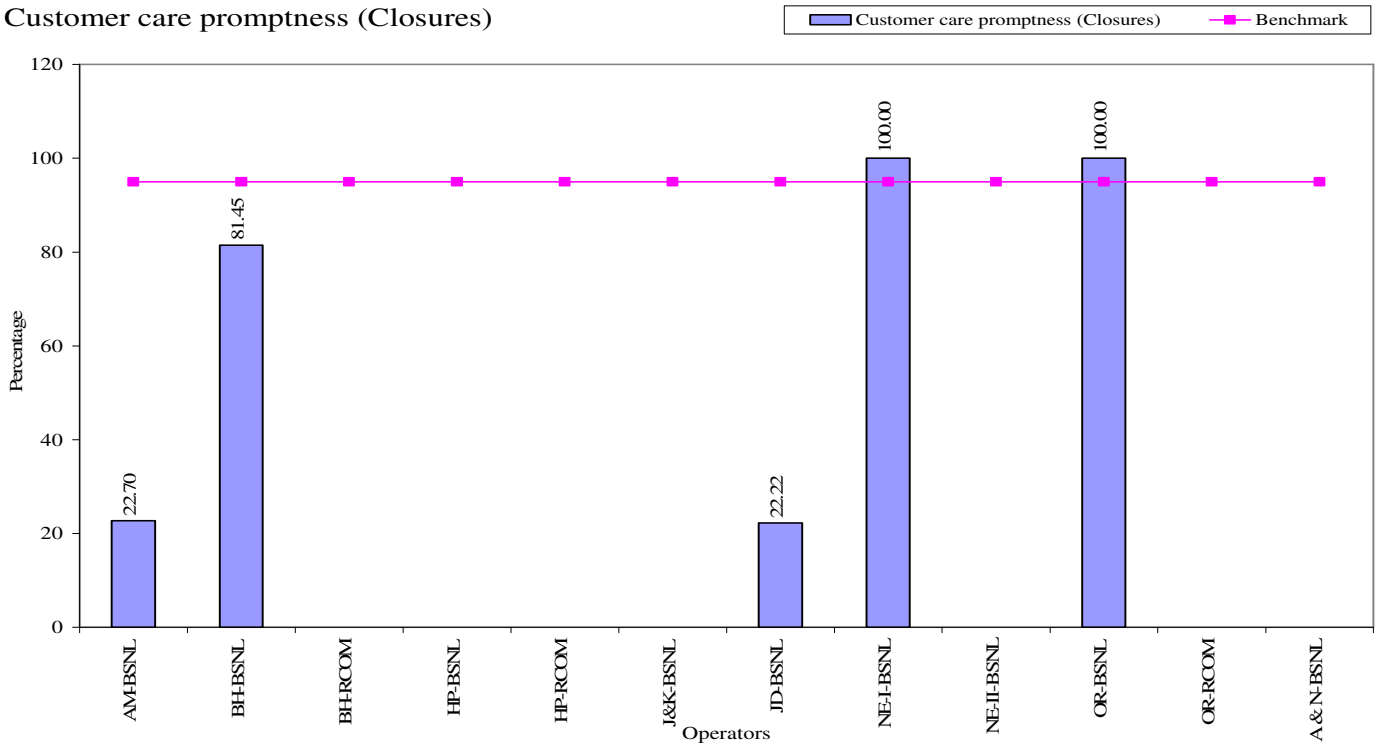
Note: 1 operators out of 8 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\AApp as detailed in corresponding table.

Customer care promptness (Shifts)



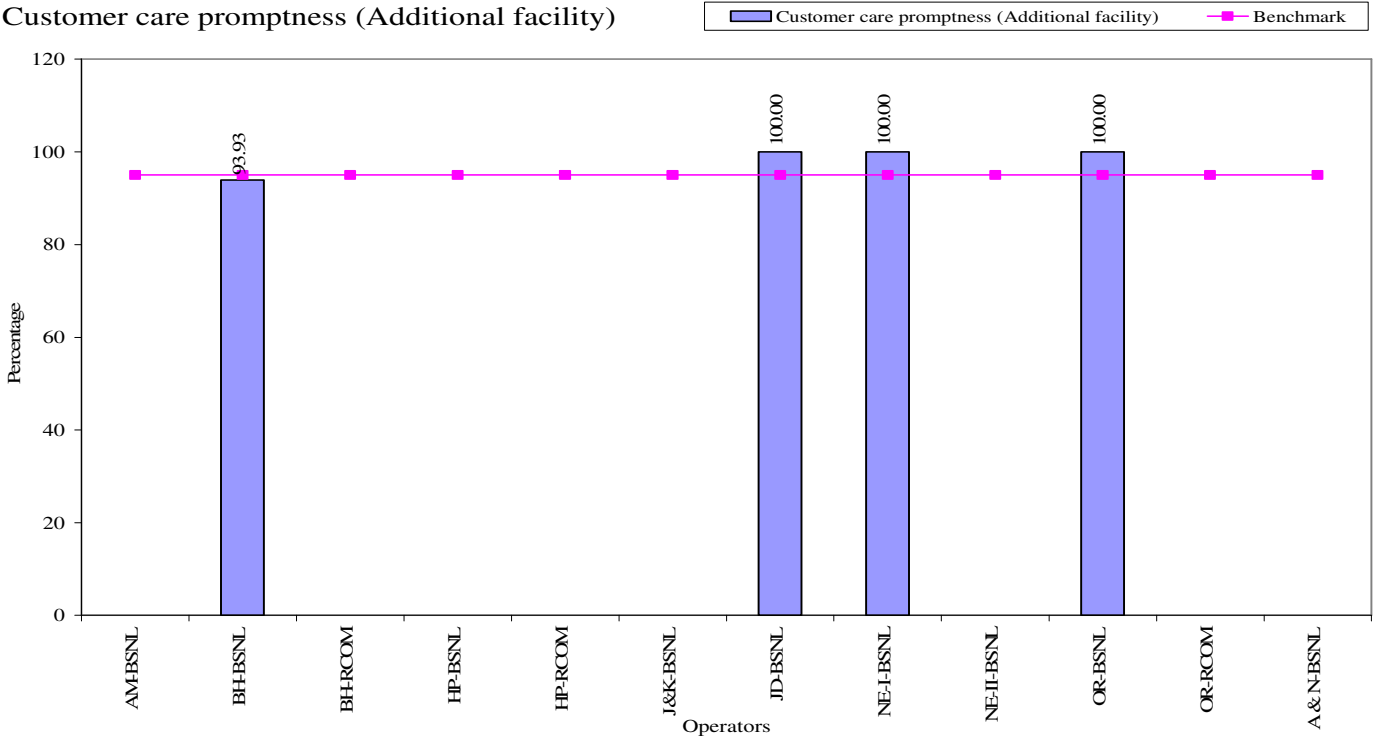
Note: 4 operators out of 5 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Customer care promptness (Closures)



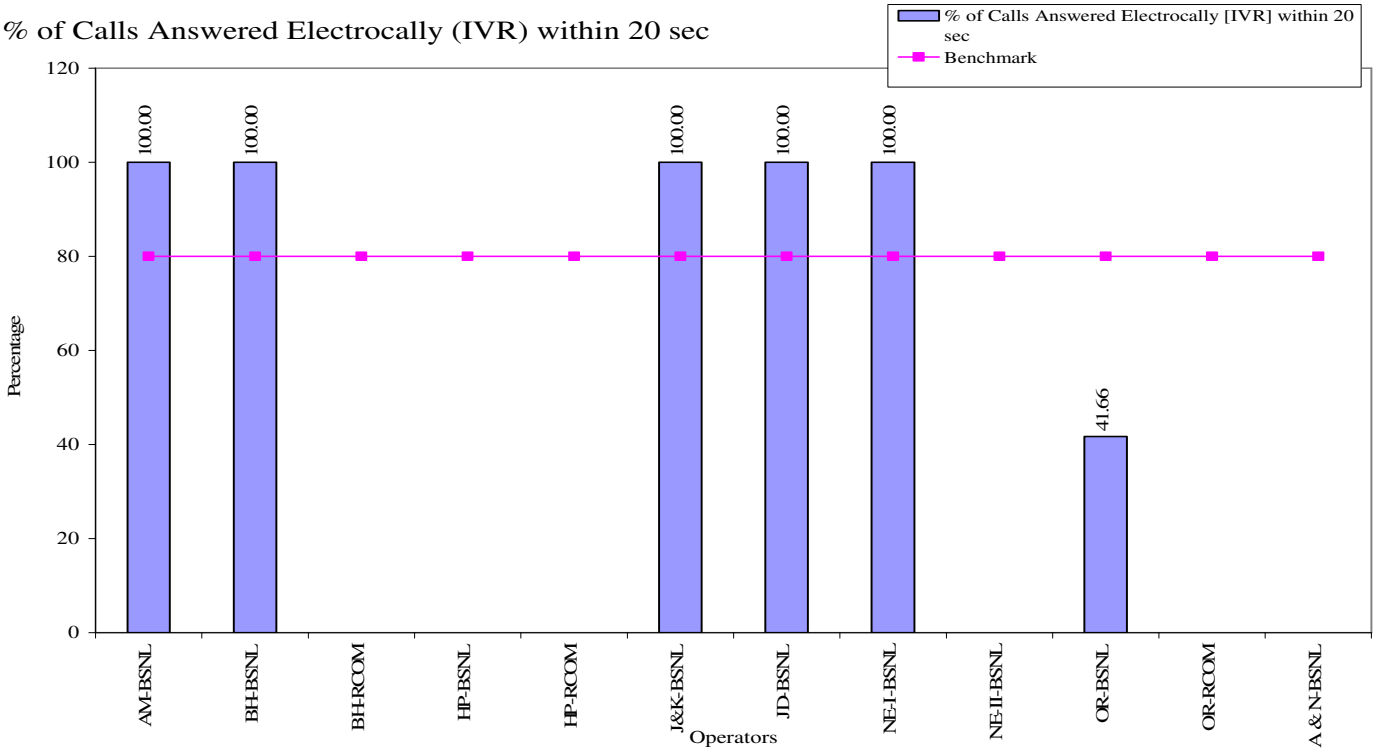
Note: 3 operators out of 5 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

Customer care promptness (Additional facility)

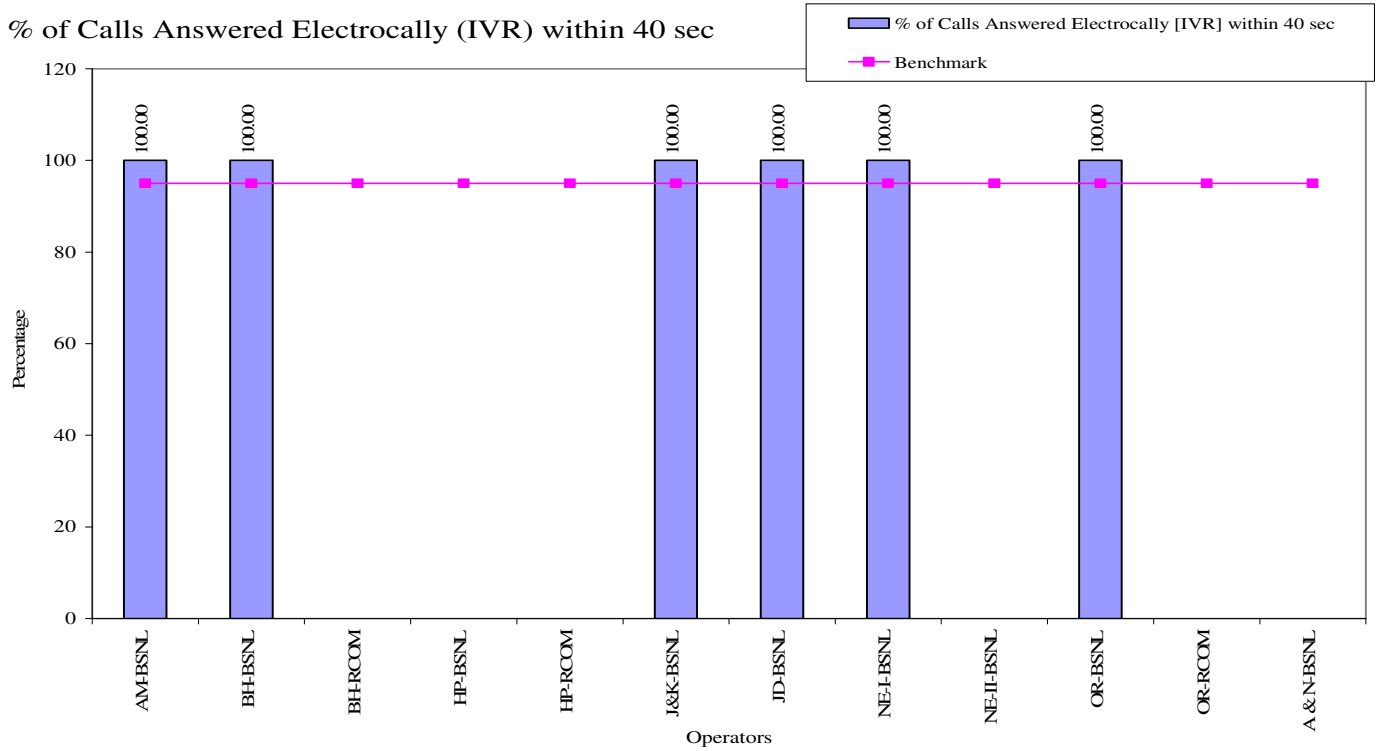


Note: 1 operator out of 4 audited is not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\A as detailed in corresponding table.

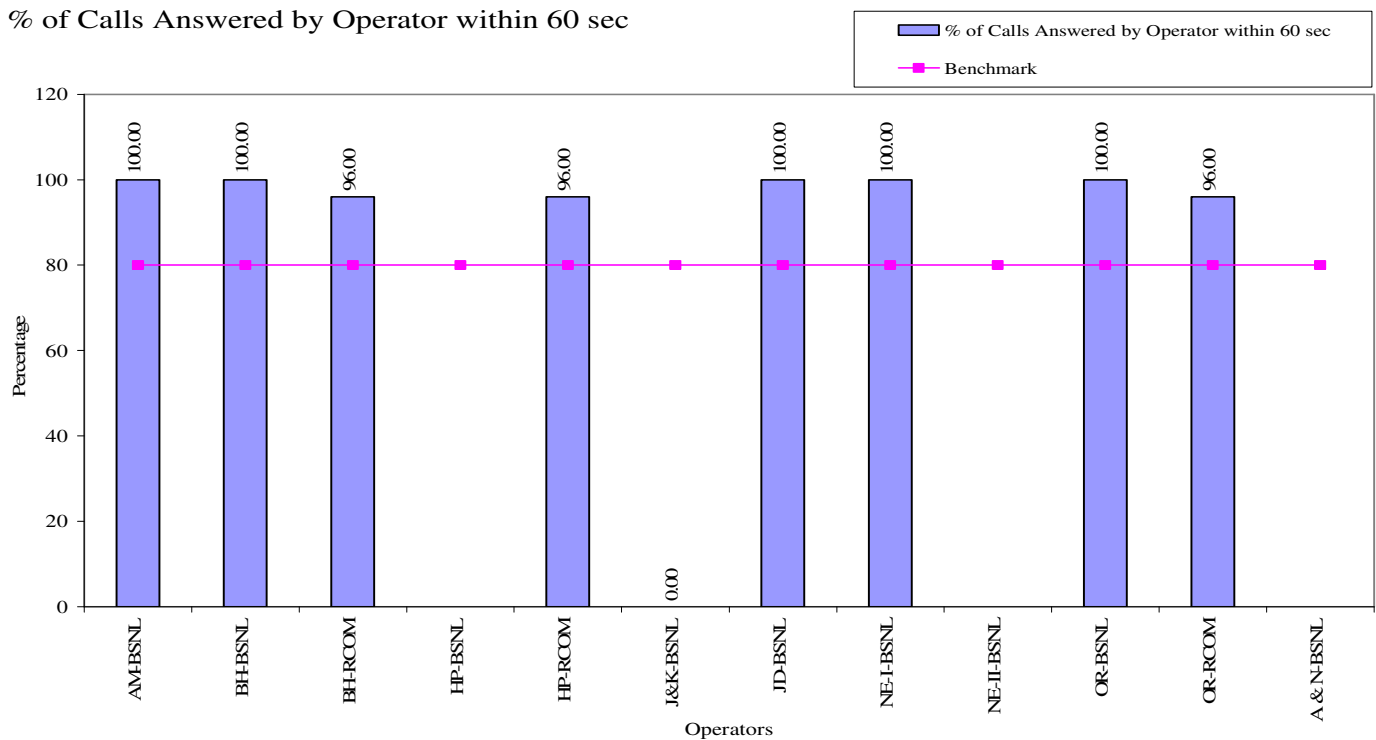
% of Calls Answered Electroically (IVR) within 20 sec



Note: 1 operator out of 6 audited is not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\A as detailed in corresponding table.

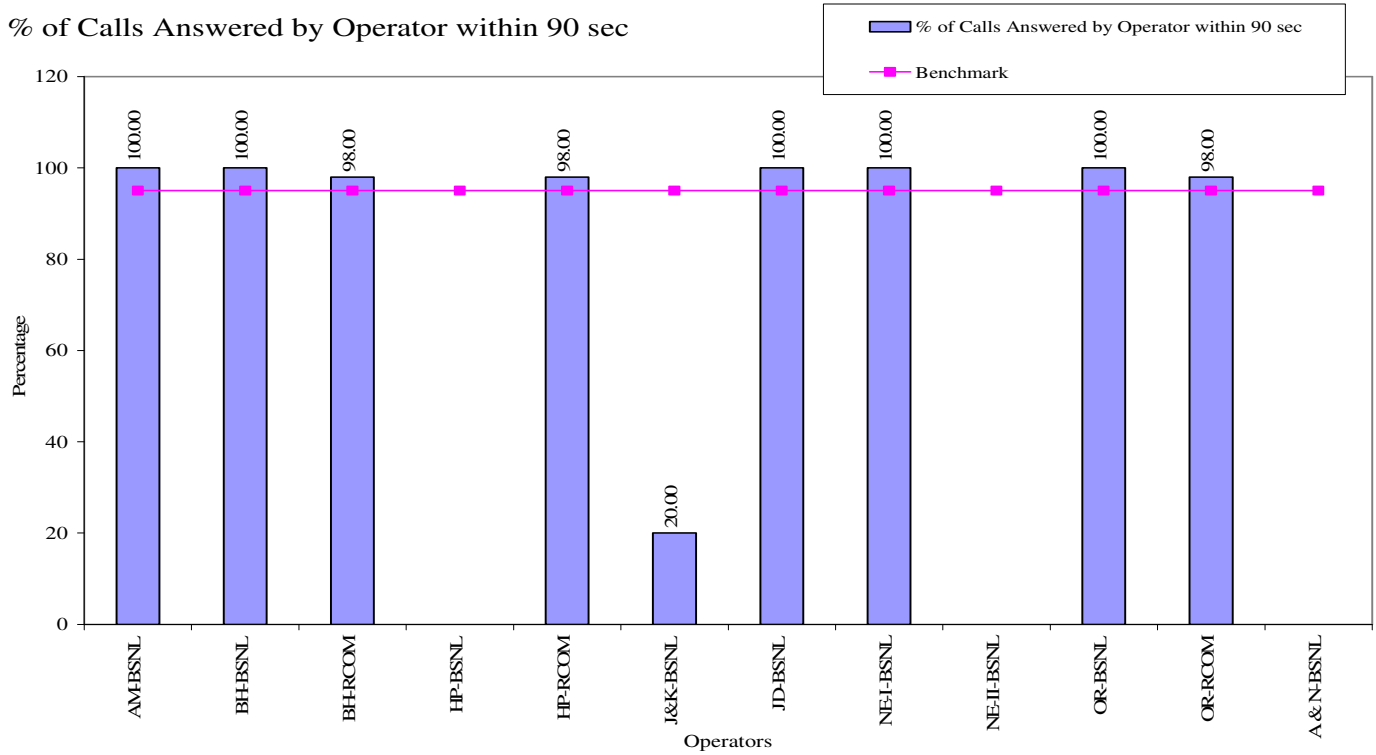


Note: All operators out of 6 audited are meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.



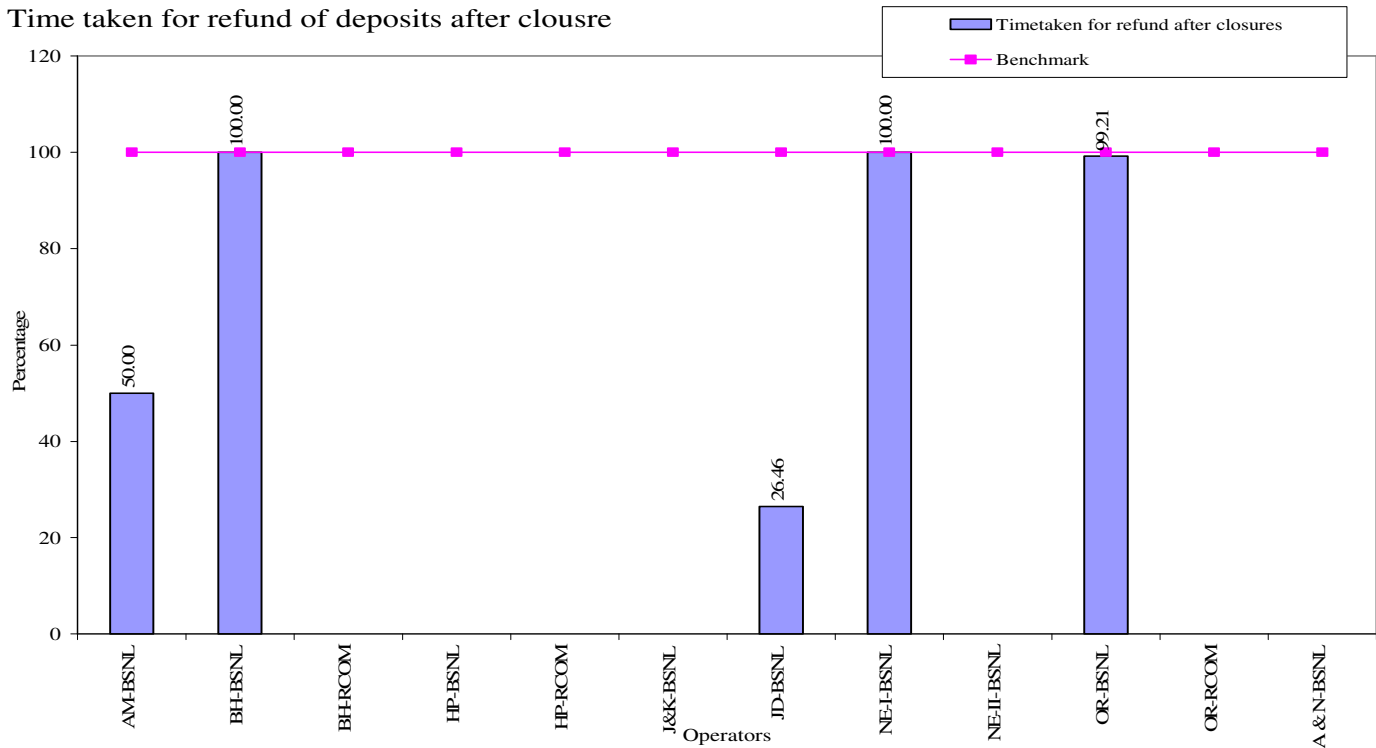
Note: 1 operator out of 9 audited is not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

% of Calls Answered by Operator within 90 sec



Note: 1 operator out of 9 audited is not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

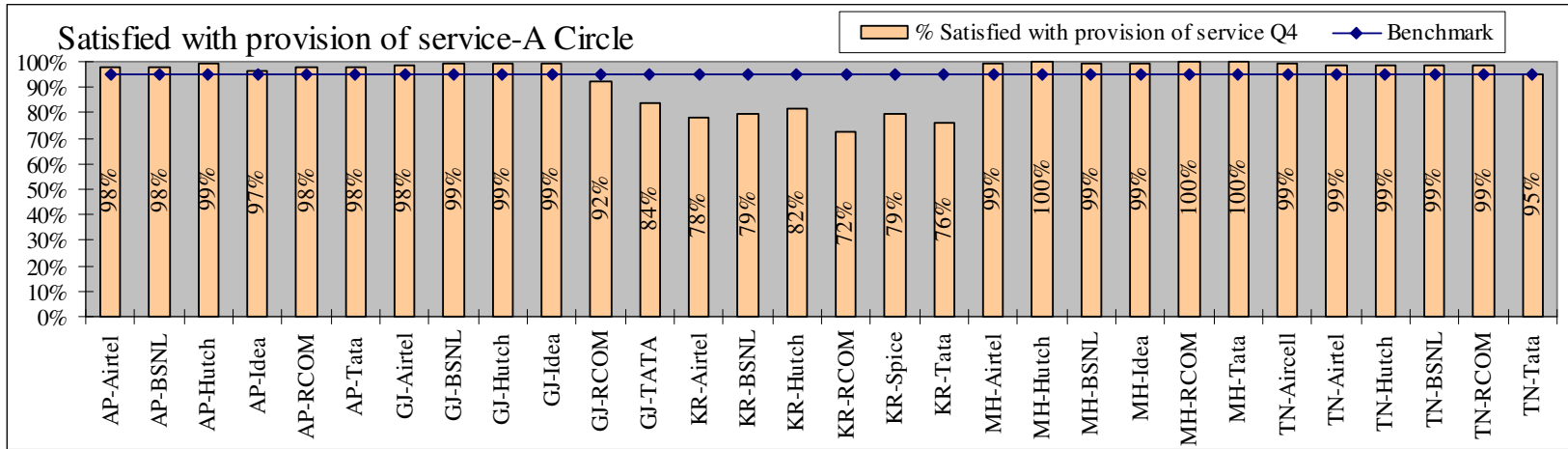
Time taken for refund of deposits after clousre



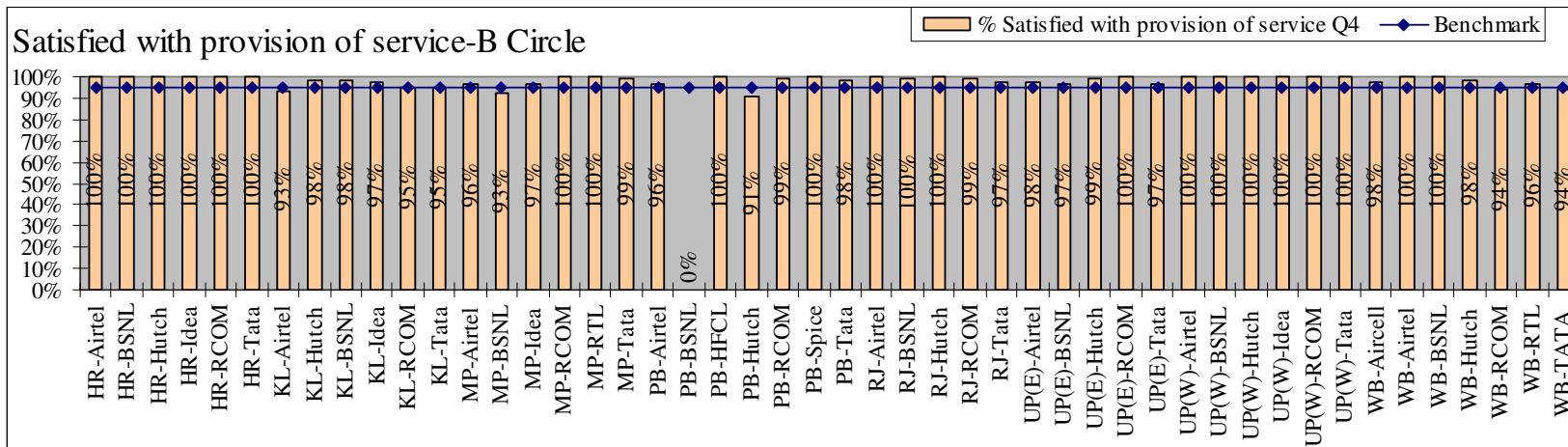
Note: 3 operators out of 5 audited are not meeting the benchmark. Any operators with no value are case of DNP / NA/ NI/ NP/ N\App as detailed in corresponding table.

5.3 CSS – CELLULAR SERVICES

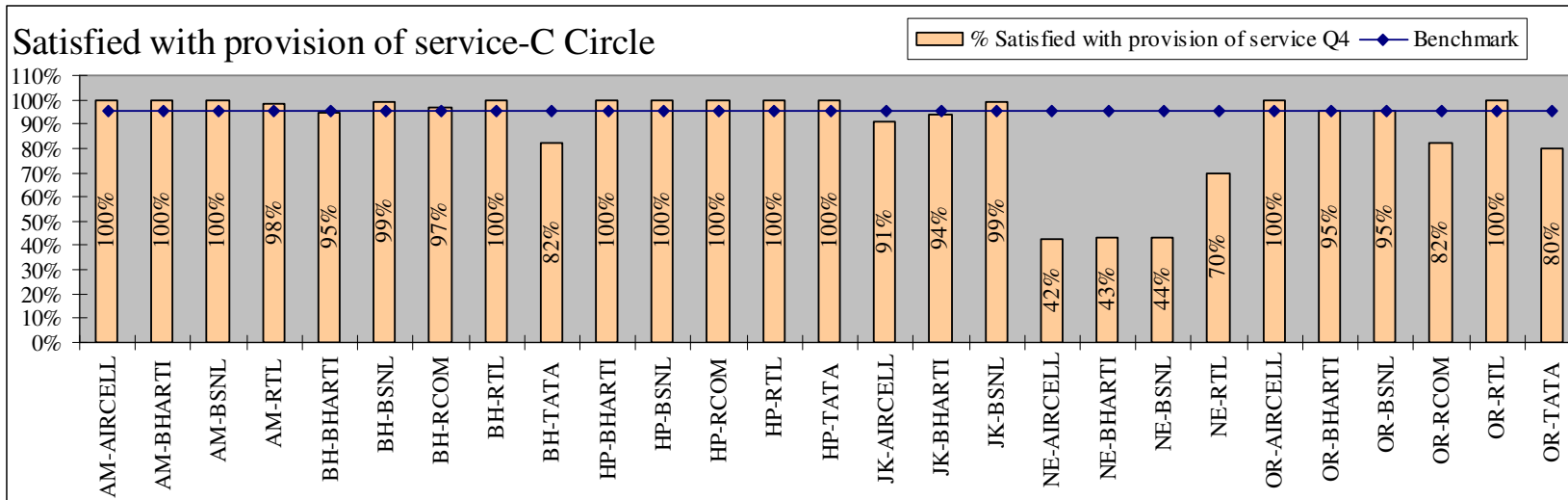
5.3.1 SATISFIED WITH PROVISION OF SERVICE



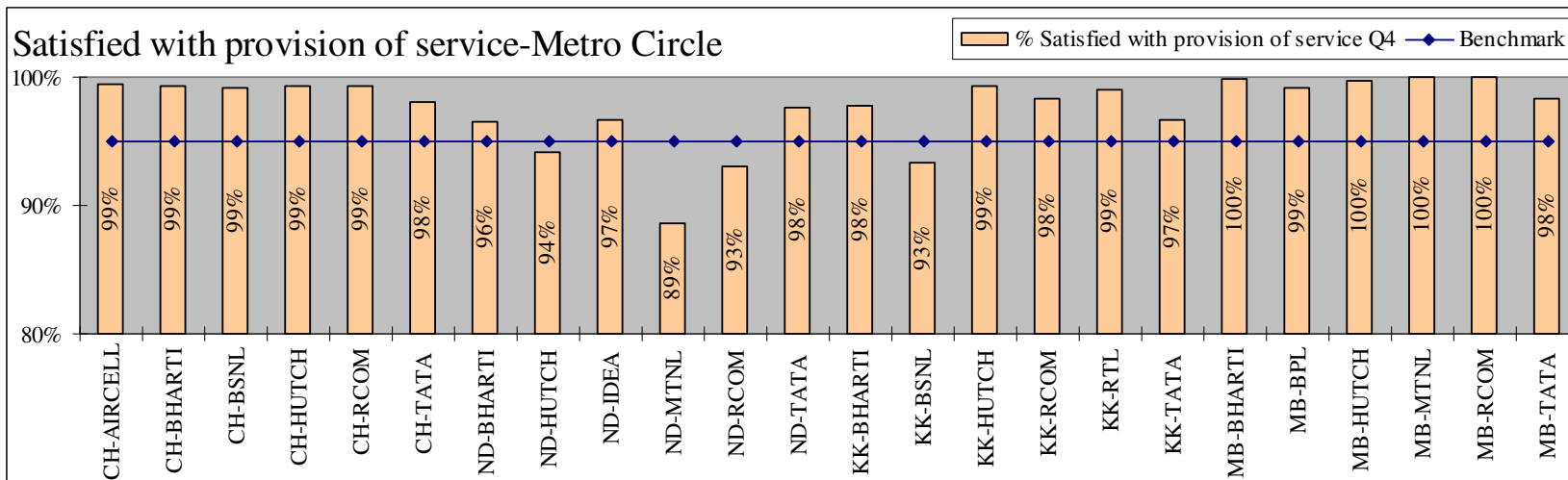
Note : Audit Conducted for 30 Operators. 8 Operators are not meeting the benchmark.



Note: Audit Conducted for 48 Operators. 5 Operators are not meeting the benchmark. PB –BSNL is case of NR.

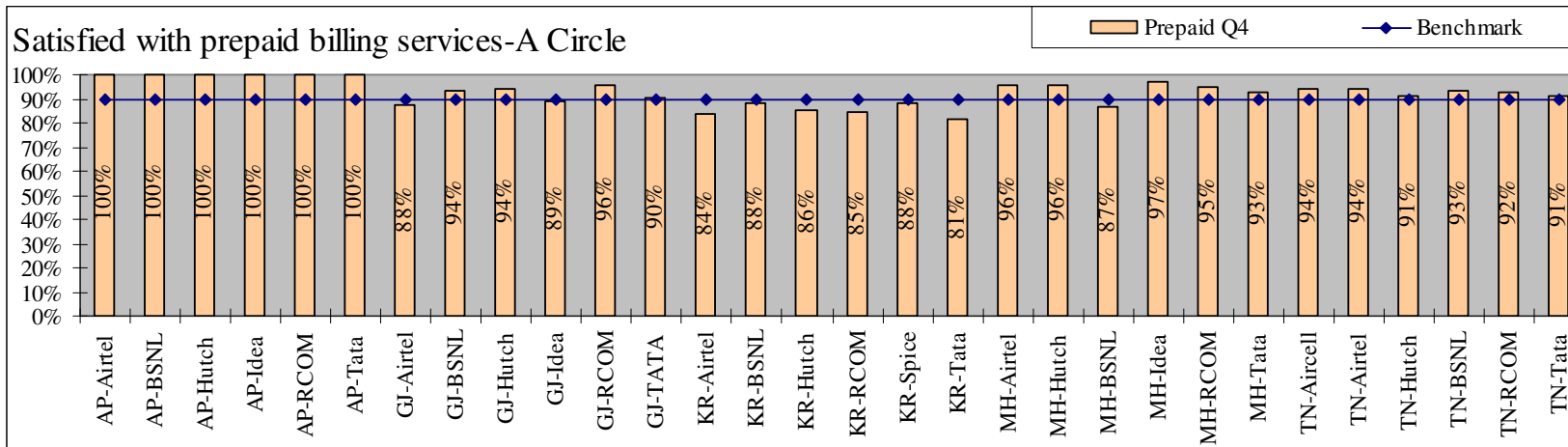


Note: Audit Conducted for 27 Operators. 9 Operators are not meeting the benchmark.

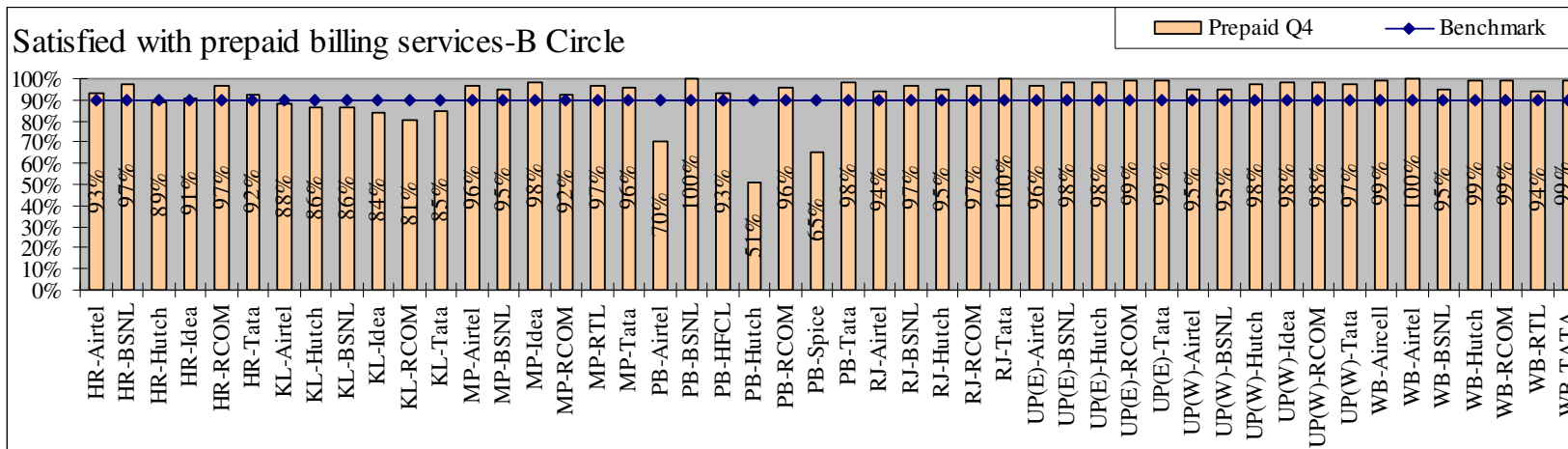


Note : Audit Conducted for 24 Operators. 4 Operators are not meeting the benchmark

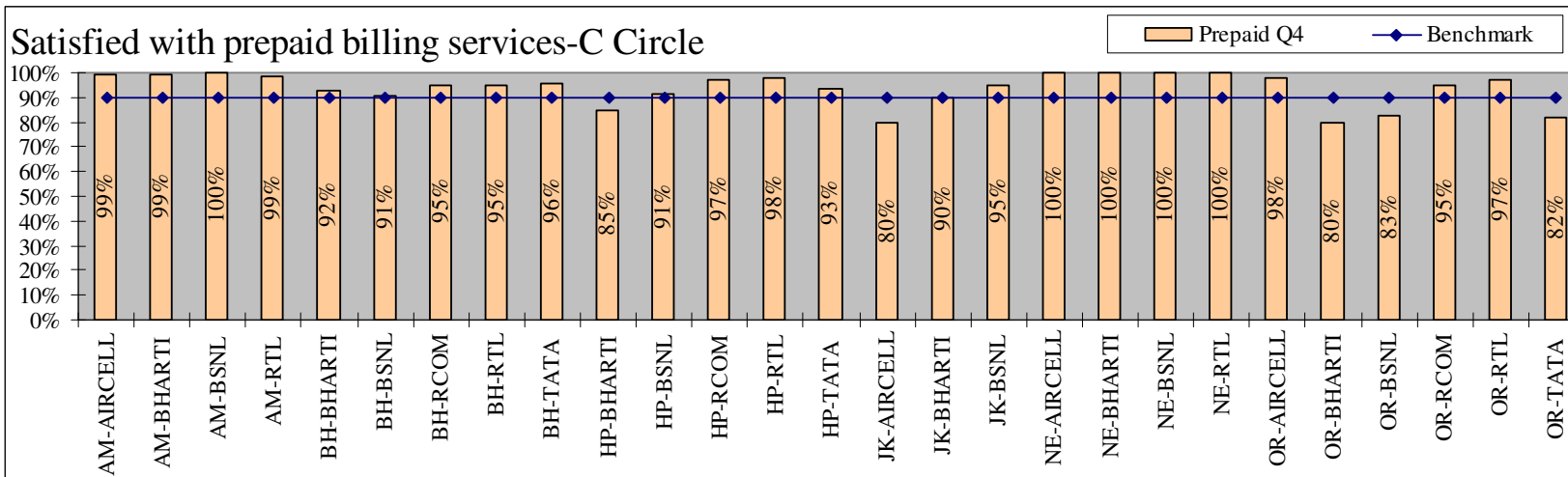
5.3.2 SATISFIED WITH PREPAID BILLING SERVICES.



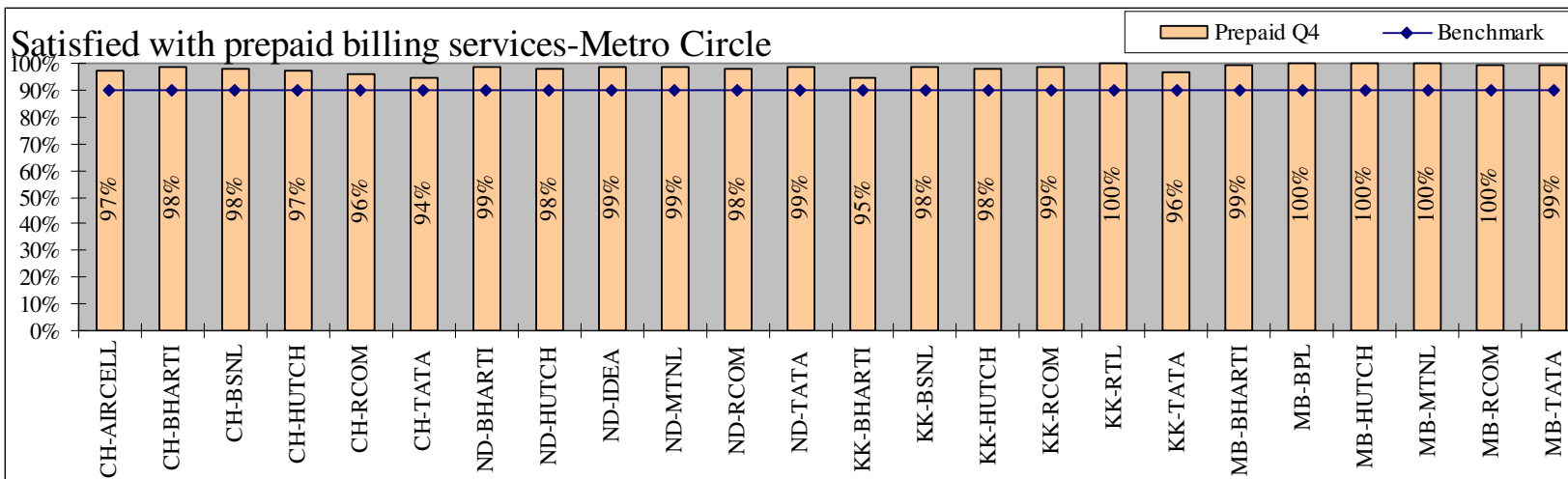
Note: Audit Conducted for 30 Operators. 9 Operators are not meeting the benchmark



Note : Audit Conducted for 48 Operators. 10 Operators are not meeting the benchmark

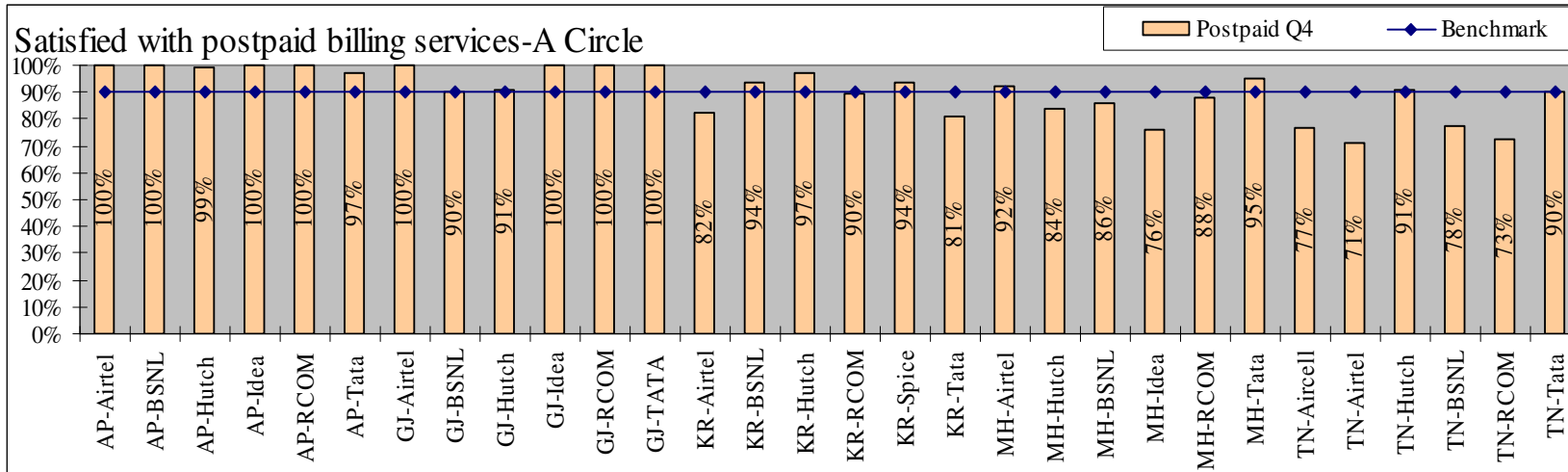


Note : Audit Conducted for 27 Operators. 5 Operators are not meeting the benchmark.

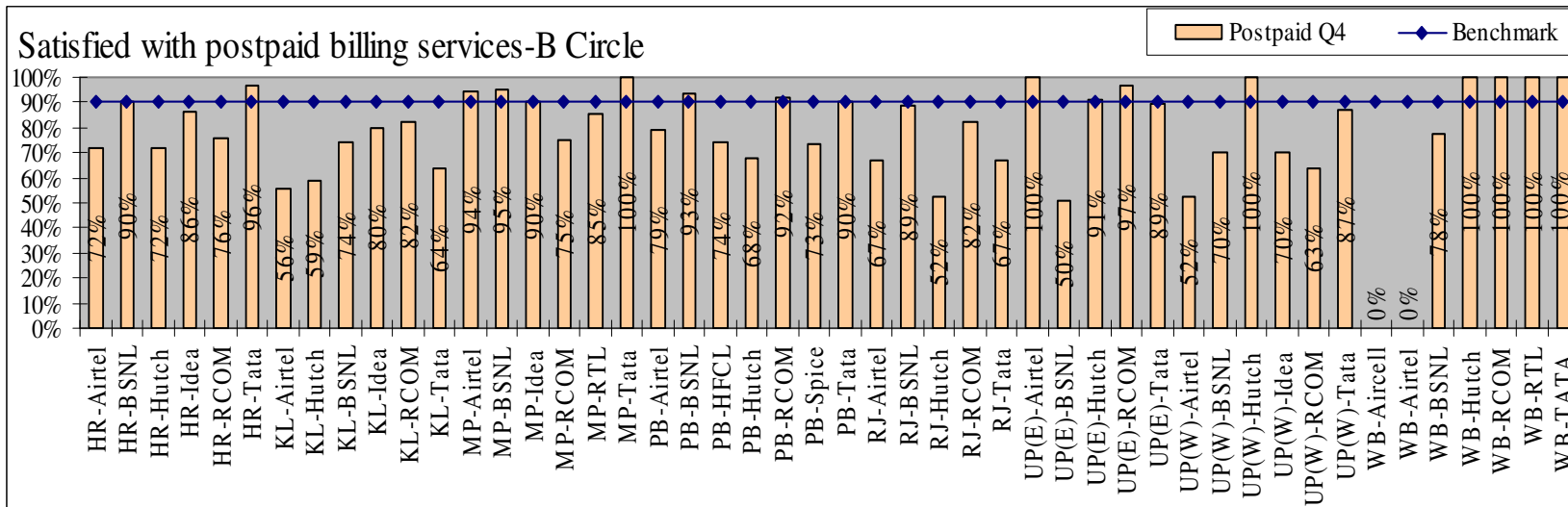


Note : Audit Conducted for 24 Operators. All Operators meeting the benchmark

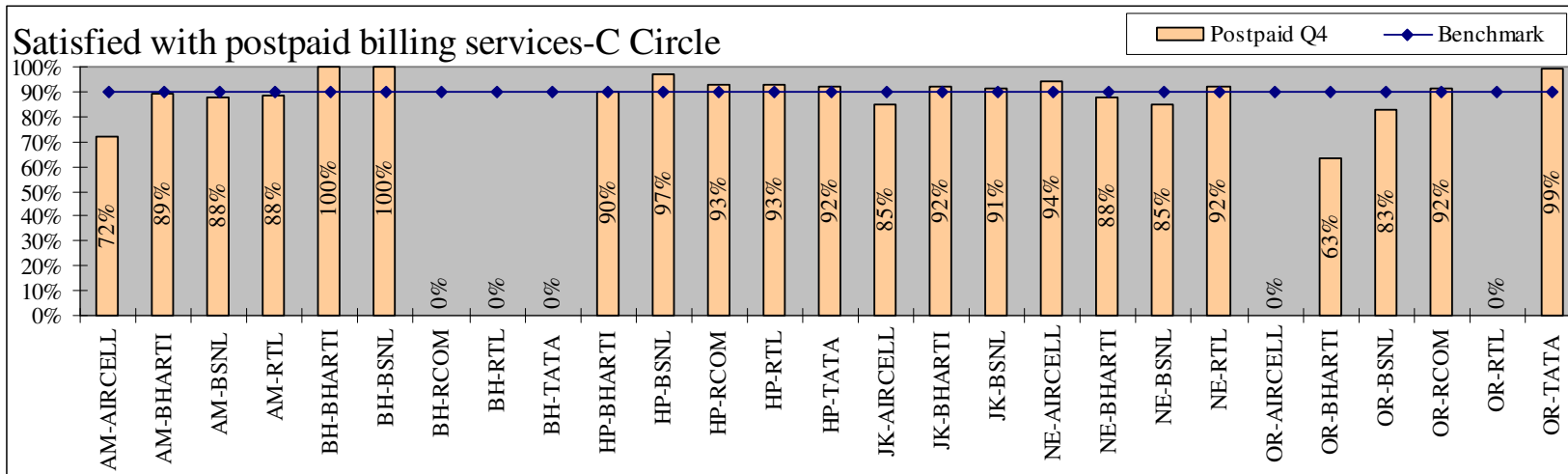
5.3.3 SATISFIED WITH POSTPAID BILLING SERVICES



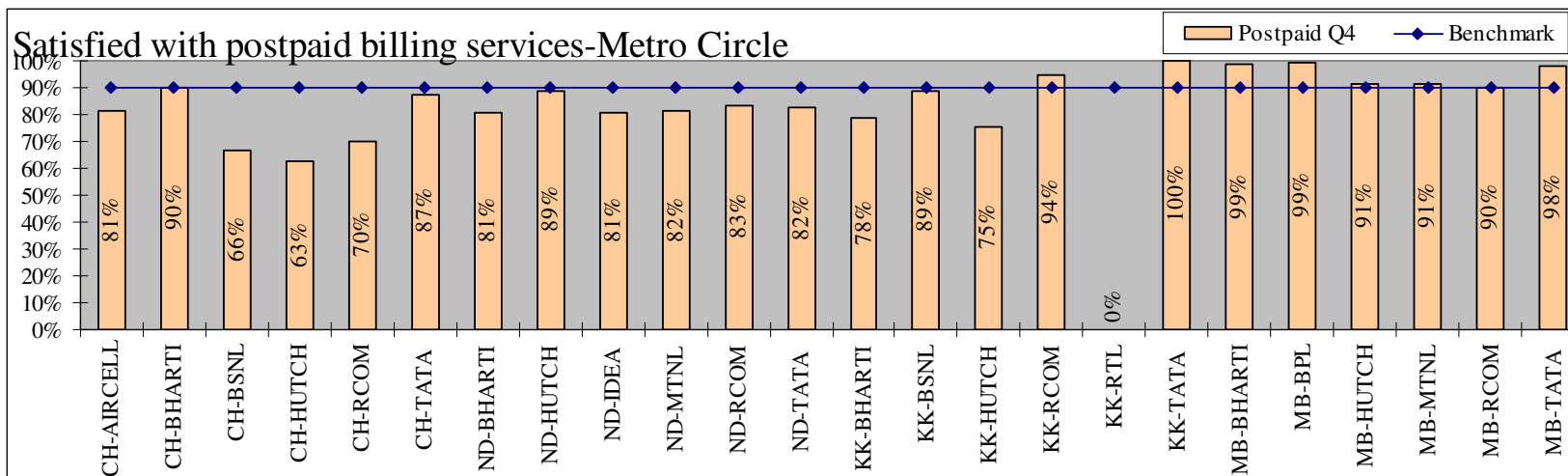
Note: Audit Conducted for 30 Operators. 10 Operators are not meeting the benchmark



Note: Audit Conducted for 48 Operators. 29 Operators are not meeting the benchmark. WB-BHARTI & WB-AIRCEL are case of NR.

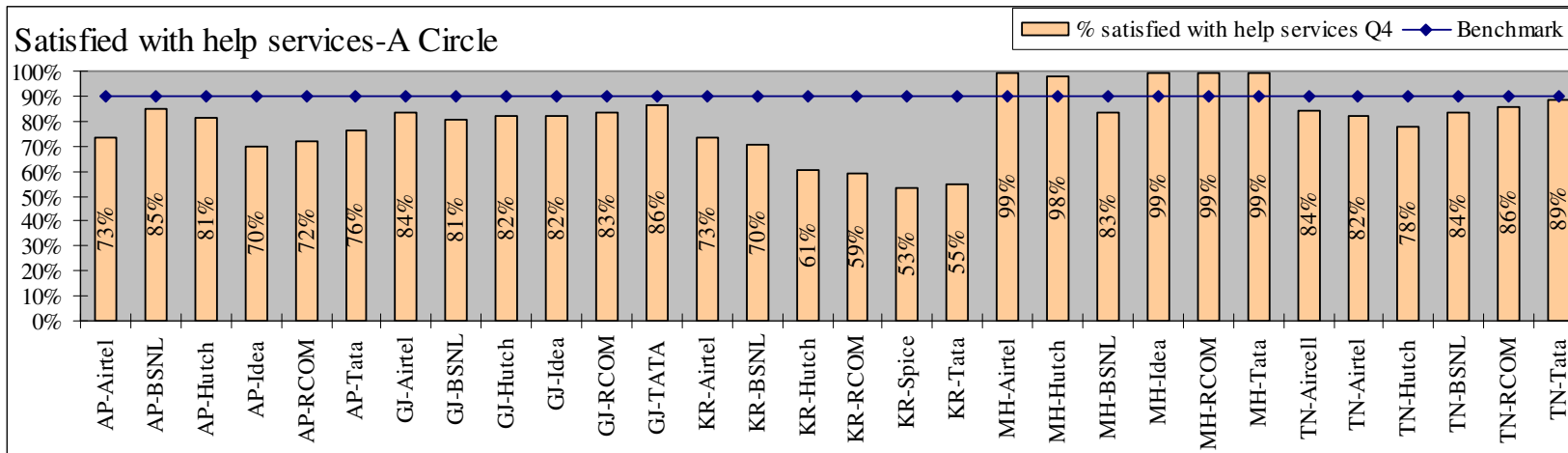


Note: Audit Conducted for 27 Operators. 9 Operators are not meeting the benchmark Operators with No Value are case of LSB / NR / NI as detailed in table.

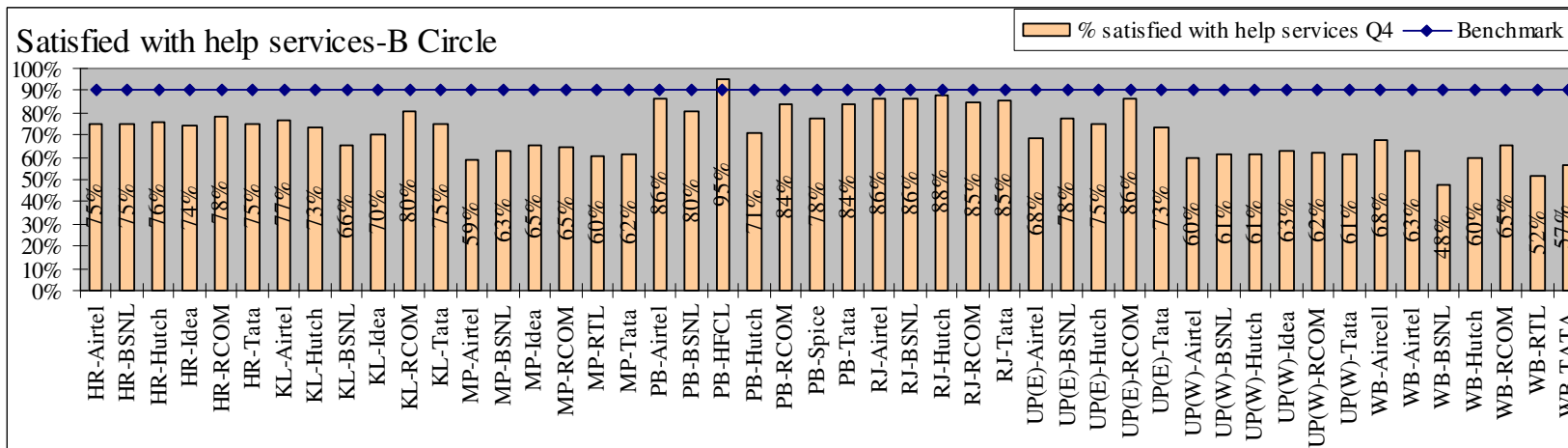


Note: Audit Conducted for 24 Operators. 14 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

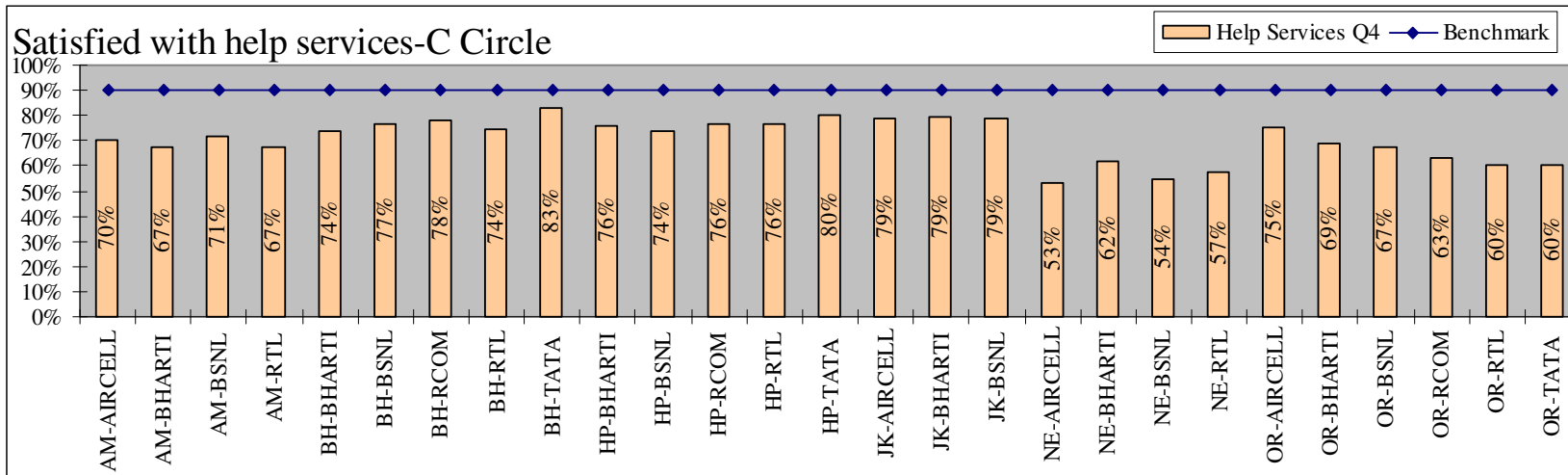
5.3.4 SATISFIED WITH HELP SERVICES



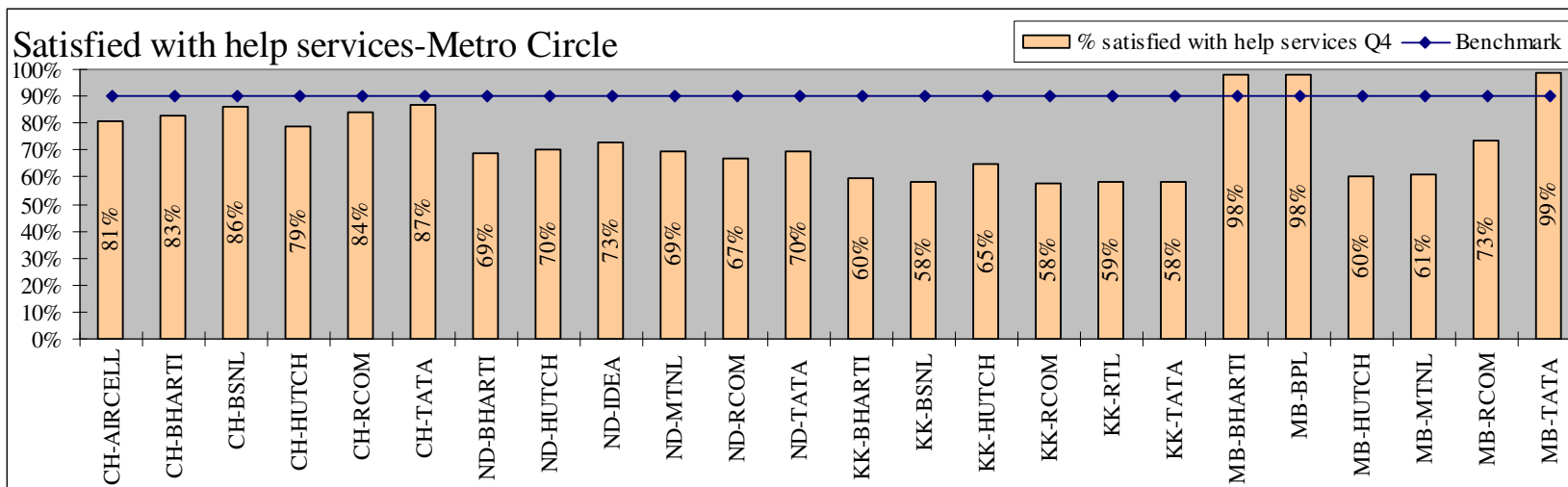
Note: Audit Conducted for 30 Operators. 25 Operators are not meeting the benchmark



Note : Audit Conducted for 48 Operators. 47 Operators are not meeting the benchmark.

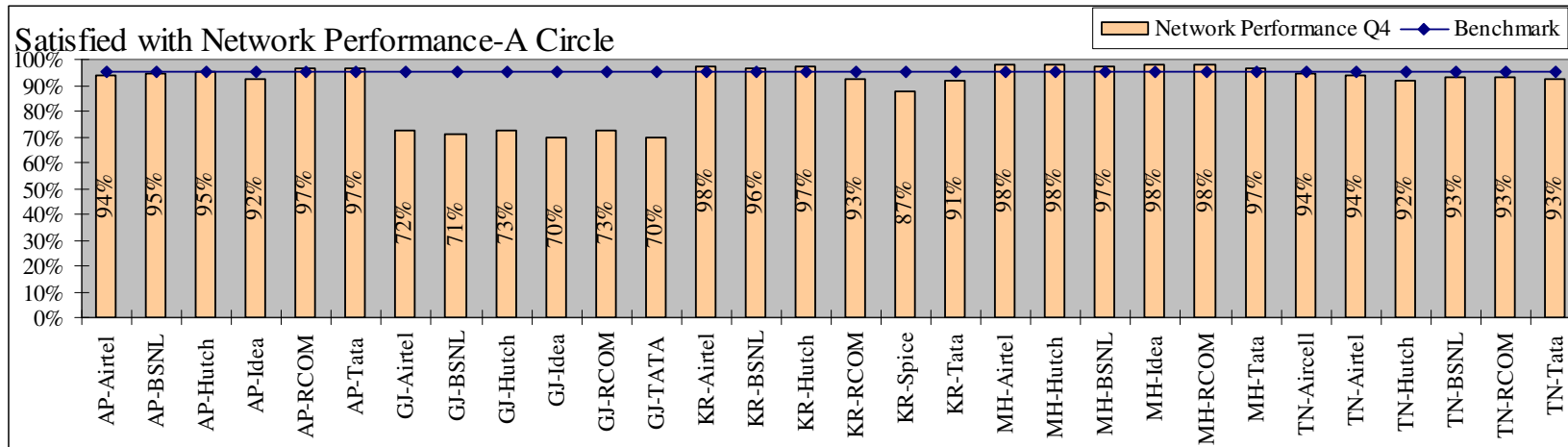


Note: Audit Conducted for 27 Operators. 27 Operators are not meeting the benchmark

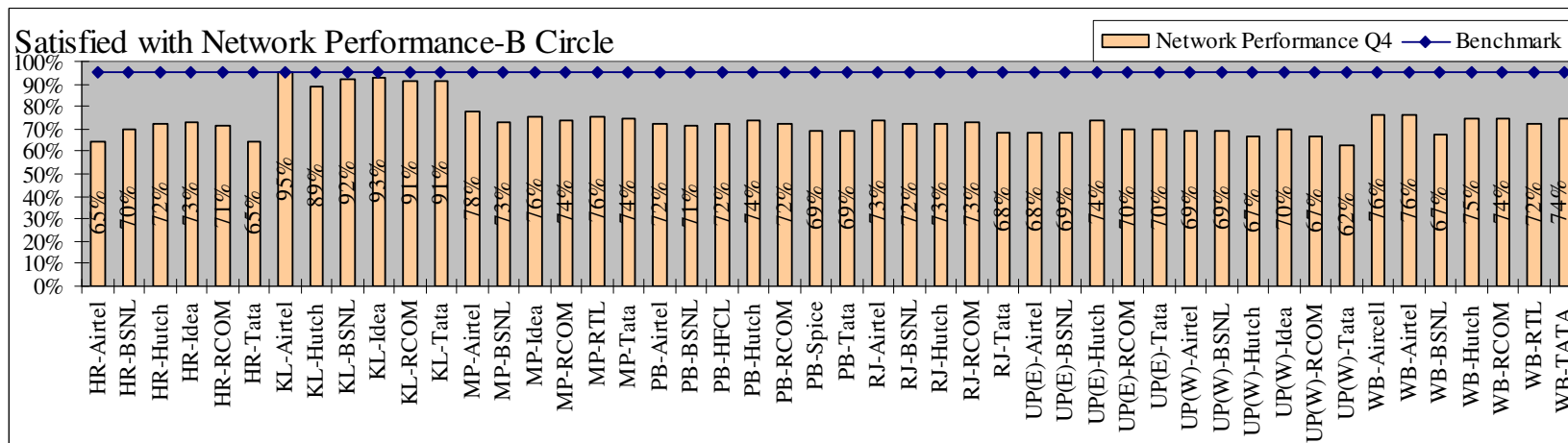


Note: Audit Conducted for 24 Operators. 21 Operators are not meeting the benchmark

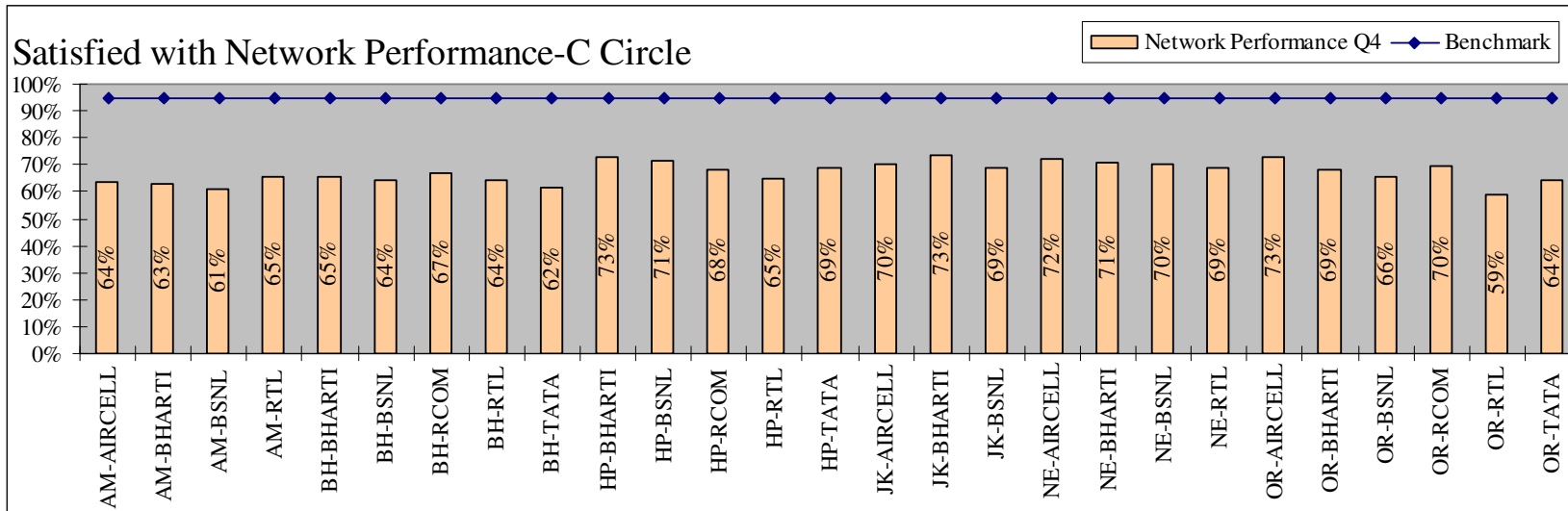
5.3.5 SATISFIED WITH NETWORK PERFORMANCE



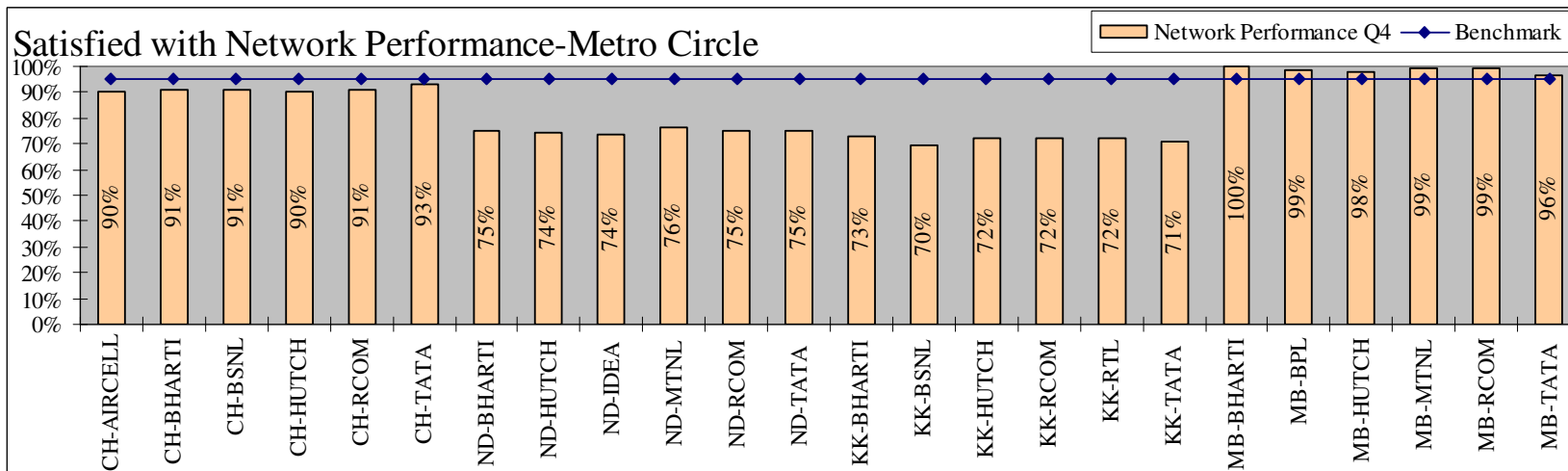
Note: Audit Conducted for 30 Operators. 17 Operators are not meeting the benchmark



Note: Audit Conducted for 48 Operators. 47 Operators are not meeting the benchmark

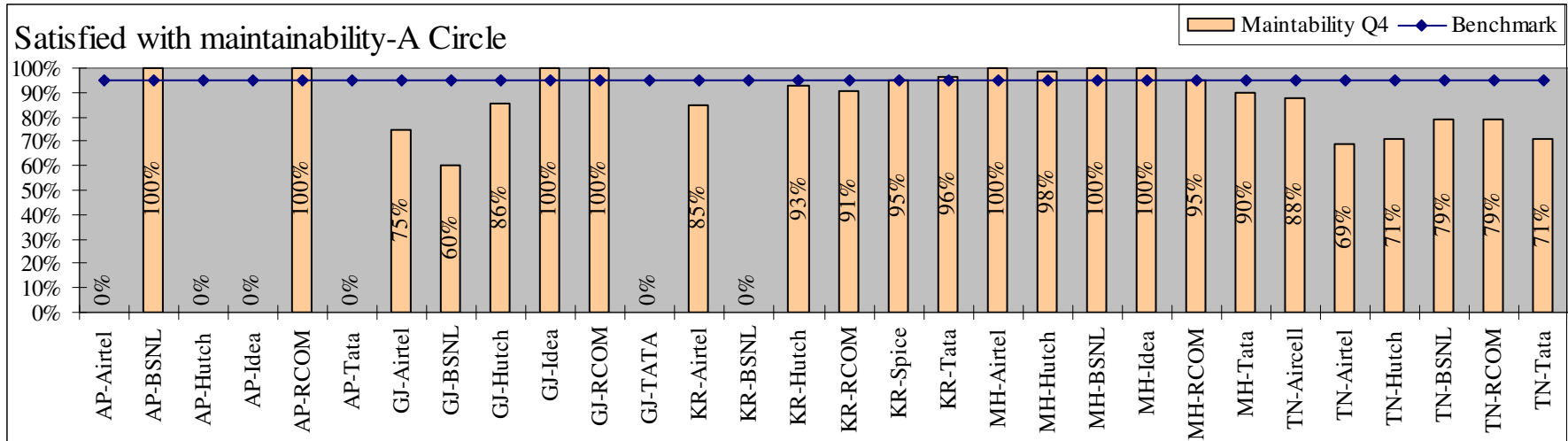


Note: Audit Conducted for 27 Operators. 27 Operators are not meeting the benchmark

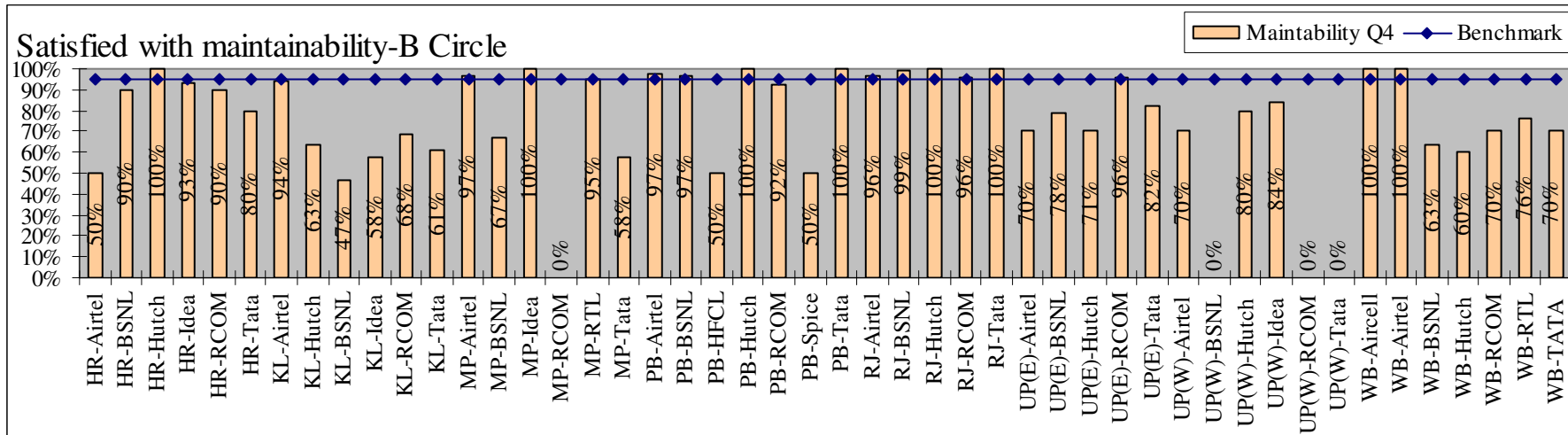


Note: Audit Conducted for 24 Operators. 18 Operators are not meeting the benchmark

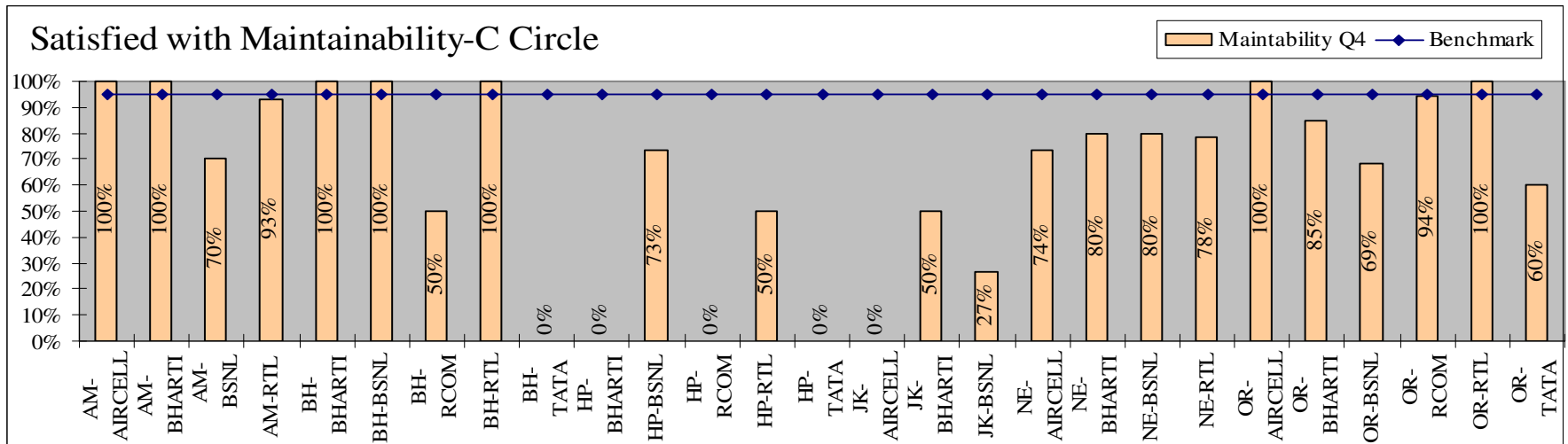
5.3.6 SATISFIED WITH MAINTAINABILITY OF SERVICES



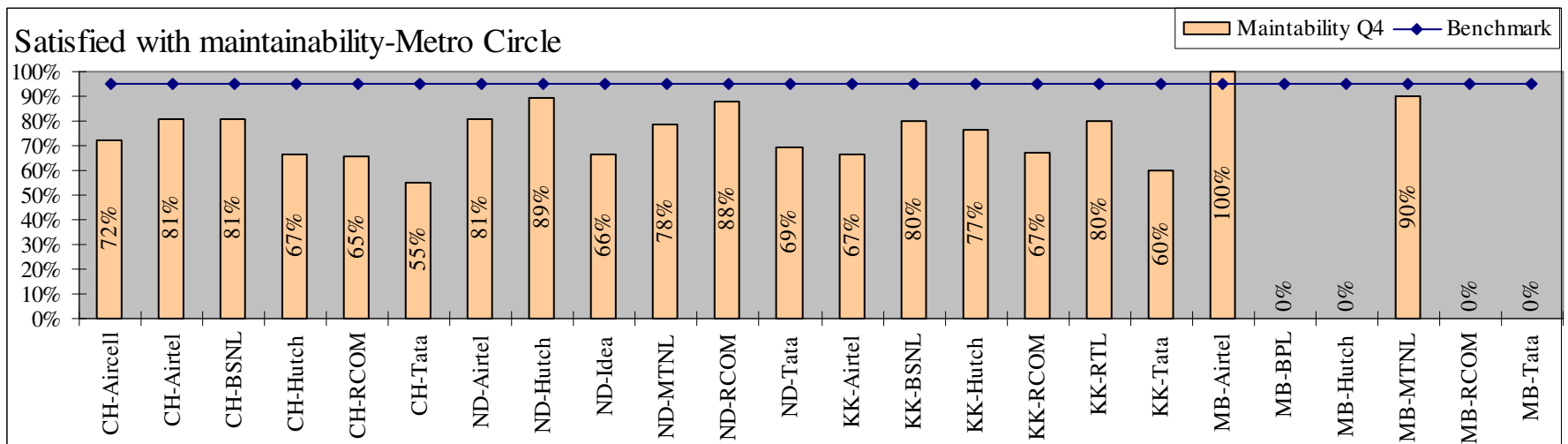
Note: Audit Conducted for 30 Operators. 13 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.



Note: Audit Conducted for 48 Operators. 28 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

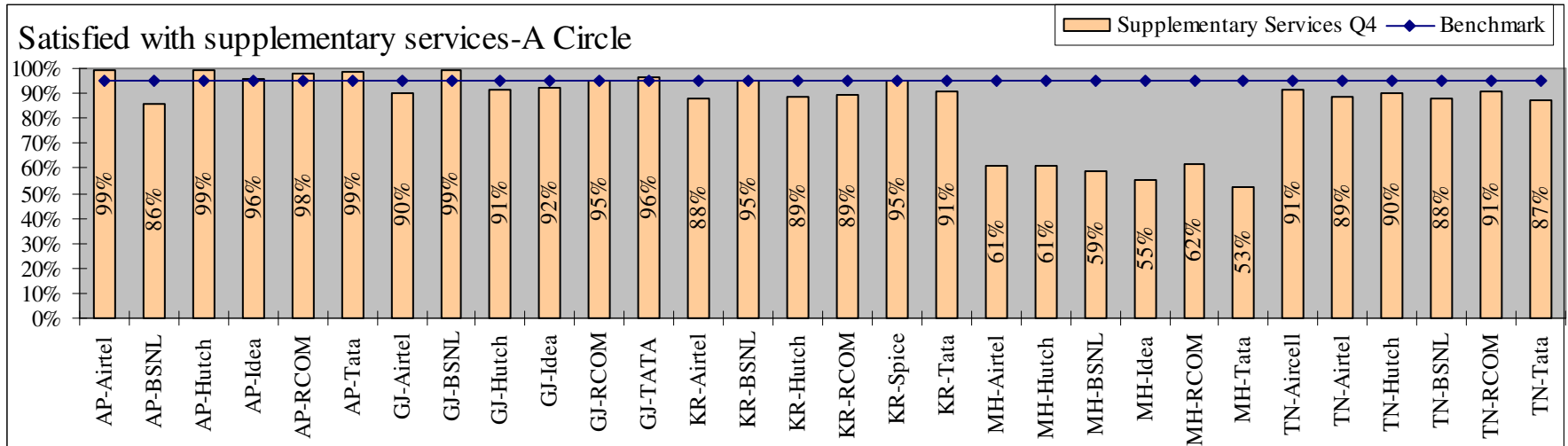


Note: Audit Conducted for 27 Operators. 15 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

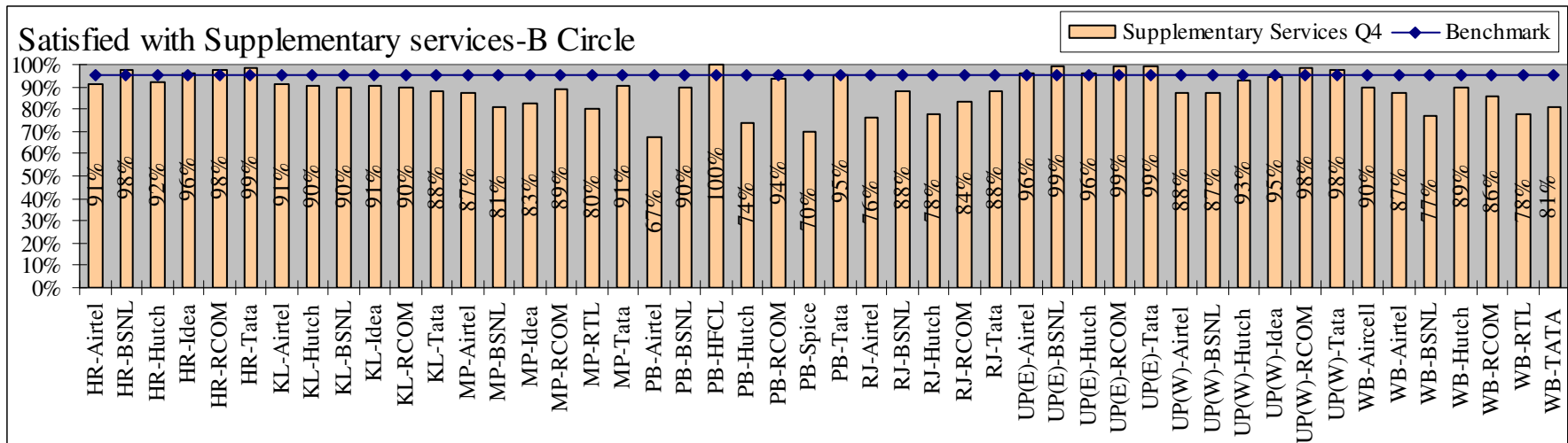


Note: Audit Conducted for 24 Operators. Only one MB-Airtel operators are meeting the benchmark

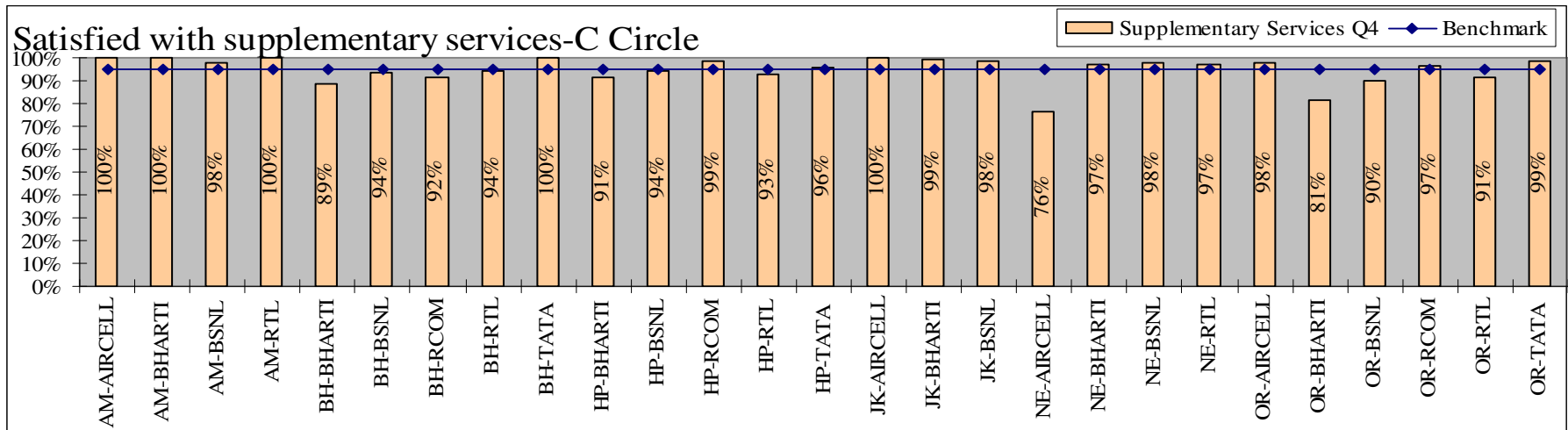
5.3.7 SATISFIED WITH SUPPLEMENTARY SERVICES



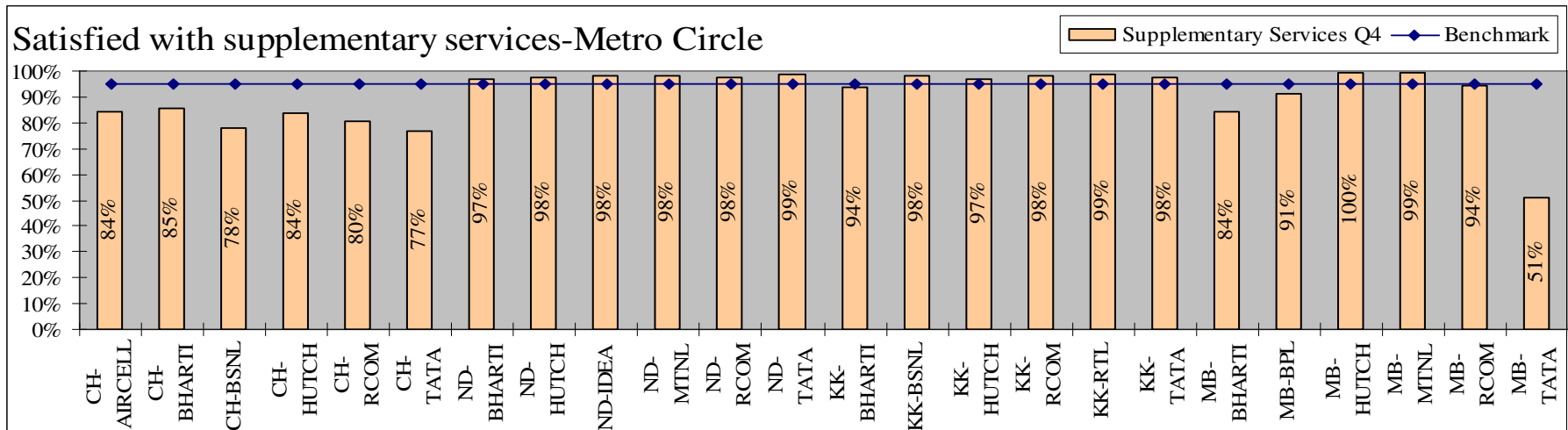
Note: Audit Conducted for 30 Operators. 20 Operators are not meeting the benchmark



Note: Audit Conducted for 48 Operators. 34 Operators are not meeting the benchmark.

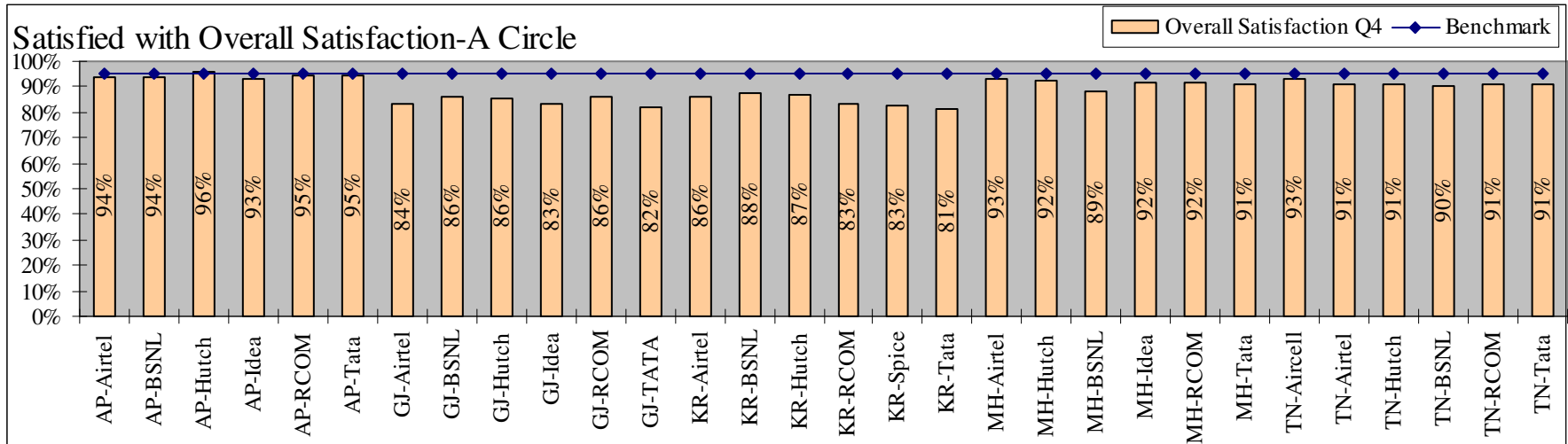


Note: Audit Conducted for 27 Operators. 11 Operators are not meeting the benchmark

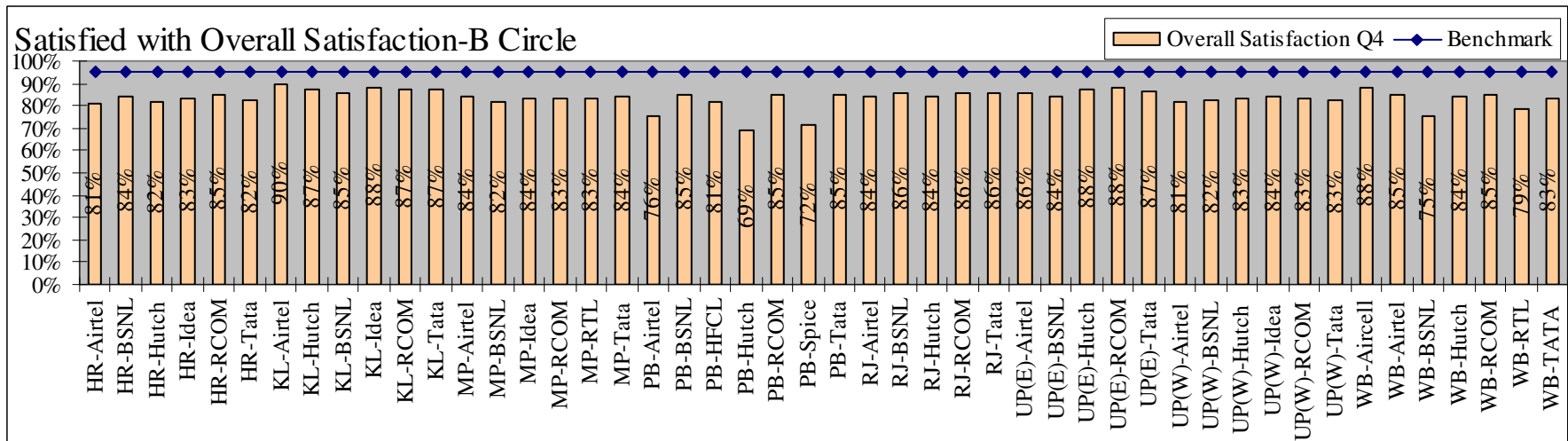


Note: Audit Conducted for 24 Operators. 11 Operators are not meeting the benchmark

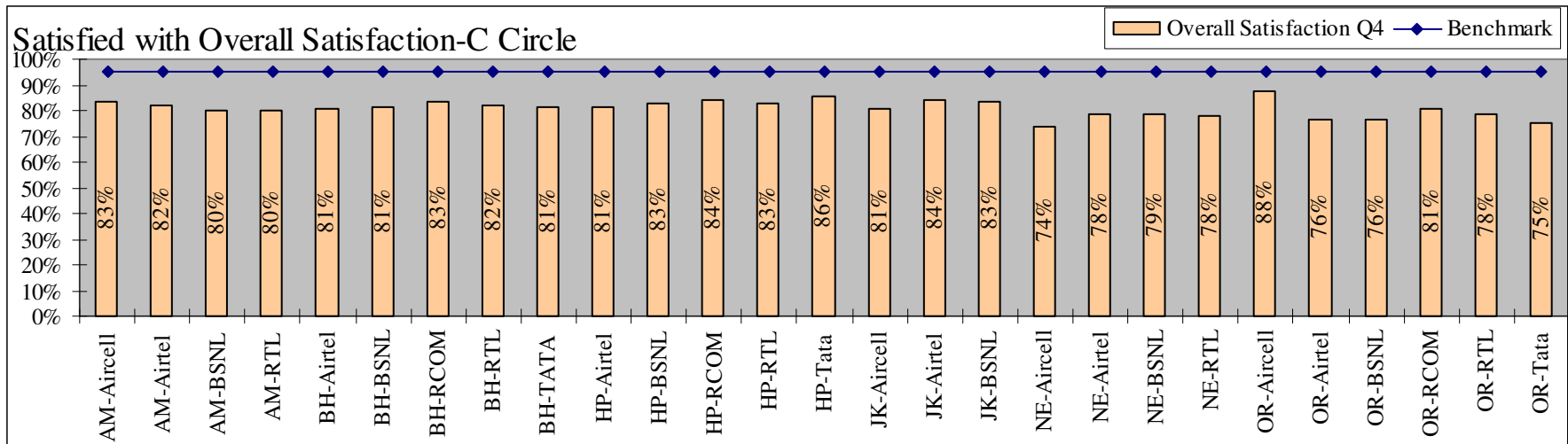
5.3.8 OVERALL CUSTOMER SATISFACTION



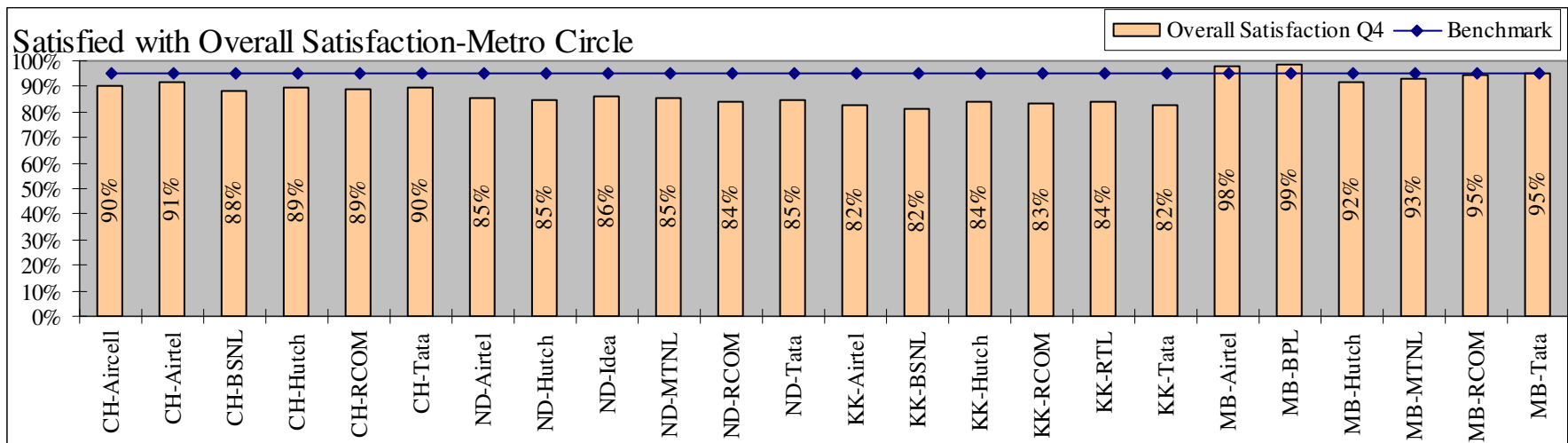
Note: Audit Conducted for 30 Operators. 27 Operators are not meeting the benchmark



Note: Audit Conducted for 48 Operators. -- of operators meeting the benchmark



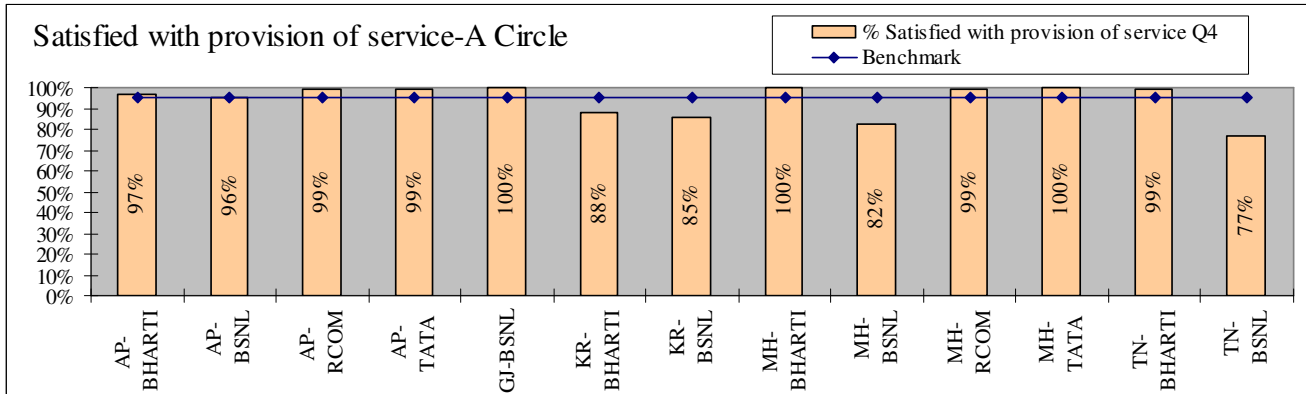
Note: Audit Conducted for 27 Operators. -- of operator meeting the benchmark



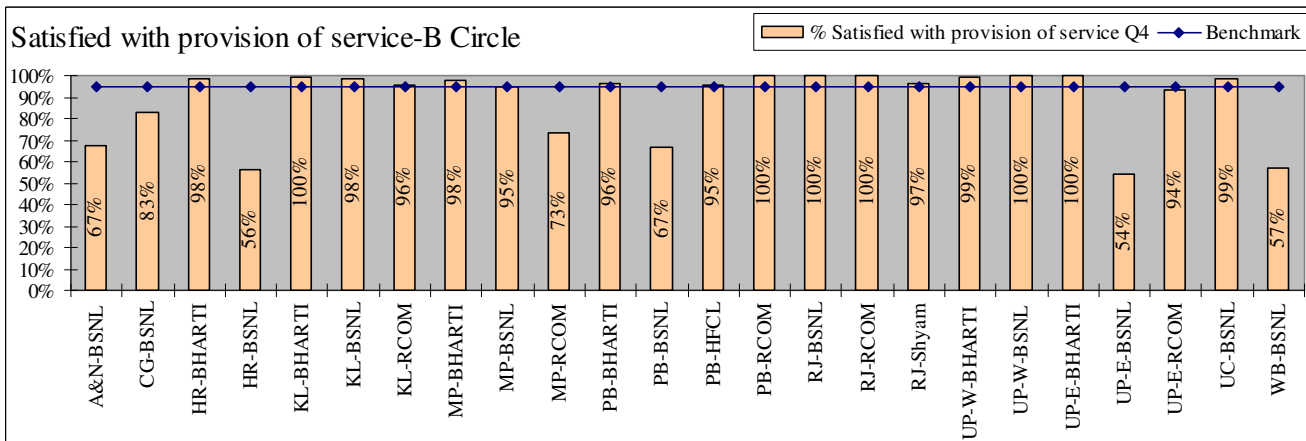
Audit Conducted for 24 Operators. 20 Operators are not meeting the benchmark

5.4 CSS – BASIC SERVICES

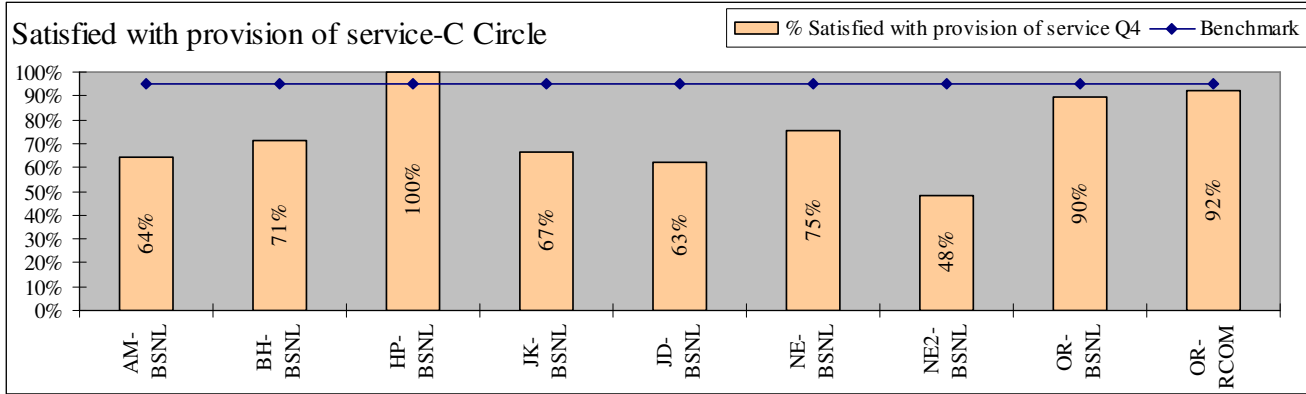
5.4.1 SATISFIED WITH PROVISION OF SERVICE



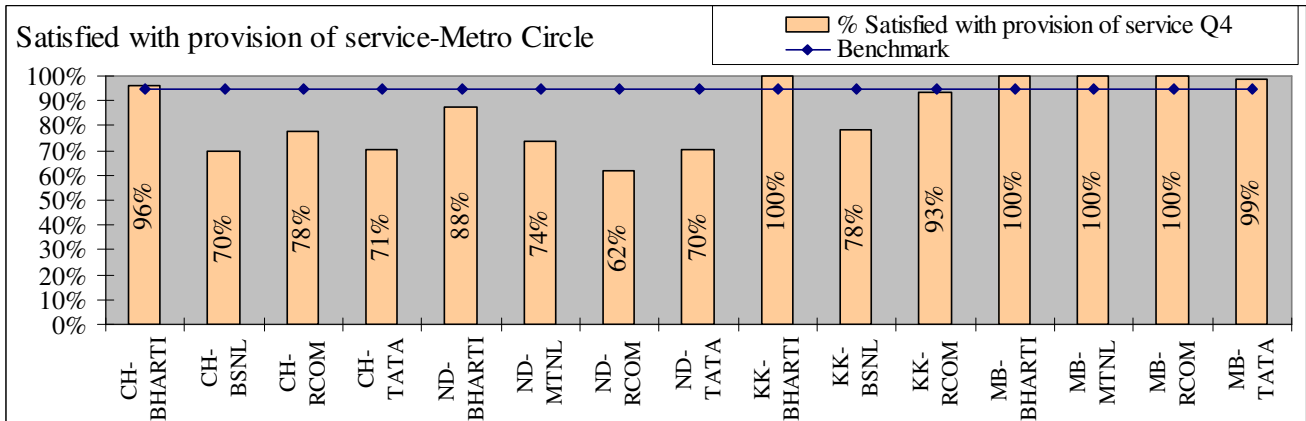
Note: Audit Conducted for 13 Operators. 4 Operators are not meeting the benchmark



Note: Audit Conducted for 24 Operators. 8 Operators are not meeting the benchmark

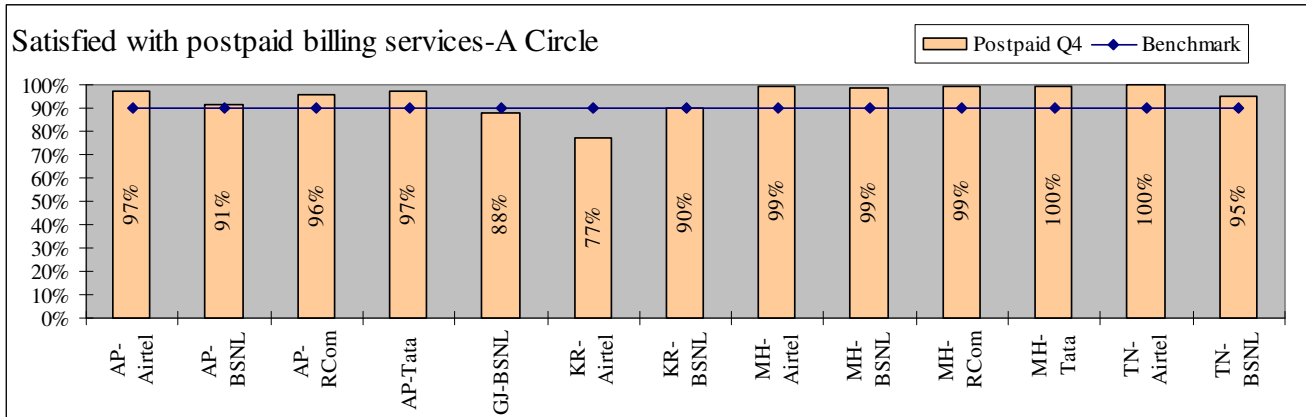


Note : Audit Conducted for 9 Operators. 8 Operators are not meeting the benchmark.

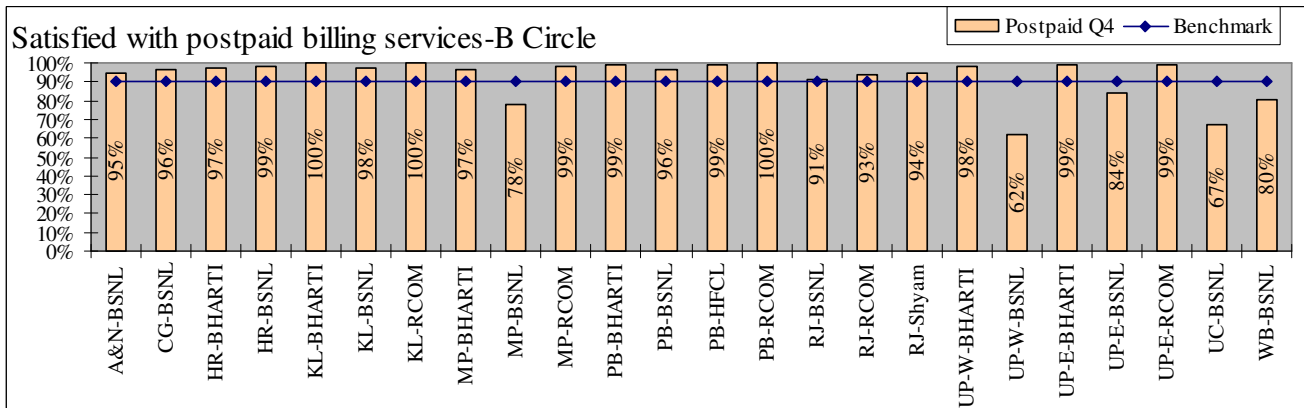


Note : Audit Conducted for 15 Operators. 9 Operators are not meeting the benchmark

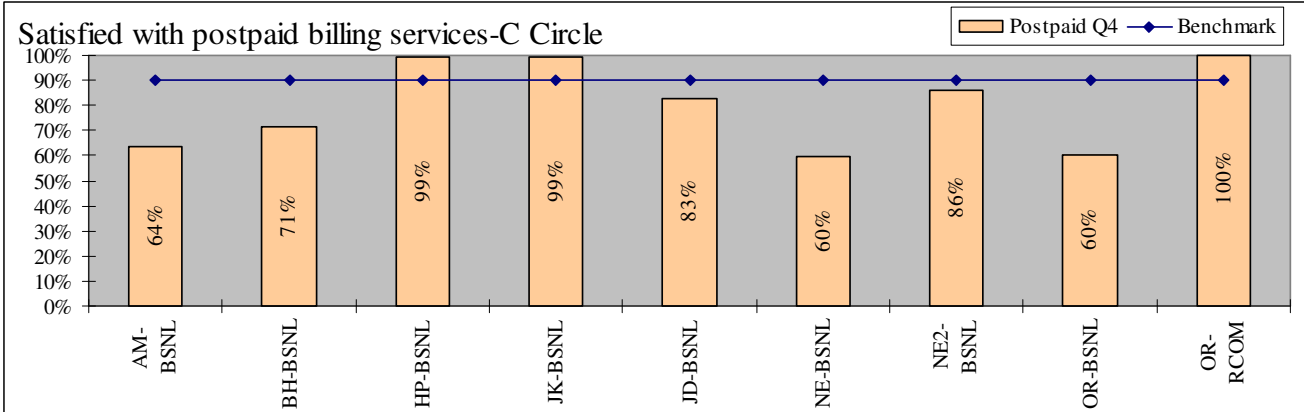
5.4.2 SATISFIED WITH POSTPAID BILLING SERVICES



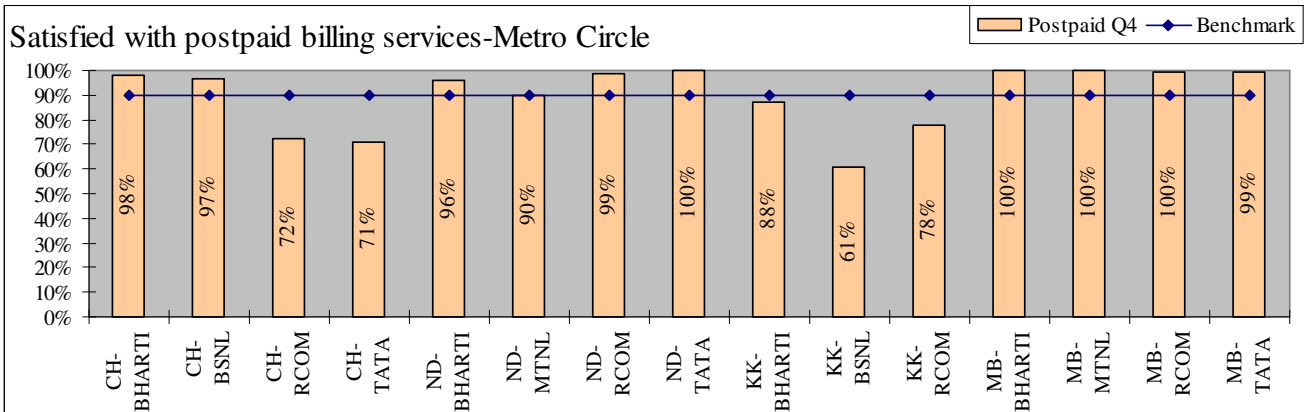
Note : Audit Conducted for 13 Operators. 2 Operators are not meeting the benchmark.



Note : Audit Conducted for 24 Operators. 05 Operators are not meeting the benchmark

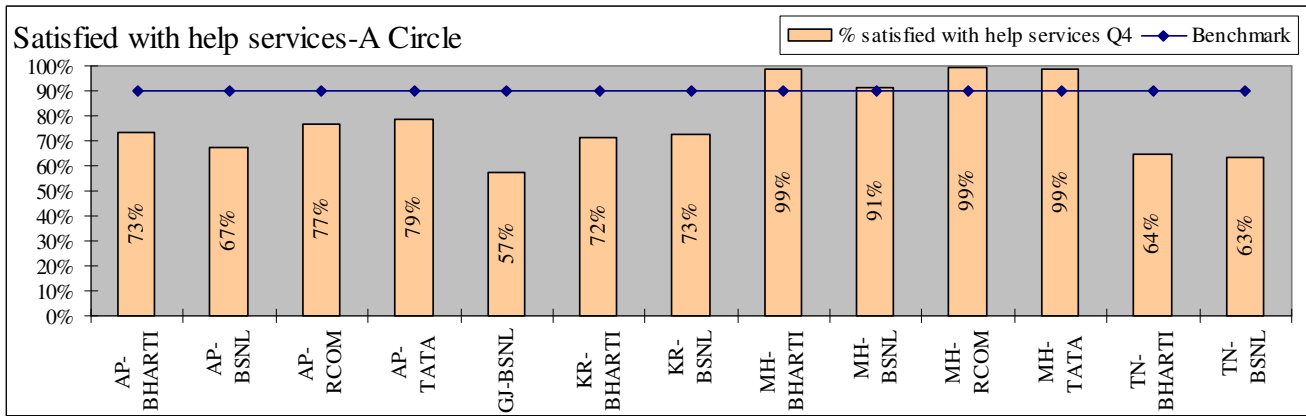


Note : Audit Conducted for 9 Operators. 6 Operators are not meeting the benchmark.

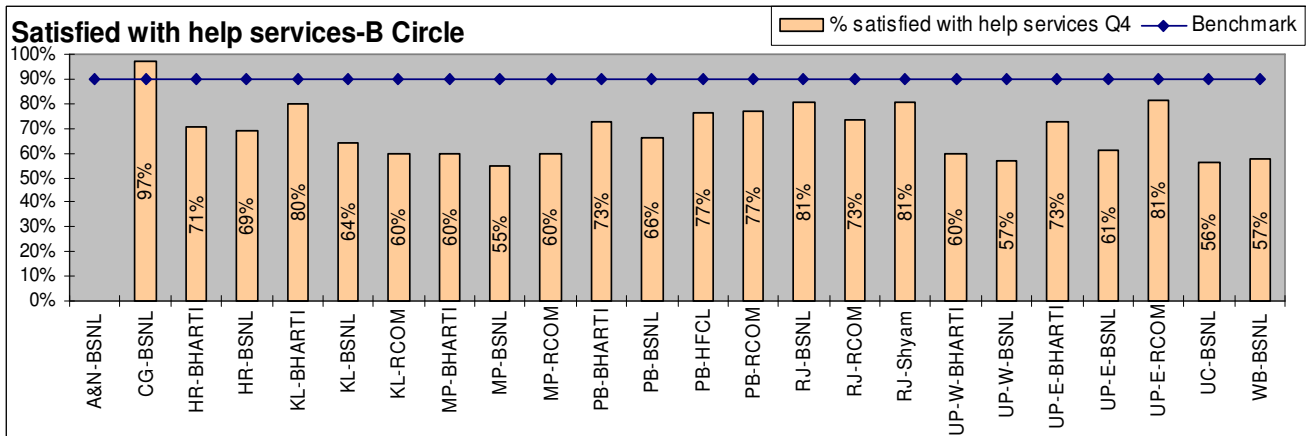


Note : Audit Conducted for 15 Operators. 5 Operators are not meeting the benchmark

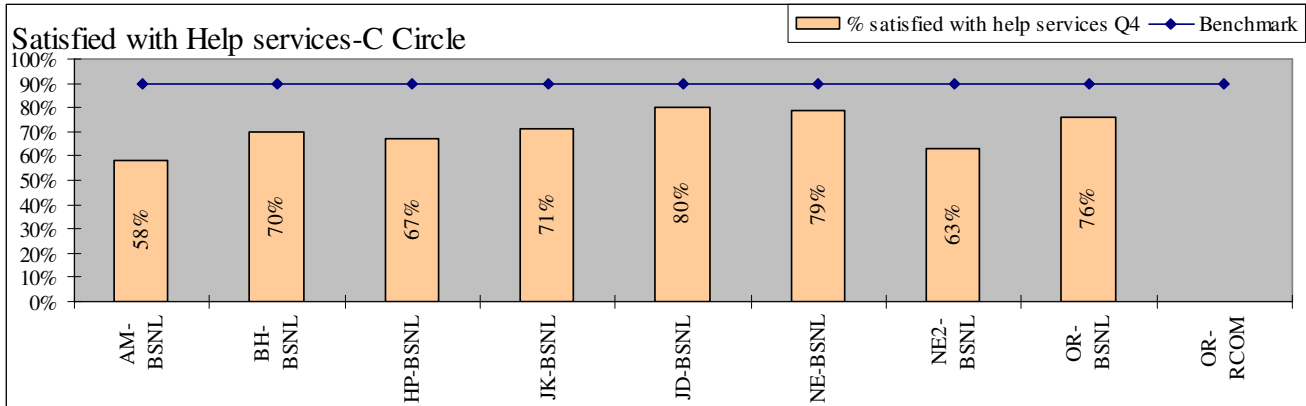
5.4.3 SATISFIED WITH HELP SERVICES



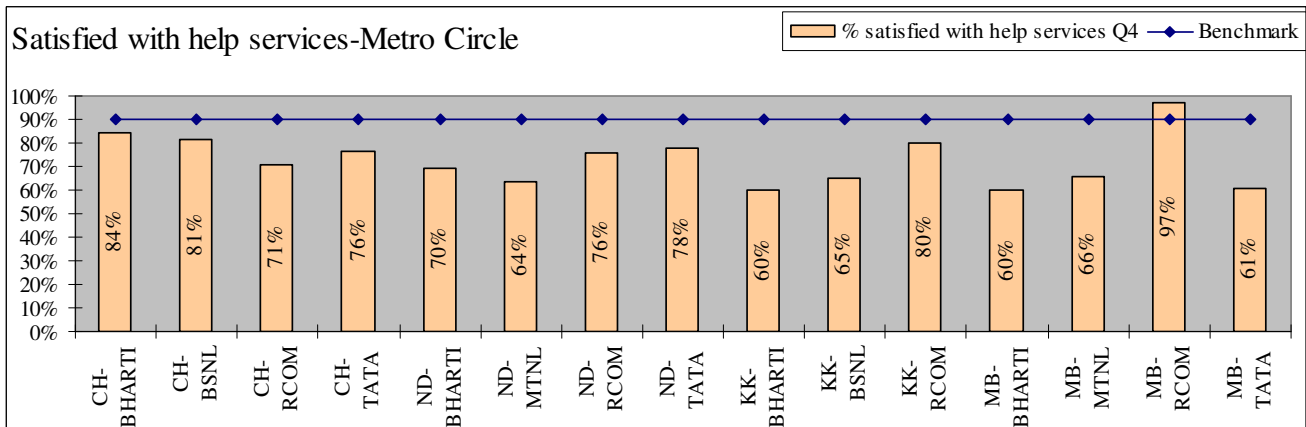
Note : Audit Conducted for 13 Operators. 09 Operators are not meeting the benchmark.



Note : Audit Conducted for 24 Operators. 22 Operators are not meeting the benchmark

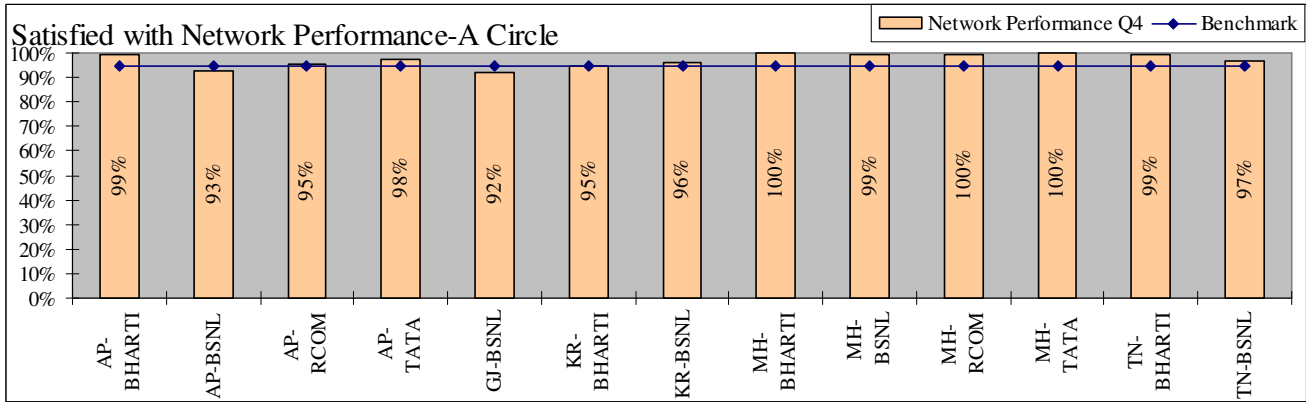


Note : Audit Conducted for 9 Operators. 8 Operators are not meeting the benchmark.

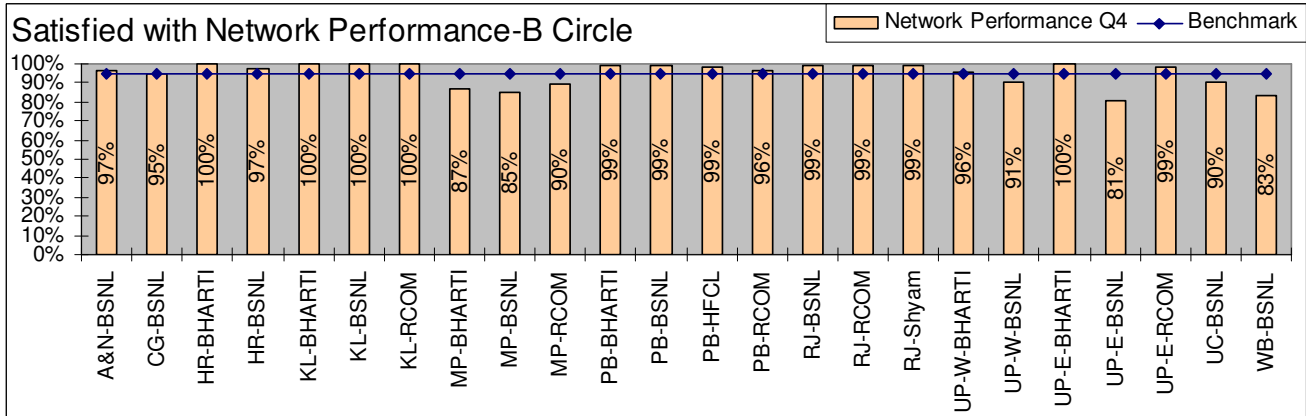


Note : Audit Conducted for 15 Operators. 14 Operators are not meeting the benchmark

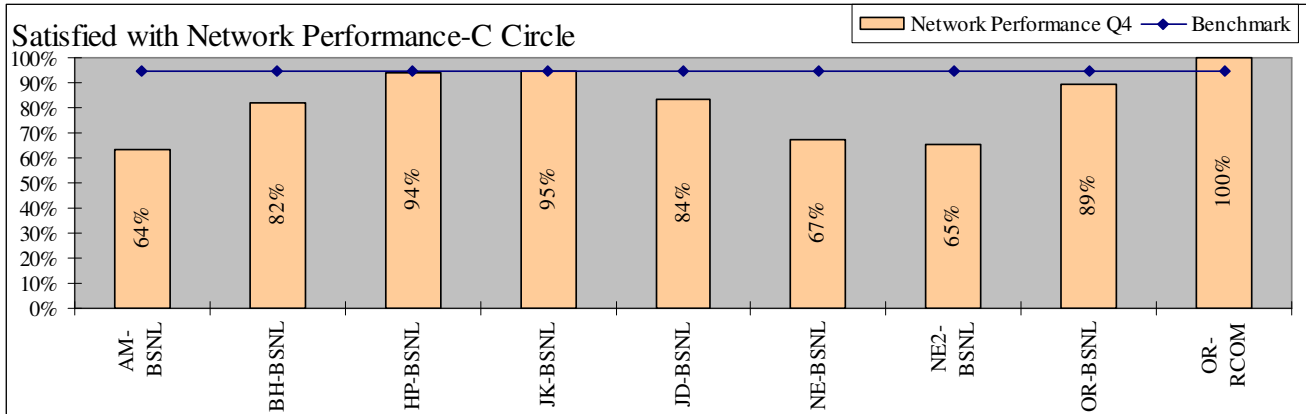
5.4.4 SATISFIED WITH NETWORK PERFORMANCE



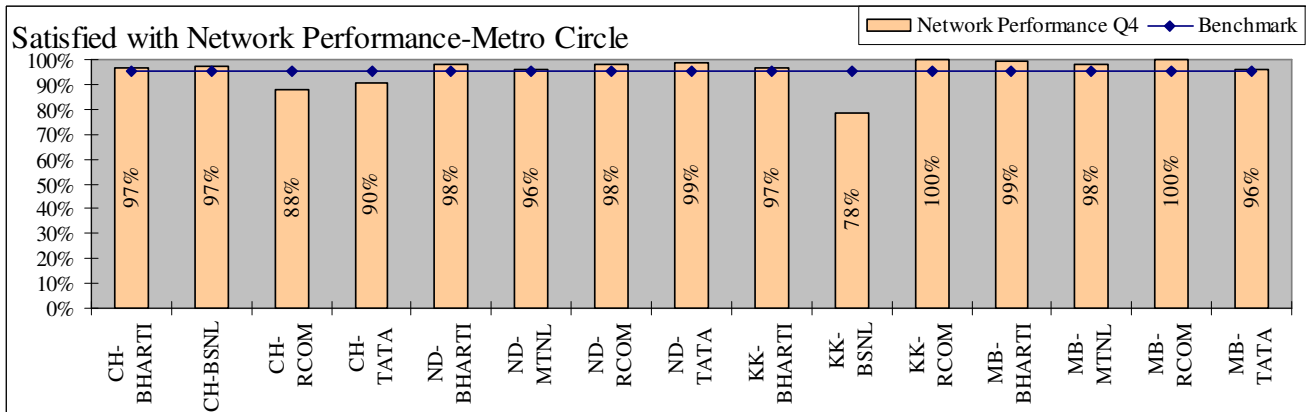
Note: Audit Conducted for 13 Operators. 02 Operators are not meeting the benchmark



Note: Audit Conducted for 24 Operators. 7 Operators are not meeting the benchmark

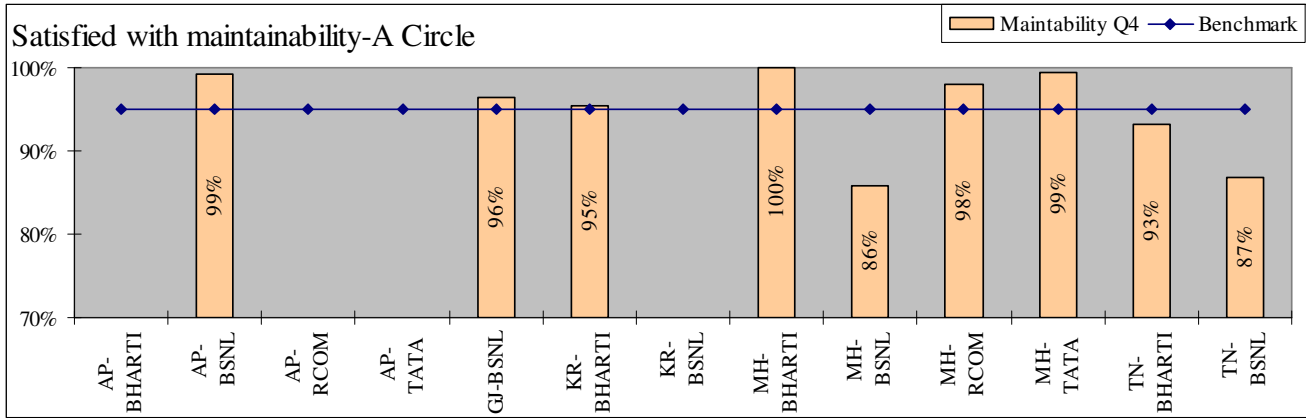


Note : Audit Conducted for 9 Operators. 7 Operators are not meeting the benchmark

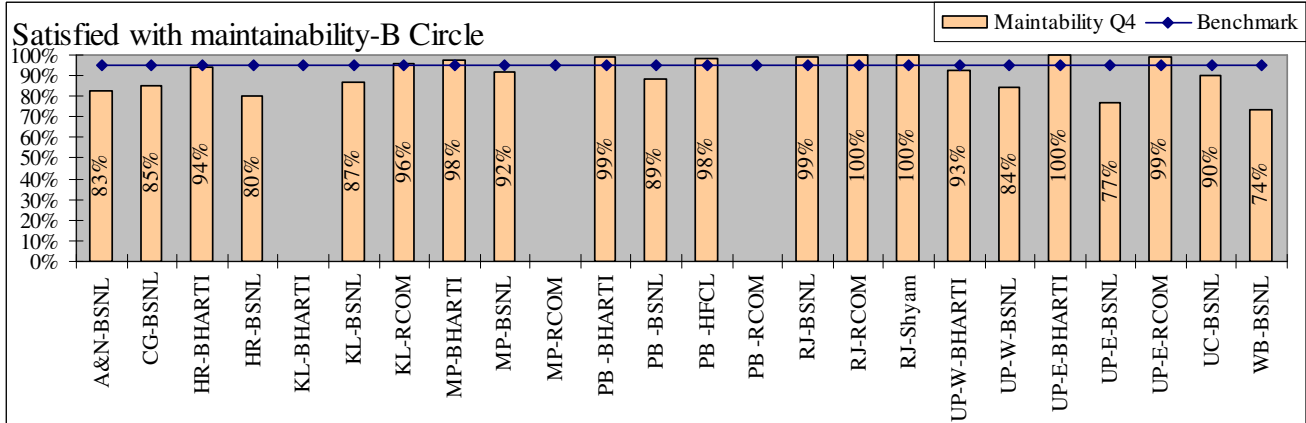


Note : Audit Conducted for 15 Operators. 3 Operators are not meeting the benchmark

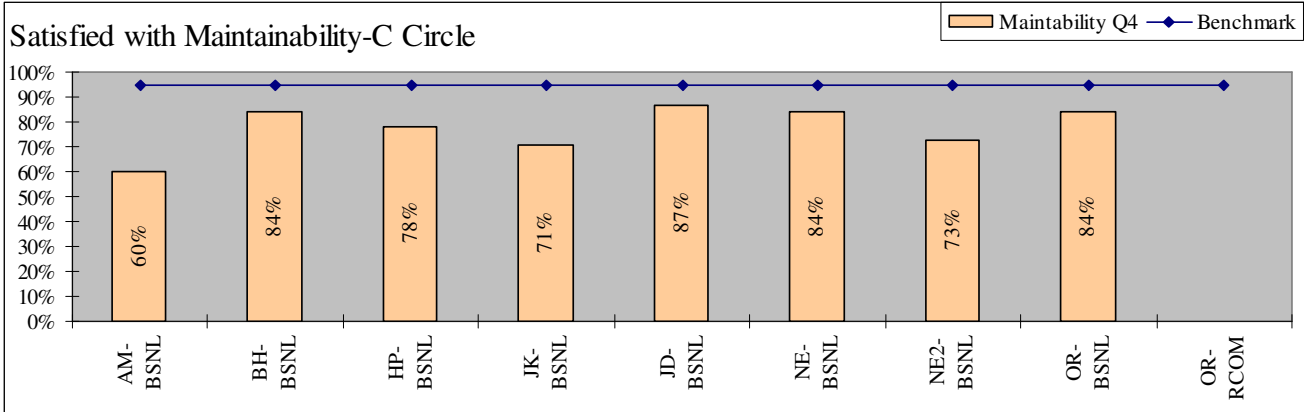
5.4.5 SATISFIED WITH MAINTAINABILITY OF SERVICES



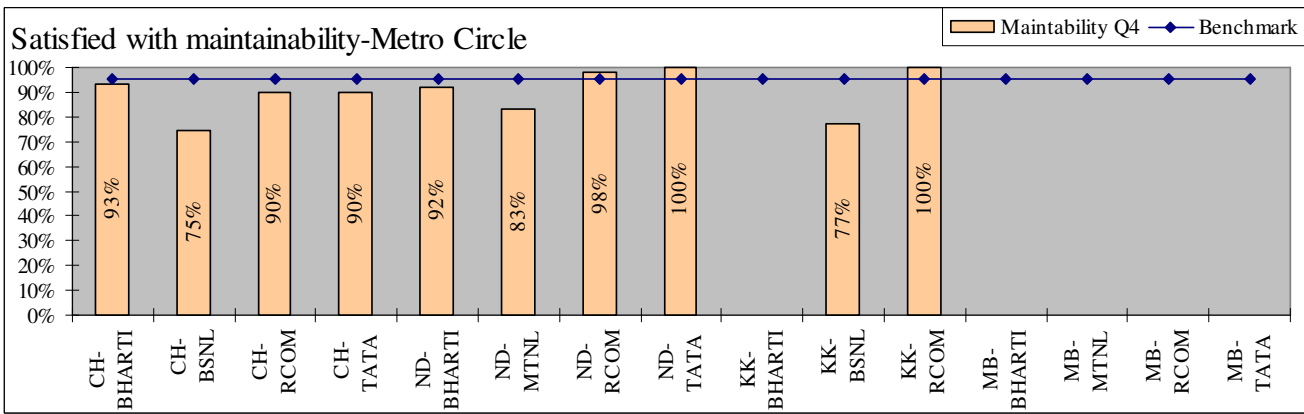
Note : Audit Conducted for 13 Operators. 3 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.



Note : Audit Conducted for 24 Operators. 12 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

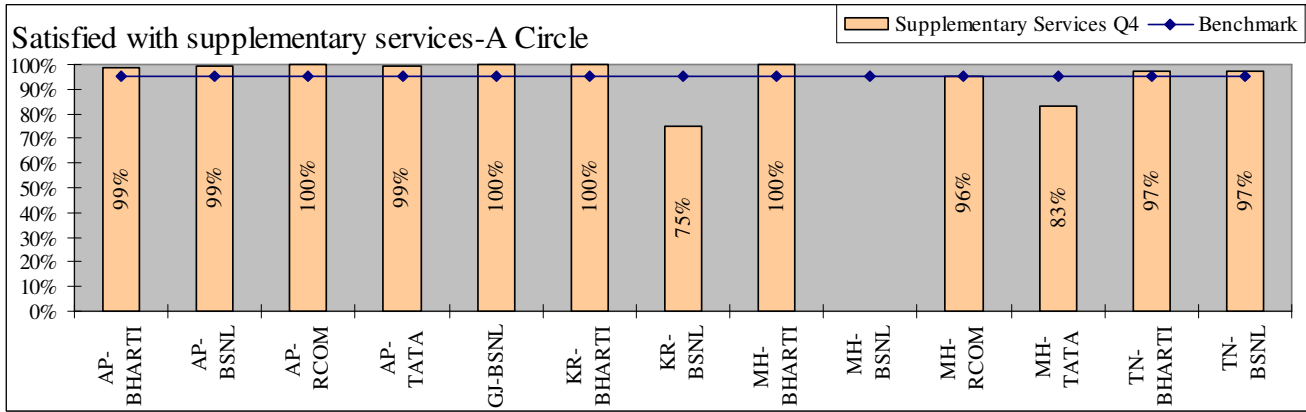


Note : Audit Conducted for 9 Operators. 8 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

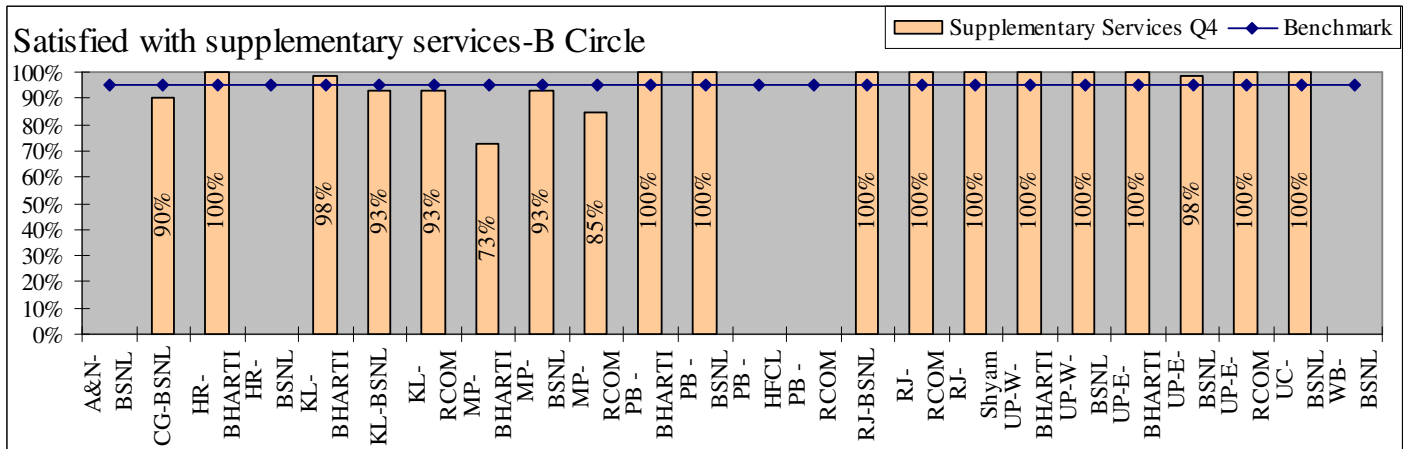


Note : Audit Conducted for 15 Operators. 7 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

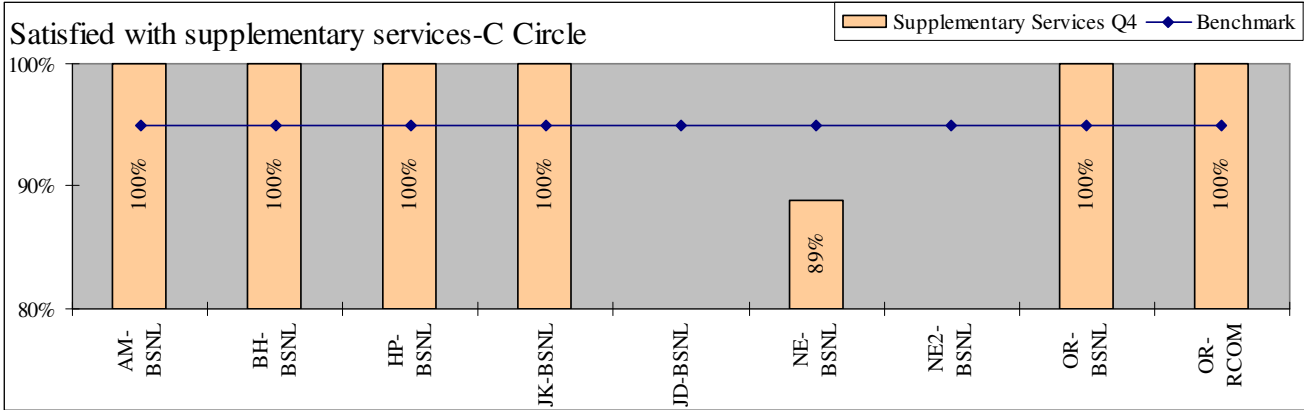
5.4.6 SATISFIED WITH SUPPLEMENTARY SERVICES



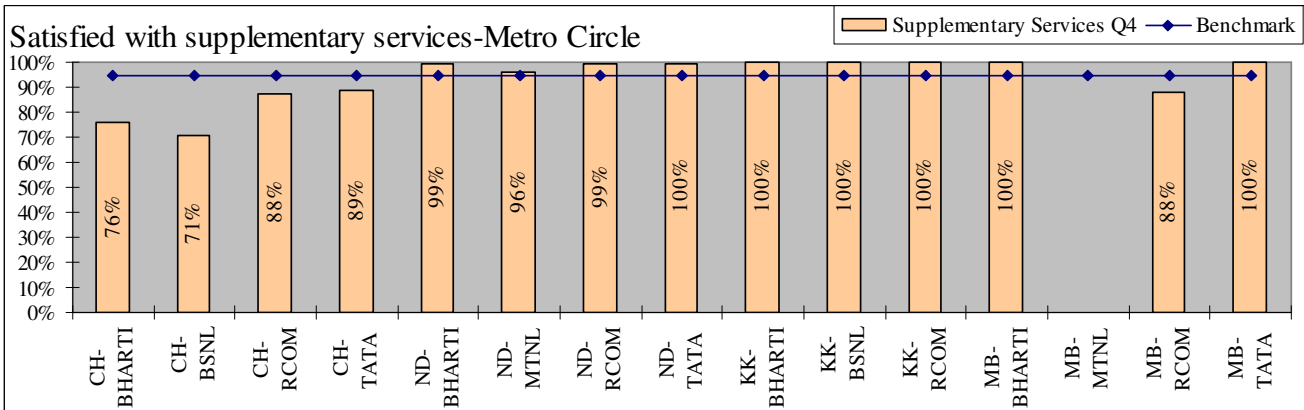
Note : Audit Conducted for 13 Operators. 02 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.



Note : Audit Conducted for 24 Operators. 6 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

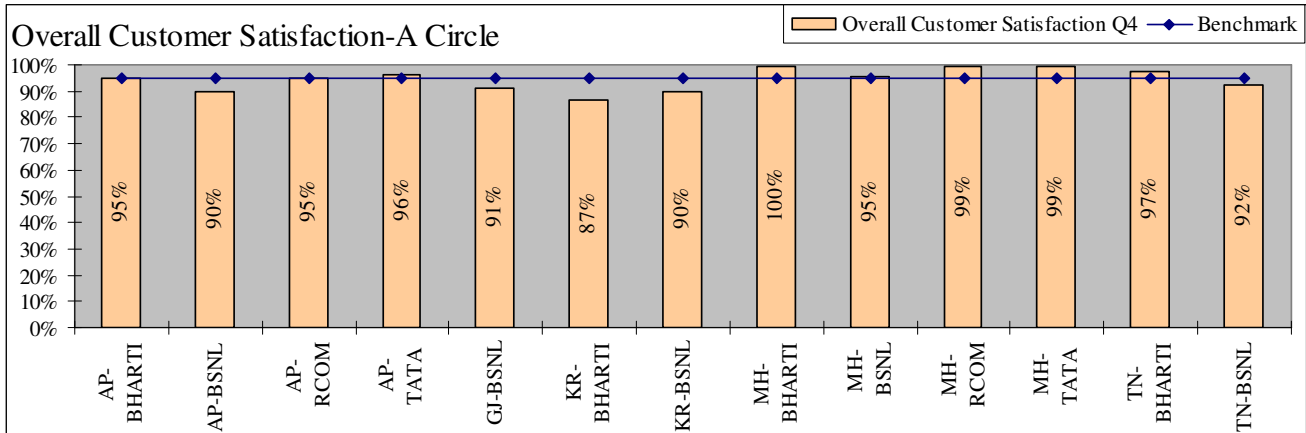


Note : Audit Conducted for 9 Operators. 01 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

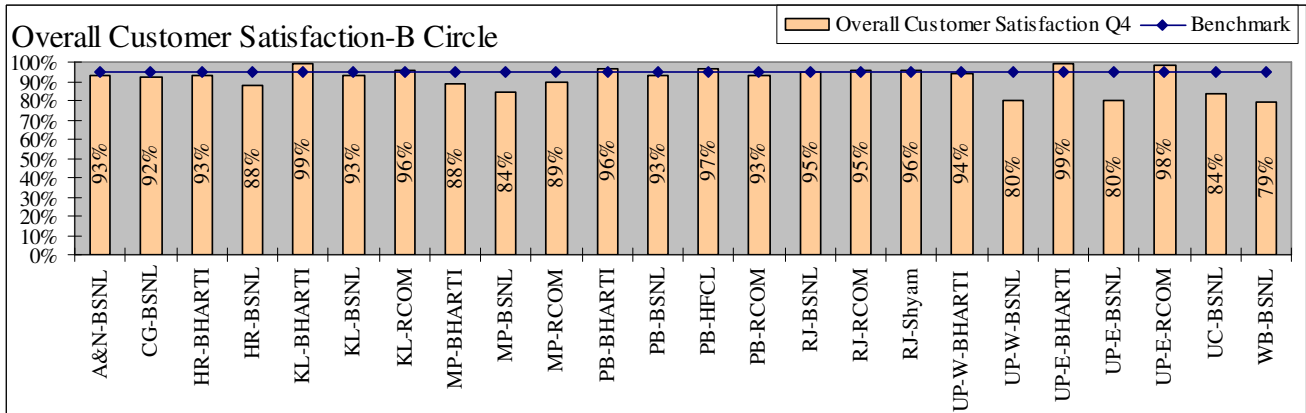


Note : Audit Conducted for 15 Operators. 05 Operators are not meeting the benchmark. Operators with No Value are case of LSB / NR / NI as detailed in table.

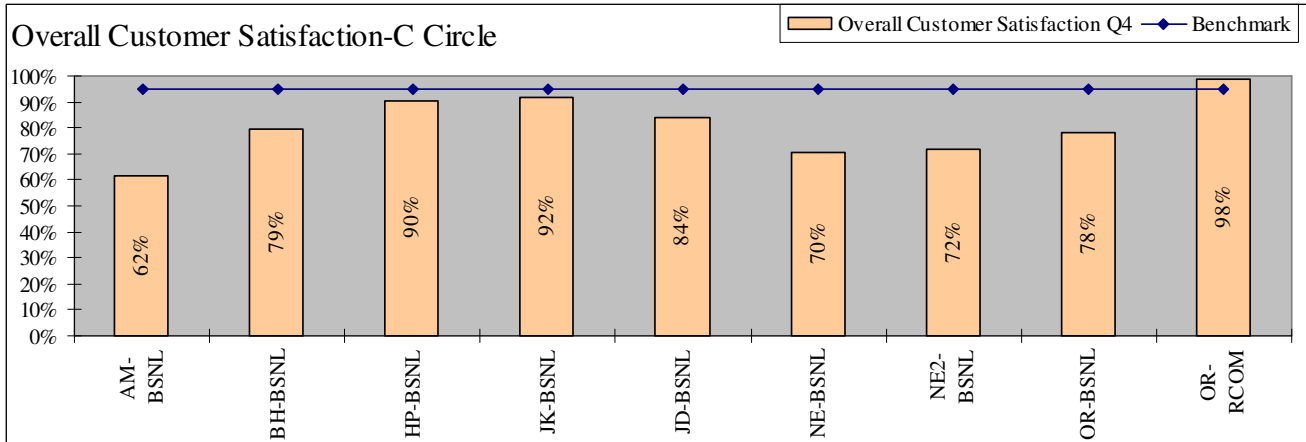
5.4.7 OVERALL CUSTOMER SATISFACTION



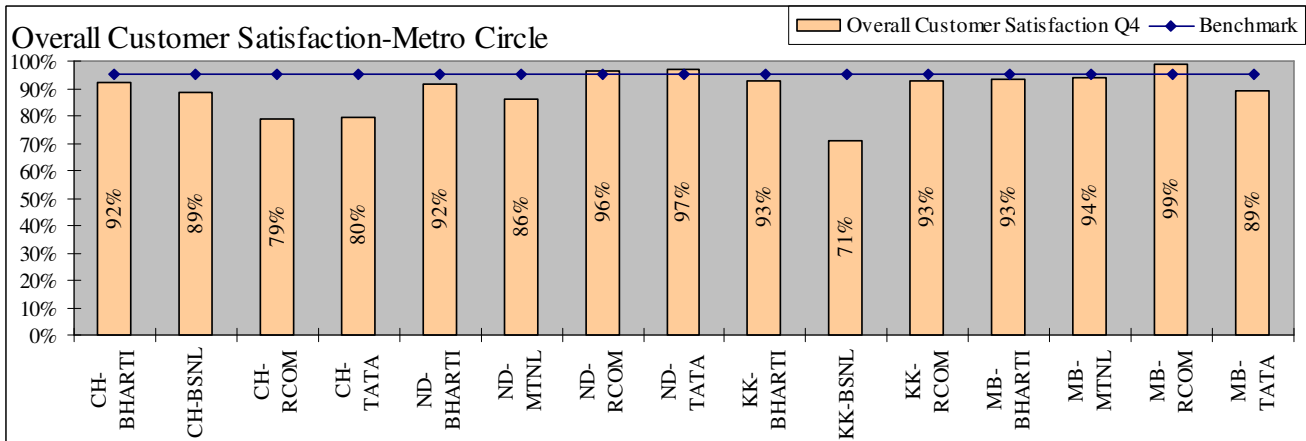
Note: Audit Conducted for 13 Operators. 5 Operators are not meeting the benchmark



Note: Audit Conducted for 24 Operators. 15 Operators are not meeting the benchmark



Note: Audit Conducted for 9 Operators. 8 Operators are not meeting the benchmark



Note: Audit Conducted for 15 Operators. 12 Operators are not meeting the benchmark

6 **AUDIT COVERAGE**

6.1 EXCHANGES AUDITED – BASIC SERVICES

Table 59 [List of Basic Service Exchanges Audited in Quarter 4]

Service Area Category	Name of Service Area	Name of Service Provider	List of Exchanges audited in Quarter IV (OCT 06 to DEC 06)	Urban / Rural
"Metro" Circle	ND	MTNL	Lodhi Road, Bhikaji Cama palce, Delhi Gate	Urban
"Metro" Circle	ND	TATA	Okhala	Urban
"Metro" Circle	ND	BHARTI	Okhala Ph-3	Urban
"Metro" Circle	ND	RCOM	C.P	Urban
"Metro" Circle	MB	MTNL	Kambala hill, Chingur, Vodala	Urban
"Metro" Circle	MB	BHARTI	ABTS Mumbai	Urban
"Metro" Circle	MB	TATA	NAR Mumbai	Urban
"Metro" Circle	MB	RCOM	Mumbai	Urban
"Metro" Circle	CH	BSNL	Mamblan, Mylapore, Tambaram	Urban
"Metro" Circle	CH	BHARTI	Chennai	Urban
"Metro" Circle	CH	RCOM	Chennai	Urban
"Metro" Circle	KK	BSNL	Manitala, Russa Tel Excg. Ciucus EWSD, Central OBC , Bairakpore	
"Metro" Circle	KK	BHARTI	Maniktala Exch, Russa Tel.Exch, Circus EWSD Main, Central OCB Exch., Barrackpore Exch.	Urban
"A" Circle	GJ	BHARTI	Ahmadabad	Urban
"A" Circle	GJ	TATA	Ahmadabad	Urban
"A" Circle	GJ	BSNL	Amreli, Bagasara, Babra, Savarkundala, Rajula, Amreli Tax, Himatnagar, Modasa, Idar, Bayad, Prantij, Kharaghoda, Surendranagar OCB, Limbdi, Surendranagar gmtd, Halvad, Than, Adipur, Bhujj, Gandhidham, Mandvi, Mundra.	Urban
"A" Circle			Babapur, Mota gokharwada, Mota akadia, Tori, Kothdapitha, Mota devalia, Olia Hipavadli, Pipavav, Kovaya, Hajipur, Agiol, Ambaliya, Amlai Kampa, Bhetali, Hatarava, Sathamba, Balisana, Moyad, Salal, Bajra ngpura, Lilapur, Lakhtar, Jambu, Jainabad, Dasada, Patdi, Nana ankevalia, Mota Timbla, Vana, Kera, Gundala, Khavda, Koday, Vithon, Samkhairi, N aliaya, Nakhtrana, Kothara, Mankuva	Rural
"A" Circle	KR	BHARTI	Mysore, Mangalore, Bangalore	Urban
"A" Circle	KR	TATA	Bangalore	Urban
"A" Circle	KR	BSNL	Chamarajanaga, hassan, kollegala, Madikeri, Somwarpet, Chickmagalur, Mandaya, Belagola, Mynazarbhad, Nanjangud, M R Car street, Udpi, Malleshwara, Channarayapatna	Urban
"A" Circle	KR	RCOM	Karnataka	Urban

Service Area Category	Name of Service Area	Name of Service Provider	List of Exchanges audited in Quarter IV (OCT 06 to DEC 06)	Urban / Rural
"A" Circle			Abburkatte, Kajoor, Sathegala, B.R. Hills, Kirrgoor, Tholalu, Juttanahallibore, Avathi, Kemmangundi, Addagadde, Bogadi, Melukote, Aghalaya, Naraganahalli, Nanjangud, Hampapura, Chamundi Hills, Kanagal, Bajpe, Kadeshwalya, Uli, Kukkehali, Mala, Byrapura, Banavara, Gandsi, Javagal, Horanadu, Kalasa, Samse, Chettalli, Ponnampet, Kutta, Ammathi, Terakanambi, Begur, Kikkeri, Bindignavile, Halaguru, Talakad, Bettadapura, R P Colony, Saragur, Sampaje, Allipade, Mani, Sornad, Shirva, Belvai, Nitte, Bajagoli, Doddakadanur, Kalmadka	Rural
"A" Circle	AP	BSNL	Kurnool, Elura, AVG Urban, Tirupati, Puttur, Chittor(MBM), Chittor(EWSD), Tirupathi, Puttur, Chittor.	Urban
"A" Circle			Gudur, Allagadda, K.Nagalap, Peddapadu, Polakal, Ulindakonda, Panyam, Chagalamarri, Mahanandi, Koyyaladude, Kalavalapa, Velivenu, Pentapadu, Achanta, Valluru, Undi, Gummuluru, Mogalturu, Poduru, Khandavalli, Aravalli, Dharmajigudem, Velpuru, Juvvalapelem, Bondalu, East Vipperu, AVG rural, Chandagiri, Kandulavaripalli, Durgasamudram, Pakala, Tirumala, Renigunta, Karakambadi, Kayampet, Karvetinagam, Kammaipalli, Kuppambadyr, Vadamalpet, Nethakuppam, Arangonda, Kanipakam, Petamitta, GD Nellore	Rural
"A" Circle	AP	TATA	Hyderabad	Urban
"A" Circle	AP	BHARTI	Hyderabad	Urban
"A" Circle	AP	RCOM	Hyderabad	Urban
"A" Circle	TN	BSNL	Sivagiri, Perundurai, Nalroad, Padiyur, Rajanagar, Suramangalam, Gugai, Meyyanur, Shevapet, Ammapettai, Salem main RSU, Leigh Bazar, Hasanur, Kasipalayam, Elumathur, Seelampalayam, Srirangapalayam, Seelanayakkanpalayam	Urban
"A" Circle			Mylambadi, Vairamangalam, Jambai, Alangium, Peramium, Arianvalasu, Avalpoondurai, Karatadipalayam, Uthiyur, Padiyur, Kondalampatti, Surmangalam, Morepalayam, Valayapatti, Thengal Palayam, A Pudur, Belur, Kabilarmalai	Rural
"A" Circle	TN	RCOM	TN	Urban
"A" Circle	MH	BSNL		Urban
"A" Circle			Soner,katol,kalmeshwar,Mouda,Umrer,Ramtek,Waigan,Butibori ,Mide,Bhatye,Niwali,Pali,Naniz,Paws,hathkhamba,Dorle,Karbu da,Ranpar,Kolambe,Murugwada,,wakan,IPCL,Bhalgaon,Chaner a, Kolad, Beloshi, Kopar, Nagaon, Revdanda, Ramraj, Usar, Shirud, Arvi, Kapodna, Songir, Fagne, Mukti, Navalnagar, War, Ner, Kusumba, Oras, Kadawal, Kasal, Panbazar, Mithbhav, Talebazar, Shirgao, Thakurwari, Aronda, Banda, Ajgaon, Malgaon	Rural
"A" Circle	MH	TATA	Nasik	Urban
"A" Circle	MH	RCOM	Maharsthra	Urban
"B" Circle	WB	BSNL	Mohanpur Exch., Kharagpur, Bangaon,	Urban

Service Area Category	Name of Service Area	Name of Service Provider	List of Exchanges audited in Quarter IV (OCT 06 to DEC 06)	Urban / Rural
"B" Circle			Madpur, Malancha, Gopalpur, Manikpura, Thakurnagar, Salua, Balichak, Bagnan, Daton, Galsi, Maslandapur, Gangpur, Debipur, Panagarh Bazar, Majdia, Simurali, Mogra, Badkulla	Rural
"B" Circle	A&N	BSNL	Completed in previous quarter	
"B" Circle	KL	BSNL	OCB Nedumangad, Plakeezha, vaman Puram, 5 ESS Kaniyapuram, Madanvilla, Merukkumpuzha, Thonnakkal	Urban
"B" Circle			Axe Kaidhamukki, Anayara, Manakud, Kaimanam, Shavgumgham, Vazhayilla, Kadhamukki, Thirumala, Thiruvallam	Rural
"B" Circle	KL	RCOM	Kerala	Urban
"B" Circle	MP	BSNL	Civil lines Satna, Morena main	Urban
"B" Circle			Badgawan, Ingoria, Runija, kharsod kalan, Bgatpachlana, Nimbod, Jeeran, Daloda, Pipliya, Nayagaon, Parikhsitpur, Ambah, Amarpura, Dharamgarh, Chand ka pura, Mahua, Porsa, Dimri, Bihara, kotar, Pindra, Modhargarh	Rural
"B" Circle	CG	BSNL	Narmada Nagar, Bilha, Tifra, Sarkanda, R.K Nagar	Urban
"B" Circle			Khami, Khamaria, kanthakoni, kantili, Jarondha, Jarhagaon, Jairam Nagar, Hirrimines, Ghutku, Ganiyari, FASTERPUR, Darrighat, Chakrabhata, Sonpuri, Rambod, Ponsari, Fadha, Dagouri, Bawali, Bartori, Birkona	Rural
"B" Circle	Haryana	BHARTI	Ambala Cant.	Urban
"B" Circle	HR	RCOM	Ambala Cant.	Urban
"B" Circle	HR	BSNL	Bhiwani, Rohtak, Sonapat	Urban
"B" Circle			Premnagar, Tigrana, Bapora, kahanaur, Anwal, lalhi, Akbarpur Baroda, Jakholi, Mehndipur	Rural
"B" Circle	PB	BSNL	Sector-17(Chandigarh), Pathankot, Batala	Urban
"B" Circle			Khudalisher, Maloya, Landran, Khudalahora, Sohana, Sahawal, K.Afgana, Dorangla, Chona, Sherpor, Mattikot, Sehora, L.Gujran, GHO, N.Bhor	Rural
"B" Circle	PB	BHARTI	Chandigarh	Urban
"B" Circle	PB	RCOM	Punjab	Urban
"B" Circle	PB	HFCL	Chandigarh	Urban
"B" Circle	RJ	BSNL	Dholpur, Alwarh, Sikar,	Urban
"B" Circle			Bari, Baseri, Marena, Mania, Kanchanpur, Rajakhera, Mubarikpur, Umrian, Sariska, Akbarpur, Bahadurpur, Burja, Malakhera, Mia, Naugaon, Alawada, Shyam gange, Ramgarh, Phtahpur, Ghassukaba, kayamsar, khatushyamji, Palsana, Samgaliya, Dantaramgad, Ranoli, Kariwat, Mundru, Kundan, Pilion ka dahar, Bajor, Dhod.	Rural
"B" Circle	RJ	RCOM	Jaipur	Urban

Service Area Category	Name of Service Area	Name of Service Provider	List of Exchanges audited in Quarter IV (OCT 06 to DEC 06)	Urban / Rural
"B" Circle	U.P (E)	BSNL	Harauni, Mohanlalganj, Memaura, Banthra, Sikandara, Araul, Derapur, Jainpur, Sirathu, Bharwari, Manjhanpur, Sarai Akil, Jahanaganj, Mubarakpur, Bilariaganj, Gosaibazar, Matera, Babaganj, Jarwal Road, Fakarpur, Vishwanathganj, Kalakankar, Mohanganj, Gorwara, Kopaganj, Baduwa godown, Adari, Haldharpur, Haldi, Barria, Haibatpur, Phephana, Bara, Saktidin khera, Safipur, Industrial Area, Jai nagara, Colonelganj, Sadulla Nagar, Mankapur, kanth, Nigoha, Kuthar, Sidhauri, Fkb, Fatehgarh, Chhibramau, Kayamganj, Ramnagar, Mohamadpur, Kothi, Udhauli, Dibiyapur, Jaswantnagar, Basrohar, Safai, Baghauli, Sandila, Pihani, Pali	Rural
"B" Circle	U.P (E)	BHARTI	Lucknow	Urban
"B" Circle	U.P (E)	RCOM	Lucknow	Urban
"B" Circle	U.P(W)	BSNL	Sadabad, Sonakpur, PTC exchange, Raipur khurd, Hasanpur	Urban
"B" Circle			Salempur, Hathras junction, Maheshra, Jatpura, Siaundara, Ujhari, Hakimpur, Rajabpur, Navauli	Rural
"B" Circle	U.P(W)	BHARTI	Agra	Urban
"B" Circle	U.P(W)	RCOM	Merrut	Urban
"B" Circle	UC	BSNL	Rudrpur, Kashipur	Urban
"B" Circle			Dhikuli, Mohan, Chhoi, Bara, Haldi, Lalpur, Shantipuri,	Rural
"C" Circle	HP	BSNL	Solan main exchange	Urban
"C" Circle			Chambaghat, Deoghat, Barog, Samti, Dharampur, Jabli, Kandlaghat, Deothi, Salogra, Kasol, Sanawar, Subathu, Hauni	Rural
"C" Circle	J&K	BSNL	Nagrota	Rural
"C" Circle			Dansal, Channi himmat, Akhnoor	Urban
"C" Circle	BH	BSNL	Patliputra, Ashiana Nagar, Rajib Nagar, Patel Nagar	Urban
"C" Circle			Rajgir, Pandarar, Bakhtiarpur, Athnalgora, Fatuah, Dhanarua, Sampat Chawk, Barh, More, Dayal Chawk, Faridpur, Nalanda, Silao, Salimpur, Hathidah, Khagaul, Khusrupur, Sherpur, Neora, Rajgir Ordin. Factory, Sonmai, Dhamauli, Daniawan	Rural
"C" Circle	AM	BSNL	Dhekiajuli, Mangaldoi, Tezpur OCB	Urban
"C" Circle			Thelamari, Napam, Balipara, Dhalaibil, Besimari, Dhula, Kharupatia, Dalgaon, Jamuguri, Rowta, Orang	Rural
"C" Circle	NE-2	BSNL	Kohima, Kohima Secretariate, Dist. Telecom Office	Urban
"C" Circle			Putsero, Chunlikha, Zakhama, Doyang, Viswema	Rural
"C" Circle	OR	BSNL	Deogarh, Sambalpur	Urban/Rural
"C" Circle			Sohela, Bijepur, Luhurachati, Saipali, Ghess, Laumunda, Reamal, Tilebani, Rengal, Budhupal, Tinki Bihar, Kenadhipa, Rairakhol, Jujumura, Maneswar, Naktideol, Rengali, Ghosala	Rural
"C" Circle	JD	BSNL	Bokaro Steel City Sec-2, Bokaro Steel City Sec-5, Mandu, Sidhgora	Urban



Service Area Category	Name of Service Area	Name of Service Provider	List of Exchanges audited in Quarter IV (OCT 06 to DEC 06)	Urban / Rural
"C" Circle			Ljainamore, Peterware, Dematand, Potka, Adityapur-2	Rural
"C" Circle	NE-1	BSNL	Ladrymbai	Rural

6.2 MSCS AUDITED – CELLULAR SERVICES

Table 60 [List of Cellular Service's MSC audited in Quarter 4]

Sl.No.	Service Area Category	Name of Service area	Name of Service Provider	List of Msc's audited in Fourth Quarter
1	Metro	ND	MTNL	MSC Shaktinagar,
2	Metro	ND	IDEA	MSC1,2,3 (Mohan cooperative) Mathura road
3	Metro	ND	HUTCH	Okhla-ph2 new Delhi
4	Metro	ND	BHARTI	MSC Ericsson Okhla PH-1
5	Metro	ND	TATA	Gurgaon
6	Metro	ND	RCOM	Lodhi Road
7	Metro	MB	MTNL	Mumbai
8	Metro	MB	HUTCH	Mumbai
9	Metro	MB	BHARTI	Mumbai
10	Metro	MB	BPL	Mumbai
11	Metro	MB	TATA	Mumbai
12	Metro	MB	RCOM	Mumbai
13	Metro	CH	HUTCH	Arihant Tower Chennai
14	Metro	CH	BHARTI	Anna nagar Chennai
15	Metro	CH	AIRCEL	Spencer Plaza Chennai
16	Metro	CH	TATA	Greems Road Chennai
17	Metro	CH	RCOM	Guindu Chennai
18	Metro	CH	BSNL	Hadduws Road Chennai
19	Metro	KK	BSNL	Jadavpur
20	Metro	KK	HUTCH	Kolkata
21	Metro	KK	BHARTI	Kolkata
22	Metro	KK	TATA	Kolkata
23	Metro	KK	RISL	Kolkata
24	Metro	KK	RCOM	Kolkata
25	A 'Circle	AP	BSNL	MSC Ameerpet, Visakhapatnam
26	A 'Circle	AP	HUTCH	MSC Vijawada, Visakhapatnam, Tirupati
27	A 'Circle	AP	BHARTI	MSC Vijawada, Visakhapatnam
28	A 'Circle	AP	IDEA	MSC Hyderabad , Vijaywada
29	A 'Circle	AP	TATA	MSC Vijaywada, Visakhapatnam, Tirupati
30	A 'Circle	AP	RCOM	MSC Hyderabad-1
31	A 'Circle	TN	BHARTI	MSC Coimbatore
32	A 'Circle	TN	RCOM	MSC Madurai
33	A 'Circle	TN	HUTCH	MSC Coimbatore
3	A 'Circle	TN	TATA	MSC Madurai
35	A 'Circle	TN	BSNL	MSC Coimbatore

Sl.No.	Service Area Category	Name of Service area	Name of Service Provider	List of Msc's audited in Fourth Quarter
36	A 'Circle	TN	AIRCEL	MSC Coimbatore
37	A 'Circle	KR	SPICE	Bangalore
38	A 'Circle	KR	HUTCH	Bangalore,Hubli
39	A 'Circle	KR	BSNL	Mangalore,Hubli, Vijayanagar,shankarapura,Main MSC in Bangalore
40	A 'Circle	KR	TATA	Bangalore,Hubli,Mangalore
41	A 'Circle	KR	BHARTI	Bangalore,Hubli,Nidhidurga road MSC ,White Field MSC
42	A 'Circle	KR	RCOM	Bangalore,Mangalore,
43	A 'Circle	GJ	BSNL	Ahemdabad
44	A 'Circle	GJ	HUTCH	Ahemdabad
45	A 'Circle	GJ	IDEA	Gandhinagar
46	A 'Circle	GJ	BHARTI	Ahemdabad
47	A 'Circle	GJ	TATA	Ahemdabad
48	A 'Circle	GJ	RCOM	Mumbai
49	A 'Circle	MH	BSNL	2 MSC Nagpur,1 Msc Nasik,1Msc Aurangabad,1Msc kolhapur
50	A 'Circle	MH	BHARTI	2MSC Pune,2 MSC Nagpur
51	A 'Circle	MH	IDEA	1 MSC Nagpur
52	A 'Circle	MH	HUTCH	2 MSC Pune
53	A 'Circle	MH	RCOM	Mumbai
54	A 'Circle	MH	TATA	1 MSC Nagpur
55	B'Circle	HR	BSNL	Ambala
56	B'Circle	HR	BHARTI	MSC Ambala
57	B'Circle	HR	HUTCH	MSC Karnal
58	B'Circle	HR	IDEA	Msc Sonapat (Nokia)
59	B'Circle	HR	TATA	MSC Ambala
60	B'Circle	HR	RCOM	Ambala
61	B'Circle	KL	BSNL	MSC-4
62	B'Circle	KL	BHARTI	MSC Cochin
63	B'Circle	KL	HUTCH	MSC Cochin
64	B'Circle	KL	IDEA	MSC Calicut
65	B'Circle	KL	TATA	MSC Calicut
66	B'Circle	KL	RCOM	MSC Tiruvenantrum
67	B'Circle	M.P.	BSNL	Raipur
68	B'Circle	M.P.	BHARTI	Indore
69	B'Circle	M.P.	RTL	Indore
70	B'Circle	M.P.	IDEA	Indore
71	B'Circle	M.P.	TATA	Bhopal

Sl.No.	Service Area Category	Name of Service area	Name of Service Provider	List of Msc's audited in Fourth Quarter
72	B'Circle	M.P.	RCOM	Mumbai
73	B'Circle	PB	BSNL	Jalandhar
74	B'Circle	PB	BHARTI	Chandigarh
75	B'Circle	PB	HUTCH	Chandigarh
76	B'Circle	PB	SPICE	Chandigarh
77	B'Circle	PB	RCOM	Mumbai
78	B'Circle	PB	TATA	Chandigarh
79	B'Circle	RJ	BHARTI	Jaipur
80	B'Circle	RJ	HUTCH	Jaipur (MSC 1), Jodhpur(MSC 2)
81	B'Circle	RJ	BSNL	Jaipur (MSC 1 & 2)
82	B'Circle	RJ	TATA	Jaipur (MSC 1), Jodhpur(MSC 2)
83	B'Circle	RJ	RCOM	Jaipur
84	B'Circle	U.P.(East)	TATA	Lucknow (MSC 1&2)
85	B'Circle	U.P.(East)	BSNL	Lucknow
86	B'Circle	U.P.(East)	BHARTI	Lucknow
87	B'Circle	U.P.(East)	HUTCH	Lucknow
88	B'Circle	U.P.(East)	RCOM	Lucknow
89	B'Circle	U.P(West)	BSNL	Meerut
90	B'Circle	U.P(West)	BHARTI	Meerut
91	B'Circle	U.P(West)	TATA	Meerut
92	B'Circle	U.P(West)	HUTCH	Meerut
93	B'Circle	U.P(West)	IDEA	Meerut
94	B'Circle	U.P(West)	RCOM	Mumabai
95	B'Circle	WB	BSNL	Kolkata
96	B'Circle	WB	BHARTI	Port Blair
97	B'Circle	WB	HUTCH	Asansol
98	B'Circle	WB	TATA	Durgapur
99	B'Circle	WB	Dishnet	Durgapur
100	B'Circle	WB	RCOM	Durgapur
101	B'Circle	WB	RTL	Durgapur
102	C' Circle	AM	BSNL	Gawhati
103	C' Circle	AM	Dishnet	Gawhati
104	C' Circle	AM	BHARTI	Gawhati
105	C' Circle	AM	RCOM	Gawhati
106	C' Circle	BH	BHARTI	Patna
107	C' Circle	BH	RTL	Ranchi

Sl.No.	Service Area Category	Name of Service area	Name of Service Provider	List of Msc's audited in Fourth Quarter
108	C' Circle	BH	TATA	Patna
109	C' Circle	BH	BSNL	Sambalpur
110	C' Circle	BH	RCOM	
111	C' Circle	HP	BSNL	Shimla
112	C' Circle	HP	BHARTI	Shimla
113	C' Circle	HP	RTL	Shimla
114	C' Circle	HP	RCOM	Shimla
115	C' Circle	HP	TATA	Shimla
116	C' Circle	NE	BHARTI	Shillong
117	C' Circle	NE	RTL	Shillong
118	C' Circle	NE	BSNL	Shillong
119	C' Circle	NE	AIRCEL	Kolkata
120	C' Circle	J & K	BSNL	Jammu
121	C' Circle	J & K	BHARTI	Jammu
122	C' Circle	J & K	Dishnet	Jammu
123	C' Circle	OR	BSNL	Kolkata
124	C' Circle	OR	BHARTI	Bhubaneswar
125	C' Circle	OR	Dishnet	Bhubaneswar
126	C' Circle	OR	TATA	Bhubaneswar
127	C' Circle	OR	RTL	Bhubaneswar
128	C' Circle	OR	RCOM	Bhubaneswar
129	C' Circle	JD	BSNL	Ranchi

--End of Section--



South Asia

7 **ANNEXURES**

7.1 INDEPENDENT DRIVE TEST

Out of 25 independent drive test TUV has been conducted 20 drive tests in quarter 4 (6 drive test were conducted in quarter 3) as per TRAI request. These 20 independent drive tests were carried out for the all Cellular service operators in the Bihar Circle (Patna, Muzaffarpur, Barh and Ranchi) as requested.

7.1.1 BARH : INDEPENDENT DRIVE TEST

Table 61 [Performance Summary for Barh IDT]

All the data is average % of four routes of drive test		BARH				
Parameters	Benchmark	BSNL	BHARTI	RCOM	RTL	TATA
% Connections with Good Voice Quality	> 95%	46.26	91.96	96.04	92.5	77.06
% Call Drop Rate	< 3%	0	0	0	0	0
% Call Setup Success Rate	>95%	91.05	94.95	100	81.87	100
% Blocked Calls rate	< 3%	8.95	5.04	0	18.12	0

The % connection with good voice quality is below the benchmark all other operators except RCOM. For the % Call success rate and Blocked calls rate only RCOM & TATA are meeting the benchmark.

7.1.2 MUZAFFARPUR : INDEPENDENT DRIVE TEST

Table 62 [Performance Summary for Muzaffarpur IDT]

All the data is average % of four routes of drive test		Muzaffarpur				
Parameters	Benchmark	BSNL	BHARTI	RCOM	RTL	TTSL
% Connections with Good Voice Quality	> 95%	54.18	84.37	92.97	92.03	85.79
% Call Drop Rate	< 3%	31.39	1.66	0	1.32	0
% Call Setup Success Rate	> 95%	60.745	37.5	100	72.08	100
% Blocked Calls	< 3%	39.23	62.5	0	27.91	0

The % connection with good voice quality is below the benchmark all operators. Where as the % Call drop rate the BSNL is showing noticeable high with 31.39. However the % Call Success rate & Blocked calls rate only RCOM & TATA are meeting the benchmark.

7.1.3 PATNA: INDEPENDENT DRIVE TEST

Table 63 [Performance Summary for Patna IDT]

All the data is average % of four routes of drive test		PATNA				
Parameters	Benchmark	BSNL	BHARTI	RCOM	RTL	TATA
% Connections with Good Voice Quality	> 95%	36.09	74.36	90.69	85.09	85.30
% Call Drop Rate	< 3%	18.02	0	3.88	1.04	0
% Call Setup Success Rate	> 95%	86.71	94.75	96.47	75.36	95.83
% Blocked Calls	< 3%	13.29	5.25	3.53	24.64	0

The % connection with good voice quality is below the benchmark all operators. For the % Call setup success rate only RCOM & TATA are meeting the benchmark where as for Blocked calls rate only TATA is meeting the benchmark.

7.1.4 RANCHI : INDEPENDENT DRIVE TEST

Table 64 [Performance Summary for Ranchi IDT]

All the data is average % of four routes of drive test		RANCHI				
Parameters	Benchmark	BSNL	BHARTI	RCOM	RTL	TATA
% Connections with Good Voice Quality	> 95%	69.52	90.59	93.54	93.17	88.37
% Call Drop Rate	< 3%	2.08	0	3	0	0
% Call Setup Success Rate	>95%	95.65	95.66	97.25	98.16	100
% Blocked Calls	< 3%	4.34	4.33	2.75	1.82	0

The % connection with good voice quality is below the benchmark all operators. In Blocked calls rate BSNL & BHARTI are not meeting the benchmark.



7.2 PMR COMPARISON

7.2.1 PMR COMPARISON (CELLULAR SERVICES)

Please note that Period of all refunds/payment due to customers from the date of resolution of complaints the values given in PMR are in No of days, Where as information collected while auditing are in % of refunds made within 4 weeks.

Table 65 [PMR Comparison (Cellular) - Circle "A"]

PMR COMPARISON FOR MOBILE (GSM & CDMA) SERVICES																
Performance of QoS Parameters for cellular Mobile Services as reported by CMSPs for the quarter ending 31st, December, 2006																
Sr.No	Service Providers	PMR	Parameters													
			(A) Network Performance						(B) Customer Help Lines				(C) Billing Complaints			
			(i)	(II)	(III)	(IV)		(V)	(VI)	(I)				(I)	(II)	(III)
			Accumulated down time of community isolation (in hrs)	Call Setup Success Rate (within licenses own network) [in %]	Service Access Delay (in sec.)	Blocked Calls (in %)		Call Drop Rate (in%)	% of connections with good voice quality	Response time to the customer for assistance				Complaints per 100 bills issued	% of complaints resolved within 4 weeks	Period of all refunds/payment due to customers from the date of resolution of complaints as in (ii) above
		Between 20 seconds depending upon no of paging attempts (avg. of 100 calls)	(I) SDCCCH/ Paging Channel Congestion	(ii) TCH Congestion			(I) % of calls answered (electronically); within 20 sec	(I) % of calls answered (electronically); within 40 sec	(I) % of calls answered by operator (voice to voice); within 60 sec	(I) % of calls answered by operator (voice to voice); within 90 sec						
Benchmarks																
			<24 hrs	>95%	=<15 sec	<1%	<2%	<3%	>95%	80%	95%	80%	95%	<0.1%	100%	<4weeks
	'A' Circle															
	I Maharashtra															
1	Hutch Essar	PMR	1.57	99.94%	14.05	0.76%	1.27%	1.20%	98.67%	100.00%	100.00%	100.00%	100.00%	0.047%	100.00%	100.00%
		TUV	0.65	99.94	14.00	0.730	1.200	1.20	98.65	100.00	100.00	89.67	89.67	0.008	100.00	100.00
2	IDEA Cellular	PMR	3.15	98.62%	9.41	0.60%	0.89%	1.30%	99.03%	99.13%	99.13%	81.00%	95.00%	0.245%	100.00%	100.00%



		TUV	0.80	98.46	9.40	0.670	0.600	1.24	99.60	99.03	99.12	68.15	78.15	0.008	100.00	100.00
3	BSNL	PMR	0.00	97.48%	8.24	0.73%	1.33%	1.43%	96.67%	100.00%	100.00%	99.78%	99.82%	0.022%	100.00%	100.00%
		TUV	31.61	99.39	10.97	0.640	1.230	1.41	93.51	22.82	22.82	41.82	41.83	0.001	100.00	100.00
4	Bharti Airtel Limited	PMR	22.20	99.16%	9.57	0.53%	0.91%	1.00%	95.89%	99.93%	99.98%	96.78%	98.78%	0.100%	100.00%	100.00%
		TUV	3.20	99.16	9.58	0.650	1.090	0.75	94.57	100.00	100.00	93.49	94.85	0.007	100.00	100.00
5	Reliance Comm	PMR	0.50	99.58%	4.09	0.00%	0.00%	0.91%	99.21%	99.50%	99.50%	86.90%	91.79%	0.080%	100.00%	100.00%
		TUV	0.45	99.52	1.10	0.000	0.000	1.00	97.00	99.50	99.50	66.50	77.00	0.080	100.00	100.00
6	Tata Teleservices	PMR	13.75	98.05%	13.00	0.00%	0.15%	0.56%	96.57%	100.00%	100.00%	92.00%	95.00%	0.300%	100.00%	NA
		TUV	1.94	98.41	12.57	0.000	0.240	0.40	96.46	100.00	100.00	91.59	94.87	0.000	100.00	100.00
ii	Gujarat															
7	Hutch Essar	PMR	14.55	98.22%	9.66	0.15%	0.84%	1.02%	97.94%	100.00%	100.00%	87.49%	96.69%	0.082%	100.00%	100.00%
		TUV	0.42	97.89	9.66	0.170	0.930	1.23	97.94	96.65	96.65	DNP	DNP	0.080	100.00	91.79
8	IDEA Cellular	PMR	2.46	99.02%	13.32	0.94%	0.50%	1.80%	97.57%	82.00%	95.00%	85.00%	97.00%	0.052%	100.00%	100.00%
		TUV	5.00	98.98	4.23	0.810	0.810	1.70	97.93	DNP	DNP	DNP	DNP	0.067	100.00	100.00
9	BSNL	PMR	0.00	99.30%	2.30	0.60%	1.67%	0.99%	95.00%	100.00%	100.00%	81.00%	95.00%	0.070%	100.00%	100.00%
		TUV	0.00	98.57	DNP	0.590	1.520	0.90	98.98	100.00	100.00	82.00	95.00	0.120	95.36	DNP
10	Bharti Airtel Limited	PMR	0.00	95.33%	11.70	0.32%	0.19%	1.16%	98.51%	99.94%	99.98%	95.66%	98.19%	0.120%	100.00%	100.00%
		TUV	5.50	98.01	4.55	0.190	0.191	0.45	96.31	99.95	99.95	95.66	98.19	0.130	100.00	100.00
11	Reliance Comm	PMR	0.49	99.54%	4.07	0.00%	0.00%	0.85%	99.15%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00%
		TUV	0.33	99.49	1.54	0.000	0.000	0.95	98.00	99.50	99.50	62.79	73.40	0.070	100.00	100.00
12	Tata Teleservices	PMR	7.14	98.74%	5.16	0.00%	0.03%	0.42%	97.69%	100.00%	100.00%	91.00%	98.00%	0.200%	100.00%	100.00%
		TUV	2.50	98.70	4.93	0.000	0.020	0.41	97.93	100.00	100.00	85.87	90.43	0.360	100.00	100.00
iii	Andhara Pradesh															
13	IDEA Cellular	PMR	0.37	99.98%	7.00	0.23%	1.18%	0.62%	99.45%	100.00%	100.00%	80.30%	95.00%	0.040%	100.00%	30 days
		TUV	9.20	99.99	1.00	0.225	1.185	0.62	99.43	96.00	96.00	90.00	100.00	0.310	100.00	NI
14	Bharti Airtel Limited	PMR	22.35	97.50%	12.00	0.85%	1.38%	0.79%	99.27%	98.00%	99.00%	94.00%	95.00%	0.010%	100.00%	100.00%
		TUV	3.05	70.00	2.10	0.650	1.350	0.97	99.28	100.00	100.00	90.00	100.00	0.005	100.00	NI
15	BSNL	PMR	12.32	97.60%	6.91	0.40%	2.63%	1.28%	98.43%	100.00%	100.00%	34.00%	40.00%	1.000%	100.00%	100.00%
		TUV	8.50	96.01	7.20	0.260	1.470	1.24	96.77	N/A	N/A	100.00	100.00	0.004	100.00	100.00
16	Hutch Essar	PMR	20.00	99.79%	9.00	0.25%	0.27%	1.53%	98.00%	100.00%	100.00%	96.73%	98.30%	0.051%	100.00%	100.00%
		TUV	6.30	99.22	8	0.295	0.430	1.32	97.61	98.00	98.00	100.00	100.00	0.059	100.00	NI
17	Reliance Comm	PMR	0.41	99.58%	4.13	0.00%	0.00%	0.65%	99.88%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00%
		TUV	0.52	99.57	1.54	0.000	0.000	0.77	99.00	99.51	99.51	59.29	61.66	0.080	100.00	100.00



18	Tata Teleservices	PMR	2.53	98.26%	6.26	0.00%	0.20%	0.52%	96.02%	100.00%	100.00%	74.00%	81.00%	0.100%	100.00%	100.00%
		TUV	3.50	98.40	2.60	0.000	0.950	0.37	97.00	100.00	100.00	100.00	100.00	0.005	100.00	NI
iv	Karnataka															
19	Bharti Airtel Limited	PMR	11.80	98.74%	5.02	0.91%	1.26%	1.42%	96.20%	98.27%	98.28%	88.48%	91.90%	0.010%	100.00%	100.00%
		TUV	5.82	100.00	4.50	0.980	1.550	1.42	87.79	98.00	98.00	87.00	90.50	0.001	100.00	100.00
20	Spice Comm.	PMR	20.09	98.74%	8.40	0.64%	1.58%	1.31%	99.14%	100.00%	100.00%	94.00%	99.81%	0.018%	100.00%	100.00%
		TUV	13.33	98.65	8.39	0.630	4.950	1.57	98.18	100.00	100.00	93.30	99.00	0.000	100.00	100.00
21	BSNL	PMR	5.57	97.06%	4.69	0.70%	1.57%	0.90%	98.07%	99.69%	100.00%	66.67%	73.67%	0.050%	100.00%	100.00%
		TUV	24.20	80.36	2.35	0.710	1.710	1.19	95.51	99.60	100.00	51.00	60.00	0.002	100.00	100.00
22	Hutch Essar	PMR	22.61	98.31%	10.28	0.14%	1.67%	1.63%	98.37%	100.00%	100.00%	96.67%	98.33%	0.042%	100.00%	100.00%
		TUV	29.30	98.32	10.22	0.150	1.680	1.51	97.01	81.00	90.50	83.00	91.00	0.000	100.00	100.00
23	Reliance Comm	PMR	0.49	99.41%	3.97	0.00%	0.00%	0.64%	99.00%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00%
		TUV	0.38	99.51	2.60	0.000	0.000	0.77	99.00	99.50	99.50	43.24	51.63	0.070	100.00	100.00
24	Tata Teleservices	PMR	22.20	97.29%	3.00	0.00%	0.46%	0.93%	97.24%	100.00%	100.00%	97.00%	98.00%	0.100%	100.00%	100.00%
		TUV	4.42	97.69	2.66	0.000	0.640	0.90	97.96	N/A	N/A	92.43	95.50	0.005	100.00	100.00
v	Tamil Nadu															
25	Hutch Essar	PMR	20.52	99.59%	11.62	0.31%	1.81%	1.03%	99.75%	99.99%	99.99%	100.00%	100.00%	0.050%	100.00%	100.00%
		TUV	17.16	99.59	2.40	0.300	1.790	0.01	100.00	42.00	50.00	41.00	50.00	0.090	100.00	100.00
26	Aircel	PMR	0.10	100.00%	23.00	0.15%	1.79%	0.84%	89.20%	NA	NA	NA	NA	0.020%	100.00%	100.00%
		TUV	22.33	98.09	1.38	0.130	1.760	0.89	95.61	48.00	50.00	44.00	50.00	0.670	100.00	100.00
27	BSNL	PMR	0.00	95.24%	9.45	0.87%	1.97%	1.10%	96.00%	100.00%	100.00%	91.00%	96.00%	0.000%	100.00%	Nil
		TUV	7.00	89.85	DNP	DNP	DNP	0.20	97.80	38.00	50.00	37.00	50.00	0.190	100.00	69.61
28	Bharti Airtel Limited	PMR	0.00	99.51%	4.26	0.25%	0.18%	1.42%	95.61%	99.95%	100.00%	95.00%	95.00%	0.080%	100.00%	100.00%
		TUV	0.00	99.38	1.63	0.230	0.220	1.50	95.46	50.00	50.00	50.00	50.00	1.250	100.00	100.00
29	Reliance Comm	PMR	0.44	99.56%	4.44	0.00%	0.00%	0.92%	99.61%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00%
		TUV	0.39	99.55	1.70	0.000	0.000	1.09	97.00	98.50	99.50	52.20	52.60	0.080	100.00	100.00
30	Tata Teleservices	PMR	6.30	99.53%	10.77	0.00%	0.48%	0.87%	96.45%	100.00%	100.00%	95.00%	97.00%	0.100%	100.00%	100.00%
		TUV	5.83	99.08	1.90	0.000	0.770	0.86	95.60	50.00	50.00	50.00	50.00	1.410	100.00	57.14



Table 66 [PMR Comparison (Cellular) - Circle "B"]

PMR COMPARISON FOR MOBILE (GSM & CDMA) SERVICES																
Performance of QoS Parameters for cellular Mobile Services as reported by CMSPs for the quarter ending 31st, December, 2006																
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,		Parameters														
		(A) Network Performance						(B) Customer Help Lines				(C) Billing Complaints				
		(i)	(ii)	(iii)	(iv)		(v)	(vi)	(i)				(i)	(ii)	(iii)	
		Accumulated down time of community isolation (in hrs)	Call Setup Success Rate (within licenses own network) [in %]	Service Access Delay (in sec.) <small>Between 20 seconds depending upon no of paging attempts (avg. of 100 calls)</small>	Blocked Calls (in %)		Call Drop Rate (in%)	% of connections with good voice quality	Response time to the customer for assistance				Complaints per 100 bills issued	% of complaints resolved within 4 weeks	Period of all refunds/payment due to customers from the date of resolution of complaints as in (ii) above	
(i) SDCCCH/ Paging Channel Congestion	(ii) TCH Congestion				(i) % of calls answered (electronically); within 20 sec	(i) % of calls answered (electronically); within 40 sec			(i) % of calls answered by operator (voice to voice); within 60 sec	(i) % of calls answered by operator (voice to voice); within 90 sec						
Sr.No		Service Providers		Benchmarks												
		<24 hrs	>95%	=<15 sec	<1%	<2%	<3%	>95%	80%	95%	80%	95%	<0.1%	100%	<4weeks	
		B' Circle														
vi		Kerala														
31	IDEA Cellular	PMR	21.57	99.78%	13.87	0.48%	1.61%	0.77%	99.03%	96.00%	99.00%	90.00%	94.00%	0.180%	100.00%	100.00%
		TUV	23.00	98.25	14.26	0.460	2.330	0.27	97.97	95.00	98.00	90.00	94.00	0.008	100.00	100.00
32	Hutch Essar	PMR	15.10	96.99%	14.27	0.91%	1.46%	1.58%	98.89%	100.00%	100.00%	90.04%	99.99%	0.081%	100.00%	100.00%
		TUV	8.56	97.53	6.38	0.970	1.970	1.72	98.88	88.26	94.91	96.83	97.70	0.001	100.00	100.00
33	BSNL	PMR	21.29	99.03%	4.26	0.33%	1.83%	1.47%	98.26%	99.33%	99.67%	80.42%	86.17%	0.000%	100.00%	100.00%
		TUV	5.31	99.29	4.26	0.340	2.700	1.33	97.46	99.30	99.99	62.60	81.40	0.003	100.00	100.00
34	Bharti Airtel Limited	PMR	14.00	99.45%	12.83	0.14%	0.45%	1.57%	98.36%	100.00%	100.00%	99.51%	99.76%	0.050%	100.00%	100.00%
		TUV	15.32	99.44	12.96	0.120	0.390	1.80	98.16	N/A	N/A	20.34	20.68	0.007	100.00	100.00
35	Tata Teleservices	PMR	0.00	99.93%	17.66	0.00%	0.00%	0.57%	96.00%	100.00%	100.00%	98.00%	98.00%	0.100%	100.00%	30 days
		TUV	0.00	98.65	17.68	0.000	0.000	0.59	98.27	DNP	DNP	DNP	DNP	0.004	99.00	94.48
36	Reliance Comm	PMR	0.19	99.40%	4.07	0.00%	0.00%	0.76%	99.90%	99.50%	99.50%	86.90%	91.79%	0.080%	100.00%	100.00%
		TUV	0.19	99.57	1.96	0.000	0.000	0.93	99.00	99.50	99.50	46.52	55.00	0.070	100.00	100.00



vii	Punjab															
37	Spice Comm.	PMR	5.70	97.45%	10.55	0.25%	1.64%	1.37%	96.80%	100.00%	100.00%	94.00%	96.00%	0.034%	100.00%	100.00%
		TUV	1.39	97.72	9.80	0.270	1.720	1.37	98.32	100.00	100.00	90.00	94.00	0.020	100.00	100.00
38	HFCL - CDMA	PMR	3.11	97.69%	13.10	0.00%	0.00%	0.63%	98.78%	100.00%	100.00%	97.00%	97.00%	0.000%	100.00%	NA
		TUV	9.50	98.05	N/A	0.000	0.000	0.62	N/App	N/A	N/A	N/A	N/A	0.060	100.00	100.00
39	Bharti Airtel Limited	PMR	4.10	99.13%	3.15	0.37%	0.17%	1.89%	99.70%	98.73%	99.99%	97.91%	98.99%	0.090%	100.00%	100.00%
		TUV	4.24	91.34	3.15	0.480	0.225	1.46	99.25	90.63	100.00	97.50	98.82	0.072	100.00	100.00
40	Hutch Essar	PMR	2.00	99.31%	10.00	0.08%	0.10%	1.45%	98.91%	98.99%	99.12%	95.12%	98.72%	0.027%	100.00%	100.00%
		TUV	0.00	99.40	3.70	0.040	10.000	1.49	98.79	98.50	98.70	94.55	98.75	0.040	100.00	100.00
41	BSNL	PMR	2.03	98.80%	3.70	0.17%	0.93%	1.47%	100.00%	96.70%	97.60%	93.30%	97.30%	0.050%	100.00%	100.00%
		TUV	1.39	97.65	3.74	0.190	0.390	2.05	93.74	99.85	99.96	8.49	12.62	0.040	100.00	100.00
42	Reliance Comm	PMR	0.13	99.66%	4.20	0.00%	0.00%	0.89%	99.55%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00%
		TUV	0.23	99.67	1.49	0.000	0.000	1.07	98.00	99.50	99.50	84.80	91.30	0.080	100.00	100.00
43	Tata Teleservices	PMR	0.00	98.41%	8.00	0.00%	0.01%	0.72%	98.39%	100.00%	100.00%	87.00%	90.00%	0.200%	100.00%	100.00%
		TUV	0.00	98.62	5.47	0.000	0.000	0.69	98.62	100.00	100.00	81.66	85.33	0.700	100.00	100.00
viii	Haryana															
44	IDEA Cellular	PMR	6.00	99.97%	10.13	0.63%	1.10%	0.71%	99.31%	100.00%	100.00%	95.00%	98.00%	0.067%	100.00%	100.00%
		TUV	6.00	99.90	2.71	0.620	1.160	0.72	99.31	DNP	DNP	DNP	DNP	0.640	100.00	100.00
45	Hutch Essar	PMR	3.59	99.94%	10.00	0.09%	1.73%	1.95%	95.52%	100.00%	100.00%	85.20%	97.04%	0.089%	100.00%	100.00%
		TUV	3.80	99.96	8.96	0.100	1.940	1.98	97.96	99.86	99.86	81.31	96.09	0.080	100.00	DNP
46	BSNL	PMR	1.49	97.40%	4.10	0.40%	1.73%	2.60%	96.80%	100.00%	100.00%	80.00%	95.00%	0.010%	100.00%	100.00%
		TUV	1.45	97.50	3.85	0.350	1.650	2.60	97.95	99.91	99.98	11.07	16.34	DNP	DNP	DNP
47	Bharti Airtel Limited	PMR	20.30	99.20%	2.90	0.31%	0.37%	1.53%	98.42%	98.00%	98.00%	92.00%	95.00%	0.090%	100.00%	100.00%
		TUV	20.31	99.38	2.90	0.330	0.380	1.52	98.42	97.00	97.00	93.00	95.50	0.090	100.00	100.00
48	Reliance Comm	PMR	1.11	99.29%	4.52	0.00%	0.00%	0.91%	99.91%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00%
		TUV	0.71	99.47	1.52	0.000	0.000	1.05	99.00	99.50	99.50	84.80	91.30	0.800	100.00	100.00
49	Tata Teleservices	PMR	8.46	99.96%	8.00	0.00%	0.23%	1.04%	97.55%	100.00%	100.00%	86.00%	89.00%	0.100%	100.00%	100.00%
		TUV	4.83	96.55	7.48	0.000	0.230	0.91	97.55	100.00	100.00	77.12	80.79	0.001	100.00	100.00
ix	UP - W															
50	Hutch Essar	PMR	0.00	99.85%	9.50	0.54%	0.58%	1.98%	96.00%	99.23%	99.23%	96.94%	98.99%	0.075%	100.00%	100.00%
		TUV	3.50	99.08	6.67	0.990	1.590	1.96	97.00	99.79	100.00	99.82	99.94	0.088	100.00	100.00
51	IDEA Cellular	PMR	8.58	99.66%	11.20	0.89%	1.89%	1.49%	97.20%	100.00%	100.00%	90.00%	95.00%	0.059%	100.00%	100.00%
		TUV	5.15	99.65	11.21	0.890	1.900	0.99	97.10	100.00	100.00	N/A	N/A	0.079	100.00	100.00
52	BSNL	PMR	0.00	99.00%	14.00	0.83%	1.53%	2.90%	98.00%	100.00%	100.00%	90.00%	98.00%	0.000%	NA	NA



		TUV	0.00	98.32	2.42	0.975	1.560	1.90	95.00	99.85	99.97	10.92	15.86	DNP	DNP	DNP
53	Bharti Airtel Limited	PMR	21.60	99.10%	8.40	0.61%	0.93%	1.57%	96.13%	99.67%	99.74%	95.68%	96.72%	0.100%	100.00%	100.00%
		TUV	54.20	97.57	7.58	0.490	0.740	2.96	98.61	99.85	99.89	96.00	97.00	0.141	100.00	100.00
54	Reliance Comm	PMR	0.14	99.56%	4.23	0.00%	0.00%	0.83%	99.00%	99.50%	99.50%	86.90%	91.79%	0.080%	100.00%	100.00%
		TUV	0.18	99.42	1.43	0.000	0.000	1.04	98.00	99.50	99.50	40.50	51.69	0.070	100.00	100.00
55	Tata Teleservices	PMR	12.19	97.30%	13.77	0.00%	0.28%	1.41%	99.08%	100.00%	100.00%	88.00%	92.00%	0.100%	100.00%	100.00%
		TUV	11.42	97.90	13.75	0.000	0.000	1.51	99.05	86.50	86.50	69.78	77.59	1.197	100.00	52.62
x	UP -E															
56	Bharti Airtel Limited	PMR	8.00	99.50%	6.39	0.22%	0.50%	1.91%	95.17%	99.71%	99.99%	95.01%	96.06%	0.210%	100.00%	100.00%
		TUV	9.04	99.40	3.00	0.455	0.602	0.61	97.65	99.48	99.97	81.00	84.00	0.100	94.06	66.67
57	Hutch Essar	PMR	0.00	96.82%	9.00	0.38%	1.58%	2.14%	96.61%	99.99%	99.99%	81.86%	95.09%	0.001%	100.00%	100.00%
		TUV	0.00	99.59	9.00	0.420	1.670	1.74	96.77	100.00	100.00	82.03	93.27	0.002	100.00	100.00
59	BSNL	PMR	19.00	97.00%	14.00	0.83%	1.80%	2.60%	97.00%	84.00%	98.00%	85.00%	96.00%	0.100%	100.00%	100.00%
		TUV	18.00	98.10	7.00	0.700	1.900	2.60	91.39	99.83	99.95	10.21	14.94	0.060	100.00	96.07
60	Reliance Comm	PMR	0.71	99.52%	4.35	0.00%	0.00%	0.94%	98.55%	99.50%	99.50%	86.90%	91.79%	0.050%	100.00%	100.00%
		TUV	0.76	99.40	4.84	0.300	0.000	1.23	93.00	99.50	99.50	40.45	51.69	0.070	100.00	100.00
61	Tata Teleservices	PMR	3.50	99.76%	9.29	0.00%	0.06%	0.19%	98.65%	100.00%	100.00%	91.00%	93.00%	0.200%	100.00%	100.00%
		TUV	5.87	96.85	18.23	0.000	0.020	1.39	98.11	100.00	100.00	86.99	91.45	0.038	100.00	100.00
xi	Rajasthan															
62	Hutch Essar	PMR	23.16	97.33%	9.81	0.87%	1.78%	2.54%	96.77%	98.03%	98.18%	86.25%	97.09%	0.096%	100.00%	100.00%
		TUV	10.07	98.30	6.30	0.920	1.890	1.59	95.27	99.56	99.56	80.49	95.90	0.093	100.00	100.00
63	BSNL	PMR	22.14	97.50%	6.30	0.33%	1.63%	2.50%	97.20%	99.70%	100.00%	85.30%	96.30%	0.080%	100.00%	100.00%
		TUV	22.56	97.26	3.90	0.450	1.725	2.68	94.06	99.46	99.76	6.05	9.13	0.022	100.00	99.75
65	Bharti Airtel Limited	PMR	23.20	98.16%	9.00	0.80%	1.75%	1.30%	98.31%	99.98%	99.99%	95.75%	97.22%	0.050%	100.00%	100.00%
		TUV	21.40	98.22	8.60	0.850	1.775	1.60	96.88	98.67	98.70	93.95	96.12	0.180	100.00	100.00
66	Reliance Comm	PMR	0.60	99.52%	4.16	0.00%	0.00%	0.90%	98.95%	99.50%	99.50%	86.90%	91.79%	0.060%	100.00%	100.00%
		TUV	0.61	99.46	1.39	0.000	0.000	1.04	97.00	99.50	99.50	61.80	73.30	0.070	100.00	100.00
67	Tata Teleservices	PMR	8.13	98.10%	4.00	0.00%	0.18%	0.89%	97.30%	100.00%	100.00%	92.00%	96.00%	0.100%	100.00%	100.00%
		TUV	8.67	98.34	3.800	0.000	0.620	0.87	96.90	100.00	100.00	76.50	82.00	0.140	100.00	100.00
xii	Madhya Pradesh															
69	IDEA Cellular	PMR	18.36	98.35%	0.62	0.97%	3.68%	1.20%	99.10%	100.00%	100.00%	98.53%	99.44%	0.014%	100.00%	100.00%
		TUV	5.00	98.34	8.18	0.640	1.490	1.15	99.10	99.76	99.82	98.06	99.09	0.000	62.26	100.00
70	Reliance	PMR	18.18	100.00%	7.66	0.42%	8.96%	1.56%	97.03%	NA	NA	100.00%	100.00%	0.010%	100.00%	100.00%



	Telecom															
		TUV	13.44	100.00	14.00	0.473	10.186	1.60	96.92	N/A	N/A	98.00	98.02	0.000	100.00	100.00
71	BSNL	PMR	6.90	97.86%	9.80	0.30%	0.97%	1.88%	97.27%	100.00%	100.00%	99.89%	99.27%	0.010%	100.00%	100.00%
		TUV	0.00	92.90	1.48	1.150	2.350	2.85	97.50	DNP	DNP	DNP	DNP	DNP	DNP	DNP
72	Bharti Airtel Limited	PMR	22.60	96.99%	12.72	0.59%	1.51%	1.39%	96.40%	100.00%	100.00%	98.73%	99.31%	0.010%	100.00%	100.00%
		TUV	3.04	98.12	9.97	0.560	1.760	1.39	98.13	99.98	99.98	98.54	99.33	0.005	100.00	100.00
73	Reliance Comm	PMR	0.57	99.57%	4.19	0.00%	0.00%	0.97%	99.38%	99.50%	99.50%	86.90%	91.79%	0.080%	100.00%	100.00%
		TUV	0.73	99.38	1.37	0.000	0.000	1.08	99.00	99.50	99.50	64.49	77.35	0.060	100.00	100.00
74	Tata Teleservices	PMR	1.00	98.11%	4.43	0.00%	0.00%	0.82%	99.07%	100.00%	100.00%	94.00%	99.00%	0.170%	100.00%	100.00%
		TUV	10.50	98.11	4.43	0.000	0.710	0.90	99.08	100.00	100.00	93.00	96.00	0.008	100.00	100.00
xiii	West Bengal															
75	Bharti Airtel Limited	PMR	0.00	95.56%	9.00	2.55%	1.50%	1.75%	100.00%	89.99%	93.45%	86.00%	88.00%	0.120%	100.00%	100.00%
		TUV	0.00	99.80	6.72	0.040	0.060	1.66	95.00	77.63	80.43	40.97	100.00	0.110	100.00	100.00
76	Reliance Telecom	PMR	23.56	98.83%	8.59	1.31%	22.13%	1.90%	98.15%	NA	NA	100.00%	100.00%	0.000%	100.00%	100.00%
		TUV	0.00	99.00	16.30	1.500	27.750	1.98	98.25	N/A	N/A	100.00	100.00	0.000	100.00	100.00
77	BSNL	PMR	0.00	98.40%	5.94	0.80%	1.67%	2.55%	98.75%	91.00%	98.00%	82.00%	96.00%	0.050%	100.00%	100.00%
		TUV	0.00	98.47	DNP	0.820	1.670	2.54	95.88	98.00	99.00	81.00	95.00	0.040	97.54	100.00
78	Tata Teleservices	PMR	21.13	97.75%	14.03	0.00%	0.66%	1.32%	98.57%	94.00%	94.00%	82.00%	82.00%	0.100%	100.00%	100.00%
		TUV	20.15	91.36	16.10	0.000	0.000	1.50	99.02	86.00	100.00	83.00	100.00	0.003	98.00	97.99
79	Reliance Comm	PMR	0.90	99.59%	4.11	0.00%	0.00%	1.19%	98.58%	99.50%	99.50%	86.90%	91.79%	0.050%	100.00%	100.00%
		TUV	0.79	99.50	3.16	0.000	0.000	1.41	96.10	99.50	99.50	66.00	69.13	0.070	100.00	100.00
80	Hutch Essar	PMR	0.00	99.97%	14.50	0.63%	0.82%	0.82%	96.00%	100.00%	100.00%	93.67%	98.76%	0.087%	100.00%	100.00%
		TUV	0.00	99.59	14.73	0.560	0.800	0.84	97.51	100.00	100.00	87.46	97.22	0.083	100.00	100.00
81	Dishnet	PMR	0.00	97.88%	8.00	0.97%	0.93%	0.67%	99.67%	88.00%	NA	97.00%	NA	0.070%	100.00%	100.00%
		TUV	0.00	99.98	16.41	1.020	1.220	0.02	97.77	97.19	100.00	100.00	100.00	0.000	100.00	100.00



Table 67 [PMR Comparison (Cellular) - Circle "C"]

PMR COMPARISON FOR MOBILE (GSM & CDMA) SERVICES																	
Performance of QoS Parameters for cellular Mobile Services as reported by CMSPs for the quarter ending 31st, December, 2006																	
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,		Parameters															
		(A) Network Performance						(B) Customer Help Lines						(C) Billing Complaints			
		(i)	(II)	(III)	(IV)		(V)	(VI)	(I)						(I)	(II)	(III)
		Accumulated down time of community isolation (in hrs)	Call Setup Success Rate (within licenses own network) [in %]	Service Access Delay (in sec.) <small>Between 20 seconds depending upon no of paging attempts (avg. of 100 calls)</small>	Blocked Calls (in %)		Call Drop Rate (in%)	% of connections with good voice quality	Response time to the customer for assistance						Complaints per 100 bills issued	% of complaints resolved within 4 weeks	Period of all refunds/payment due to customers from the date of resolution of complaints as in (ii) above
(I) SDCCH/ Paging Channel Congestion	(ii) TCH Congestion				(I) % of calls answered (electronically); within 20 sec	(I) % of calls answered (electronically); within 40 sec			(I) % of calls answered by operator (voice to voice); within 60 sec	(I) % of calls answered by operator (voice to voice); within 90 sec							
Sr.No		Service Providers		Benchmarks													
		<24 hrs	>95%	=<15 sec	<1%	<2%	<3%	>95%	80%	95%	80%	95%	<0.1%	100%	<4weeks		
	C' Circle																
xiv	Himachal Pradesh																
82	Bharti Airtel Limited	PMR	6.90	98.93%	3.07	0.28%	0.56%	1.83%	97.78%	98.30%	98.40%	99.50%	99.90%	0.020%	100.00%	100.00%	
		TUV	6.90	98.94	3.07	0.280	0.560	1.87	97.78	93.50	93.90	96.90	98.90	0.022	100.00	100.00	
84	Reliance Telecom	PMR	7.25	98.30%	8.01	1.01%	5.52%	2.44%	96.45%	NA	NA	98.00%	100.00%	Nil	NA	NA	
		TUV	6.08	98.72	16.04	0.940	6.100	2.47	97.97	N/A	N/A	100.00	100.00	0.000	N/A	N/A	
85	BSNL	PMR	2.80	97.40%	5.60	0.70%	1.80%	2.00%	97.30%	99.20%	99.40%	80.40%	95.20%	0.000%	NA	NA	
		TUV	4.00	97.40	5.50	0.850	1.800	1.94	98.30	99.93	99.86	7.73	11.71	0.000	N/App	56.64	
86	Reliance Comm	PMR	0.77	99.15%	4.15	0.00%	0.00%	0.81%	99.33%	99.50%	99.50%	86.90%	91.79%	0.020%	100.00%	100.00%	
		TUV	0.77	99.65	DNP	0.000	0.000	0.81	96.00	99.50	99.50	84.80	91.30	0.070	100.00	100.00	
87	Tata Teleservices	PMR	3.40	98.34%	12.00	0.00%	0.02%	0.84%	97.47%	100.00%	100.00%	92.00%	93.00%	0.100%	100.00%	100.00%	
		TUV	10.21	98.32	5.55	0.000	0.017	0.82	97.47	100.00	100.00	78.13	88.43	0.420	100.00	100.00	
xv	Bihar																
88	Reliance	PMR	18.47	98.00%	7.91	2.53%	13.01%	1.73%	93.79%	NA	NA	80.00%	95.00%	0.000%	NA	NA	



	Telecom															
		TUV	3.30	98.70	3.33	2.780	2.650	2.77	96.31	N/A	N/A	100.00	100.00	0.000	100.00	100.00
89	BSNL	PMR	21.00	98.00%	10.50	0.77%	1.47%	1.50%	98.50%	88.00%	96.00%	88.00%	96.00%	0.050%	100.00%	100.00%
		TUV	1608.00	97.00	9.53	0.300	0.200	4.08	90.50	95.00	99.00	80.00	95.00	0.000	100.00	40.00
90	Reliance Comm	PMR	0.71	99.64%	4.31	0.00%	0.00%	0.79%	99.05%	99.50%	99.50%	86.90%	91.79%	0.050%	100.00%	100.00%
		TUV	0.79	99.43	1.62	0.000	0.000	0.96	99.00	99.50	99.50	66.00	69.13	0.080	100.00	100.00
91	Bharti Airtel Limited	PMR	9.25	98.20%	13.00	5.08%	2.86%	1.90%	98.23%	93.70%	98.99%	92.20%	93.97%	0.070%	100.00%	100.00%
		TUV	1.75	95.21	13.14	7.550	4.790	1.93	99.00	98.99	100.00	99.50	100.00	0.000	100.00	DNP
92	Tata Teleservices	PMR	23.00	96.58%	12.53	0.00%	0.00%	0.65%	96.15%	95.00%	95.00%	84.00%	84.00%	0.100%	100.00%	100.00%
		TUV	4.22	97.04	12.00	0.000	0.000	0.90	99.20	89.00	95.00	81.00	95.00	1.800	100.00	100.00
xvi	Orissa															
93	Reliance Telecom	PMR	6.01	99.17%	7.31	0.67%	10.07%	2.14%	99.06%	NA	NA	95.67%	100.00%	0.000%	100.00%	NA
		TUV	18.06	98.75	13.75	1.590	13.710	2.15	99.32	N/A	N/A	100.00	100.00	0.000	100.00	100.00
94	BSNL	PMR	6.00	98.00%	11.00	0.97%	1.93%	1.86%	97.00%	97.00%	98.00%	96.00%	99.00%	0.030%	100.00%	Nil
		TUV	0.00	98.42	3.71	0.950	1.770	1.60	87.50	DNP	DNP	DNP	DNP	0.085	0.00	0.00
95	Bharti Airtel Limited	PMR	0.00	98.10%	9.00	1.99%	1.26%	0.96%	96.80%	96.80%	100.00%	95.28%	97.41%	0.040%	100.00%	100.00%
		TUV	0.00	99.03	14.49	2.480	0.000	0.96	99.14	DNP	DNP	DNP	DNP	DNP	DNP	DNP
96	Reliance Comm	PMR	0.50	99.73%	4.42	0.00%	0.00%	0.88%	99.68%	99.50%	99.50%	86.90%	91.79%	0.090%	100.00%	100.00%
		TUV	0.72	99.68	1.87	0.000	0.000	0.97	97.00	99.50	99.50	64.49	77.35	0.080	100.00	100.00
97	Tata Teleservices	PMR	0.00	97.68%	13.00	0.00%	0.45%	1.12%	97.81%	95.00%	95.00%	83.00%	83.00%	0.100%	100.00%	100.00%
		TUV	0.00	94.13	12.50	0.000	0.510	1.15	97.95	100.00	100.00	75.00	100.00	0.012	100.00	100.00
98	Dishnet	PMR	0.00	98.51%	8.00	0.99%	0.99%	0.75%	99.70%	94.00%	NA	92.00%	NA	0.000%	100.00%	NA
		TUV	8.65	99.83	3.77	0.120	0.175	0.13	95.55	100.00	100.00	100.00	100.00	0.023	100.00	80.00
xvii	Assam															
99	Bharti Airtel Limited	PMR	2.06	96.80%	8.00	0.76%	0.90%	0.88%	96.00%	100.00%	100.00%	83.00%	97.00%	0.010%	100.00%	100.00%
		TUV	11.75	99.33	12.13	0.960	0.910	0.95	99.20	78.00	98.00	98.00	98.00	0.100	100.00	100.00
100	BSNL	PMR	3.25	98.00%	13.00	0.73%	1.80%	2.80%	98.00%	98.00%	100.00%	81.00%	95.00%	0.010%	100.00%	100.00%
		TUV	3.15	98.00	4.20	0.500	0.020	0.02	78.00	20.00	52.80	76.60	99.00	0.002	100.00	100.00
101	Reliance Telecom	PMR	12.80	96.70%	7.54	0.68%	4.16%	0.81%	95.10%	NA	NA	80.00%	95.00%	0.020%	100.00%	NA
		TUV	0.00	97.00	8.76	0.970	4.700	0.91	94.30	N/A	N/A	100.00	100.00	0.009	100.00	100.00
102	Dishnet	PMR	0.00	98.19%	8.00	0.74%	0.78%	0.67%	99.75%	96.00%	NA	97.00%	NA	0.010%	100.00%	100.00%
		TUV	7.07	98.91	13.00	3.730	1.090	1.09	98.11	100.00	100.00	82.48	100.00	0.015	100.00	100.00
xviii	J & K															



103	BSNL	PMR	0.00	98.00%	10.00	0.83%	1.80%	1.30%	98.00%	82.00%	95.00%	80.50%	96.00%	0.050%	100.00%	27 days
		TUV	0.00	51.69	3.90	0.760	1.770	19.26	96.92	99.84	99.96	22.71	31.58	DNP	DNP	DNP
104	Bharti Airtel Limited	PMR	14.50	98.70%	3.00	0.63%	0.53%	1.68%	96.82%	99.99%	100.00%	95.87%	97.85%	0.070%	100.00%	100.00%
		TUV	0.00	98.70	3.05	0.750	0.670	1.70	96.82	99.99	100.00	95.87	97.85	0.076	100.00	100.00
105	Dishnet	PMR	0.00	97.61%	8.00	0.90%	0.99%	0.77%	99.80%	100.00%	100.00%	98.00%	NA	0.080%	100.00%	100.00%
		TUV	0.00	97.61	8.00	0.890	0.970	0.77	99.80	99.15	99.53	94.50	99.15	0.000	100.00	100.00
xix	NE															
106	BSNL	PMR	13.00	96.00%	13.00	0.57%	1.47%	2.00%	96.00%	84.00%	95.00%	86.00%	96.00%	0.000%	100.00%	100.00%
		TUV	2.33	99.06	4.22	0.500	2.200	0.93	DNP	95.00	99.00	80.00	95.00	0.000	100.00	100.00
107	Bharti Airtel Limited	PMR	2.40	97.13%	8.00	0.86%	0.79%	1.20%	97.30%	98.00%	100.00%	100.00%	100.00%	0.010%	100.00%	100.00%
		TUV	2.96	99.37	13.20	0.910	0.720	0.60	95.42	10.36	DNP	DNP	DNP	0.710	100.00	100.00
108	Reliance Telecom	PMR	0.00	98.00%	7.73	1.92%	7.29%	1.64%	96.92%	NA	NA	80.00%	95.00%	0.030%	100.00%	NA
		TUV	0.00	97.00	8.42	1.670	7.300	2.17	96.86	N/A	N/A	98.00	100.00	0.015	100.00	100.00
109	Dishnet	PMR	0.00	97.95%	8.00	0.80%	0.84%	0.65%	99.30%	100.00%	100.00%	100.00%	100.00%	0.000%	100.00%	NA
		TUV	0.00	98.06	21.16	3.230	2.350	0.00	99.30	100.00	100.00	100.00	100.00	0.000	100.00	100.00



Table 68 [PMR Comparison (Cellular) - Circle "METRO"]

PMR COMPARISON FOR MOBILE (GSM & CDMA) SERVICES																
Performance of QoS Parameters for cellular Mobile Services as reported by CMSPs for the quarter ending 31st, December, 2006																
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,		Parameters														
		(A) Network Performance						(B) Customer Help Lines				(C) Billing Complaints				
		(i)	(ii)	(iii)	(iv)		(v)	(vi)	(i)				(i)	(ii)	(iii)	
		Accumulated down time of community isolation (in hrs)	Call Setup Success Rate (within licenses own network) [in %] <small>Between 20 seconds depending upon no of paging attempts (avg. of 100 calls)</small>	Service Access Delay (in sec.)	Blocked Calls (in %)		Call Drop Rate (in%)	% of connections with good voice quality	Response time to the customer for assistance				Complaints per 100 bills issued	% of complaints resolved within 4 weeks	Period of all refunds/payment due to customers from the date of resolution of complaints as in (ii) above	
(i) SDCCCH/ Paging Channel Congestion	(ii) TCH Congestion				(i) % of calls answered (electronically); within 20 sec	(i) % of calls answered (electronically); within 40 sec			(i) % of calls answered by operator (voice to voice); within 60 sec	(i) % of calls answered by operator (voice to voice); within 90 sec						
Sr.No		Service Providers		Benchmarks												
		<24 hrs	>95%	=<15 sec	<1%	<2%	<3%	>95%	80%	95%	80%	95%	<0.1%	100%	<4weeks	
	METRO															
xx	Delhi															
110	Bharti Airtel Limited	PMR	0.00	98.74%	13.70	0.33%	0.06%	1.29%	98.32%	99.98%	99.99%	95.99%	97.36%	0.080%	100.00%	100.00%
		TUV	0.00	98.50	15.40	0.350	0.065	1.28	98.35	99.97	99.99	95.70	97.17	0.087	100.00	100.00
111	Hutch Essar	PMR	0.00	99.00%	8.04	0.01%	0.03%	1.19%	97.59%	99.71%	99.81%	78.77%	90.91%	0.070%	100.00%	100.00%
		TUV	0.00	99.07	8.03	0.006	0.030	1.17	100.00	99.61	99.61	72.12	88.41	0.007	100.00	100.00
112	MTNL	PMR	0.00	95.50%	13.00	1.67%	1.48%	2.00%	96.09%	99.00%	99.00%	91.80%	94.40%	0.090%	100.00%	100.00%
		TUV	0.00	96.59	14.00	0.570	0.670	1.34	DNP	99.96	100.00	83.17	91.10	DNP	DNP	3.87
113	IDEA Cellular	PMR	0.00	98.98%	8.00	0.72%	1.85%	0.70%	97.10%	100.00%	100.00%	92.00%	97.00%	0.004%	100.00%	100.00%
		TUV	0.00	99.98	8.22	0.660	1.880	0.69	98.26	100.00	100.00	91.00	DNP	0.004	100.00	100.00
114	Tata Teleservices	PMR	0.00	98.10%	10.39	0.00%	0.08%	0.63%	96.01%	100.00%	100.00%	86.00%	90.00%	0.200%	100.00%	100.00%
		TUV	0.00	98.10	9.53	0.000	0.320	0.62	96.01	100.00	100.00	80.00	83.00	0.770	100.00	98.61
115	Reliance Comm	PMR	0.00	99.78%	4.25	0.00%	0.00%	0.54%	99.09%	99.50%	99.50%	86.90%	91.79%	0.060%	100.00%	100.00%
		TUV	0.00	99.71	1.85	0.000	0.000	0.62	98.00	99.50	99.50	55.41	57.76	0.070	100.00	100.00



xxi	Mumbai															
116	BPL Mobile	PMR	1.52	99.36%	11.03	0.55%	3.30%	1.58%	98.94%	99.04%	NA	86.26%	89.77%	0.090%	100.00%	
		TUV	0.50	99.30	11.03	0.590	3.330	1.56	98.55	99.00	100.00	87.36	92.00	0.100	100.00	100.00
117	Hutch Essar	PMR	0.00	98.10%	10.00	0.75%	1.64%	1.87%	95.58%	99.80%	99.76%	93.24%	97.40%	0.018%	100.00%	100.00%
		TUV	0.00	98.50	10.50	0.760	1.700	1.89	95.72	99.00	99.00	97.00	98.00	0.200	100.00	100.00
118	MTNL	PMR	0.00	96.38%	10.00	0.88%	1.86%	1.86%	96.19%	83.00%	97.00%	84.00%	97.00%	0.048%	100.00%	100.00%
		TUV	0.00	96.40	5.29	0.690	1.750	1.98	95.58	98.50	100.00	98.90	100.00	0.070	94.50	100.00
119	Bharti Airtel Limited	PMR	0.00	99.24%	2.90	0.35%	0.77%	1.10%	95.03%	99.97%	99.99%	96.86%	98.57%	0.020%	100.00%	100.00%
		TUV	0.00	99.20	3.01	0.930	0.760	1.13	92.50	99.90	99.90	97.30	98.70	0.010	100.00	100.00
120	Reliance Comm	PMR	0.00	99.50%	3.88	0.00%	0.00%	0.76%	99.43%	99.50%	99.50%	86.90%	91.79%	0.080%	100.00%	100.00%
		TUV	0.00	99.56	2.00	0.000	0.000	0.79	98.00	99.50	99.50	48.27	59.58	0.070	100.00	100.00
121	Tata Teleservices	PMR	14.53	98.49%	13.00	0.00%	0.00%	0.32%	95.89%	100.00%	100.00%	67.33%	72.33%	0.480%	97.96%	NA
		TUV	0.00	98.51	13.00	0.000	1.330	0.32	95.60	100.00	100.00	59.00	65.00	0.480	97.16	91.34
xxii	Chennai															
122	Aircel Cellular Ltd	PMR	0.00	98.40%	13.50	0.73%	1.97%	0.77%	95.00%	95.00%	100.00%	84.00%	100.00%	0.100%	100.00%	100.00%
		TUV	0.00	98.50	7.60	0.730	2.000	0.77	95.13	40.00	50.00	44.00	50.00	0.240	100.00	100.00
123	Bharti Airtel Limited	PMR	0.00	98.76%	14.44	0.23%	0.29%	0.52%	95.21%	99.96%	99.99%	92.00%	98.00%	0.090%	100.00%	100.00%
		TUV	0.00	98.85	6.80	0.215	0.355	0.64	94.28	39.00	50.00	46.00	50.00	0.080	100.00	100.00
124	Hutch Essar	PMR	0.00	99.80%	11.11	0.05%	0.97%	0.95%	99.50%	100.00%	100.00%	98.82%	99.27%	0.023%	100.00%	100.00%
		TUV	7.95	99.65	2.40	0.420	1.240	1.10	98.00	48.00	50.00	44.00	50.00	0.040	100.00	100.00
125	BSNL	PMR	0.00	98.70%	10.00	0.17%	1.27%	0.90%	100.00%	100.00%	100.00%	73.00%	80.00%	0.010%	100.00%	100.00%
		TUV	1.85	99.05	3.07	0.240	0.970	0.89	92.40	40.00	50.00	38.00	50.00	0.010	100.00	100.00
126	Reliance Comm	PMR	0.00	99.64%	3.85	0.00%	0.00%	0.49%	99.51%	99.50%	99.50%	86.90%	91.79%	0.060%	100.00%	100.00%
		TUV	0.00	99.53	1.52	0.000	0.000	0.76	98.20	99.50	99.50	52.20	62.62	0.080	100.00	100.00
127	Tata Teleservices	PMR	0.00	99.69%	13.17	0.00%	0.01%	0.67%	96.19%	100.00%	100.00%	95.00%	97.00%	0.100%	100.00%	100.00%
		TUV	3.55	99.75	4.19	0.000	0.010	0.63	95.17	50.00	50.00	48.00	50.00	1.000	100.00	100.00
xxiii	Kolkatta															
128	Bharti Airtel Limited	PMR	0.70	96.31%	9.00	0.26%	0.29%	1.00%	96.76%	93.34%	94.87%	85.49%	87.83%	0.010%	100.00%	100.00%
		TUV	0.00	97.00	17.51	0.200	0.300	1.30	96.85	89.00	91.70	86.30	89.70	0.030	100.00	100.00
129	Hutch Essar	PMR	0.00	99.87%	14.50	0.40%	1.04%	0.85%	97.83%	100.00%	100.00%	87.00%	97.76%	0.079%	100.00%	100.00%
		TUV	0.00	99.92	14.00	0.210	0.600	0.87	97.88	100.00	100.00	85.77	96.11	0.070	100.00	100.00
130	BSNL	PMR	0.00	96.60%	11.10	0.60%	1.77%	0.20%	98.70%	95.00%	99.00%	64.00%	78.00%	0.040%	100.00%	100.00%
		TUV	0.00	100.00	15.05	0.370	0.980	1.00	97.00	95.00	99.00	80.00	95.00	0.320	32.00	26.44
131	Reliable Internet.	PMR	0.00	99.33%	8.17	0.57%	1.77%	1.22%	98.40%	NA	94.30%	98.80%	NA	0.000%	NA	NA



	Ser.															
		TUV	23.03	99.00	8.36	0.650	2.600	1.17	99.44	N/A	N/A	100.00	100.00	N/A	N/A	N/A
132	Tata Teleservices	PMR	17.00	97.30%	8.73	0.00%	0.09%	0.63%	96.71%	94.00%	94.00%	87.00%	87.00%	0.100%	100.00%	100.00%
		TUV	0.00	97.82	8.65	0.000	0.100	0.76	96.70	86.00	100.00	83.00	100.00	0.190	100.00	33.88
133	Reliance Comm	PMR	0.00	99.52%	3.86	0.00%	0.00%	0.59%	99.32%	99.50%	99.50%	86.90%	91.79%	0.070%	100.00%	100.00
		TUV	0.00	99.51	2.70	0.000	0.000	0.73	97.00	99.50	99.50	66.00	69.13	0.080	100.00	100.00%



7.2.2 PMR COMPARISON (BASIC SERVICES)

Table 69 [PMR Comparison: Basic Services]

Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																					
S. No	Service Area	Service Provider		New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)			Closures (in %)			Additional facility (in %)		Response Time to the Customer for Assistance (in %)		Time taken for Refund of deposit after closure (in %)
											95% of requests			% age of calls answered (electronically)			% age of calls answered by Operator (voice to voice)				
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days			
1	ANDRA PRADESH	BSNL	PMR	91.47	6.50	87.00	14.50	NA	57.00%	0.02	80.00	66.00	58.00	100.00	100.00	NA	NA	100.00			
			TUV	80.20	2.06	85.62	6.22	0.0000	72.24	0.000	30.17	81.34	63.53	N/A	N/A	100.00	100.00	96.74			
		RELIANCE	PMR	64.61	3.05	100.00	4.61	10.4800	37.69%	0.08	100.00	97.33	98.37	100.00	100.00	92.50	95.00	100.00			
			TUV	99.50	2.84	97.00	2.37	0.1140	73.95	0.080	100.00	96.50	97.50	N/A	N/A	96.00	98.00	100.00			
		BHARTI	PMR	89.80	5.46	94.17	2.86	0.0000	47.00%	0.03	34.14	0.00	93.54	NA	NA	97.67	98.33	26.67			
			TUV	88.81	6.16	90.40	5.70	0.0005	54.00	0.043	58.00	N/A	93.82	N/A	N/A	95.00	97.00	97.40			
		TATA	PMR	89.00	4.50	70.91	10.70	0.0030	46.39%	0.20	98.91	100.00	91.35	100.00	100.00	65.00	73.00	100.00			
			TUV	85.50	4.50	70.00	11.32	0.0120	82.90	0.073	N/A	N/A	N/A	100.00	100.00	100.00	100.00	97.40			
2	BIHAR	BSNL	PMR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
			TUV	24.78	18.34	67.40	10.60	0.0000	54.68	0.000	40.66	81.45	93.93	100.00	100.00	100.00	100.00	100.00			
		RELIANCE	PMR	0.00	0.00	NA	NA	0.0100	24.78%	Nil	Nil	Nil	100.00	100.00	100.00	92.50	95.20	100.00			



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												95% of requests			% age of calls answered (electronically)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
			TUV	100.00	NI	NI	NI	0.0000	77.39	0.000	NI	NI	NI	N/A	N/A	96.00	98.00	NI
3	DELHI	MTNL	PMR	99.60	11.72	94.06	8.53	0.0001	49.00%	0.06	93.20	81.42	60.56	97.60	100.00	86.60	99.05	100.00
			TUV	99.75	8.06	97.35	5.53	0.0005	83.61	0.055	100.00	100.00	98.35	99.64	99.87	81.50	91.33	100.00
		RELIANCE	PMR	18.49	0.59	100.00	4.32	0.0000	47.68%	0.06	96.43	96.87	96.88	100.00	100.00	95.50	95.50	100.00
			TUV	98.50	0.55	98.00	4.70	0.0000	75.00	0.050	96.00	95.50	95.50	N/A	N/A	96.00	98.00	100.00
		BHARTI	PMR	99.73	4.16	99.50	6.10	0.1000	53.52%	0.03	95.66	79.18	96.45	NA	NA	100.00	NA	41.77
			TUV	99.63	4.42	99.15	4.80	0.0006	59.27	0.030	94.42	51.75	96.92	35.55	64.50	DNP	DNP	41.12
		TATA	PMR	86.99	1.70	100.00	12.90	0.0000	50.68%	0.23	91.89	98.25	89.94	100.00	100.00	62.00	69.00	98.00
	TUV	95.33	0.86	100.00	4.00	0.5500	51.30	0.220	98.00	99.14	98.55	100.00	100.00	80.00	84.00	100.00		
4	GUJARAT	BSNL	PMR	95.59	5.80	95.00	9.60	NA	64.00%	0.04	83.00	97.00	98.00	100.00	100.00	100.00	100.00	100.00
			TUV	46.20	5.79	51.14	12.79	0.0000	50.93	0.798	42.94	75.53	49.39	87.10	DNP	61.28	DNP	97.98
		RELIANCE	PMR	59.25	3.31	100.00	5.22	0.2500	53.27%	0.09	98.46	97.96	98.23	100.00	100.00	92.50	95.50	100.00
			TUV	99.00	3.30	96.00	5.73	0.0024	76.12	0.010	97.00	97.00	98.00	N/A	N/A	96.00	98.00	100.00
		BHARTI	PMR	100.00	6.69	93.58	3.40	0.0004	55.73%	0.16	66.67	100.00	62.85	NA	NA	69.00	79.00	76.00
			TUV	81.32	7.23	93.38	7.63	0.0200	63.91	DNP	62.11	DNP	95.31	N/A	N/A	69.60	77.50	100.00



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												95% of requests			% age of calls answered (electronically)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
		TATA	PMR	94.96	1.30	87.25	8.16	0.0000	50.43%	0.13	91.55	100.00	87.92	100.00	100.00	90.00	94.00	100.00
			TUV	97.60	1.31	76.22	12.77	0.0000	63.34	0.150	96.24	100.00	99.04	DNP	DNP	DNP	DNP	100.00
5	MP & CHATTISGARH	BSNL(MP)	PMR	92.13	4.80	95.00	6.90	0.1000	68.00%	0.05	100.00	97.00	100.00	90.00	95.00	99.00	99.90	100.00
			TUV	78.00	8.60	90.71	5.94	0.0180	54.60	0.000	90.76	97.76	100.00	95.00	95.00	92.00	92.00	100.00
		BSNL (Chattisgarh)	PMR	100.00	9.60	92.00	11.70	NA	65.00%	0.01	94.00	82.00	69.00	100.00	100.00	90.00	95.00	100.00
			TUV	98.57	8.29	87.63	6.65	0.0180	70.50	0.001	97.22	98.14	91.66	92.00	92.00	92.00	92.00	100.00
		RELIANCE	PMR	48.07	3.33	95.70	2.12	0.0800	49.66%	0.04	100.00	97.00	100.00	100.00	100.00	92.50	95.50	100.00
			TUV	98.00	2.90	96.50	4.12	0.0900	77.93	0.060	100.00	96.00	99.00	N/A	N/A	96.00	98.00	100.00
		BHARTI	PMR	93.65	4.81	95.76	8.30	0.1000	50.00%	0.02	52.45	100.00	99.32	NA	NA	79.00	100.00	3.86
			TUV	96.06	5.20	95.73	7.90	0.0010	56.76	0.002	52.74	95.52	99.17	100.00	100.00	79.87	100.00	3.81
6	MAHARASHTRA	BSNL	PMR	80.60	7.40	90.00	9.40	NA	54.00%	0.02	85.00	90.00	95.00	100.00	100.00	100.00	100.00	
			TUV	36.24	7.86	80.13	7.69	4.8600	41.97	0.001	56.00	79.67	66.00	N/A	N/A	N/A	N/A	31.13
		RELIANCE	PMR	36.60	0.24	100.00	5.55	0.7800	41.25%	0.06	99.43	98.42	97.97	100.00	100.00	92.50	95.50	100.00
			TUV	98.50	0.23	95.50	4.40	0.0042	80.42	0.040	100.00	98.50	97.50	N/A	N/A	96.00	98.00	100.00



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												95% of requests			% age of calls answered (electronically)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
		BHARTI	PMR	61.29	3.46	88.46	6.10	0.0026	55.38%	0.22	70.11	100.00	73.31	NA	NA	69.44	78.85	87.36
			TUV	89.00	2.80	87.90	11.70	0.0000	63.68	0.040	38.88	100.00	97.31	N/A	N/A	71.30	71.68	100.00
		TATA	PMR	80.73	3.69	95.10	6.96	0.0020	59.00%	0.26	94.57	52.02	86.37	100.00	100.00	92.00	95.00	100.00
			TUV	100.00	3.90	99.79	5.99	0.0000	57.01	0.003	100.00	100.00	100.00	100.00	100.00	91.59	94.87	100.00
7	PUNJAB	BSNL	PMR	98.92	9.10	87.00	16.90	NA	61.00%	0.02	97.00	100.00	100.00	100.00	100.00	57.67	73.33	100.00
			TUV	53.41	8.22	62.49	8.29	0.1660	73.80	0.013	77.18	92.66	92.52	100.00	100.00	92.33	97.63	100.00
		RELIANCE	PMR	69.61	3.41	100.00	5.22	0.0300	50.25%	0.06	98.33	97.57	98.15	100.00	100.00	92.50	95.50	100.00
			TUV	98.00	3.10	95.00	5.50	0.0300	78.15	0.050	100.00	97.50	98.00	N/A	N/A	96.00	98.00	100.00
		BHARTI	PMR	92.95	4.50	88.54	4.09	0.0051	51.00%	0.06	86.99	91.13	84.41	NA	NA	87.82	92.66	55.89
			TUV	97.70	3.33	94.60	4.04	0.0002	53.46	0.062	100.00	89.96	71.38	100.00	100.00	91.80	95.40	85.80
		HFCL	PMR	94.99	1.52	98.74	4.57	0.0002	55.49%	0.07	95.85	98.26	96.12	100.00	NA	86.00	98.00	100.00
			TUV	94.60	1.17	98.58	6.01	0.0002	77.50	0.012	95.18	97.66	96.52	N/A	N/A	N/A	N/A	100.00
8	RAJASTHAN	BSNL	PMR	82.01	7.70	89.00	9.40	NA	56.00%	0.02	94.00	98.00	88.00	100.00	100.00	100.00	100.00	100.00
			TUV	43.51	8.30	80.13	5.93	0.0000	41.94	0.039	98.11	100.00	100.00	N/A	N/A	N/A	N/A	64.03
		RELIANCE	PMR	47.88	3.33	100.00	5.59	0.0800	37.92%	0.00	Nil	92.39	98.57	100.00	100.00	92.50	95.50	100.00



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												95% of requests			% age of calls answered (electronically)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
		TUV	PMR	99.50	3.30	98.00	4.80	0.0300	77.17	0.000	NI	89.30	98.00	N/A	N/A	96.00	98.00	100.00
		SHYAM	PMR	97.99	2.77	92.45	4.80	0.0010	NA	0.10	96.06	100.00	97.26	NA	NA	86.00	NA	91.00
		TUV	PMR	98.02	2.77	92.67	4.85	0.0003	N/A	0.094	58.30	100.00	96.26	N/A	N/A	85.00	85.00	91.00
9	TAMILNADU	BSNL	PMR	100.00	3.30	95.00	6.10	NA	77.00%	0.02	100.00	100.00	99.00	99.78	99.78	97.47	98.04	100.00
		TUV	PMR	98.00	1.92	98.50	4.33	0.2350	63.48	0.900	99.63	100.00	50.00	50.00	50.00	50.00	50.00	100.00
		RELIANCE	PMR	57.56	0.68	100.00	5.38	0.1100	33.33%	0.03	100.00	96.86	99.70	100.00	100.00	92.50	95.50	100.00
		TUV	PMR	99.50	0.83	98.00	4.40	0.0014	71.43	0.000	100.00	97.00	99.50	N/A	N/A	96.00	98.00	100.00
		BHARTI	PMR	94.74	2.37	99.89	5.29	0.0006	53.40%	0.01	89.12	83.85	98.63	99.72	99.84	90.49	93.11	94.68
		TUV	PMR	92.19	3.45	99.69	3.89	0.0001	68.00	0.015	54.00	75.82	98.90	42.00	50.00	44.00	50.00	100.00
		TATA	PMR	100.00	0.00	Nil	NA	0.0000	60.65%	Nil	Nil	Nil	Nil	100.00	100.00	94.00	97.00	NA
		TUV	PMR	100.00	3.00	100.00	4.00	0.0020	64.00	0.000	100.00	100.00	100.00	50.00	50.00	50.00	50.00	100.00
10	HARYANA	BSNL	PMR	98.53	6.70	93.00	8.00	NA	72.00%	0.02	100.00	99.00	98.00	100.00	100.00	80.00	100.00	100.00
		TUV	PMR	16.66	6.39	50.59	15.36	0.0020	56.67	0.100	100.00	92.50	95.83	100.00	100.00	N/A	N/A	100.00
		RELIANCE	PMR	37.09	NA	NA	NA	0.5000	45.01%	0.00	Nil	Nil	100.00	100.00	100.00	92.50	95.50	100.00
		TUV	PMR	97.00	NI	NI	NI	0.0500	77.60	0.000	NI	100.00	100.00	N/A	N/A	96.00	98.00	100.00



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												95% of requests			% age of calls answered (electronically)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
		BHARTI	PMR	86.63	5.19	96.70	9.05	0.0000	52.00%	0.06	100.00	88.31	65.42	NA	NA	87.82	92.66	35.86
			TUV	85.20	5.40	99.50	4.60	0.0002	63.00	0.050	61.00	89.00	57.00	N/A	N/A	91.80	95.40	100.00
		BSNL	PMR	95.45	6.40	90.00	14.60	NA	56.00%	0.04	91.00	96.00	93.00	100.00	100.00	99.59	99.83	100.00
			TUV	32.89	17.05	34.68	4.90	0.0000	52.26	0.003	59.38	62.29	62.24	100.00	100.00	99.84	99.84	62.33
		RELIANCE	PMR	21.17	0.49	100.00	4.21	0.1300	36.60%	0.05	71.08	97.51	98.01	100.00	100.00	92.50	95.50	100.00
			TUV	98.00	0.41	97.50	3.60	0.0011	75.42	0.035	100.00	97.00	98.00	N/A	N/A	96.00	98.00	100.00
		BHARTI	PMR	93.22	3.78	94.49	3.35	0.0464	59.00%	0.03	93.82	73.37	98.94	99.00	99.50	80.29	88.06	100.00
			TUV	94.75	2.91	96.76	4.33	0.0000	60.58	0.020	89.25	73.28	99.22	N/A	N/A	79.71	87.87	99.75
		TATA	PMR	90.14	1.80	100.00	7.00	0.0090	47.46%	0.10	76.70	100.00	95.94	100.00	100.00	93.00	96.00	100.00
			TUV	91.27	1.53	90.61	7.50	0.0127	N/A	8.540	85.00	100.00	95.40	N/A	N/A	92.01	93.13	100.00
12	A&N	BSNL	PMR	100.00	6.50	81.00	8.10	NA	39.00%	0.09	95.00	100.00	100.00	NA	NA	NA	NA	100.00
			TUV	Completed in previous quarter														
13	ASSAM	BSNL	PMR	38.73	7.70	89.00	14.70	NA	59.00%	0.06	NA	90.00	66.00	NA	NA	NA	NA	100.00
			TUV	10.90	2.84	76.96	7.40	N/A	31.63	0.020	35.00	22.70	N/A	100.00	100.00	100.00	100.00	50.00
14	CHENNAI	BSNL	PMR	96.35	5.10	90.00	10.30	NA	73.00%	0.02	92.00	100.00	100.00	100.00	100.00	96.44	98.34	100.00
			TUV	79.18	7.81	96.00	6.42	0.0030	80.00	0.000	70.80	69.14	84.00	45.00	50.00	40.00	50.00	100.00



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												% age of calls answered (electronically)			% age of calls answered by Operator (voice to voice)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
		RELIANCE	PMR	41.01	2.23	100.00	5.83	0.0400	52.73%	0.01	98.08	98.51	99.95	100.00	100.00	91.00	95.50	100.00
			TUV	99.00	2.16	97.00	6.00	0.0970	71.47	0.020	99.00	97.50	99.50	N/A	N/A	96.00	98.00	NI
		BHARTI	PMR	93.90	5.78	99.34	8.29	0.0008	54.00%	0.02	80.00	94.01	98.07	99.72	99.84	90.49	93.11	95.67
			TUV	84.28	3.77	99.78	4.76	0.0004	63.40	0.015	54.00	75.82	98.90	42.00	50.00	44.00	50.00	100.00
		TATA	PMR	98.73	0.00	100.00	4.70	0.0030	46.39%	Nil	Nil	Nil	Nil	100.00	100.00	94.00	97.00	NA
			TUV	86.84	6.00	100.00	4.00	0.0005	64.00	0.000	100.00	100.00	100.00	50.00	50.00	50.00	50.00	0.00
15	H P	RELIANCE	PMR	0.00	NA	NA	NA	1.4800	39.65%	0.00	Nil	Nil	Nil	100.00	100.00	92.50	95.00	100.00
			TUV	100.00	NI	NI	NI	1.3600	78.15	0.000	NI	NI	NI	N/A	N/A	96.00	98.00	NI
		BSNL	PMR	98.55	9.50	93.00	7.00	NA	64.00%	0.03	Nil	89.00	94.00	NA	NA	NA	NA	100.00
			TUV	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP	DNP
16	JHARKHAND	BSNL	PMR	99.03	6.30	89.00	14.20	NA	51.00%	0.14	95.00	96.00	98.00	NA	NA	NA	NA	100.00
			TUV	27.20	15.90	85.90	8.18	0.5000	34.68	0.110	41.14	22.22	100.00	100.00	100.00	100.00	100.00	26.46
17	J & K	BSNL	PMR	58.79	10.00	88.00	6.30	NA	51.00%	0.07	Nil	100.00	99.00	NA	NA	NA	NA	NA
			TUV	56.80	4.88	49.57	6.78	DNP	DNP			DNP	DNP	DNP	100.00	100.00	0.00	20.00
18	KERALA	BSNL	PMR	95.56	7.80	88.00	13.50	NA	70.00%	0.02	79.00	99.00	97.00	100.00	100.00	86.67	100.00	100.00
			TUV	19.39	9.59	94.78	7.64	0.0000	79.51	0.001	93.74	98.35	98.47	N/A	N/A	90.00	92.00	96.69
		BHARTI	PMR	77.41	3.50	98.45	2.95	0.0010	56.00%	1.77	54.68	0.00	66.00	NA	NA	95.73	98.43	100.00
			TUV	68.70	5.91	94.74	4.83	0.0000	N/A	0.008	73.53	11.11	96.48	N/A	N/A	92.99	92.99	100.00
		RELIANCE	PMR	52.38	0.47	100.00	4.19	0.2400	59.53%	0.02	100.00	96.93	97.88	100.00	100.00	92.50	95.50	100.00
			TUV	98.00	0.61	98.50	0.50	0.2300	80.76	0.010	100.00	95.50	97.00	N/A	N/A	96.00	98.00	DNP



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												95% of requests			% age of calls answered (electronically)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
19	KOLKATA	BHARTI	PMR	78.41	4.83	81.14	11.23	0.0002	55.00%	1.10	0.00	99.76	98.14	NA	NA	86.39	91.46	NA
			TUV	81.60	4.72	82.76	5.50	0.0180	68.40	0.001	89.25	100.00	100.00	N/A	N/A	88.00	93.00	22.22
		RELIANCE	PMR	57.40	1.10	100.00	5.22	0.0000	50.21%	0.08	98.36	97.66	98.35	100.00	100.00	92.50	95.50	100.00
			TUV	99.50	1.20	96.50	4.75	0.0000	77.67	0.080	98.50	97.50	97.50	N/A	N/A	96.00	98.00	NI
		BSNL	PMR	99.42	4.20	92.00	10.50	NA	54.00%	0.10	95.00	100.00	54.00	100.00	100.00	100.00	100.00	100.00
	TUV	58.70	13.70	60.42	7.88	0.4700	53.40	0.010	58.37	37.79	100.00	100.00	100.00	100.00	100.00	100.00	87.70	
20	MUMBAI	TATA	PMR	75.12	3.70	98.71	7.08	0.0020	59.00%	0.78	85.68	100.00	98.99	100.00	100.00	67.00	72.00	NA
			TUV	71.41	3.67	97.27	7.50	0.0250	61.20	0.780	84.00	N/A	98.70	100.00	100.00	59.00	65.00	99.00
		BHARTI	PMR	91.09	2.88	92.40	3.30	0.0004	55.76%	0.30	80.70	100.00	92.03	NA	NA	71.32	80.63	97.49
			TUV	95.25	3.77	90.25	4.00	0.0004	64.05	0.040	73.00	100.00	92.00	N/A	N/A	73.85	84.44	100.00
		RELIANCE	PMR	16.83	0.85	100.00	4.84	0.0000	54.66%	0.07	97.26	96.93	98.31	100.00	100.00	92.50	95.50	100.00
			TUV	97.50	0.79	96.50	5.00	0.0030	77.00	0.070	98.00	96.00	97.00	N/A	N/A	96.00	98.00	NI
		MTNL	PMR	62.42	8.97	82.66	19.28	0.0002	56.49%	0.73	31.05	55.45	58.47	98.67	100.00	87.22	90.54	100.00
	TUV	80.50	74.00	74.00	12.00	0.0010	54.80	0.040	31.51	87.00	90.00	N/A	N/A	50.30	50.30	98.80		
21	NE-I	BSNL	PMR	54.57	5.70	88.00	30.40	NA	58.00%	0.05	63.00	77.00	93.00	NA	NA	NA	NA	100.00
			TUV	77.78	31.55	70.37	12.72	0.0400	37.90	0.095	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
22	NE-II	BSNL	PMR	96.88	4.20	90.00	14.60	NA	61.00%	0.05	100.00	100.00	97.00	87.77	98.83	89.00	98.00	100.00
			TUV	Completed in previous quarter														
23	ORISSA	BSNL	PMR	81.05	5.60	92.00	8.00	NA	81.00%	0.09	98.00	NA	NA	NA	NA	NA	NA	100.00
			TUV	52.94	23.84	88.17	7.42	N/A	43.91	0.027	80.00	100.00	100.00	41.66	100.00	100.00	100.00	99.21



Performance Monitoring Report comparison of Basic Services (Wire-line) for the Quarter ending Dec, 2006																		
Legends Used : NA : Not Available ND : Not Done, DNP : Data Not Provided, N/App : Not Applicable,				New Connection after registration of demand (in %)	Fault incidence per 100/sub/month (in %)	Fault repaired by next working day (in %)	Mean Time to Repair (MTTR) (in Hours)	Grade of service (calls per thousand) [Junction between local exchange (2/1000)]	Call completion rate in local network (in %)	Metering & billing credibility	Shifts (in %)	Closures (in %)	Additional facility (in %)	Response Time to the Customer for Assistance (in %)				Time taken for Refund of deposit after closure (in %)
S. No	Service Area	Service Provider												% age of calls answered (electronically)			% age of calls answered by Operator (voice to voice)	
Bench Mark				100% in < 7 days	<5 %	>90%	<8 hrs	<0.002	>55%	<0.1%	<3 days	<24 hours	<24 hours	within 20 sec=80%	within 40 sec=95%	within 60 sec=80%	within 90 sec = 95%	100% in 60 Days
		RELIANCE	PMR	30.16	NA	NA	NA	0.0040	45.30%	0.39	Nil	Nil	Nil	100.00	100.00	92.50	95.50	100.00
			TUV	100.00	NI	NI	NI	0.1000	77.93	0.000	NI	NI	NI	N/A	N/A	96.00	98.00	NI
24	UP-E	BSNL	PMR	58.46	6.90	93.00	7.10	NA	64.00%	0.04	96.00	95.00	98.00	100.00	100.00	91.00	92.33	100.00
			TUV	39.72	16.24	60.30	12.42	0.0003	50.55	0.079	37.50	76.55	66.00	100.00	100.00	95.00	96.00	78.93
		BHARTI	PMR	92.81	7.59	91.57	12.00	0.0186	44.86%	2.21	22.66	90.34	64.72	NA	NA	88.00	93.00	23.00
			TUV	97.18	7.60	92.70	4.90	N/A	51.10	4.690	0.00	38.91	68.47	N/A	N/A	90.32	94.41	28.43
		RELIANCE	PMR	54.99	3.33	100.00	3.46	0.0000	44.60%	0.04	100.00	98.03	98.21	100.00	100.00	92.50	95.50	100.00
			TUV	98.00	2.90	100.00	1.20	0.0000	73.15	0.030	100.00	98.00	97.50	N/A	N/A	96.00	98.00	NI
25	UP-W	BSNL	PMR	100.00	8.20	91.00	8.20	NA	61.00%	NA	100.00	99.00	96.00	100.00	100.00	91.00	92.33	100.00
			TUV	70.90	5.96	94.19	4.85	0.0134	51.39	0.100	46.15	100.00	100.00	100.00	100.00	100.00	100.00	97.64
		BHARTI	PMR	86.18	8.01	86.94	7.40	0.0016	48.00%	0.59	66.43	23.09	71.50	NA	NA	87.82	92.66	95.00
			TUV	83.29	7.33	43.96	8.62	0.0000	62.63	0.651	100.00	93.42	66.00	N/A	N/A	91.81	95.41	66.66
		RELIANCE	PMR	57.78	NA	NA	NA	0.1400	41.66%	0.00	Nil	Nil	100.00	100.00	100.00	92.50	95.50	100.00
			TUV	94.00	NI	NI	NI	0.2900	78.45	0.000	NI	NI	100.00	N/A	N/A	96.00	98.00	NI
26	UTTRANCHAL	BSNL	PMR	90.71	7.90	94.00	7.20	NA	64.00%	0.04	96.00	97.00	98.00	31.00	81.00	88.33	100.00	100.00
			TUV	87.19	12.13	61.06	14.18	N/A	47.28	0.002	88.88	87.36	74.52	88.73	88.73	42.60	78.08	100.00
27	WEST BENGAL	BSNL	PMR	20.36	7.70	85.00	20.10	NA	66.00%	0.04	100.00	100.00	100.00	88.87	92.43	NA	NA	100.00
			TUV	27.81	12.20	71.72	10.05	0.1730	30.40	0.370	45.40	61.53	100.00	100.00	100.00	99.00	100.00	100.00
		RELIANCE	PMR	34.35	NA	NA	NA	1.2100	NA	0.00	Nil	Nil	100.00	100.00	100.00	92.50	95.50	100.00
			TUV	100.00	NI	NI	NI	1.5100	77.39	0.000	NI	NI	NI	N/A	N/A	96.00	98.00	NI

7.3 **GENERAL QUESTIONS**

7.3.1 **SURVEY REALTED TO CELLULAR SERVICES**

A Survey was conducted by TUV to assess the perception of subscribers on the following issues:

1 Are you able to understand clearly the bills sent by your service provider?

5827 subscribers were asked this question, out of which only 95 (1.6%) subscribers understand their bills clearly and 1017(17.5%) find it somewhat difficult to understand while remaining 4715 (80.9%) either find their bills very difficult to understand or its not at all clearly understood by them.

2.1 Have you been informed in writing, within a week of activation of service, the complete details of your tariff plan?

1364 subscribers were asked this question, out of which only **376 (27.6%)** were informed, details of their tariff plan in writing by their service provider.

2.2 If yes, whether you are able to understand clearly the tariff plan?

Out of **376** subscribers who were asked this question, only **11(2.9%)** subscribers understand their tariff plan clearly and **83(22.1%)** find it somewhat difficult to understand while remaining **282 (75.0%)** either find their tariff plan very difficult to understand or its not at all clearly understood by them.

3.1 Have you recently made any request through Telephone call, FAX, SMS, E-mail etc. for any value added services, the charges for which are of a recurring nature?

5827 subscribers were asked this question, out of which only **73 (1.3%)** were informed, details of their tariff plan in writing by their service provider.

3.2 If yes, whether your service provider acknowledged/ confirmed through SMS followed by entry in the next bill the requests made?

Out of **73** subscribers only **56 (76.7%)** received acknowledgement through SMS.

4.1 Have you terminated your mobile Phone connection recently?

This question was asked to **5827** no of subscribers but no one (0%) responded affirmative on termination request.

4.2 How many days taken for termination of your connection? (In No of days.)

This question was asked to **5827** no of subscribers but no one (0%) responded affirmative on termination request.

4.3 Whether your service provider adjusted your security deposit in the bill raised after you requested for termination?

This question was asked to **5827** no of subscribers but no one (0%) responded affirmative on termination request.

Table 70 [Tabulated General Question - Cellular services]

S/N	Questions : Subscribers were asked about	Mobile						
		Sample size in Numbers	Answers					
			"Yes" in Numbers	In (%)	"Some what difficult" in Nos	In (%)	"Not Clear & Very Difficult" in Nos	In (%)
1	Are you able to understand clearly the bills sent by your service provider?	5827	95	1.6%	1017	17.5%	4715	80.9%
2.1	Have you been informed in writing, within a week of activation of service, the complete details of your tariff plan?	1364	376	27.6%	--	--	--	--
2.2	If yes, whether you are able to understand clearly the tariff plan?	376	11	2.9%	83	22.1%	282	75.0%
3.1	Have you recently made any request through Telephone call, FAX, SMS, E-mail etc. for any value added services, the charges for which are of a recurring nature?	5827	73	1.3%	--	--	--	--
3.2	If yes, whether your service provider acknowledged/ confirmed through SMS followed by entry in the next bill the requests made?	73	56	76.7%	--	--	--	--
4.1	Have you terminated your telephone / mobile connection Phone connection recently?	5827	0	0.0%	--	--	--	--
4.2	How many days taken for termination of your connection? (In No of days.)	N\Aapp	N\Aapp	N\Aapp	--	--	--	--
4.3	Whether your service provider adjusted your security deposit in the bill raised after you requested for termination?	N\Aapp	N\Aapp	N\Aapp	--	--	--	--

7.3.2 SURVEY REALTED TO BASIC SERVICES

A Survey was conducted by TUV to assess the perception of subscribers on the following issues:

1 **Are you able to understand clearly the bills sent by your service provider?**

19066 subscribers were asked this question, out of which only 581(3.0%) subscribers understand their bills clearly and 3780(19.8%) find it somewhat difficult to understand while remaining 14705 (77.1%) either find their bills very difficult to understand or its not at all clearly understood by them.

2.1 **Have you been informed in writing, within a week of activation of service, the complete details of your tariff plan?**

4980 subscribers were asked this question, out of which only **1052 (21.1%)** were informed, details of their tariff plan in writing by their service provider.

2.2 **If yes, whether you are able to understand clearly the tariff plan?**

Out of **1052** subscribers who were asked this question, only **85(8.1%)** subscribers understand their tariff plan clearly and **351(33.4%)** find it somewhat difficult to understand while remaining **616 (58.6%)** either find their tariff plan very difficult to understand or its not at all clearly understood by them.

3.1 **Have you recently made any request through Telephone call, FAX, SMS, E-mail etc. for any value added services, the charges for which are of a recurring nature?**

19066 subscribers were asked this question, out of which only **90 (0.5%)** were informed, details of their tariff plan in writing by their service provider.

3.2 **If yes, whether your service provider acknowledged/ confirmed through SMS followed by entry in the next bill the requests made?**

Out of **90** subscribers only **53 (58.9%)** received acknowledgement through SMS.

4.1 **Have you terminated your telephone connection recently?**

This question was asked to **19066** no of subscribers out of which only 7 (0.037%) responded affirmative on termination request.

4.2 **How many days taken for termination of your connection? (In No of days.)**

Out of 7 respondents, the averaged time for termination is **19 days**

4.3 Whether your service provider adjusted your security deposit in the bill raised after you requested for termination?

Out of 7 respondents, only 5 (71.4%) answered affirmative on adjustment of deposits.

Table 71 [Tabulated General Questions Basic Services]

S/N	Questions : Subscribers were asked about	Basic						
		Sample size in Numbers	Answers					
			"Yes" in Numbers	In (%)	"Some what difficult" in Nos	In (%)	"Not Clear & Very Difficult" in Nos	In (%)
1	Are you able to understand clearly the bills sent by your service provider?	19066	581	3.0%	3780	19.8%	14705	77.1%
2.1	Have you been informed in writing, within a week of activation of service, the complete details of your tariff plan?	4980	1052	21.1%	--	--	--	--
2.2	If yes, whether you are able to understand clearly the tariff plan?	1052	85	8.1%	351	33.4%	616	58.6%
3.1	Have you recently made any request through Telephone call, FAX, SMS, E-mail etc. for any value added services, the charges for which are of a recurring nature?	19066	90	0.5%	--	--	--	--
3.2	If yes, whether your service provider acknowledged/ confirmed through SMS followed by entry in the next bill the requests made?	90	53	58.9%	--	--	--	--
4.1	Have you terminated your telephone / mobile connection Phone connection recently?	19066	7	0.037%	--	--	--	--
4.2	How many days taken for termination of your connection? (In No of days.)	7	19 days averaged for all 7 no of respondents					
4.3	Whether your service provider adjusted your security deposit in the bill raised after you requested for termination?	7	5	71.4%	--	--	--	--

7.4 CUSTOMER SATISFACTION SURVEY QUESTIONNAIRE

7.4.1 BASIC SERVICES CSS QUESTIONNAIRE

Name: _____

Tel:

--	--	--	--	--	--	--	--	--	--

Operator: 1 Airtel 2 Hutch 3 Idea 4 BSNL
5 Rel Info 6 Rel Tel 7 TATA 8 MTNL
9 Spice 10 BPL 11 HFCL 12 Shyam 13 Aircel

State and code: _____

City and code: _____

Sex: 1 Male 2 Female

Age: 1 < 25 2 25-50 3 >50

Usage Type : 1 Residential 2 Commercial

Area: 1 Rural 2 Urban

User Type: 1 Prepaid 2 Postpaid

Type: 1 Wireline 2 WLL

Interview: 1 Telephonic 2 In-person

A. SERVICE PROVISION

1. When did you last applied for a phone connection	<input type="checkbox"/> 1 >12 month → (if >12 month, go to Q 4) <input type="checkbox"/> 2 9-12 month <input type="checkbox"/> 3 6-9 month <input type="checkbox"/> 4 <6 month
2. How much time was taken to get the working connection after you applied for it?	<input type="checkbox"/> 1 >45 day <input type="checkbox"/> 2 16-45 day <input type="checkbox"/> 3 7-15 day <input type="checkbox"/> 4 <7 day
3. Are you satisfied with time taken to provide working phone?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy
4. Have you requested for shifting of your phone during last 24 months?	<input type="checkbox"/> 1 Yes → (If no, go to Q 7) <input type="checkbox"/> 2 No
5. How long did it take for the complete shifting of phone?	<input type="checkbox"/> 1 >15 day <input type="checkbox"/> 2 8-15 day <input type="checkbox"/> 3 3-7 day <input type="checkbox"/> 4 <3 day
6. Are you satisfied with the time taken for shifting?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy
7. Have you requested to close your phone during 24 month?	<input type="checkbox"/> 1 Yes → (If no, go to Q 11) <input type="checkbox"/> 2 No
8. If yes, which operator you requested to close the phone	<input type="checkbox"/> 1 Airtel <input type="checkbox"/> 2 Hutch <input type="checkbox"/> 3 Idea <input type="checkbox"/> 4 BSNL <input type="checkbox"/> 5 Rel Info <input type="checkbox"/> 6 Rel Tel <input type="checkbox"/> 7 TATA <input type="checkbox"/> 8 MTNL <input type="checkbox"/> 9 Spice <input type="checkbox"/> 10 BPL <input type="checkbox"/> 11 HFCL <input type="checkbox"/> 12 Shyam <input type="checkbox"/> 13 Aircel
9. How long did it take for the closure of phone?	<input type="checkbox"/> 1 >72 hrs <input type="checkbox"/> 2 48-72 hrs <input type="checkbox"/> 3 24-48 hrs <input type="checkbox"/> 4 <24 hrs
10. Are you satisfied with the time taken for closure?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy

B. BILLING RELATED

11. Are the bills received at least a week before the due date of payment?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 2 Occasionally <input type="checkbox"/> 3 Normally <input type="checkbox"/> 4 Always
12. Are the bills correct?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 2 Occasionally <input type="checkbox"/> 3 Normally <input type="checkbox"/> 4 Always
13. Do the bills clearly explain the expenditure on phone?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 2 Occasionally <input type="checkbox"/> 3 Normally <input type="checkbox"/> 4 Always

14. Have you complained about wrong bill in last one year?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	—————▶ (If no, go to Q 16)
15. Are you satisfied with the process of settling of billing disputes?	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy

C. HELP DESK

16. Do you know help desk operator number?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	—————▶ (If no, go to Q 23)
17. When was the last time you accessed the help desk?	<input type="checkbox"/> 1 upto 1 mon.	<input type="checkbox"/> 2 1-3 month	<input type="checkbox"/> 3 >3 month <input type="checkbox"/> 4 Never (go to Q23)
18. What was it related to?	<input type="checkbox"/> 1 New connection	<input type="checkbox"/> 2 Clarifications	—————▶(go to Q20)
	<input type="checkbox"/> 3 Complaints		
19. If for complaints, what was it related to?	<input type="checkbox"/> 1 Billing dispute	<input type="checkbox"/> 2 Service related	
20. How much time taken by help desk executive to reply?	<input type="checkbox"/> 1 >1 min	<input type="checkbox"/> 2 1 min	<input type="checkbox"/> 3 30 sec <input type="checkbox"/> 4 Immediately

21. Does the executive listened to your problem with patience?	<input type="checkbox"/> 1 Never	<input type="checkbox"/> 2 Occasionally	<input type="checkbox"/> 3 Normally <input type="checkbox"/> 4 Always
22. Are you satisfied with the behaviour of the executive?	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy

D. NETWORK PERFORMANCE

23. How often there is network failure?	<input type="checkbox"/> 1 Frequent	<input type="checkbox"/> 2 Moderate	<input type="checkbox"/> 3 Occasional <input type="checkbox"/> 4 Never
24. Is the voice quality clear?	<input type="checkbox"/> 1 Not clear	<input type="checkbox"/> 2 Manageable	<input type="checkbox"/> 3 Moderate <input type="checkbox"/> 4 Clear
25. How often you get connected to wrong number?	<input type="checkbox"/> 1 Frequent	<input type="checkbox"/> 2 Normally	<input type="checkbox"/> 3 Occasional <input type="checkbox"/> 4 Never

E. FAULT REPAIR

26. Did you have breakdown of your phone in last six month?	<input type="checkbox"/> 1 Yes	<input type="checkbox"/> 2 No	—————▶(If no, go to Q 29)
27. How long did it take for repairing after lodging complaint?	<input type="checkbox"/> 1 >3 days	<input type="checkbox"/> 2 3 days	<input type="checkbox"/> 3 2 days <input type="checkbox"/> 4 1 day
28. Does the problem reappear?	<input type="checkbox"/> 1 Always	<input type="checkbox"/> 2 Moderate	<input type="checkbox"/> 3 Occasional <input type="checkbox"/> 4 Never

F. SUPPLEMENTARY SERVICES

29. Usage of following services and satisfaction with the quality of supplementary services provided by the operator?							
Type of service	Usage		Satisfaction				
29.1 Call waiting	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy	
29.2 Forwarding	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy	
29.3 Call answering	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy	
29.4 Any other services	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy	

H. GENERAL INFORMATION - POST PAID CUSTOMERS ONLY

30. Are you able to understand clearly the bills sent by your	<input type="checkbox"/> 1 Not clear & very difficult to understand
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service provider?	<input type="checkbox"/> Somewhat difficult to understand <input type="checkbox"/> Easy to understand
31. Have you been informed in writing, within a week of activation of service, the complete details of your tariff plan? (For new customers)	<input type="checkbox"/> Informed <input type="checkbox"/> Not Informed → (If not informed, go to Q 33)
32. If yes, whether you are able to understand clearly the tariff plan? (For new customers)	<input type="checkbox"/> Tariff Plan very difficult to understand <input type="checkbox"/> Tariff Plan somewhat difficult to understand <input type="checkbox"/> Tariff Plan easy to understand
33. Have you recently made any request through Telephone call, FAX, SMS, E-mail etc. for any value added services, the charges for which are of a recurring nature?	<input type="checkbox"/> Yes <input type="checkbox"/> No → (If no, go to Q 35)
34. If yes, whether your service provider acknowledged/ confirmed through SMS followed by entry in the next bill the requests made?	<input type="checkbox"/> Acknowledged in the next bill <input type="checkbox"/> Did not acknowledge
35. Have you terminated your Basic Phone connection recently?	<input type="checkbox"/> Yes <input type="checkbox"/> No → (End of the interview)
36. How many days taken for termination of your connection?	No. of days taken for termination <input type="text"/>
37. Whether your service provider adjusted your security deposit in the bill raised after you requested for termination?	<input type="checkbox"/> Security Deposit adjusted in the bill <input type="checkbox"/> Security Deposit not adjusted in the bill



7.4.2 MOBILE SERVICES CSS QUESTIONNAIRE

Name: _____

Tel:

--	--	--	--	--	--	--	--	--	--

Operator: 1 Airtel 2 Hutch 3 Idea 4 BSNL
5 Rel Info 6 Aircel 7 TATA 8 MTNL
9 Spice 10 BPL 11 HFCL 12 Shyam 13 Rel Tel

State and code: _____

City and code: _____

Sex: 1 Male 2 Female
 Age: 1 < 25 2 25-50 3 >50
 Usage Type : 1 Residential 2 Commercial
 Area: 1 Rural 2 Urban
 User Type: 1 Prepaid 2 Postpaid
 Type: 1 GSM 2 CDMA
 Interview: 1 Telephonic 2 In-person

A. SERVICE PROVISION

1. When did you last applied for cellular phone connection	<input type="checkbox"/> 1 >9 month → (If >9 months, go to Q 6) <input type="checkbox"/> 2 6-9 month <input type="checkbox"/> 3 2-6 month <input type="checkbox"/> 4 <2 month
2. Are you satisfied with the availability of dealer-distributor in your locality?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy
3. How much time was taken to get the working connection after you applied for it?	<input type="checkbox"/> 1 >7 day <input type="checkbox"/> 2 4-7 day <input type="checkbox"/> 3 2-3 day <input type="checkbox"/> 4 Next day
4. Are you satisfy with time taken to provide working phone	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy
5. Are you satisfied with the clarity of plan? (Rate per call, monthly rental etc.)	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy
6. Have you requested to close your phone in last 6 month	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 No → [go to Q10-prepaid or Q11-postpaid]
30. If yes, which operator you requested to close the phone	<input type="checkbox"/> 1 Airtel <input type="checkbox"/> 2 Hutch <input type="checkbox"/> 3 Idea <input type="checkbox"/> 4 BSNL <input type="checkbox"/> 5 Rel Info <input type="checkbox"/> 6 Aircel <input type="checkbox"/> 7 TATA <input type="checkbox"/> 8 MTNL <input type="checkbox"/> 9 Spice <input type="checkbox"/> 10 BPL <input type="checkbox"/> 11 HFCL <input type="checkbox"/> 12 Shyam <input type="checkbox"/> 13 Rel Tel
8. How long did it take for the closure of phone?	<input type="checkbox"/> 1 >7 day <input type="checkbox"/> 2 3-7 day <input type="checkbox"/> 3 1-3 day <input type="checkbox"/> 4 1 day
9. Are you satisfied with the time taken for closure?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy

B. BILLING RELATED - PREPAID CUSTOMER

10. Are you satisfied with the charging?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy
--	---

C. BILLING RELATED - POSTPAID CUSTOMER

11. Are the bills received at least a week before the due date of payment?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 2 Occasionally <input type="checkbox"/> 3 Normally <input type="checkbox"/> 4 Always
12. Do you think the bills are correct?	<input type="checkbox"/> 3 Yes → (If yes, go to Q 15) <input type="checkbox"/> 2 No
13. Have you complained about wrong bill in last 6 month	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 No → (If no, go to Q 15)
14. Are you satisfied with the process of settling of billing disputes?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 3 Satisfy <input type="checkbox"/> 4 V satisfy

D. HELP DESK

15. Do you know help desk operator number?	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 No → (If no, go to Q 22)
--	--



16. When was the last time you accessed the help desk?	<input type="checkbox"/> 1 upto 1 mon. <input type="checkbox"/> 3 >3 month	<input type="checkbox"/> 2 1-3 month <input type="checkbox"/> 4 Never (go to Q22)
17. What was it related to?	<input type="checkbox"/> 1 New connection <input type="checkbox"/> 3 Complaints	<input type="checkbox"/> 2 Clarifications →(go to Q19)
18. If for complaints, what was it related to?	<input type="checkbox"/> 1 Billing dispute	<input type="checkbox"/> 2 Service related
19. How much time taken by help desk executive to reply	<input type="checkbox"/> 1 >1 min <input type="checkbox"/> 3 30 sec	<input type="checkbox"/> 2 1 min <input type="checkbox"/> 4 Immediately
20. Does the executive listened to your problem with patience?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 3 Normally	<input type="checkbox"/> 2 Occasionally <input type="checkbox"/> 4 Always
21. Are you satisfied with the behaviour of the executive?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 4 V satisfy

E. NETWORK PERFORMANCE

22. Are you satisfied with the coverage of your operator?	<input type="checkbox"/> 3 Yes <input type="checkbox"/> 2 No	
23. Are you able to make or get calls in first attempt?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 3 Normally	<input type="checkbox"/> 2 Occasionally <input type="checkbox"/> 4 Always
24. How often does your call drops during conversation?	<input type="checkbox"/> 1 Always <input type="checkbox"/> 3 Occasionally	<input type="checkbox"/> 2 Normally <input type="checkbox"/> 4 Never
25. Is the voice quality clear?	<input type="checkbox"/> 3 Yes <input type="checkbox"/> 2 No (Please Tick) <input type="checkbox"/> 1 Echo <input type="checkbox"/> 2 Crackling <input type="checkbox"/> 3 Uneven <input type="checkbox"/> 4 Blank <input type="checkbox"/> 5 Hissing <input type="checkbox"/> 6 Other	
26. How often you get connected to wrong number?	<input type="checkbox"/> 1 Frequent <input type="checkbox"/> 3 Occasional	<input type="checkbox"/> 2 Normally <input type="checkbox"/> 4 Never

F. FAULT REPAIR

27. Did you have problem in setting your mobile for GPRS, SMS, VOICE Mail in last one month?	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 No →(If no, go to Q 30)	
28. How long did it take for correction of problem after lodging complaint?	<input type="checkbox"/> 1 >5 hour <input type="checkbox"/> 3 2-3 hrs	<input type="checkbox"/> 2 4-5 hrs <input type="checkbox"/> 4 <1 hour
29. Are you satisfied with complaint registration process?	<input type="checkbox"/> 1 Highly dissatisfy <input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 2 Dissatisfy <input type="checkbox"/> 4 V satisfy

G. SUPPLEMENTARY SERVICES

30. Usage of following services and satisfaction with the quality of supplementary services provided by the operator						
Type of service	Usage		Satisfaction			
30.1 SMS	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy
30.2 Roaming	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy
30.3 Voice mail	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy
30.4 Any other supplementary services like email	Y	N	<input type="checkbox"/> 1 Highly dissatisfy	<input type="checkbox"/> 2 Dissatisfy	<input type="checkbox"/> 3 Satisfy	<input type="checkbox"/> 4 V satisfy

H. GENERAL INFORMATION – POSTPAID CUSTOMERS ONLY

31. Are you able to understand clearly the bills sent by your service provider?	<input type="checkbox"/> 1 Not clear & very difficult to understand <input type="checkbox"/> 2 Somewhat difficult to understand <input type="checkbox"/> 3 Easy to understand
32. Have you been informed in writing, within a week of activation of service, the complete details of your tariff plan? (For new customers)	<input type="checkbox"/> 1 Informed <input type="checkbox"/> 2 Not Informed →(If not informed, go to Q 34)
33. If yes, whether you are able to understand clearly the tariff	<input type="checkbox"/> 1 Tariff Plan very difficult to understand



plan? (For new customers)	<input type="checkbox"/> 2 Tariff Plan somewhat difficult to understand <input type="checkbox"/> 3 Tariff Plan easy to understand
34. Have you recently made any request through Telephone call, FAX, SMS, E-mail etc. for any value added services, the charges for which are of a recurring nature?	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 No → (If no, go to Q 36)
35. If yes, whether your service provider acknowledged/ confirmed through SMS followed by entry in the next bill the requests made?	<input type="checkbox"/> 1 Acknowledged in the next bill <input type="checkbox"/> 2 Did not acknowledge
36. Have you terminated your mobile connection recently?	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 No → (End of the interview)
37. How many days taken for termination of your connection?	No. of days taken for termination <input type="text"/>
38. If yes, whether your service provider adjusted your security deposit in the bill raised after you requested for termination?	<input type="checkbox"/> 1 Security Deposit adjusted in the bill <input type="checkbox"/> 2 Security Deposit not adjusted in the bill

7.5 APPROCH & METHODOLOGY

TUV South Asia is entrusted to verify the accuracy and authenticity of QOS performance Monitoring reports submitted to TRAI by the various operators. This is to be carried out at quarterly intervals for the year 2006 (July–Sep).

All the parameters are divided into

- Network Parameter
- Customer Care Parameter

7.5.1 OBJECTIVE ASSESSMENT OF QOS (BASIC)

7.5.1.1 BASIC SERVICE OPERATOR (BSO) TO BE COVERED IN QUARTER 4

Following operator circles of Basic Service Operator (BSO) were to be covered in this quarter as per PMR Sep 2006.

Table 72 [List of BSO to be audited in Quarter 4]

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle
1	BSNL	CH	AP	MP	BH
		KK	GJ	CG	A & N
			MH	PB	AM
			TN	RJ	HP
			KR	HR	JD
				KL	J&K
				UP(E)	NE1
				UP(W)	NE2
				WB	OR
			UC		
2	MTNL	ND	NO	NO	NO
		MB			
3	RCOM	ND	AP	MP	BH
		MB	GJ	PB	OR
		CH	MH	RJ	HP
		KK	TN	HR	
			KR	KL	
			UP (E)		
			UP (W)		
WB					
4	TATA	ND	AP	NO	NO

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle
		MB	GJ		
		CH	MH		
			TN		
			KR		
5	BHARTI	ND	AP	MP	NO
		MB	TN	PB	
		KK	KR	UP(W)	
		CH	GJ	HR	
			MH	UP(E)	
				KL	
6	SHAYAM	NO	NO	RJ	NO
7	HFCL	NO	NO	PB	NO
Total required to be covered as per PMR	7	15	20	26	12
Total Covered	7	15	20	26	12
Percentage Covered	100%	100%	100%	100%	100%
Operators-Circle Coverage			73/73 x 100 = 100%		

7.5.1.2 NETWORK PARAMETER

The parameters are as below:

- ✓ Provision of Telephone
- ✓ Fault Incidences
- ✓ Fault repair by Next Working Day
- ✓ Mean time for Repair
- ✓ Grade of Service
- ✓ Call completion rate

The method of calculation and the reporting formats for each of the above parameters are described

PROVISION OF TELEPHONE:

The following data will be verified at the exchange.



- ✓ Date of Registration for a Telephone
- ✓ Exact date of installation

$$\% \text{ Telephone Connected within 7 days} = \frac{\text{No. of Telephones provided within 7 days}}{\text{No. of registrations made during that quarter}} \times 100$$

In case where the connection has been delayed, or cancelled by the customer himself, that will be omitted from calculation.

Benchmark Data: 100% cases in Less than 7 working days subject to Technical Feasibility.

Format for collection of data are annexed at TUV/TRAI/FM/02

FAULT INCIDENCES:

The following data will be verified at the exchange from consumer complain log data

- ✓ No. of Subscribers
- ✓ No. of Faults

$$\frac{\text{No. of Faults}}{\text{Subscribers}} / 100 = \frac{\text{No. of Faults per month}}{\text{No. of Subscribers in that month}} \times 100$$

From the total complains five customers will be called back to verify the authenticity.

Benchmark Data: Less than 5 faults per 100 subscribers per month till 31st March 2007 and Less than 3 Faults per 100 subscribers per month till 31st March 2008.

Format for collection of data are annexed at TUV/TRAI/FM/02

FAULT REPAIR BY NEXT WORKING DAY:

The following data will be verified at the exchange from the customer complain log data

- ✓ No. of faults received in a month
- ✓ No. of faults rectified by next working day

$$\% \text{ Fault Repaired by Next Working Day} = \frac{\text{No. of Faults Rectified by next working day}}{\text{No. of Faults received}} \times 100$$

$$\% \text{ Fault Repaired within 3 Working Days} = \frac{\text{No. of Faults Rectified by next working day}}{\text{No. of Faults received}} \times 100$$

From the total complains five customer will be called back to verify the authenticity.



Benchmark Data: More than 90% rectification by next working day and 100% by 3 working days averaged over one month. Rent rebate of 7 days to be given if fault repaired after 3 working days but before 7 working days. Rent rebate of 15 days to be given if fault repaired after 7 working days but before 15 working days. Rent rebate of 1 month to be given if fault repaired after 15 working days.

Format for collection of data are annexed at TUV/TRAI/FM/02

MEAN TIME FOR REPAIR:

The following data will be verified at the exchange.

- a) No. of Faults reported in a months period
- b) No. of Faults rectified on the same day
- c) No. of Faults rectified on the second day
- d) No. of Faults rectified on the third day
- e) No. of Faults rectified on the fourth day
- f) No. of Faults rectified on the Fifth day

Since the result is required in terms of hours, not in terms of day(s), hence the following assumption has been taken:

Same day = 4 hours, Second day = 12 hours, Third day = 20 hours, Fourth day = 28 hours
Fifth day = 36 hours

$$\% \text{ Mean Time for Repair} = \frac{(bx4 + cx12 + dx20 + ex28 + fx36)}{a} \times 100$$

Format for collection of data are annexed at TUV/TRAI/FM/02

Note: While calculating the days, off days will not be counted

GRADE OF SERVICE:

The following data will be verified at the exchange.

- a) Total calls made to Local Exchange junction
- b) Lost calls (busy) from Junction to Local exchange
- c) Total calls from TAX to local Exchange
- d) Lost calls (busy) from TAX to local Exchange
- e) Total calls from Local Exchange to TAX
- f) Lost calls (busy) from Local Exchange to TAX



- g) Total calls between TAX
- h) Lost calls (busy) between TAX to TAX

Two intervals each of duration 1 hour will be selected from the Time Consistent Busy Hour (TCBH) in the 1st and 3rd week of every month for all combinations.

$$\text{Grade of Service} = \frac{\text{Lost Calls}}{\text{Total Calls}} \text{ Fraction}$$

Benchmark Data:

- a) Junction between local exchange –0.002,
- b) Outgoing junctions from TAX to local exchanges –0.005,
- c) Incoming junctions from local exchange to TAX –0.005,
- d) Incoming or outgoing junctions between TAX's 0.005, averaged over one quarter.

Format for collection of data are annexed at TUV/TRAI/FM/02

CALL COMPLETION RATE:

The following data will be verified at the exchange.

- a) Total Intra office calls handled during the period
- b) Intra office calls answered during the period
- c) Total Incoming calls handled during the period
- d) Incoming calls answered during the period
- e) Total Outgoing calls handled during the period
- f) Outgoing calls answered during the period
- g) Total outgoing TAX calls handled during the period
- h) Outgoing TAX calls answered during the period

Two intervals each of duration 1 hour will be selected from the Time Consistent Busy Hour (TCBH) in the 1st and 3rd week of every month for all combinations

$$\% \text{ Call Completion Rate} = \frac{\text{Total Calls answered}}{\text{Total calls Established}} \times 100$$

Benchmark Data: Greater than 55% within local network.

Format for collection of data are annexed at TUV/TRAI/FM/02



7.5.1.3 CUSTOMER CARE PARAMETER

The objective of the study is to assess the various QOS indicators for Basic Service Operators as notified by TRAI. The parameters are as below:

- Metering & Billing Credibility
- Customer Care Promptness
- Time taken for refund of deposits after closures

The method of calculation and the reporting formats for each of the above parameters are described below:

METERING & BILLING CREDIBILITY:

The following data will be verified at the Call centers/ exchanges.

- a) Total No. of Bills raised
- b) Total no. of Complaints registered

$$\% \text{ of Disputed bills over a billing cycle period} = \frac{\text{Total no. of Complaints registered}}{\text{Total no. of Bills raised}} \times 100$$

Same billing cycle for every month will be selected

Benchmark Data: Should be Less than 0.1% of the bills raised in a cycle

Format for collection of data are annexed at TUV/TRAI/FM/03

CUSTOMER CARE PROMPTNESS:

The following data will be verified at the Call Centres/ Exchanges

- a) Total no. of Shift Requests registered
- b) No. of Shift Requests handled within 3 days
- c) Total no. of Closure Requests registered
- d) No. of Closure Requests handled within 24 Hrs
- e) Total no. of Additional Service Requests registered
- f) No. of Additional Service Requests handled within 24 Hrs



$$\% \text{ Customer requests = } \frac{\text{No of request handled within 3 days}}{\text{Total No of Request}} \times 100$$

attended for Shifting

$$\% \text{ Customer requests = } \frac{\text{No of request handled within 24}}{\text{Total No of Request}} \times 100$$

attended for Closures

hours

$$\% \text{ Customer requests attended = } \frac{\text{No of request handled within 24}}{\text{Total No of Request}} \times 100$$

for Additional = Facilities

hours

Benchmark Data: a) 95% of the customer requests for Shifting should be attended within 3 days. b) 95% of the customer requests for Closures should be attended within 24 hours. c) 95% of the customer requests for Additional Facility should be attended within 24 hours. All the above will be averaged over a month. Format for collection of data are annexed at TUV/TRAI/FM/03

TIME TAKEN FOR REFUND OF DEPOSITS AFTER CLOSURES

100 cases of closure will be selected during the audit and percentage of refunds made within 60 days will be calculated.

Benchmark Data: 100 % of the refunds to be given within 60 days.

Format for collection of data are annexed at TUV/TRAI/FM/03

7.5.2 OBJECTIVE ASSESSMENT OF QOS (CELLULAR)

All MSCs for each of the Cellular Mobile Service Provider (CMSP) are required to be covered. TUV had submitted sample design and reporting formats to be followed for carrying out this activity.

7.5.2.1 OPERATORS REQUIRED TO BE AUDITED IN QUARTER 4

Table 73 [CMSP's Required to be audited in Quarter 4]

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle
1	BHARTI	ND	AP	HR	AM
		MB	GJ	KL	BH
		CH	KR	MP	HP
		KK	MH	PB	NE
			TN	RJ	J&K
				UP (E)	OR
				UP(W)	
		WB			
2	HUTCH	ND	AP	HR	NO
		MB	GJ	PB	
		CH	KR	RJ	
		KK	MH	UP(E)	
			TN	UP(W)	
				WB	
		KL			
3	TATA	ND	AP	HR	BH
		MB	GJ	KL	HP
		CH	KR	MP	OR
		KK	MH	PB	
			TN	RJ	
				UP (E)	
				UP(W)	
		WB			
4	IDEA	ND	AP	HR	NO
			GJ	KL	
			MH	MP	
				UP(W)	
5	MTNL	MB	NO	NO	NO
		ND			
6	RCOM	ND	AP	HR	BH
		MB	GJ	KL	HP
		CH	KR	MP	OR
		KK	MH	PB	

Sr.Nos	Service Provider	"Metro" Circle	"A" Circle	"B" Circle	"C" Circle	
			TN	RJ		
				UP (E)		
				UP(W)		
				WB		
7	BPL	MB	NO	NO	NO	
8	AIRCEL	CH	TN	NO	NO	
9	RISL	KK	NO	NO	NO	
10	RTL	NO	NO	WB	AM	
				MP	BH	
					HP	
					NE	
					OR	
11	SPICE	NO	KR	PB	NO	
12	BSNL			CH	AP	AM
				KK	GJ	BH
					KR	HP
					MH	NE
					TN	J&K
						OR
13	HFCL	NO	NO	PB	NO	
14	DISHNET	NO	NO	WB	AM	
					NE	
					J&K	
					OR	
Total Required as per PMR	14	24	30	48	27	
Total Covered	14	24	30	48	27	
%age Coverage	100%	100%	100%	100%	100%	
Operators Circle Coverage				129/129x100 = 100%		

7.5.2.2 NETWORK PARAMETERS

The following Network Parameter data are audited to check its accuracy:

- Accumulated Down Time of Community Isolation
- Call Setup Success Rate



- Service Access Delay
- Call Drop rate
- % Connections with Good Voice Quality
- Congestion data

ACCUMULATED DOWN TIME OF COMMUNITY ISOLATION

Data submitted by operator to TRAI on the above parameter will be collected by TUV. From the fault alarm tracking details at MSC the outage duration will be calculated and compared with the same provided in the report.

Benchmark Data: Less than 24 hours averaged over a period of one quarter.

Format for collection of data are annexed at TUV/TRAI/FM/01 & 05

Note: Failure of the entire exchange area for more than one hour is defined as Accumulated Down Time of Community Isolation

CALL SETUP SUCCESS RATE

Call setup success rate is defined as % of call attempts made from a mobile set is successfully signaled to the called network (same network) within the specified time. Cell wise data for the above parameter is available at MSC. During the audit data for three cells each month will be verified

Benchmark Data: Greater than 95% averaged over a period of one quarter.

SERVICE ACCESS DELAY

Individual drive test log files conducted by the operator themselves will be used for collecting the data

Benchmark Data: Between 9 to 20 Seconds averaged over a period of one quarter.

Format for collection of data are annexed at TUV/TRAI/FM/01 & 05

BLOCKED CALL RATE

This data is collected from MSC. The authenticity of data is verified by randomly checking samples from the switch.



CALL DROP RATE

This parameter is to be measured by the system generated (defined counters are available in the system for traffic measurement) cell wise dropped call data and total calls established figures to arrive at the authenticity and accuracy of the benchmark reported to TRAI. During the audit randomly two cells will be selected per month

Benchmark Data: Less than 3% averaged over a period of one quarter.

Format for collection of data are annexed at TUV/TRAI/FM/01 & 05

% CONNECTIONS WITH GOOD VOICE QUALITY

The data will be collected from the relevant city wise drive log files for all drive tests conducted during the busy hours. Total number of Rx Qual sample generated during the various long calls made during the drive along with the number of such samples with the quality values 0-4 on the scale of 7 for GSM & 0-5 for network where Hopping Frequency is used. In case of CDMA, the performance measure of voice quality is FRAME ERROR RATE (FER). Good voice quality in case of CDMA is 0-4% of FER value.

Benchmark Data: Greater than 95% averaged over a period of one quarter.

Format for collection of data are annexed at TUV/TRAI/FM/01 & 05

CONGESTION DATA

All the service providers have been asked to measure the 9 parameters given below averaged over a month and measure during the Time Consistent Busy Hour (TCBH). These parameters reported by all service providers and their findings shall be included in the Reports

- SDCCH Attempts
- SDCCH Congestion (%)
- SDCCH Establishment Success rate (%)
- TCH Attempts
- TCH Congestion (%)
- TCH Establishment Success rate (%)
- Traffic Offered on all individual POI's
- Served Traffic for all individual POIs



- Traffic Failed
- % Congestion on individual POI's

Benchmark Data: Less than 0.5% hours averaged over a period of one quarter.

7.5.2.3 CUSTOMER CARE PARAMETERS

Objective: The objective of the study is to assess the various QOS indicators for Cellular Service Operators as notified by TRAI. The parameters are as below:

- Billing complain per 100 bills issued
- % of Billing complains resolved within 4 weeks
- Period of all payments/refunds due to customer from the date of resolution of complains above

The method of calculation and the reporting formats for each of the above parameters are described below:

BILLING COMPLAIN PER 100 BILLS ISSUED

The following data will be verified at the Call centres.

- Total No. of Bills raised
- Total no. of Complaints registered
-

$$\% \text{ Billing Complaints / 100} = \frac{\text{Total no. of Complaints registered}}{\text{Total no. of Bills raised}} \times 100$$

Same billing cycle for every month will be selected

Benchmark Data: a) Less than 0.1% averaged over a period of one quarter

Format for collection of data are annexed at TUV/TRAI/FM/04

% OF BILLING COMPLAINTS RESOLVED WITHIN 4 WEEKS

The detail of Daily complaint redressal records will be verified.

The following data will be collected



- a) No. of billing complain in a month
- b) No. of disputes resolved within 4 weeks

$$\% \text{ Billing complain resolved within 4 weeks} = \frac{\text{No. of billing complaints resolved within 4 weeks}}{\text{No. of complaints received}} \times 100$$

The audit Executive will calculate the figures from the individual complaint details for the period and also verify the accuracy of the figures reported to TRAI

From the total complains five customer will be called back to verify the authenticity.

Benchmark Data: a) 100% average over a period of one quarter

Format for collection of data are annexed at TUV/TRAI/FM/04

PERIOD OF ALL PAYMENTS/REFUNDS DUE TO CUSTOMER FROM THE DATE OF RESOLUTION OF COMPLAINS ABOVE

Randomly, 100 cases of refund will be picked up for the period and the time taken for payment of refunds from the date of resolution of complaints will be evaluated.

Benchmark Data: a) 100% within a period of 4 weeks from the date of resolution of complaints

7.5.2.4 OPERATOR ASSISTED DRIVE TESTS

The drive tests were done to check the following parameters:

- a. Coverage-Signal strength
- b. Voice quality
- c. Call success rate
- d. Blocked calls
- e. Call drop rate

The drive test covered four outdoor routes and one indoor sites. Out of the four outdoor routes, the two covered the periphery of the city; the third covered the congested area in the city and the fourth covered area across the city.

Herein, cities within a telecom circle were divided into 3 clusters based on the population residing in those cities. One city from each of these three clusters would be selected for conducting drive tests. These cities were proposed by TUV and finalised by TRAI. However, in case of Metro Circle service areas, 2 (two) no. of drive test for each operator was done.

There following conditions were adhered to during the above mentioned drive tests:-

- The speed of the vehicle should be kept at around 30-50 km/hr. (around 30 km/hr in case of geographically small cities)
- Measurement using engineering handsets would not be acceptable
- Each area where the tests are conducted should not cover less than 200 km or 5 hours driving time
- Drive Test would be conducted between 10 AM to 8 PM on weekdays.
- The Vehicle to be used in the drive tests will be equipped with the test tool that automatically generates calls on the mobile telephone networks. The holding period of each test call will be 120 seconds. A test call will be generated 10 seconds after the previous test call is completed.
- The dedicated originating and terminating mobile unit's antenna shall be placed at the same height and in the same vehicle. Moreover, the height of the antenna should be uniform in case of all operators

Drive test was conducted at the following cities

Table 74 [Selected Cities for Operator assisted Drive Test]

Region	Circle	Cities
North	H.P	Bilaspur, Ghumarwain, Sundernagar
North	PB	Kapurthla, Gurdaspur, Hoshiarpur
North	HR	Kurshetra, Rohtak, Nornoul
North	UP(W)	Roorki, Muzaffarnagar, Bulandshahar
North	UP(E)	Gorakhpur, Jhansi, Varanashi
North	RJ	Jaisalmer, Ganganagar, Hanumangarh
North	MP	Bilaspur, Satna, Bhind
North	ND	Delhi
North	J&K	Jammu, Samba, Katra,
East	W.B	Ranigang, PortBlair
East	KK	Central Kolkata, Howrah
East	BH	Bhahalpur, Purnia, Katihar
East	JD	Deoghar, Giridi, Chaibhasa
East	OR	Sambalpur, Bargarh, Angul
East	AM	Tejpur, Dekiajuli, Rangapara
East	NE	Agartala, Udaypur, Belonia
East	A & N	Port Blair
South	CH	Chennai
South	AP	Tirupathi, Anantpur, Kurnool
South	KR	Madikeri, Gulbarga, Bijapura
South	KL	Malapuram, Kolayam, Ambalapucha
South	TN	Tirupur, Karoor, Trichy
West	MH	Nagpur, Sangli, Nanded
West	GJ	Jamnagar, Bhuj, Junagadh



West	MB	Mumbai
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Format followed for the activity TUV/TRAI/FM/08

7.5.2.5 INDEPENDENT DRIVE TESTS:

Out of 25 independent drive test TUV has been conducted 20 drive tests in quarter 4 (6 drive test were conducted in quarter 3) as per TRAI request.

The Method of conducting these drive tests would be same as that of Operator Assisted Drive Test.

Format followed for the activity TUV/TRAI/FM/08

7.5.2.6 INTRA & INTER-OPERATOR CALL ASSESSMENT

An inter-operator calls exercise was carried out for measurement of operators' performance on the following key parameter: -

- Network and Point of Interconnect (POIs) Congestion

Herein, calls were made from one operator's connection to that of another's. Presence of an answer ring tone indicates absence of any congestion in the link.

Basic Operator

25 Calls from Operator A to Operator B during 1000hrs to 1300 hrs

25 Calls from Operator B to Operator A during 1000hrs to 1300 hrs

An average percentage of successful attempts made from each operator's connection were computed to indicate the operator's performance in terms of presence of Network and Pol Congestion

7.5.2.7 HELP LINE CONNECTIVITY ASSESSMENT

Response time to customers for assistance is assessed by making calls. Following two parameters were measured as follows: -

1. Time to connect to IVR: This is the wait time before an automatic answer machine (IVR) message begins.
2. Time to connect to an agent : Wait time before a live person at the operator's end responds to a call



Both of these measures were obtained by making calls in the same way as for intra and inter-operator call assessment. Thus calls were made to the customer care numbers of different telecom operators and data pertaining to the above-mentioned areas were identified.

7.5.3 CUSTOMER SATISFACTION SURVEY

7.5.3.1 SAMPLING METHODS

The sampling methodology for selection of respondents from subscribers of Basic Telephone Services, Mobile and CDMA is given below:

7.5.3.2 SELECTION OF CITIES

Stage 1:

1. Three cities were selected in a telecom circle should be based on subscriber base of each service provider.
2. The approach was to arrange the cities in the telecom circle in descending order according to subscriber base. Select three cities such that:
 - a. Largest subscriber base – city1
 - b. Median value – city 2
 - c. Last in the list –city 3

Stage 2: Distribution of the total sample in the state in the three cities was done in the ratio of subscriber base of the respective service providers in these cities.

Stage 3: In each city, the determined sample of respondents (for each service and service provider) should be distributed into rural and urban sample in the ratio of number of subscribers in rural and urban areas.

7.5.3.3 SELECTION OF RESPONDENTS IN RURAL AREA

From the list of subscribers of landline in the rural area, one telephone number was randomly picked up and address noted. It was ensured that distance of the village is atleast 5 kms (preferably 10 kms) from the city limits. The rural survey started from the village of the first sampled telephone number and continued in that village and adjoining villages till required number of respondents were interviewed. Along with survey of users of basic telephone services in rural area, information were collected for users of mobile telephone as well as CDMA in those villages which are visited for basic services.

7.5.3.4 SELECTION OF RESPONDENTS IN URBAN AREA

The total samples for each service provider of basic services in the city were divided into four. Adequate numbers of respondents were selected by dividing the city into four parts. Along with the survey for basic services, survey for mobile services and CDMA were also carried out of the same service provider till the sample required for in-person interview for all three types of services is completed. The telephonic interview of 25% urban users for all the 3 types of services were done based on random selection of subscribers of basic, mobile and CDMA of respective service providers.

7.5.3.5 AREA DISTRIBUTION

Area would be divided into two classifications i.e. Rural and Urban and the sample size would be 20:80 respectively..

7.5.3.6 GENDER DISTRIBUTION

After the size determination of rural and urban areas, 75% sample of subscribers would be male and 25% female.

7.5.3.7 AGE DISTRIBUTION

The respondents will then be divided on the basis of age with ratio 20:60:20 i.e. Student (up to 25 yrs), Middle (26-50) and Old (>50).

7.5.3.8 DISTRIBUTION ON THE BASIS OF USAGE

Distribution on the basis of Usage i.e. Residential and Commercial. There will be a distribution of Post Paid & Pre Paid Subscribers also in case of Cellular / Mobile Network. No. of samples Covered during Customer satisfaction survey are given in subsequent table.

Table 75 [CSS Sample Size based on Circles]

State	Basic	Mobile	Total
AP	1283	2406	3689
Assam	250	943	1193
Bihar	270	1345	1615
Chennai	1260	3284	4544
Delhi	2404	3433	5837
Gujrat	260	2247	2507
Haryana	373	1460	1833
HP	251	979	1230
JK	234	481	715
Karn	1399	3194	4593
Kerela	484	1933	2417
Kolkata	613	3615	4228
Mah	1611	2204	3815
MP	573	1538	2111
Mumbai	2602	3599	6201
NE	490	1011	1501
Orissa	252	1500	1752
Punjab	615	1218	1833
Rajasthan	470	1029	1499
TN	872	2773	3645
UP(E)	594	1613	2207
UP(W)	391	1641	2032
WB	251	1751	2002
A&N	250		250
Chhatisgarh	261		261
Jharkhand	249		249
NE2	250		250
Uttranchal	254		254
Grand Total	19066	45197	64263

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