



Suruhanjaya Komunikasi dan Multimedia Malaysia
Malaysian Communications and Multimedia Commission

**QUALITY OF SERVICE MANDATORY
STANDARDS REPORT FOR THE
PERIOD ENDING JUNE 2005**

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

1. The Mandatory Standards (MS) on Quality of Service (QOS) were put in place to ensure that minimum standards of quality are offered to protect the rights of consumers and provide them with a visible and specific criterion through which the quality of services received or used can be gauged.

MS Quality of Service

2. Malaysian Communications and Multimedia Commission (MCMC) under the Ministerial Direction on Quality of Service, Number 1 of 2002, had on 28 June 2002 issued Determinations number 1 to 4 of 2002 and subsequently on 17 November 2003 issued Determinations Number 3 to 5 of 2003 on the Mandatory Standards for Quality of Service.
3. The MS QOS covers services such as Public Switched Telephone Network Service (PSTN), Public Cellular Service (PCS), Dial-Up Internet Access Service, Content Applications Service, Public Payphone Service, Digital Leased line (DLL) Service and Broadband Access (BA) Service.
4. Section 105 (3) CMA states that a person subject to a Mandatory Standard shall comply with the mandatory standard and in the event a person omits or neglects to comply with such Mandatory Standard, he shall be liable to a fine not exceeding one hundred thousand ringgit or to imprisonment for a term not exceeding two years or both as provided for by Section 242.

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

MS Quality of Service

– Report submission by licensees subject to MS QOS

5. Applications Service Providers (ASPs) and Network Service Providers (NSPs) are required to submit reports to MCMC every six months detailing various aspects of their performance and with a signed declaration attesting to its accuracy.
6. Under the MS QOS, submissions of Quality of Service reports by licensees are at intervals of every 6 months.
7. Licensees are required to maintain complete and accurate records and the reports are to be submitted in the form and format as prescribed by MCMC.
8. Licensees must submit the MS QOS reports to MCMC not later than 6 weeks after 30 June for the reporting period January to June, and 31 December for reporting period July to December respectively. Non-submission is also a breach of the mandatory standards.
9. Reports submitted by licensees are recorded and analyzed for non-compliance.
10. An audit and certification process was included to ensure that records submitted by licensees are accurate. MSC Technology Centre Sdn Bhd (MSC TC) was subsequently, appointed auditor in late 2003 to audit reports submitted by licensees.
11. The audit and certification acts as the underlying process in terms of accuracy of the reports.

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

12. 15 major and randomly selected licensees (PSTN, PCS, Dial Up Internet and CASP) underwent the audit exercise for reports submitted for the period ending June 2005.
13. MSC TC was also appointed in early 2004 to audit reports submitted by licensees for the Public Payphone (PP) Services, Broadband Access (BA) Service, and Digital Leased Line (DLL) Service.
14. About 10 licensees were audited for each reporting period of January 2004 and December 2004.
15. The results of the audit were shared with the industry to enable the industry to plan for further improvements in the QOS, to meet the MS' where there were non-compliances.
16. In order to have better understanding of the report, readers are advised to read the report in conjunction with the Determinations.

MS Quality of Service – Technical Testings

17. Part of the MS QOS are technical testings conducted by MCMC.
18. The objective of the assessments are to assess the level of service quality through the Key Performance Indicators indicated in the Mandatory Standards for Quality of Service for PSTN, PCS , Dial Up Internet Access Service and Broadband Access Service.
19. MCMC did not conduct studies to assess the performance of PSTN, PCS, Dial Up Internet Access Service and BA Service for this period.
20. The MS QOS Determination are set out as below:

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

	Determinations	Licensees	Effective from
1.	Commission Determination on the Mandatory Standards for Quality of Service (Public Switched Telephone Network Service) <u>Determination No. 1 of 2002</u>	Application Service Provider (ASP) PSTN provider	1 January 2003
2.	Commission Determination on the Mandatory Standards for Quality of Service (Public Cellular Service) <u>Determination No. 2 of 2002</u>	Application Service Provider (ASP) Mobile Cellular Service Provider	1 January 2003
3.	Commission Determination on the Mandatory Standards for Quality of Service (Dial Up Internet Access Service) <u>Determination No. 3 of 2002</u>	Application Service Provider (ASP) Internet access service provider	1 January 2003
4.	Commission Determination on the Mandatory Standards for Quality of Service (Content Applications Services) <u>Determination No. 4 of 2002</u>	Content Applications Service Provider (CASP) Radio and TV free-to-air broadcaster	1 January 2003
5.	Commission Determination on the Mandatory Standards for Quality of Service (Public Payphone Service) <u>Determination No. 3 of 2003</u>	Application Service Provider (ASP) Public Payphone provider	1 June 2004
6.	Commission Determination on the Mandatory Standards for Quality of Service (Digital Leased Line Service) <u>Determination No. 4 of 2003</u>	Network Service Provider (NSP) Digital Leased Line provider	1 January 2004
7.	Commission Determination on the Mandatory Standards for Quality of Service (Broadband Access Service) <u>Determination No. 5 of 2003</u>	Network Service Provider (NSP) Broadband Access provider	1 January 2004

21. Below are the results of the QoS MS report submission for the period January 05 to June 05.

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

DETERMINATION NO 1 - PUBLIC SWITCHED TELEPHONE NETWORK SERVICE

PSTN	% Complaints of bills issued	% Bill complaints resolved within 15 bus days	% Bill complaints resolved within 30 bus days	Number of general customer complaints per 1000 lines p.a.	% Service restoration Fulfilled within 24 hours	% Service restoration Fulfilled within 48 hours
Mandatory Standard	2%	90%	95%	50	80%	90%
Celcom (M) Bhd	0.004	100	100	0	90	100
TTdot Com	1.69	98.43	99.64	0.27	97.34	98.50
DiGi Telecom	0.29	100	100	12.63	98.2	100
Maxis Broadband	0.19	97.01	100	3.37	92.85	98.31
Telekom (M) Bhd	0.37	98.8	99.8	3.47	88.98	95.93
Nasioncom Sdn Bhd	0.02	0	0	0	N/A	N/A
Maxis Mobile Sdn Bhd	0	0	0	17.32	100%	100%

PSTN	No. of service trouble reports for every 1000 line	% Installation orders Fulfilled within 24 hours	% Installation orders Fulfilled within 48 hours	% Installation Orders Fulfilled within 7 days
Mandatory Standard	500	80%	90%	100%
Celcom (M) Bhd	7	N/A	N/A	N/A
TTdot Com	36	98.19	99.65	100
DiGi Telecom	25.81	100	100	100
Maxis Broadband	58.35	96.93	99.72	100
Telekom (M) Bhd	255.7	98.60	99.08	100
Nasioncom	10	0	0	0
Maxis Mobile Sdn Bhd	1.3	91.7%	100%	100%

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

PSTN (Technical testing)	% Intra-network call connection loss	% Inter-network call connection loss	% Emergency calls answered within 10 seconds	% Emergency calls answered within 20 seconds	% Busy signal	% Inter-network post dialing delay	% Intra-network post dialing delay
Mandatory Standard	6%	6%	90%	100%	1%	95% in 13 seconds	95% in 10 seconds
Time	Not conducted for this period						
DiGi Telecom							
Maxis Broadband							
Telekom (M) Bhd							

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

DETERMINATION NO.2 - PUBLIC CELLULAR SERVICE

Public Cellular Service	% Complaints of bills issued	% Bill complaints resolved within 15 bus days	% Bill complaints resolved within 30 bus days	Number of general customer complaints per 1000 lines p.a.
Mandatory Standard	2%	90%	95%	50
Celcom (019, 013)	0.41	90.87	95.82	33
DiGi (016)	0.2	99.9	99.95	44.45
Malaysian Mobile Service (012,017)	0.19	98.46	99.68	10.93
Mobikom (018)	0	0	0	N/A
Telekom (010)	0.60	96.9	100	7.11

Public Cellular Service (Technical testings)	% Intra-network Endpoint service availability	% no. of dropped calls	% Inter-network Endpoint service availability	% Emergency calls answered within 10 seconds	% Emergency calls answered within 20 seconds
Mandatory Standard	90%	5%	90%	90%	100%
Celcom	Not conducted for this period				
DiGi					
Maxis					

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

DETERMINATION NO. 3 - DIAL UP INTERNET ACCESS SERVICE

Dial up Internet	% Complaints of bills issued	% Bill complaints resolved within 15 bus days	% Bill complaints resolved within 30 bus days	Number of general customer complaints per 1000 lines p.a.
Mandatory Standard	2%	90%	95%	50
Celcom	N/A	N/A	N/A	24
Timedot Net	N/A	N/A	N/A	8.14
TM Net	0.06	66.47	97.92	37
Jaring	0.01	95	100	0.08
DiGi	N/A	N/A	N/A	2.8
Nasioncom	0	N/A	N/A	127.96

N/A – Not available

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

Dial Up Internet (Technical testings)	No. of attempts before successful connection	Time taken to access IASP node	Average file download for a standard graphic or random text file of approximately 30kb from a local website.
Mandatory Standard	3 with no more than 1 minute intervals (100%)	95% within 40 seconds	80%modem line speed at least 95% of the time.
Celcom	Not conducted for this period		
Timedot Net			
TM Net			
Jaring			
DiGi			
Nasioncom			

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

DETERMINATION NO. 4 - CONTENT APPLICATION SERVICES

CASP	% Annual service availability
Mandatory Standard	99%
Natseven TV Sdn Bhd	99.84
Sistem Televisyen Malaysia Bhd (TV3)	99.99
Synchrosound Studios Sdn Bhd (WowFm)	99.99
Radio Lebuhraya Sdn Bhd (THR)	99.93
Husa Network Sdn Bhd (Manis.fm)	99.84
Institut Kefahaman Islam Malaysia (Radio IKIM)	99.81
Kristal Harta Sdn Bhd (Cats Radio)	99.99
Suara Johor Sdn Bhd (Best 104)	99.89
CH-9 Media Sdn Bhd	N/A
Perfect Excellence Waves (Sinar FM)	99.96
Metropolitan TV (Channel 8)	99.98
Star RFM Sdn Bhd (Red104.9 channel)	99.95
Star RFM Sdn Bhd (998 channel)	99.98
Maestra Broadcast Sdn Bhd (Mix FM)	99.94
Maestra Broadcast Sdn Bhd (Era FM)	99.96
Measat Radio Communications Sdn Bhd (My FM)	99.96
Measat Radio Communications Sdn Bhd (Light and Easy)	99.96
Maestra Broadcast Sdn Bhd(Xfresh FM)	99.94
Measat Radio Communications Sdn Bhd (Hitz FM)	99.95

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

DETERMINATION NO. 3 of 2003 – PUBLIC PAYPHONE SERVICE

Public Payphone Service	Month	Total for 6 months	% of public payphone in proper working conditions	QoS Standard	Compliance
TM Payphone Sdn Bhd (formally known as Citifon Sdn Bhd)	No. of public payphone	371,388	90.80%	90%	YES
	No. of public payphone in proper working conditions	337,211			
Time Reach Sdn Bhd	No. of public payphone	189,078	89.23%	90%	NO
	No. of public payphone in proper working conditions	168,721			
Maxis Mobile Sdn Bhd	No. of public payphone	15	100.00%	90%	YES
	No. of public payphone in proper working conditions	15			

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

DETERMINATION NO. 4 of 2003 – DIGITAL LEASED LINE SERVICE

DIGITAL LEASED LINE	Annual Service Availability			Fulfillment of installation orders						Service Restoration Performance	
	Local DLL	National DLL	Int'l DLL	Local DLL		National DLL		International DLL		Fulfilled within 24 hours	Fulfilled within 48 hours
				Fulfilled within 1 week	Fulfilled within 2 weeks	Fulfilled within 2 week	Fulfilled within 3 weeks	Fulfilled within 4 week	Fulfilled within 5 weeks		
Standards	99%	99.9%	99.99%	90%	100%	90%	100%	90%	100%	80%	90%
Telekom Malaysia Berhad	N/A	99.95%	99.94%	N/A	N/A	97.83%	99.86%	99.36%	100%	99.54%	99.84%
Celcom (M) Bhd	99.89%	99.88%	0	0	0	0	0	0	0	97.04%	98.44%
Maxis Broadband Sdn Bhd	N/A	99.96%	99.95%	100%	100%	97.54%	100%	0	0	93.41%	95.81%
DIGI Telecommunications Sdn Bhd	100.00%	99.94%	0	100%	100%	100%	100%	100%	100%	100%	100%
TT dotCom Sdn Bhd	99.95%	99.96%	99.92%	94.15%	98.44%	97.5%	99.17%	100%	100%	98.39%	99.40%
Fiberail Sdn Bhd	N/A	99.93%	99.98%	N/A	N/A	50.00%	98.50%	100%	100%	100%	100%
Equant Services Malaysia Sdn Bhd	N/A	N/A	N/A	0	0	0	0	0	0	0	0

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

DETERMINATION NO. 5 of 2003 – BROADBAND ACCESS SERVICE

Broadband Access	Fulfillment of installation orders			Service Restoration Performance		Network Performance			
	% Fulfilled within 24 hours	% Fulfilled within 48 hours	% Fulfilled within 7 days	% Fulfilled within 24 hours	% Fulfilled within 48 hours	% of number of sample with Network Latency below 85ms	% of number of sample with bandwidth utilisation more than 70% of subscribed level	% of Packet loss	% of network availability
Standards	80%	90%	100%	80%	90%	95%	95%	1%	99.99%
Telekom Malaysia Berhad	93.94%	95.20%	100.00%	89.88%	96.17%	100.00%	100.00%	0%	99.96%
Maxis Broadband Sdn Bhd	82.46%	98.13%	100.00%	98.47%	99.24%	100.00%	100.00%	0%	99.99%
Time dotnet Bhd	99.15%	99.15%	99.38%	91.51%	98.44%	100.00%	100.00%	0%	99.97%
DIGI Telecommunications Sdn Bhd	0	0	0	0	0	100.00%	N/A	0%	100.00%

MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005

Summary Analysis as at June 2005.

22. The MS QOS has been in effect for almost 3 years for PSTN Services, PCS, Dial Up Internet Service and Content Applications Service while the MS QOS for Public Payphone Services, Broadband Access Service and Digital Leased Line Service has been in effect for between 1 to 1 ½ years.

Improvements following the implementation of the MS QOS

23. Reports submitted by service providers of the past 5 reporting and audit exercise conducted for the last 4 reports submission has positively impacted the service providers:

- 23.1. Service Providers have used the MS QOS as an internal Key Performance Indicator (KPI) to measure and improve their overall performance.
- 23.2. MS QOS promoted proper reporting structure between service providers
- 23.3. MS QOS has become a benchmark for Service Level Agreements (SLA) between service providers (e.g. broadcasters and DLL providers etc)

24. The MS QOS and the audit exercise that was conducted to verify the reports has contributed to improvements in service providers internal monitoring of quality of service which has positively contributed towards the enhancement of consumer protection.

Analysis on the MS QOS

25. The analysis below relates to the MS where ASPs or NSPs are required to submit reports to MCMC every 6 months.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

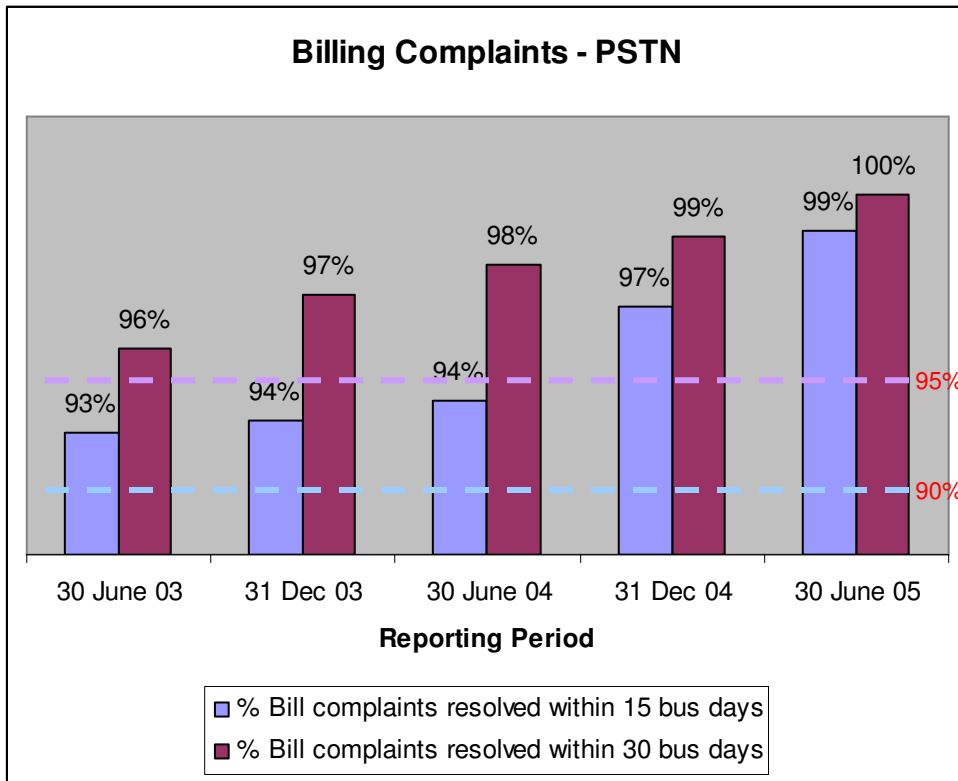
MS on Billing Complaints

26. PSTN, PCS & Dial Up Internet Access Service providers have performed well within the MS where billing complaints in relation to bills issued over a period of 6 months should not exceed 2%.

- 26.1. The industry average for PSTN is 0.4%
- 26.2. The industry average for PCS over the past 5 reporting is 0.3%.
- 26.3. The industry average for Dial Up Internet is 0.06%.

27. **A minimum of 90% and 95%** of billing complaints must be resolved within 15 and 30 business days respectively:

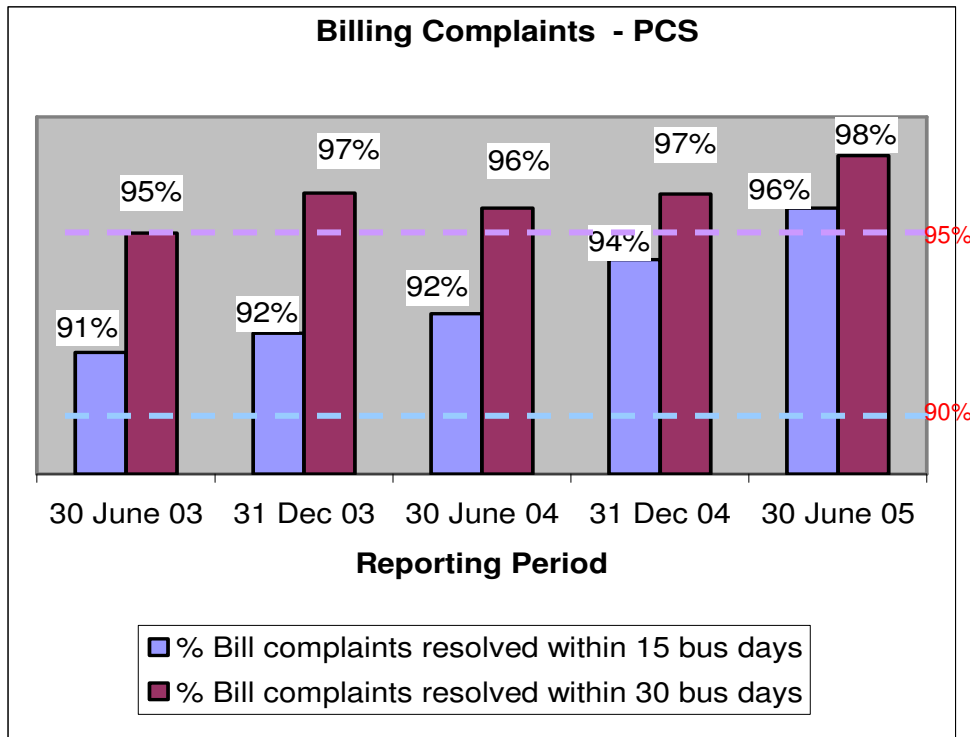
- 27.1. The industry average for PSTN is 97% and 99% respectively.



(A minimum of 90% and 95% billing complaints must be resolved within 15 and 30 business days)

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

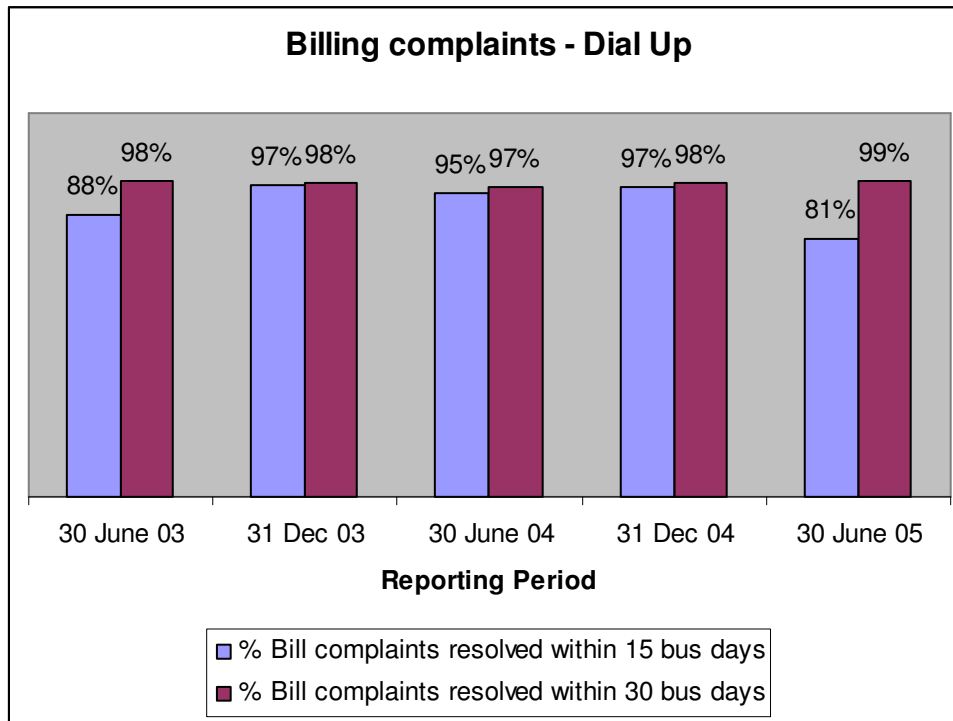
27.2. The industry average for PCS is 92% and 97% respectively (This excludes ATUR 011 and Mobikom 018 as it was eventually phased out)



(A minimum of 90% and 95% billing complaints must be resolved within 15 and 30 business days)

27.3. The industry average for Dial Up Internet is 91 and 98%.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**



(A minimum of 90% and 95% billing complaints must be resolved within 15 and 30 business days)

28. The existing Mandatory Standards appears to be easily achievable even with severe billing systems issues, in certain instances.
29. The existing Mandatory Standards have also not included the monitoring of billing complaints for Broadband Access and Digital Leased Line services
30. MCMC will consider enhancing Mandatory Standards for billing complaints for PSTN Service, PCS and Dial Up Internet Access service and consider reviewing the rational of monitoring billing complaints for BA and DLL services.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

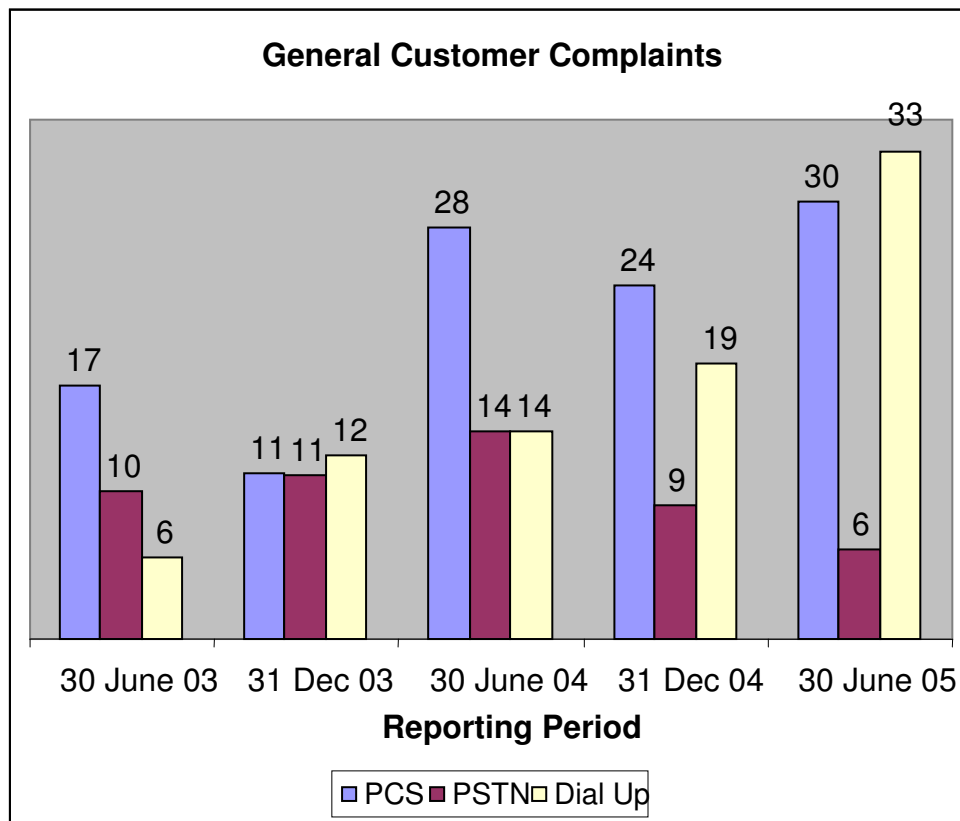
MS on General Customer Complaints.

31. PSTN, PCS & Dial Up Internet Access Service providers have performed well within standards of a maximum of **50 complaints per 1,000 customers.**

31.1. The industry average for PSTN is 10 per 1000 customers

31.2. The industry average for PCS over the past 5 reporting is 19 per 1000 customers.

31.3. The industry average for Dial Up Internet Service is 17 per 1000 customers.



(General customer complaints must not exceed 50 complaints per 1,000 customers)

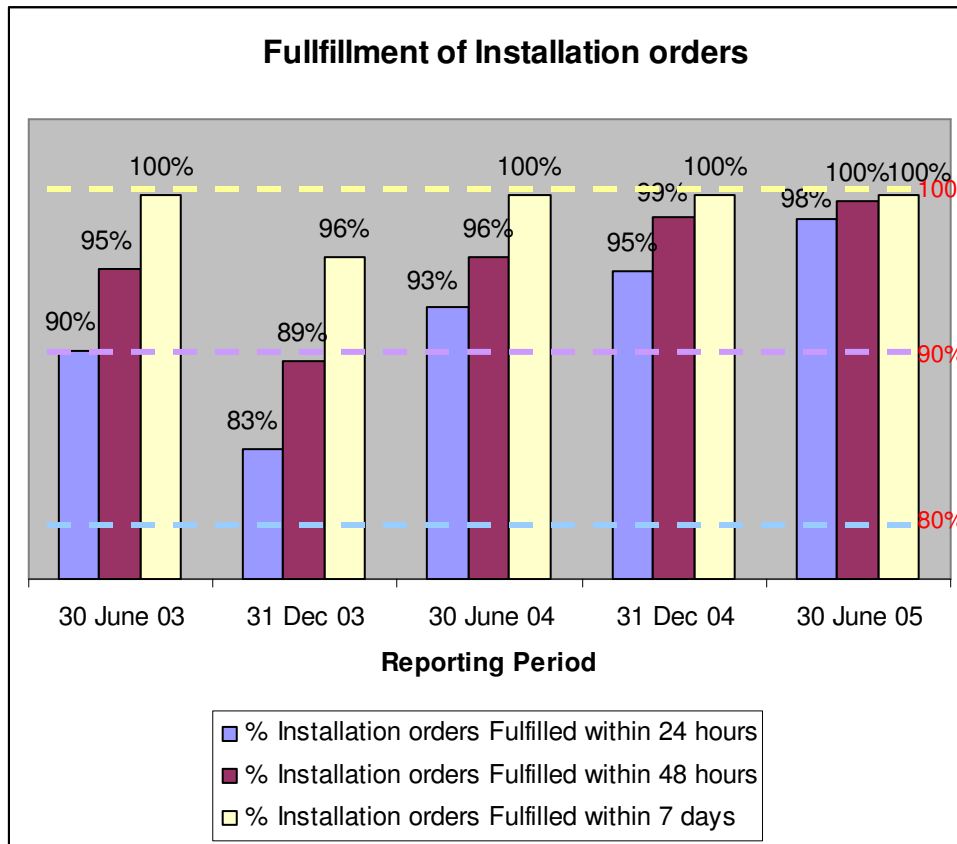
**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

32. The existing Mandatory Standards on general complaints also currently appears ineffective as a tool to drive further improvements.
33. The existing Mandatory Standards also have not included the monitoring of resolution time for general complaints for all services.
34. Under the existing MS QOS, general complaints from customers for BA and DLL services are not monitored.
35. From the audits conducted, it has been reported that general complaints relating to faults with BA and DLL services are substantial in number and has become a significant part of the operations of BA and DLL service providers.
36. To drive continuous improvements, MCMC will consider reviewing the existing MS for General Customer Complaints for PSTN service, PCS and Dial Up Internet Access service and consider extending the scope of the MS QOS to NSPs to include general complaints monitoring for BA and DLL services.

MS on fulfillment of installation orders - PSTN

37. MS on fulfillment of installation orders is **80% and 90% fulfilled within 24 and 48 hours. 100% of installation orders must be fulfilled within 100% within 7 days.**
38. The industry average is 95% fulfilled within 24 hours, 98% fulfilled within 48 hours and 100% within 7 days.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**



(A minimum of 80% and 90% must be fulfilled within 24 and 48 hours. 100% of installation orders must be fulfilled within 100% within 7 days)

39. Based on the audit that was conducted the finding was that many installation orders are being rescheduled.

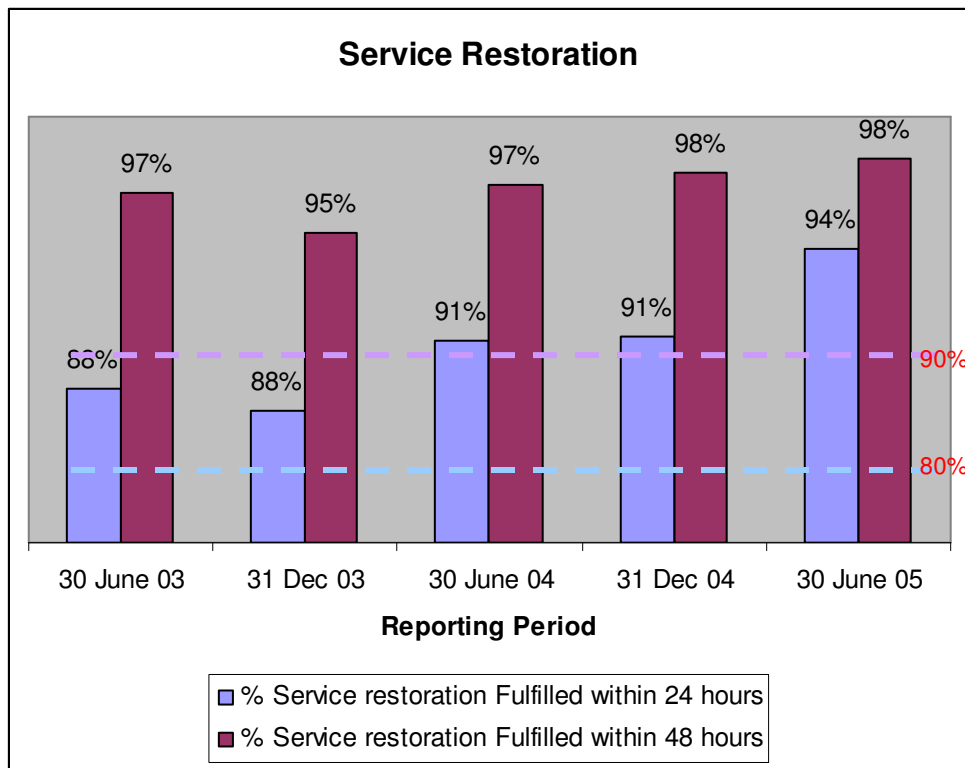
40. Although the installation scheduling is performed with the agreement of the customer, the choice of installation dates may not ultimately be decided by the customer as it may also be determined by service provider at their convenience.

41. MCMC shall consider refining the MS on installation orders to ensure that effective MS are placed to ensure that rescheduling of installation appointments are kept to a minimum and made in accordance to the requirement of the customers.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

MS on Service Restoration Performance and Service Trouble Report (STR) - PSTN

42. The standard for Service Restoration is **80% and 90% fulfillment within 24 and 48 hours respectively**. The Industry average is 90% and 97% respectively.



43. The industry has also performed well within standards for STR Rate of **500 per 1,000 Direct Exchange Lines**.

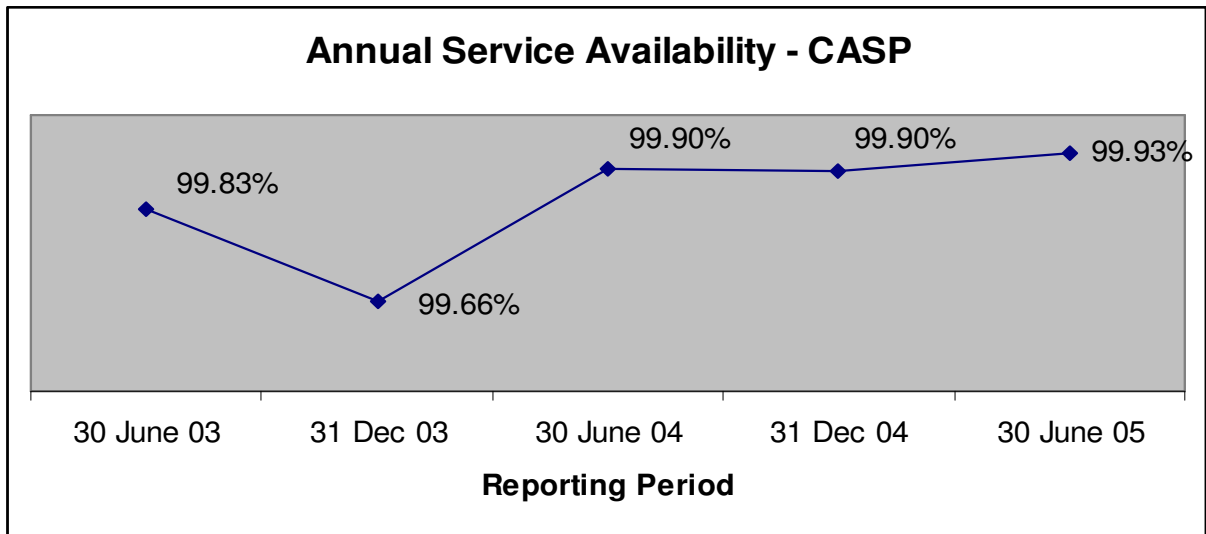
44. The industry average is 85 per 1000 Direct exchange lines.

45. The existing Mandatory Standards on Service Trouble Report currently appears to be too low to drive improvements.

MS on Annual Service Availability – CASP

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

46. The MS for Annual Service Availability applicable to CASPs is **99%**. The CASPs have been performing well above the standard, an average of 99.85% over past 5 reporting period.



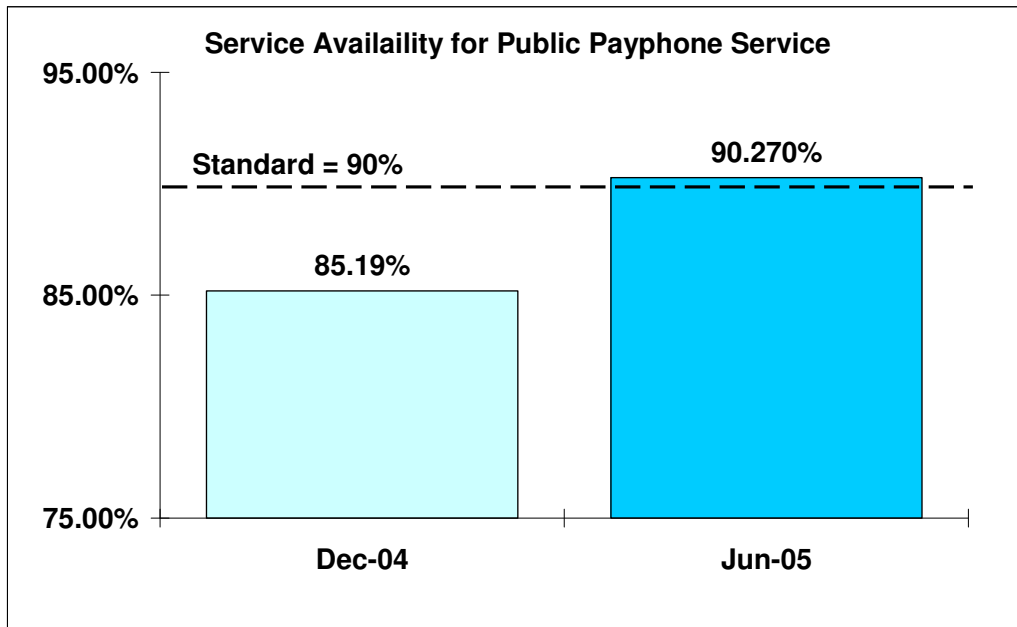
47. MCMC will consider revising the MS to be more consistent with the MS on DLL service as the performance of the CASPs in terms of annual service availability is dependent on the service provided by the NSP.

Public Payphone Service: Standard on Service Availability

48. Since the MS came into effect on 1st June 2004, there have been improvements in the performance by the public payphone providers.

49. The industry achieved 85.19% in the first reporting period on December 2004 and has improved to 90.27%.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**



Digital Lease Line (DLL) Service

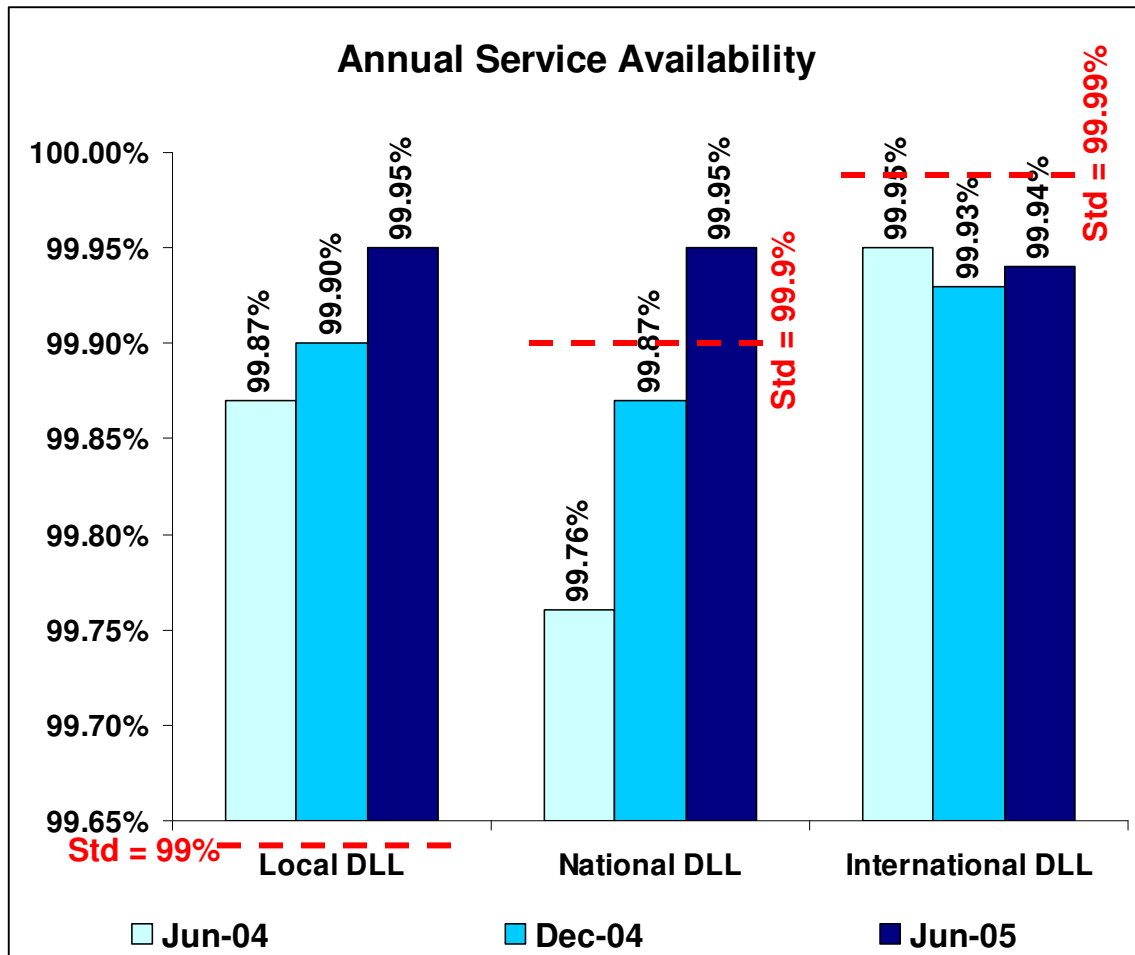
50. The MS for DLL Service have been effective since 1 January 2004 and are subjected to all NSPs providing DLL service. Most of the standards are segregated by the type of DLL, i.e. local, national and international DLL.

51. There are generally three performance standards set, Annual Service Availability, Fulfillment of Installation Orders and Service Restoration Performance.

Standards on Annual Service Availability

52. The standards for Annual Service Availability for Local, National and International DLL are set at 99%, 99.9% and 99.99% respectively.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**



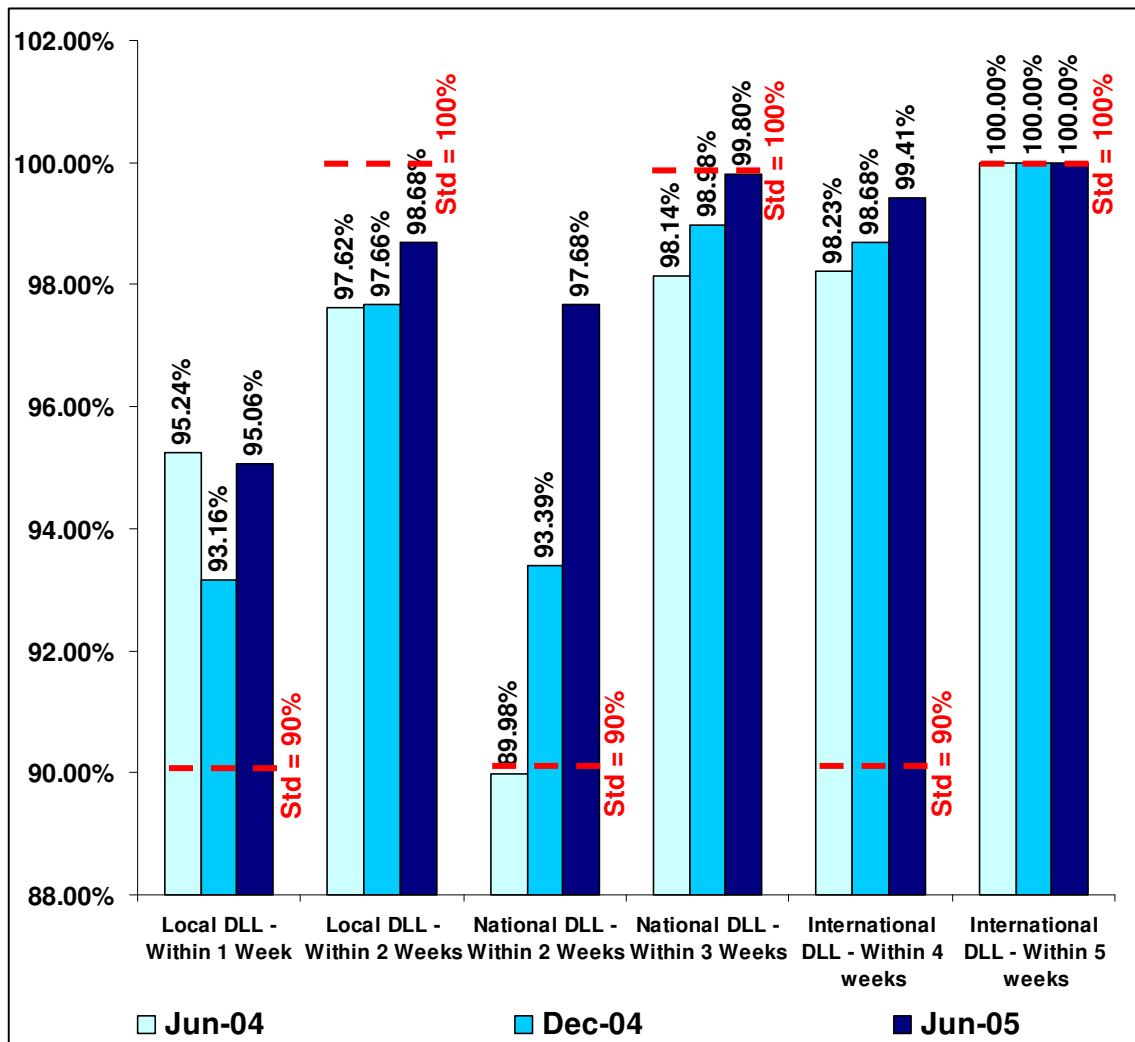
53. From the chart above, there have been improvements in the industry's performance, especially for National DLL Service, from 99.76% to 99.94%. International DLL's performance experienced a slight drop in December 2004 at 99.93% but has improved slightly to 99.94% in June 2005.

54. The standard for International DLL may have been set too high as claimed by the industry. Based on the past 3 reporting, this may appear to be so. MCMC will be reviewing some of the standards to have a more realistic level of minimum standards.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

Standards on Fulfillment of Installation Orders

55. Overall, the industry has shown improvement in the performance of fulfillment of installation orders. The charts below show improvements for the report ending June 2005.



**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

56. However, the industry has so far performed below the standard on fulfillment of installation orders for Local DLL within two weeks and for National DLL within three weeks, which is at 100%.

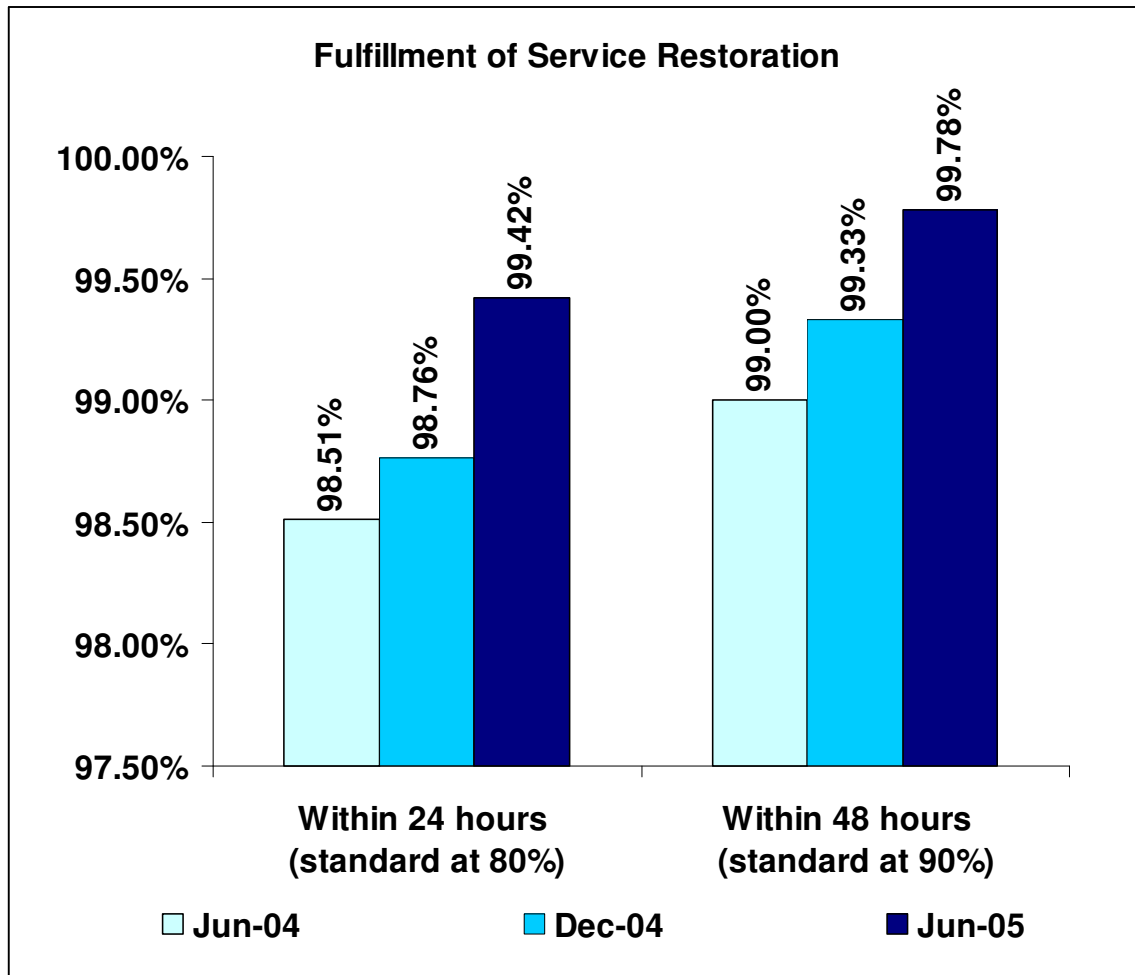
57. MCMC is considering reviewing some of these.

58. MCMC will also look into the issue of rescheduling of appointment which was highlighted in paragraph 37 to 39.

Standards on Service Restoration Performance

59. As shown in the chart below, there are improvements in the service restoration performance and the industry is in compliance with the standards set. The industry's performance is well above the standard set by MCMC.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**



60. The existing Standards on Service Restoration Performance seem too low to drive improvements. MCMC will consider reviewing the MS on Service Restoration performance on

Broadband Access Service (BA) Service

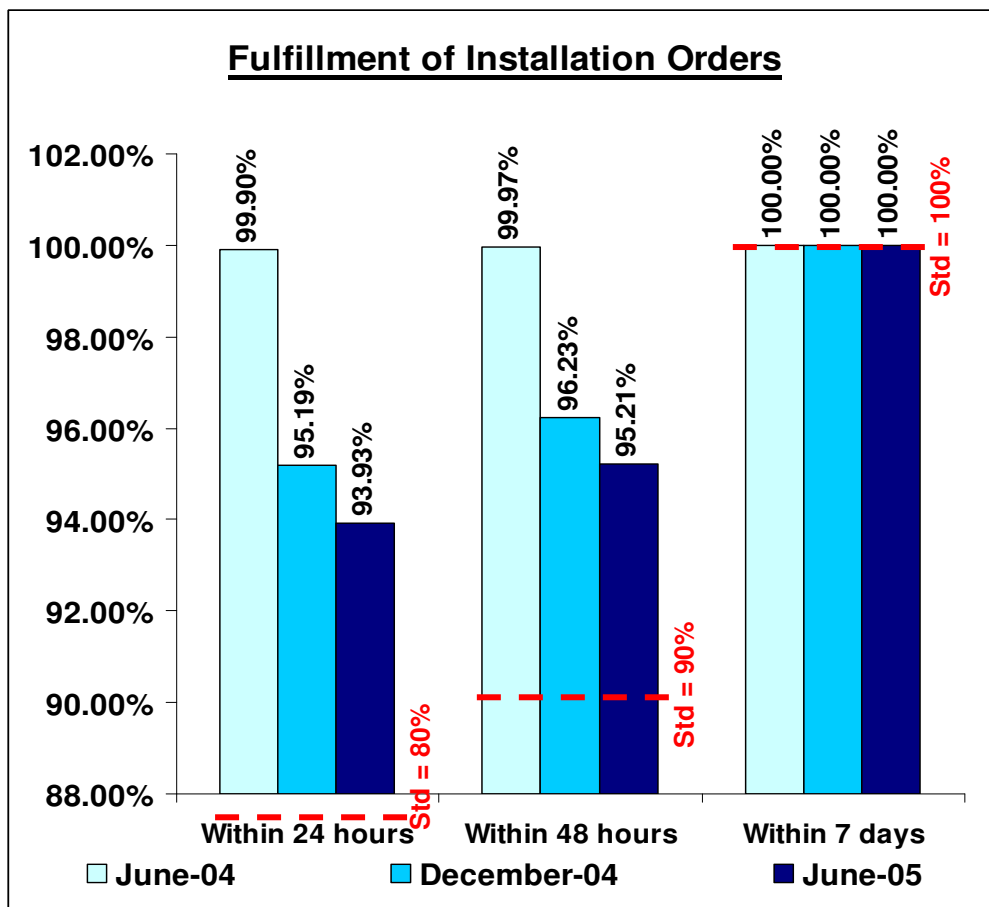
61. The MS for BA Service have been effective since 1 January 2004 and are subjected to all NSPs providing wired BA service in excess of 256kbps.

62. The standards available are the Fulfillment of Installation Orders, Service Restoration Performance and Network Performance.

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

Standards on Fulfillment of Installation Orders

63. The chart below shows that the general performance of the industry is decreasing. The industry's performance for fulfillment within 7 days has however been good at 100%.



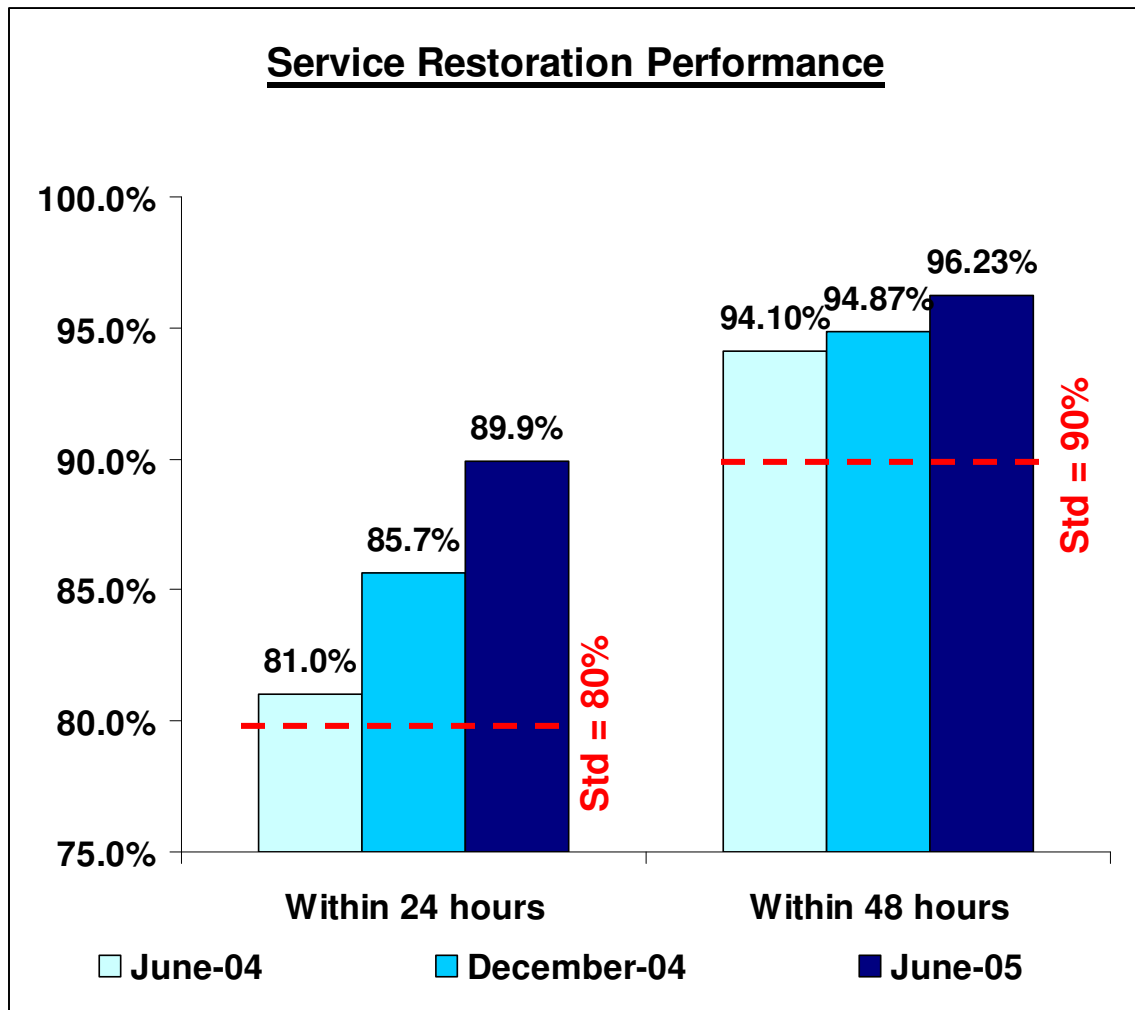
64. On the other hand, the industry has complied with the standard set by MCMC. Standards for fulfillment within 24 and 48 hours (at 80% and 90% respectively) were easily achieved by the industry. The low level of

**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

standards set may not have push the industry for performance improvement.

Standards on Service Restoration Performance

65. As shown in the chart below, there are improvements in the service restoration performance and the industry is in compliance with the standards set.

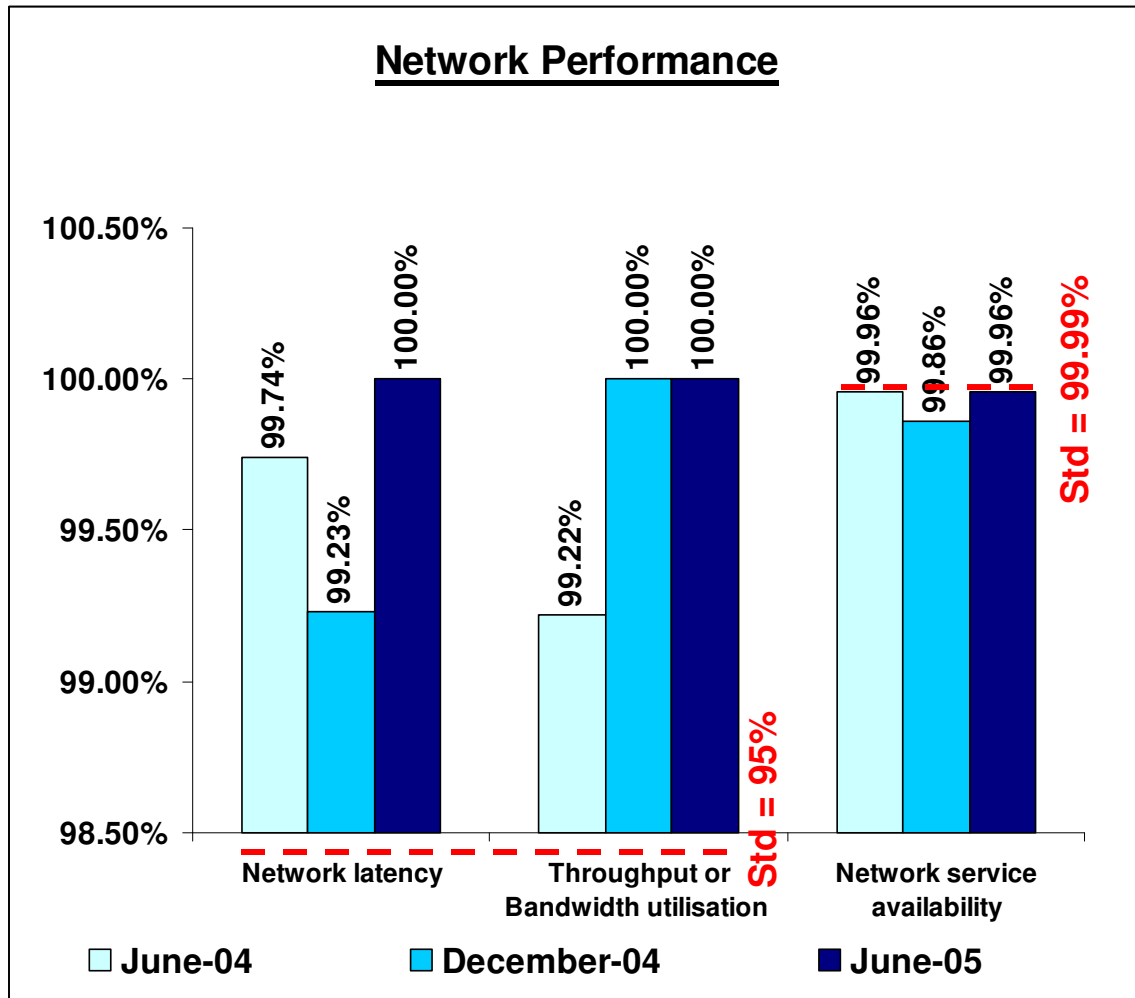


**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

66. The industry has improved significantly from 81.0% to 89.9% for restoration within 24 hours. We can conclude that the MS may have the positive impact to the level of performance by the industry.

Standards on Network Performance

67. There are four standards set under the Network Performance; Network Latency, Throughput or Bandwidth Utilisation, Packet Loss and Annual Network Service Availability.



**MCMC QUALITY OF SERVICE MANDATORY STANDARD
Summary Report for Period Ending June 2005**

68. From the table above, the industry generally perform well, except for network service availability. For standard on packet loss, the industry performs well, with average of 0% packet loss for all three periods against the standard of 1%.
69. Based on the three periods, there are improvements for network latency and throughput, but there is a slight decrease in network service availability, from 99.96% to 99.86% and back to 99.96%. The industry has not achieved this standard which is set at 99.99%.
70. MCMC is currently reviewing its standards based on the feedback from the industry and auditor.