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SUMMARY - MWSI

KEY PERFORMANCE INDICATORS (KPIs)

Water Service

Maynilad has connected a total of 92,015 new water service connections from January to December 2010 bringing the total connections of the West Zone to 912,287. Said new water service connection is almost double or 42,488 higher than Maynilad target of 49,527 new water service connections for the year under review.

Out of the 912,287 water service connections as of EO 2010, 71% have access to 24-hour water supply and is 12 percentage points short of its target of 83% at EO 2010. The shortfall in the target can be attributed to the increase in the new water service connections which is almost double the target as well as to the El Nino which consequently reduced the production of Maynilad. In terms of pressure, customers having access of 7 psi and above pressure in the West Zone is 86% and is 1 percentage point higher compared to its target of 85% at EO 2010.

For KPI-W4. Water Quality at Water Treatment Works/Water Treatment Plants (WTWs/WTPs) Outlet, Maynilad failed to comply with the *100% passing requirement* as the Concessionaire was only rated 99.76% compliant. This is due to the 82 tests out of the 32,473 determinations/tests that contravened the standard which failures demonstrated parameters that reflect the control of treatment processes and the aesthetic quality of drinking water, i.e., Color, expressed as TCU. Relative to KPI-W5. Water Quality in the Distribution System of Maynilad (West Zone), the Concessionaire passed the *minimum 95% passing requirement* as Maynilad was rated 99.96% on this parameter. For KPI-W6. Sampling, Maynilad complied with the sampling requirements for Service Reservoirs and even surpassed the 100% compliance at the distribution system but failed to attain the sampling requirements for Water Treatment Works with ground water sources.

Sewerage and Sanitation

During the period January to December 2010, MWSI installed 1,022 new sewer service connections exceeding their KPI-S1 business plan target of 1,000 by 22 connections. Relative to the three (3) Maynilad operated Sewage Treatment Plants (STPs) namely; Dagat-Dagatan STP, Tondo STP and Ayala STP, the Concessionaire failed to meet the *100% passing requirement* set for KPI-S3 as the Concessionaire was only rated 67% compliant.

As regards sanitation, MWSI desludged a total of 58,381 septic tanks from January to December 2010. This brings the cumulative total septic tanks desludged for CYs 2008-2010 to 137,307 or 59% of the 2011 compliance year target of 234,044 septic tanks to be desludged.

Customer Service

For the customer service, MWSI report revealed that the Concessionaire complied with the RO established standard level of service as well as its target in KPIs C1, C2, C3 and C4. It is worthy to note however in KPI-C2 that out of the 30 complaints endorsed by RO to MWSI, 29 complaints or 97% were resolved with an average resolution time (date resolved – date endorsed) of 30 days way far beyond the standard level of service of 10-day resolution.

Further, MWSI failed to provide data on backlogs in KPI-C4. Backlogs should be reported in a separate column on a monthly basis as they represent data/numbers that were not resolved/installed within the prescribed regulatory service standard. Accumulated backlogs could either be increasing or decreasing as the year progresses which shall form part of RO's evaluation.

For KPI-C5. Response to Disruptive Mains Failure, MWSI repaired the 248 pipe bursts with diameter 300 mm and below which translates to an efficiency of 100% for CY 2010. In 2009, MWSI reported 1,296 for this KPI. Considering the difference between figures in 2009 and 2010, it is the RO's opinion that not all of the reported figures in 2009 are 300 mm in diameter and below.

BUSINESS EFFICIENCY MEASURES (BEMs)

Income

As of EO December 2010, total revenues from water and sewer amounted to PhP 12,187 M which falls short compared to the target revenues for CY 2010 amounting to PhP 14,360 M. Said actual revenue is only about 85% of the revenue target for CY 2010 which can be attributed to the non attainment of the billed volume target of 437 MCM as the actual billed volume was only 374 MCM in spite of overshooting its new water service connection (almost double) by 42,488 connections.

Operational Expenditure (OPEX)

With regard to its OPEX, MWSI reported that for the CY 2010 the expenses for labor, power and other controllable OPEX items were lower than as forecasted in its Term Extension Business Plan. However, said figures are still subject to reconciliation with the information presented in the quarterly financial reports.

Capital Expenditure (CAPEX)

MWSI has inconsistencies in the quarterly financial reports as against the CAPEX Accomplishment Report (CAR) relative to the actual disbursements of CAPEX projects and that the Concessionaire shall explain the said discrepancies.

Non-Revenue Water (NRW)

As of EO December 2010, MWSI met its NRW target of 51% for the same period. In terms of liters per connection per day (LPCPD), MWSI's end-of-year (EOY) NRW (rolling 12-month average) was computed at 1,420 LPCPD or 25 MLD lower than its target of 1,445 MLD. However, this is still way above the internationally acceptable standard of 200 LPCPD or lower.

A. KEY PERFORMANCE INDICATORS (KPIs)

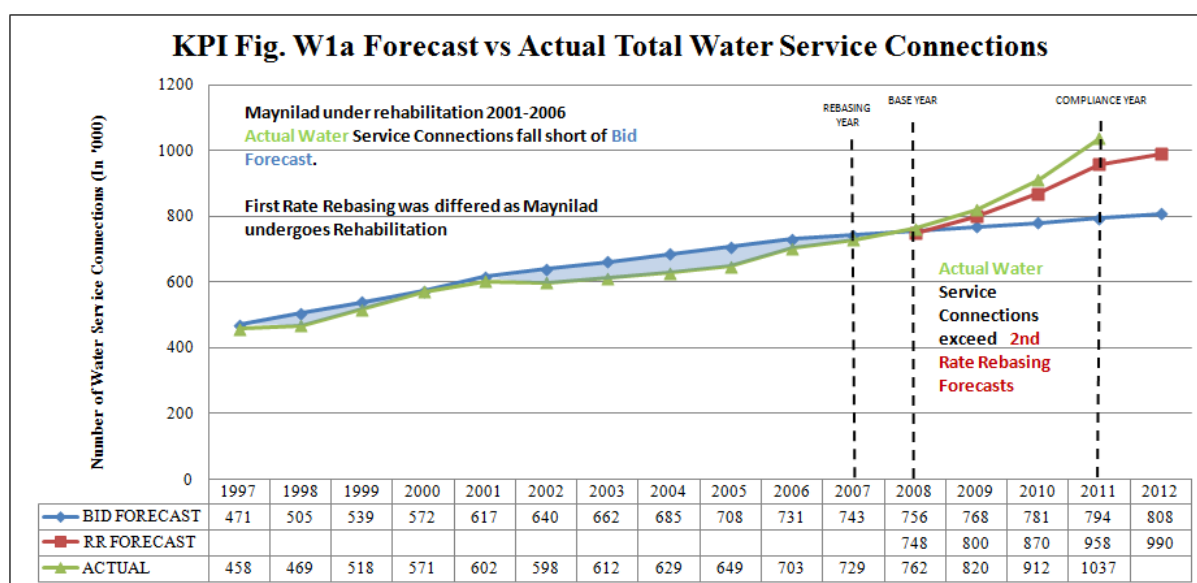
WATER SERVICE (W)

A-1.0 KPI-W1 Domestic Connections (*Monthly Report Card*)

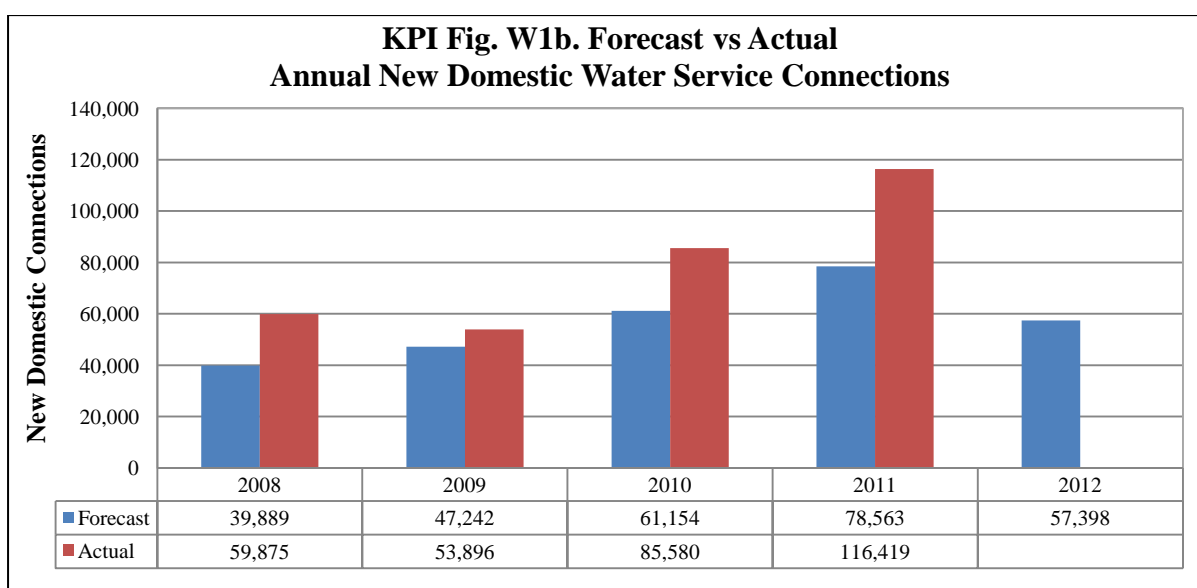
For KPI-W1, the unit of measure is the number of Domestic Water Connections of which:

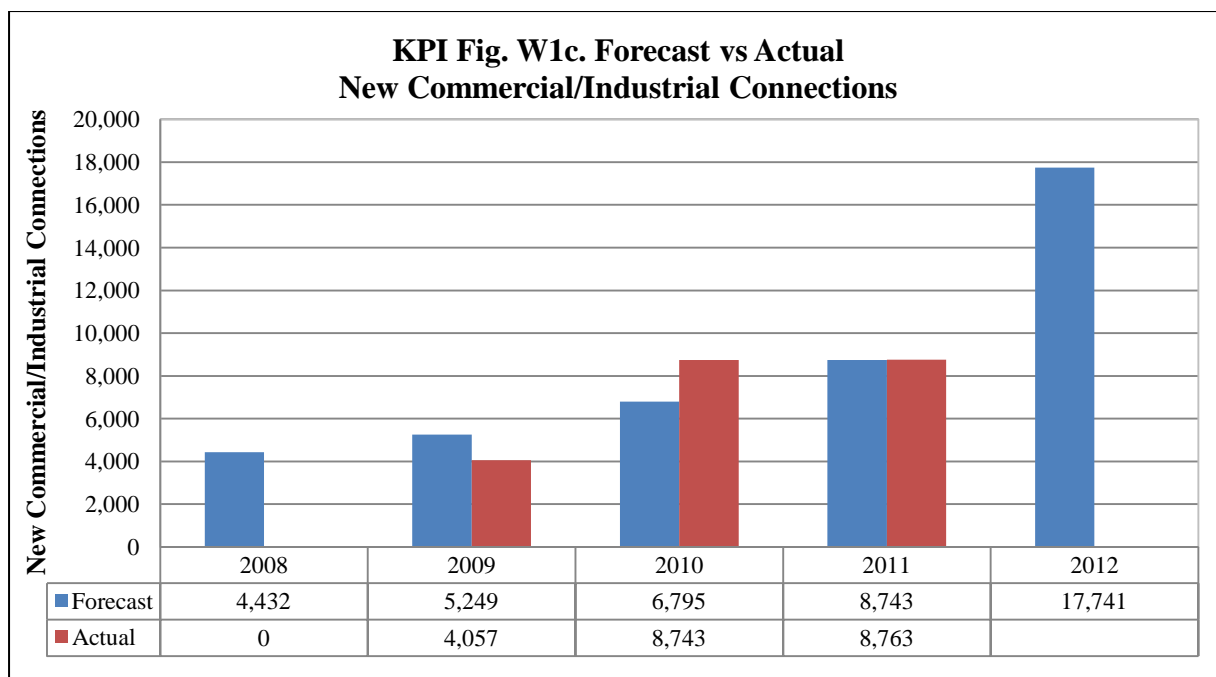
No. of Domestic Water Connections = Residential + Semi-business + Urban Poor

- (Bulk meter and public faucets = 1 connection)
(From Table 1 of Thames Report)



Sources : MWSI 2008 2nd Rate Rebasing Business Plan and KPI+BEM Report Cards September 2009-December 2011





KPI Table W1a. Annual New Water Connection Targets

Indicators	BASE	2009		2010		2011		2012	
	2008	TARGET	ACTUAL	TARGET	ACTUAL	TARGET	ACTUAL	TARGET	ACTUAL
New Domestic Connections (W1)		38,768	53,896	44,574	85,490	44,785	116,419	57,398	
Cumulative New Domestic Connections	708,121	38,768	53,896	83,342	139,386	128,127	255,805	185,525	
Cumulative Domestic Connections		746,889	762,017	791,463	847,507	836,248	963,926	893,646	
New Commercial/Industrial Connections (C/I)		4,308	4,057	4,953	6,435	4,976	8,763	6,378	
Cumulative New C/I Connections	54,198	4,308	4,057	9,261	10,492	14,237	19,255	20,615	
Cumulative C/I Connections		58,506	58,255	63,459	64,690	68,435	73,453	74,813	
Total new Water Service Connections (W1+C/I)		43,076	57,953	49,527	91,925	49,761	125,182	63,776	
Cumulative Total Water Service Connections	762,319	805,395	820,272	854,922	912,197	904,683	1,037,379	968,459	

Sources: MWSI 2008 2nd Rate Rebasng Business Plan and KPI+BEM Report Cards September 2009-December 2011

Note: MWSI has not yet included City/Municipal breakdowns of their water service accomplishment since the adoption of the KPI format in September 2009.

Indicators	2007	2008		2009		2010		2011	
		Target	Actual	Target	Actual	Target	Actual	Target	Actual
New Domestic Connections (KPI-W1)	648,246	39,889	59,875	47,242	53,896	61,154	85,580	78,563	116,419
Cumulative		688,135	708,121	735,377	762,017	796,531	847,597	875,213	964,016
New Commercial/Industrial Connections (C/I)	54,269	4,432	0	5,249	4,057	6,795	8,743	8,743	8,763
Cumulative		58,701	54,185	63,950	58,326	70,745	64,761	79,488	73,524
*Total Water Service Connections	*702,515	746,836	762,390	799,327	820,343	867,276	912,358	954,701	1,037,540

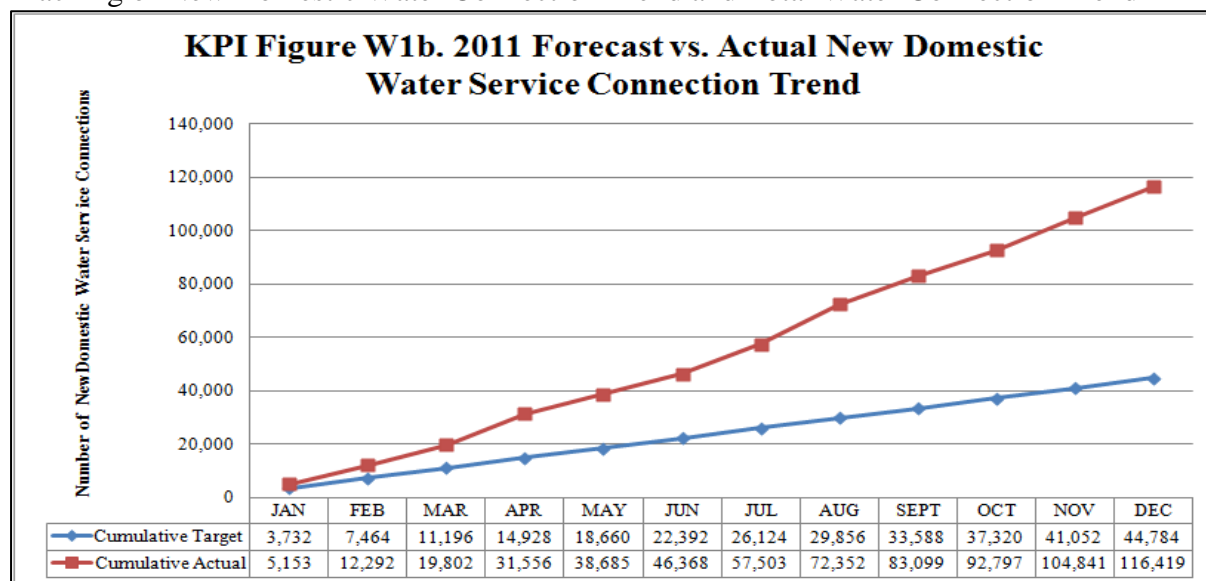
KPI-W1b Table. 2011 Target vs Actual New Water Service Connections

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
RR Forecast	3,732	3,732	3,732	3,732	3,732	3,732	3,732	3,732	3,732	3,732	3,732	3,732	44,785
Domestic C/I	415	415	415	415	415	415	415	415	415	415	415	415	4,976

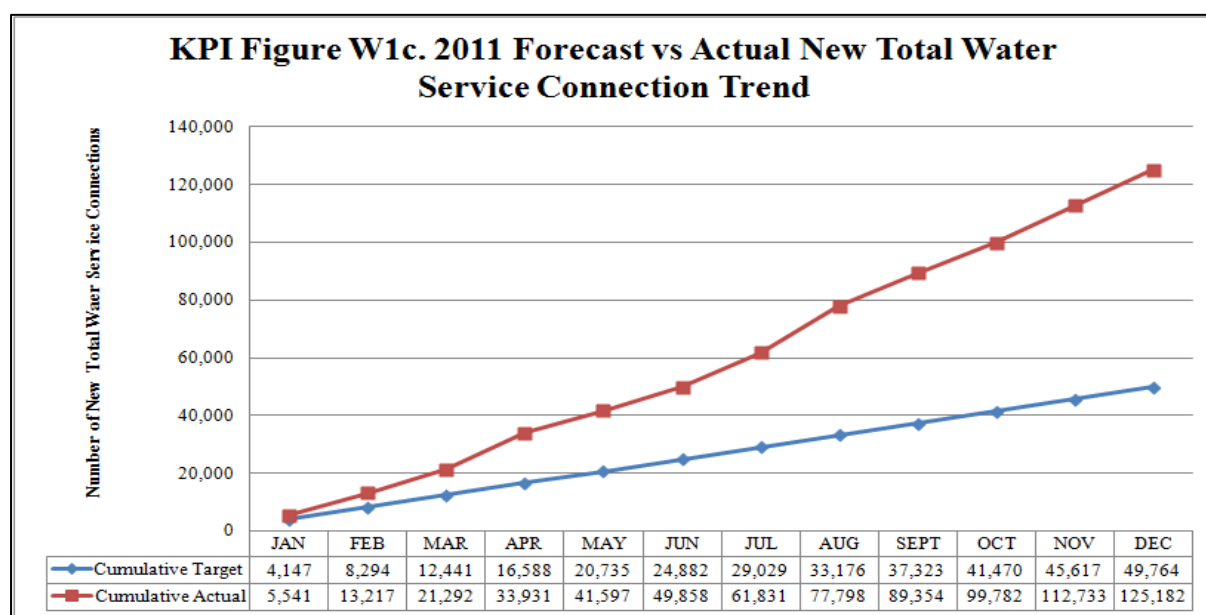
Actual Domestic C/I	5,153 338	7,139 537	5,264 565	11,754 885	7,843 537	7,683 578	11,135 838	14,849 1,118	10,747 809	9,698 730	12,044 907	11,578 871	116,419 8,763
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Sources: MWSI KPI+BEM Report Cards January-December 2011

Tracking of New Domestic Water Connection Trend and Total Water Connection Trend



Sources: MWSI KPI+BEM Report Cards January-December 2011



Sources: MWSI 2008 KPI+BEM Report Cards January-December 2011

Water Service Connection Trend

KPI Figure 1.a illustrates Maynilad's performance with respect to **the BID Forecast from 1997 to 2007** and with the Rebasing Forecast from 2009 to 2011.

Maynilad's accumulated water service connections (domestic and commercial/industrial) from 1997 to compliance year 2001 fall 150,000 short of the 617,000 Bid Forecast. Maynilad undergoes rehabilitation from 2002 to 2007 foregoing the setting of new targets for the first rate rebasing exercise. At a growth rate of 21% (2002-2007) Maynilad's accumulated water

service connections for the period also fall short of the Bid Forecast (729,000 vs 743,000). The end of 2007 sees Maynilad with a deficit of 140,000 water service connections (729,234 Actual vs 743,000 Bid Forecast).

Under new management in 2007, Maynilad underwent Rate Rebasing wherein the resulting Business Plan outlined the implementation of a total of 142,364 new water service connections (128,127 Domestic and 14,237 Commercial/Industrial) from 2009 to compliance year 2011. These targets forecast the number of water service connection to be 958,000 at the end of compliance year 2011.

From 2009 to 2011, Maynilad has implemented a total of 275,060 water service connections (255,805 domestic and 19,255 commercial/industrial) exceeding the targeted 142,364 by 132,786 (127,768 Domestic and 5,018 Commercial/Industrial) connections. As of 2011, Maynilad's total water service connections number 1,037,379 (963,926 Domestic and 73,453 Commercial/Industrial) this effectively closes the 140,000 gap in the Bid Forecast and exceeds the Forecasted 958,000 connections in the 2008 Business Plan.

KPI-W1 Evaluation

- Maynilad connected **116,419** new domestic water service connections at an average of **9,000** connections /month. This accomplishment greatly exceeds the monthly and annual targets of **3,732** and **44,785** new domestic connections, respectively for compliance year 2011 see KPI Table W1b 2011 and KPI Figure W1b 2011.
- For the same period, Maynilad has also connected 8,763 commercial/industrial water service accounts, bringing the total number of new water service connections for 2011 to **125,182**.
- As of December 2011, Maynilad maintains a total of **1,037,379** water service connections from which **936,926** are domestic service connections and **73,453** serve commercial and industrial accounts.
- For compliance year 2011, Maynilad's Water Service Coverage is at **92.5%**. This translates into a **7.9M** population served in the West Service Area. The **125,182** total new connections for 2011 resulted in a 4.8% increase in service coverage or an additional **513,334** population served.
- At **92.5%** water service coverage as of the end of compliance year 2011, Maynilad has met and exceeded the service coverage target of **90%** by **0.5%**

The installation of **275,060** new water service connections (**255,805** domestic and **19,255** commercial/industrial) from **2009 to 2011** has brought Maynilad's number of service accounts to **1,037,379** (**963,926** domestic and **73,453** commercial/industrial). This represents an over-all growth of **36%** from 2008's **762,319** total water service connections. This accomplishment is **10%** higher than the projected **26%** increase in the Rebasing Forecast for the same period.

In terms of Service Coverage, the period in review (2009-2011) saw an increase of **11%** coverage from Base Year 2008 (82% in 2008 to 92.5% as of Dec 2011). The installation of a total of **275,060** new water service connections for the period in review also translates to an

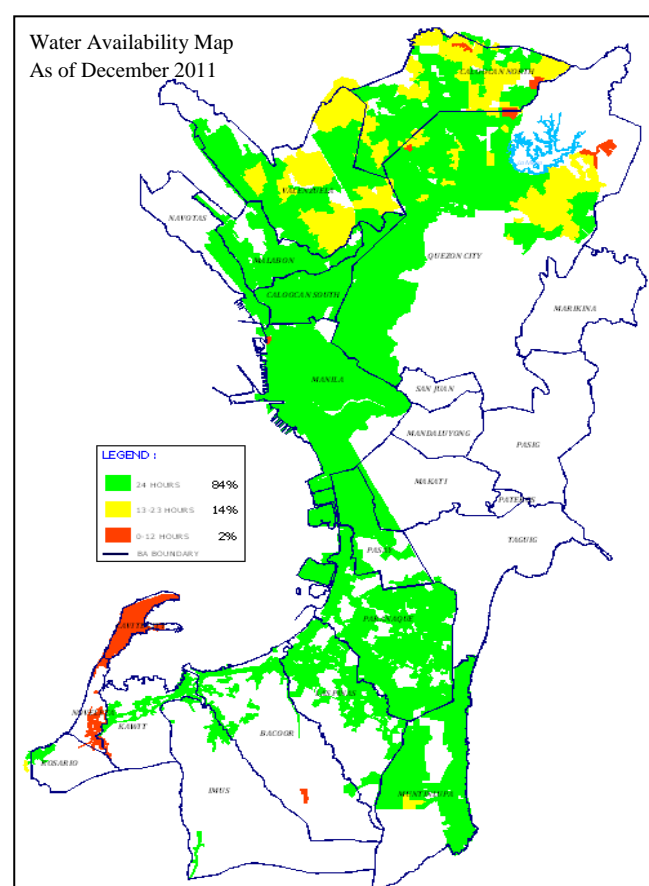
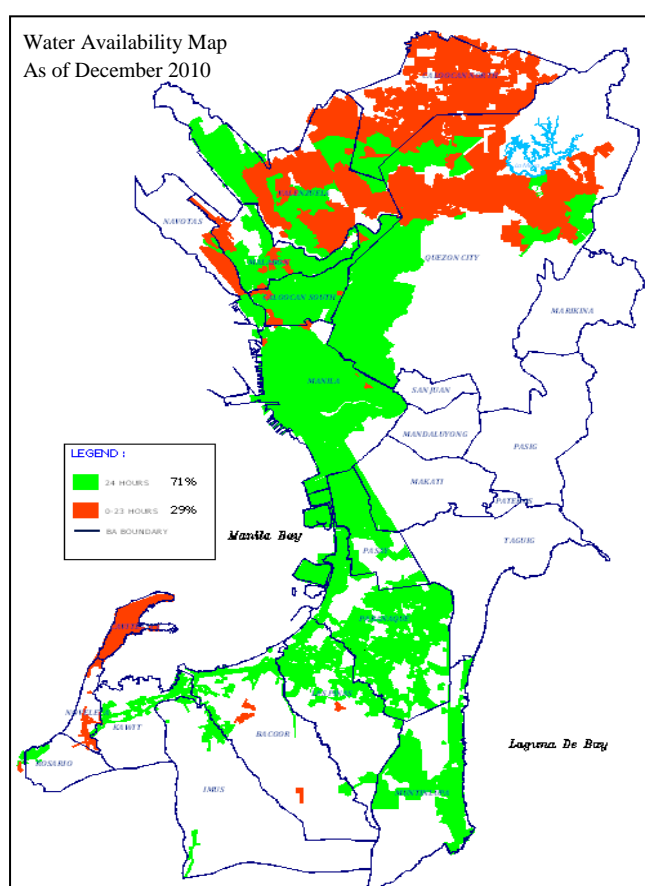
additional **1.2M** population served bringing the water served population of Maynilad to a total of **7.9M** at the end of 2011. This represents an **18%** growth in service population from **6.7M** in 2008.

A-2.0 KPI-W2 Continuity of Supply

% of Total Hours @ 24 Hours Supply

- Base is number of connected customers served with 24 hours water supply (increasing in time)
- Excluding connected customers which cannot be served with 24 hours water supply

No. of Hours of Supply	2008		2009		2010		2011		2012	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
24 hours	56%	58%	69%	65%	83%	71%	96%	84%	100%	
13-23 hours	27%	32%	20%	32%	12%	29%	3%	14%	0%	
0-12 hours	17%	10%	11%	3%	5%		1%	2%	0%	



KPI-W2 Evaluation

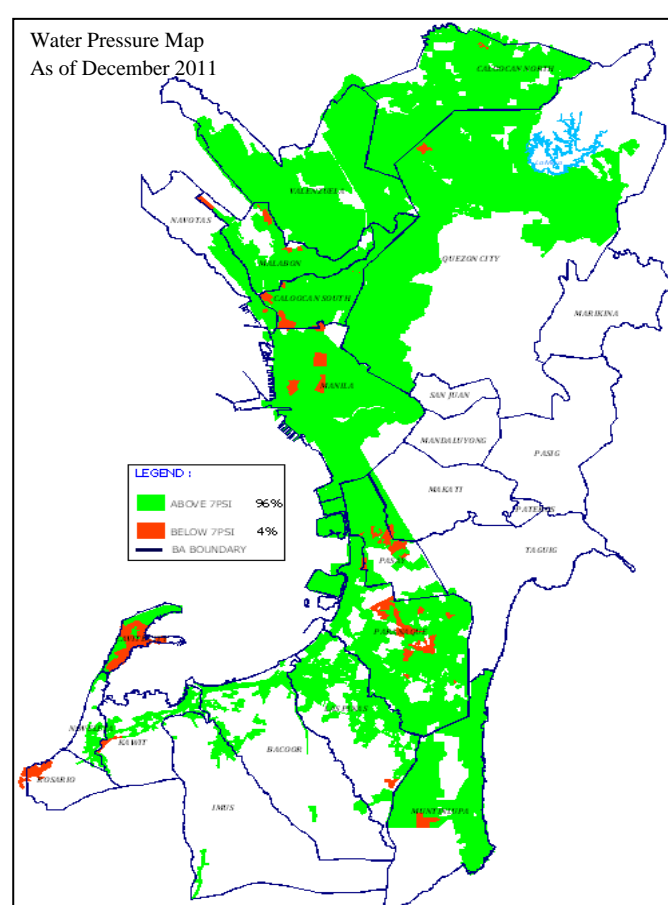
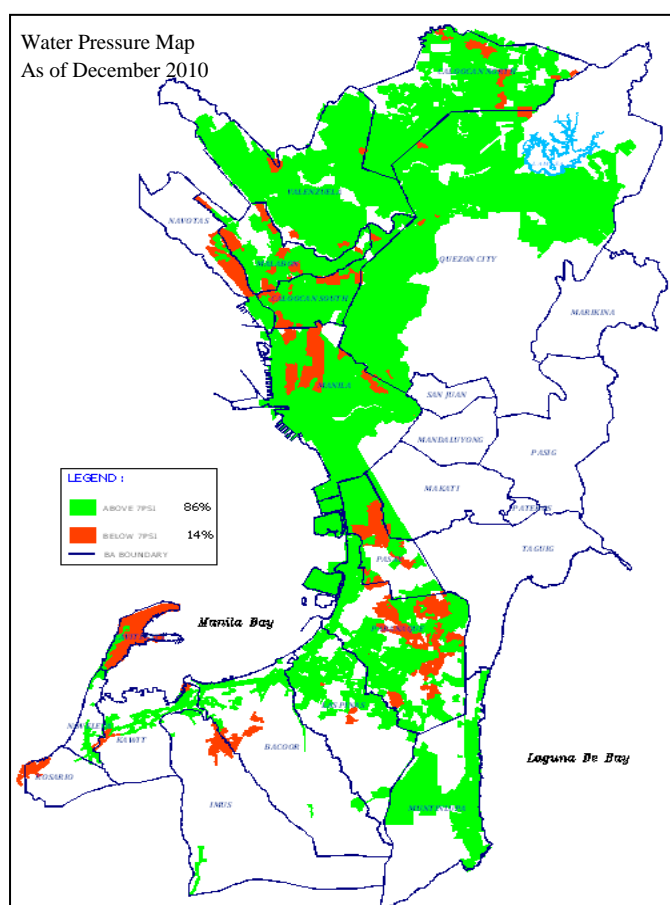
As of EO December 2011, MWSI customers served with 24 hours of water supply increased by 13 percentage points from 71% EO December 2010 to 84% as of the period under review. However, this is still 12 percentage points lower than its target of 96% at end of December 2011.

A-3.0 KPI-W3 Pressure of Water Supply

% Total Hours @ Minimum Pressure of 7 psi

- Base is number of connected customers served with 7 psi and above (increasing in time)
- Excluding connected customers which cannot be served with minimum 7 psi pressure

No. of Hours of Supply	2008		2009		2010		2011		2012	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
7 psi and above	57%	67%	64%	79%	85%	86%	95%	96%	100%	
7 psi below	43%	33%	36%	21%	15%	14%	5%	4%	0%	



KPI-W3 Observation

As of EO December 2011, MWSI customers having an access of 7 psi and above pressure was recorded at 96%. This is 10 percentage points higher than EO 2010 figure of 86% and 1 percentage point higher than MWSI's target of 95% at EO 2011.

A-4.0 KPI-W4 Water Quality at Plant Outlet

The indicator, KPI-W4, refers to the Achievement of Maynilad in terms of the quality of the product water at outlet of the treatment plant (TP)/ water treatment works (WTWs) and is determined based on the parameters and the number of determinations as agreed by MWSS RO and Maynilad in the revised KPI Guide Doc. Table W4 found below show numbers of tests conducted and the achievement of Maynilad relative to the required sampling regime issued by MWSS RO in the KPI Guide Document. The KPI Guide Doc focuses on those parameters of importance to human health together with others that reflect the control of treatment processes and the aesthetic quality of drinking water quality.

As required in the Concession Agreement, reiterated in the KPI Guide Doc, concessionaires have provided the RO with the results of all tests carried out by them for the purpose of demonstrating compliance with drinking water standards. The number of tests that concessionaire carries out is set in the KPI Guide Doc and is risk-based, being calculated according to either the population served by a supply zone or the volume of water supplied by a treatment works.

There is no requirement in the KPI Guide Doc to sample for some parameters at the water treatment works. However, when the concessionaire has carried out determination for those some parameters and supplied the information as part of its compliance information, the number of determinations and any breaches of the standards have been included in the assessment of water quality.

The legal requirement on water companies at the treatment plant/ works is of course, to achieve 100% compliance with the PNSDW; the same percentage was also set by Maynilad as its target in its 2008 Business Plan for the purpose of determining their performance for KPI W4. The KPI Guide Doc issued by the MWSS Regulatory Office conformed by Maynilad also set the required performance at 100 percentages.

Table W4 shows the summary of water quality at the 28 treatment plants/works operated by Maynilad in 2011.

Table W4 SUMMARY OF WATER QUALITY AT THE TREATMENT PLANT/ WTWs

PARAMETER	Total no. of determinations	CONTRAVENING PCV	
		number	%
Total coliform	2,311	0	0.00%
Fecal coliform	2,311	0	0.00%
Heterotrophic Plate Count	2,311	0	0.00%
Residual chlorine	2,311	0	0.00%
Color	2,311	82	1.26%
Turbidity	2,311	0	0.00%
pH	2,311	0	0.00%
taste	2,311	0	0.00%

Table W4 SUMMARY OF WATER QUALITY AT THE TREATMENT PLANT/ WTWs

PARAMETER	Total no. of determinations	CONTRAVENING PCV	
		number	%
odor	2,311	0	0.00%
aluminum	2,311	0	0.00%
iron	2,311	0	0.00%
manganese	2,311	0	0.00%
hardness	2,310	0	0.00%
chloride	383	0	0.00%
sodium	226	0	0.00%
sulfate	495	0	0.00%
total dissolved solids	494	0	0.00%
antimony	30	0	0.0%
arsenic	30	0	0.0%
boron	30	0	0.0%
cadmium	30	0	0.0%
chromium, total	30	0	0.0%
cyanide, total	30	0	0.0%
fluoride	29	0	0.0%
lead	30	0	0.0%
mercury	30	0	0.0%
nickel	30	0	0.0%
nitrate	29	0	0.0%
nitrite	30	0	0.0%
selenium	30	0	0.0%
benzene	33	0	0.0%
1,2- dichloroethane	33	0	0.0%
1,2- dichloroethene	33	0	0.0%
ethyl benzene	33	0	0.0%
tetrachloroethane	33	0	0.0%
trichloroethane	33	0	0.0%
toluene	33	0	0.0%
xylene	33	0	0.0%
aldrin & dieldrin	29	0	0.0%
heptachlor & heptachlor epoxide	30	0	0.0%
bromate	33	0	0.0%
bromoform	33	0	0.0%
dibromodichloromethane	33	0	0.0%
bromodichloromethane	33	0	0.0%
chloroform	33	0	0.0%
SUM	34,783	82	0.24%
TOTAL NUMBER OF DETERMINATIONS		34,783	
- with no exceeding PCV		99.76%	
NUMBER OF TREATMENT PLANTS/ WORKS		28	
- With exceeding PCV		3	
- % with no exceeding PCV		89%	

KPI-W4 Evaluation

In 2011, the total number of tests carried out by Maynilad to meet PNSDW at the treatment works was 34,783 of which 26.58% are microbiological tests including residual disinfectant, 70.92% of aesthetic and operational significance, and 2.51% are parameters of health significance.

Collectively at the treatment works/ treatment plants, Maynilad **failed** the 100 percentage requirement set for this KPI. Twelve (12) of the 28 water treatment works/ plants, or 43%, demonstrated to have breached the standards.

Out of the 34,783 determinations/ tests, 82, 0.24%, contravened the standard. The eighty two events of failures, or 0.24% of the 34,783 total determinations, had been demonstrated on parameters that reflect the control of treatment processes and the aesthetic quality of drinking water, i.e., color. All failures are color values expressed as True Color Units (TCU) wherein the maximum allowable as per PNSDW is 5 TCU, occurred in May 2011 at LMTP1 (14); May to August 2011 at LMTP2 (67); and 1 incidence at Putatan TP on June 2011.

A-5.0 KPI-W5 Water Quality in the Distribution System (Supply Zone)

The indicator intends to provide an overall indication of the quality of water in the distribution as it arrives at the point of delivery to the consumer. The parameter is total coliform which is sampled and analyzed based on the number of population served. Usually, the minimum required number of samples to be collected from validated regulatory sampling points (RSPs) is 20 + 1 sample for every 10,000 population or 1 sample for every 5,000 population depending on the number of the served population of each water source. Table W5 below is a summary of the coliform tests conducted by Maynilad in 2011 at the supply zone and in the service reservoirs.

Table W5. COLIFORMS TEST IN THE DISTRIBUTION SYSTEM

SUPPLY ZONE	
Total number of determinations	10,514
- number containing coliforms	0
- Ave. % satisfactory compliance	100.00%
- meet min 100% sampling requirement	100%
SERVICE RESERVOIR	
Number of service reservoir	18 (Jan – Jun 2011; 17 (Jul – Dec 2011)
- number with coliforms detected	0
- % with no coliforms detected	100.00%
- Total number of determinations	1,057
- number with coliforms detected	0
- Ave. % satisfactory compliance	100.00%
- meet min 100% sampling requirement	100%
OVERALL SATISFACTORY PERFORMANCE	100.00%

KPI-W5 Evaluation

At **100.00%** performance recorded by Maynilad shown in Table W5 found above and Table W5c below met the *min. 95% satisfactory requirement* for the non-detection of coliforms in the Maynilad distribution system. In addition, Maynilad also complied with the minimum requirement of Sampling Frequency set at 100 percentage.

However, incidences of dirty water in areas with low water supply pressure were not captured in the reports submitted to MWSS-RO. Dirty water incidences were reported to the PAWS Survey team in Sampaloc (Barangay 632), Sta. Cruz (Barangays 333 & 332) and Tondo (Barangays 267,251, 136 and 117). It was found out during the joint sanitary survey of MWSS-RO & Maynilad that the areas identified were undergoing rehabilitation, and rampant use of booster pumps are prominent in the area due to low water supply pressure, thereby drawing contaminants into Maynilad's pipelines.

A-6.0 KPI-W6 Sampling

The indicator gives a measure on the achievement of Maynilad to comply with the required sampling frequency for the required parameters 1) at the treatment plants, 2) at the supply zones or distribution system and 3) at the service reservoirs. This refers to the total number of analyses conducted by Maynilad on the parameters required for monitoring at the required sampling frequency for each treatment plant, service reservoir or pumping station, and supply zone. KPI – BEMs set 100% as the minimum target for Sampling. Summary of Maynilad Water's achievement under this indicator is shown in Table W6.a found below, while parameters monitored including numbers of determinations conducted per parameter at the three points of compliance are shown in Table W6.b, W6.c and W6.d respectively in the supply zone, treatment plant and service reservoir.

Table W6.a SUMMARY ON SAMPLING

	Year 2011
Number of treatment Plant/ WTWs	28
- with sampling shortfall	12
- no sampling shortfall	57%
Number of Supply Zone	
- with sampling shortfall	phase-in
- no sampling shortfall	phase-in
Number of service reservoirs	18 (Jan – Jun 2011; 17 (Jul – Dec 2011)
- with sampling shortfall	0
- no sampling shortfall	100%
% Performance (average)	78.5%

KPI-W6 Evaluation

Excluding sampling requirement in the Supply Zone where Maynilad demonstrated to have surpassed sampling frequency for coliforms in all the 12-month period in 2011, MWSS RO considered Maynilad to have fairly performed in this KPI at 78.5% as shown in Table W6.a found in the above.

Similar to what had been granted to Manila Water from the date when the KPI-BEMs Guide Doc was formally issued, the first 2 years was a phase-in period where frequency requirement on sampling is not yet fully implemented. The KPI-BEMs Guide Doc for Maynilad was conformed by Maynilad in March 10, 2010. However, the phase-in compliance applies only for Sampling; prescribed concentration values of the relevant standards, however, remain enforced.

Tables W6.b to W6.d found below is a summary on the quality of water supply in the supply zone, treatment plant outlet and in the service reservoirs of Maynilad Water on the tests conducted in 2011, for references.

Table W4 SUMMARY OF WATER QUALITY AT THE TREATMENT PLANT/ WTWs

PARAMETER	Total no. of determinations	CONTRAVENING PCV	
		number	%
Total coliform	2,311	0	0.00%
Fecal coliform	2,311	0	0.00%
Heterotrophic Plate Count	2,311	0	0.00%
Residual chlorine	2,311	0	0.00%
Color	2,311	82	1.26%
Turbidity	2,311	0	0.00%
pH	2,311	0	0.00%
taste	2,311	0	0.00%
odor	2,311	0	0.00%
aluminum	2,311	0	0.00%
iron	2,311	0	0.00%
manganese	2,311	0	0.00%
hardness	2,310	0	0.00%
chloride	383	0	0.00%
sodium	226	0	0.00%
sulfate	495	0	0.00%
total dissolved solids	494	0	0.00%
antimony	30	0	0.0%
arsenic	30	0	0.0%
boron	30	0	0.0%
cadmium	30	0	0.0%
chromium, total	30	0	0.0%
cyanide, total	30	0	0.0%
fluoride	29	0	0.0%
lead	30	0	0.0%
mercury	30	0	0.0%
nickel	30	0	0.0%
nitrate	29	0	0.0%
nitrite	30	0	0.0%
selenium	30	0	0.0%
benzene	33	0	0.0%
1,2- dichloroethane	33	0	0.0%
1,2- dichloroethene	33	0	0.0%
ethyl benzene	33	0	0.0%
tetrachloroethane	33	0	0.0%
trichloroethane	33	0	0.0%
toluene	33	0	0.0%
xylene	33	0	0.0%
aldrin & dieldrin	29	0	0.0%

Table W4 SUMMARY OF WATER QUALITY AT THE TREATMENT PLANT/ WTWs

PARAMETER	Total no. of determinations	CONTRAVENING PCV	
		number	%
heptachlor & heptachlor epoxide	30	0	0.0%
bromate	33	0	0.0%
bromoform	33	0	0.0%
dibromodichloromethane	33	0	0.0%
bromodichloromethane	33	0	0.0%
chloroform	33	0	0.0%
SUM	34,783	82	0.24%
TOTAL NUMBER OF DETERMINATIONS		34,783	
- with no exceeding PCV		99.76%	
NUMBER OF TREATMENT PLANTS/ WORKS		28	
- With exceeding PCV		3	
- % with no exceeding PCV		89%	

Table W5.c SUMMARY OF WATER QUALITY IN THE DISTRIBUTION SYSTEM/ SUPPLY ZONE

PARAMETER	Total no. of detns	CONTRAVENING PCV	
		number	%
Total coliform	10,514	0	0.00%
Fecal coliform	10,514	0	0.00%
Heterotrophic Plate Count	10,514	0	0.00%
Residual chlorine	10,514	0	0.00%
Color	803	0	0.00%
Turbidity	803	0	0.00%
pH	803	0	0.00%
taste	803	0	0.00%
odor	803	0	0.00%
aluminum	803	0	0.00%
iron	803	0	0.00%
manganese	803	0	0.00%
hardness	34	0	0.00%
copper	344	0	0.00%
potassium	63	0	0.00
zinc	344	0	0.00%
antimony	148	0	0.00%
arsenic	46	0	0.00%
boron	108	0	0.00%

cadmium	344	0	0.00%
chromium, total	344	0	0.00%
lead	330	0	0.00%
mercury	46	0	0.00%
nickel	148	0	0.00%
benzene	41	0	0.00%
PAHs	41	0	0.00%
benzo-a-pyrene	41	0	0.00%
toluene	41	0	0.00%
xylene	41	0	0.00%
Number of determinations	51,895	0	
- with no exceeding PCV	100.00%		
Number of Supply Zones	n/a		
- with exceeding PCV	0		
- with no exceeding PCV	0%		
- with sampling shortfall	phase-in		
- without sampling shortfall	phase-in		

SEWERAGE + SANITATION (S)

A-7.0 KPI-S1 Sewerage Connections

For KPI-S1, the unit of measure is the number of Domestic Sewer Connections of which:

No. of Domestic Sewer Connections = Res'l + Semi-business + Urban Poor

- (Bulk meter = 1 connection as Water Service)
- (From Thames Report)

KPI Table S1a. Annual New Domestic Sewer Connection Targets

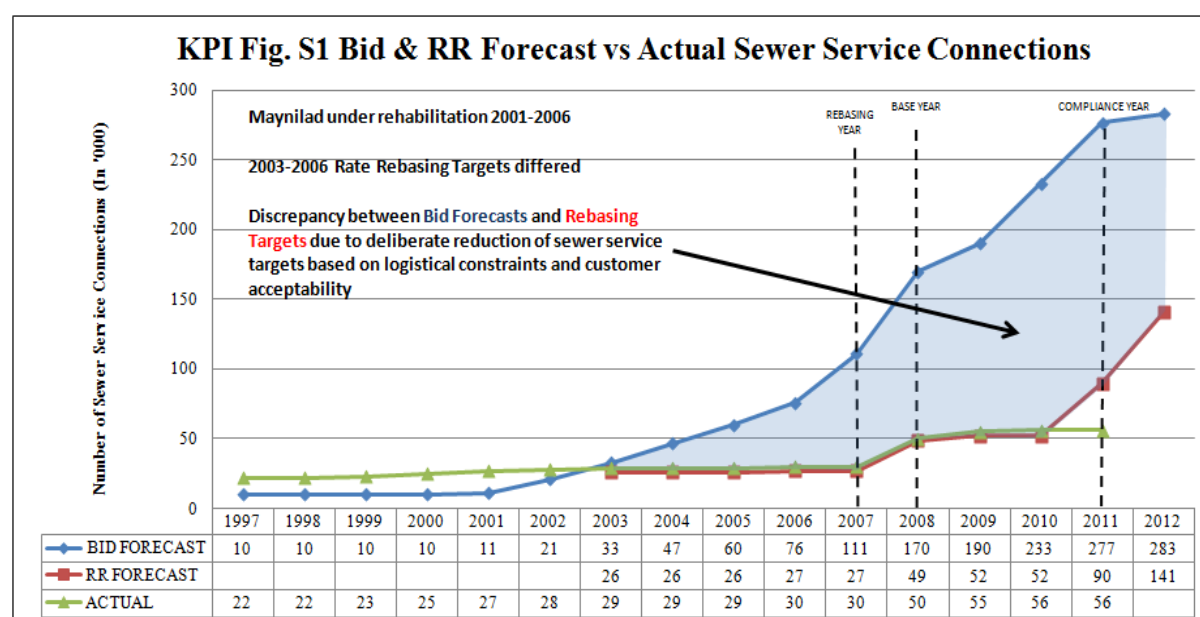
Base Year Adjusted from 2007 to 2008

Indicators	2008	2009		2010		2011		2012	
	Base	Target	Actual	Target	Actual	Target	Actual	Target	Actual
New Domestic Sewer Connections (S1)	50,284	1000	4,245	1000	1,022	37,770	1,512	51,871	
Cumulative Sewer Connections		51,284	54,529	52,284	55,551	90,054	57,063	141,925	

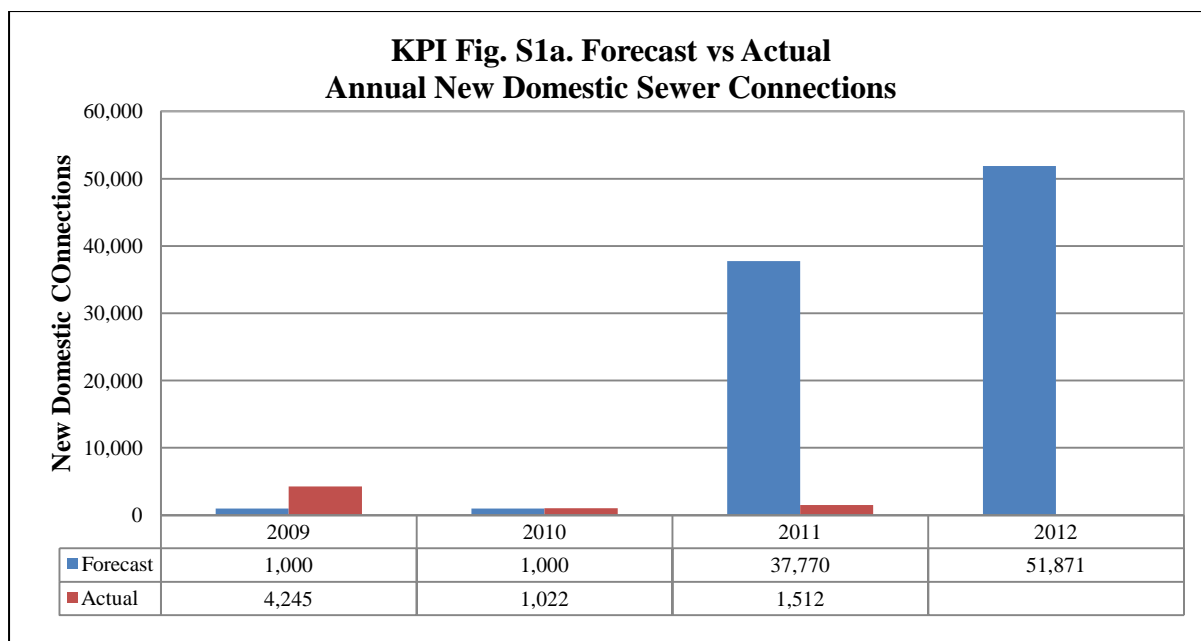
Sources: *Maynilad 2008 Business Plan & MWSI Service Performance Information January- August 2009 and KPI+BEM Report Cards for 2009 -December 2011*

Notes: Re-adjustment of Base Year Sewer Service Connections from 38,991 (as reported in 2010 MWSS-RO KPI Evaluation) to **50,284**. The figure **38,991** was based on MWSS-RO tabulations from Service Performance Information Reports (SPI) 1997-August 2009, when MWSI adopted the Key Performance Indicator (KPI) format in 2009, succeeding monthly reports indicate **50,284** to be the base figure for Year 2008. MWSI is yet to submit the City/Municipal breakdown of their sewer service connections.

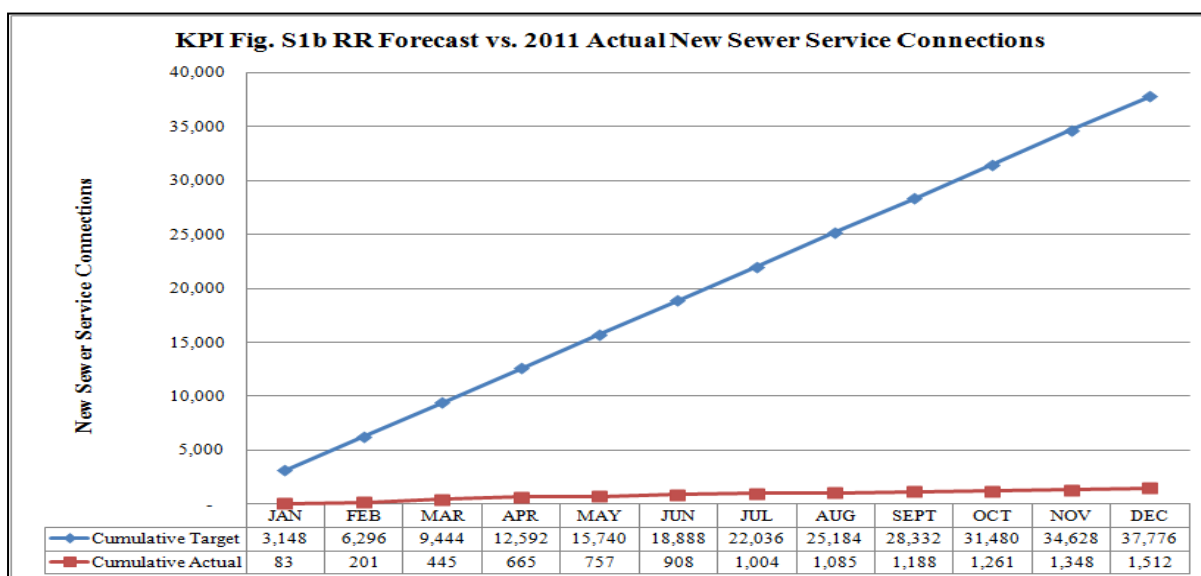
As per MWSI 2008 Business Plan: Sewer Service Connection Target for 2008-2011 is at **39,770** (1,000 for 2009 +1,000 for 2010+ 37,770 for 2011) while target for 2012-2016 is at **259,354** (51,871 annual target from 2012-2016).



Sources: *MWSI 2008 2nd Rate Rebasing Business Plan, Service Performance Information January- August 2009 and KPI+BEM Report Cards September 2009-December 2011*



Tracking of New Sewer Connection Trend



Sources: MWSI 2008 2nd Rate Rebased Business Plan , and KPI+BEM Report Cards January-December 2011

Sewer Service Connection Trend

KPI Figure S1 illustrates Maynilad's performance with respect to the BID Forecast from 1997 to 2007 and with the Rebased Forecast from 2009 to compliance year 2011. Rate rebasing Forecasts for 2003 to 2007 are shown only to illustrate the deliberate reduction of sewer service targets based on MWSS BOT Resolution No. 512-2001 dated October 12, 2001.

Maynilad's accumulated sewer service connections from 1997 to compliance year 2001 exceed the Bid Forecast at 27,000 vis a vis 11,000.

Unlike water service, the expansion of sewer service requires more intensive civil work and planning, this entails the following:

- a. the extension and interconnection of separate sewer lines requiring massive excavations in the metropolitan area.
- b. land acquisition for the construction of additional Treatment Plants and the requisite access to receiving bodies of water.

These factors contribute greatly to customer affordability and as such make the cost of sewer service connection and the subsequent charges prohibitive for the customer outside the sewered areas.

Prior to the first rate rebasing of 2002, the MWSS Board of Trustees approves the reduction of Sewer Service Coverage Targets citing logistical constraints and customer acceptability as the impetus.

MWSS Board of Trustees under Board Resolution No. 512-2001 dated October 12, 2001 to wit:

“3. The MWSS exercises its option to implement general rate rebasing on January 2003 and in connection therewith shall:

*3.1 Enter into an agreement with MWCI within ninety (90) days from the effectivity of the amendments to the Concession Agreement, covering the action plan relating to service targets including **sewerage** and **water** service targets to take into accounts such factors as: (a) sewer extension; (b) customer affordability; (c) magnitude of the works in the streets of the East Zone and (d) absence of appropriate legislation to enforce the obligation to connect. ”*

KPI Figure S1 show Maynilad's reduced sewer targets under the first rate rebasing forecasts (which was deferred in lieu of Maynilad undergoing rehabilitation) alongside the original Bid Forecast and Actual connections for the period 2003-2007. With respect to the Bid Forecast, minimal new sewer service connections (1,000 connections) have been implemented by MWSI within said period with virtually no increase from 2003 to 2005 and 2006 to 2007.

The table below shows Maynilad's revised sewer and sanitation targets in their 2008 Approved Business Plan for the Second Rate Rebasing.

	Original CA Target 2011	BP 2008 Target 2011
Sewerage	21%	11%
Sanitation	43%	45%
Total	64%	56%

The end of 2008 shows MWSI with **50,284** sewer service connections barely exceeding the forecasted **49,000** sewer service connections under the schedule of reduced targets.

In the same year, Maynilad undergoes Rate Rebasing wherein the resulting Business Plan outlined the implementation of a total of **39,770** new sewer service connections from 2009 to 2011 (see **KPI Table S1a.**). This forecasts the number of sewer service connection to be **90,054** at the end of compliance year 2011.

From 2009 to 2011, Maynilad has implemented a total of **6,799** new sewer service connections which is **32,991** deficient of the Rebasing Target of **39,770** new sewer service connections.

The end of compliance year 2011 shows Maynilad with a total of **57,063** sewer service connections against the Rebasing Forecast of **90,054**.

2008-2037 Term Extension and Accelerated Sewer Service Targets (Combined Systems)

The passage of the clean water act in 2004 and the issuance of the Supreme Court Mandamus with regard to the Manila Bay Clean-up in 2008, resulted in a 15 year extension of the Concession Agreement. Specifically, the term extension would focus on the expansion and acceleration of sewer service coverage and targets, respectively. The details and schedules of the accelerated sewer program are yet to be finalized and will be made available in succeeding rebasing exercises. However, for this report, the reduced sewer coverage targets still hold until the 2011 Compliance Year.

KPI-S1 Evaluation

- Against the annual target of **37,770**, Maynilad managed to connect merely **1,512** new sewer service connections leaving a gap of **32,991** sewer connections at the end of 2011.
- Working with higher monthly targets for 2011 (**3,039** sewer connections/month), compared to 2009 and 2010 (**1,000** sewer connections/month), Maynilad's monthly average of **152** sewer connections was not able to deliver the additional **32,991** sewer connections to meet the 2011 target of **37,770** (see KPI Fig. S1b, 2011).
- As of December 2011, Maynilad's sewer service connections number **57,063** separate sewer service connections concentrated in the West Zone's sewered areas.
- At **57,063** sewer service connections under the separate system, Maynilad's sewer service coverage was computed to be **9%** of water served population in the West Service Area or a service population of **664,063**.
- At **9%** coverage for compliance year 2011, Maynilad is **3%** or **32,991** sewer service connections short of meeting the **11%** target in the 2008 Business Plan.
- Maynilad faces higher sewer service connection targets for the period 2012-2016 at an annual target of **51,871** new connections see KPI Table S1a.

Aside from the **4,237** new sewer connections from the take-over of the Alabang Sewage Treatment Plant ("ASTP") in Ayala Alabang in August of 2009, the other **2,542** sewer accomplishments for the period in review (**2009-2011**) represent either new sewer/water connections or existing water accounts upgraded with sewer service.

Collection and treatment of wastewater from these new connections are governed by Maynilad's existing separate Sewerage System namely:

- a. The Central Manila Sewerage System
- b. The Dagat-dagatan Sewage and Septage Treatment Plant
- c. And the Alabang Sewage Treatment Plant

It was noted in Maynilad's December 2011 KPI+BEM Report that the commissioning of the Paco conveyance project (in the Central Manila Sewerage System) before the end of 2011 would yield an additional **2,665** sewer service accounts. This would represent Maynilad's initial accomplishments under the Combined Sewer Service or "CSS". However, completion of said project and activation of aforementioned sewer accounts would probably commence in Rebasing Year 2012.

It is assumed given these facts, that no other significant city/municipal expansion of the separate sewer service was undertaken from 2009 to 2011.

Maynilad's sewer service accomplishment registered merely a **1%** growth from 2009 to compliance year 2011. This percentage represents **6,779** new sewer service connections or an additional population of **138,696**. This brings the running total of sewer service connections at the end of 2011 to **57,063** or a sewer service population of **664,063** against a water served population of **7.9M**.

It is assumed that Maynilad will meet the **32,991** sewer service connection deficiency in the succeeding years during the implementation of the business plan for the third rate rebasing wherein the concessionaire is set to undertake the implementation of the Combined Sewer Service (CSS).

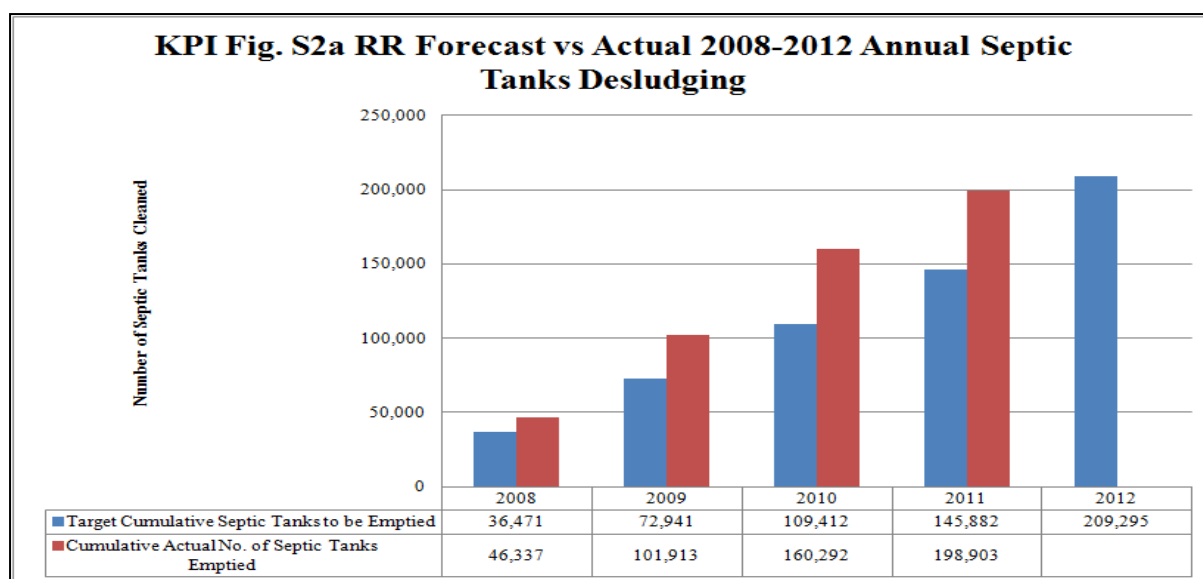
A-8.0 KPI-S2 Sanitation

KPI Table S1a. Annual Septic Tanks Desludging

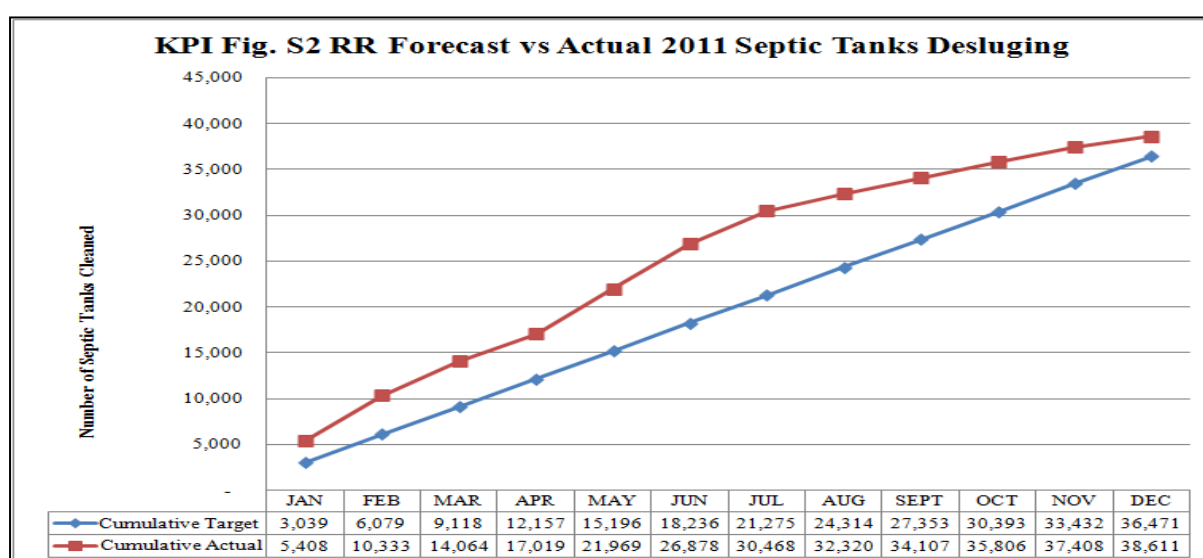
	2008	2009	2010	2011	2012
Total No. of Septic Tanks to be Emptied from 2009-2011 Period	*153,559				
No. of Septic Tanks to be Emptied	38,390	38,390	38,390	38,390	66,750
Target % Requirement	95%	95%	95%	95%	95%
Target No. of Septic Tanks to be Emptied	36,471	36,471	36,471	36,471	63,413
Target Cumulative Septic Tanks to be Emptied	36,471	72,941	109,412	145,882	209,295
Actual No. of Septic Tanks Emptied	46,337	55,576	58,379	38,611	
Cumulative Actual No. of Septic Tanks Emptied	46,337	101,913	160,292	198,903	
% Accomplishment to Date to 2011 Target	32%	70%	110%	136%	

Sources: MWSI 2008 2nd Rate Rebasing Business Plan, Service Performance Information January- August 2009 and KPI+BEM Report Cards September 2009-December 2011

Note: *153,559: 2008-2011 Target Number of Septic Tanks adjusted as per MWSI October 28, 2008 Submission (Reported as 246,361 in 2010 MWSS-RO's MWSI KPI Evaluation)



Sources: MWSI 2008 2nd Rate Rebasement Business Plan, Service Performance Information January- August 2009 and KPI+BEM Report Cards September 2009-December 2011



Sources: MWSI 2008 2nd Rate Rebasement Business Plan and KPI+BEM Report Cards January-December 2011

KPI-S2 Evaluation

KPI Table S2. Annual Septic Tanks Desludging shows Maynilad's compliance with the schedule of septic tanks desludgings from 2009 to 2011. The concessionaire offers desludging services all year round through schedules per city/municipality and by individual requests from water service subscribers.

A total of **145,882** or 95% of **153,559** septic tanks was scheduled to be desludged from 2008 to 2011. In pursuit of this, an annual target of 36,471 septic tanks have been laid out from 2009 to 2011 (see KPI Table S2. Annual Septic Tanks Desludging). These annual targets represent the totality of septic tanks that the concessionaire has committed to clean through its **year-round sanitation service program**.

With a beginning balance of **46,337** septic tanks cleaned in 2008 and concluding with a total of **198,903** in 2011, MWSI has exceeded the target number of septic tanks to be desludged (145,882) by 36%.

For CY 2011:

- A total of **90,391** water service accounts were offered sanitation services from January to December. Out of this number, **44,125** accounts were served resulting in **38,611** septic tanks desludged at an average of **3,128** sts/month
- The **38,611** septic tanks desludged for the period in review exceeded the annual target of **36,471** Table KPI S2, Fig KPI S2a and KPI Fig S2 2011.
- With **38,611** in addition to the **160,292** S2 accomplishment of Maynilad in 2010, the running total of S2 accomplishment for compliance year 2011 is **198,903** septic tanks desludged. See Table KPI S2.
- As of the end of compliance year 2011, Maynilad with **198,903** S2 accomplishment has exceeded the **145,882** S2 target by **36%**.
- In terms of Sanitation Service Coverage, Maynilad reports a Sanitation Service Coverage of **48%**. This is the ratio of **3.7M** population served by sanitation since 2007 and the **7.9M** water served population for 2011.

From January 2009 to December 2011, Maynilad offered septic tank cleaning services to a total of **323,968** water service accounts in the West Service Area. A total of **166,009** water service accounts availed of the offered sanitation services. This resulted in a total of **152,566** septic tanks cleaned from January 2009 to December 2011.

The **323,968** offered services from 2009-2011 contributed to a 27% increase in Sanitation Service Coverage or an additional 2.2M population served from 2009-2011.

As of the end of 2011, Maynilad reports a cumulative population of **3.7M** served by sanitation since 1997. In the context of the 7.9M population served by water, this represents a Sanitation Service Coverage of **48%** for Compliance Year 2011. Maynilad's sanitation service coverage for compliance Year 2011, meets and exceeds their 2009 Business Plan Target of **45%**.

Sanitation Services	2008	2009	2010	2011
Offered Services	119,600	126,417	107,160	90,391
Served Accounts	49,598	58,108	63,776	44,125
Tanks Desludged	46,337	55,576	58,379	38,611

A.9.0 KPI-S3 WASTEWATER EFFLUENT STANDARD *(Monthly Report Card)*

The indicator measures the effectiveness of the sewage treatment function as carried out on the effluent from orthodox sewerage systems and community sewerage systems. As set in the KPI Guide Doc, each Regulatory sample is analyzed for five parameters, namely, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total coliforms (TC), total suspended solids (TSS) and oil & grease (O&G).

The indicator is based on the number of regulatory samples passing on the complete package of parameters, expressed as a percentage of the total number of samples. It is assessed monthly and is reported as their monthly or quarterly. Both Maynilad and MWSS RO test results count in the indicator assessment. In case of disagreement on the results resampling will take place to give a single agreed result for inclusion in the indicator. Original target for the indicator set in the KPI- BEMs formulated by UPecon and Thames Water International Services, Ltd. for MWCI in 2003 was set at 100%. Since a KPI Guide Doc on Wastewater Quality Monitoring similar to what is currently applied by MWCI is still for discussion with Maynilad, the original KPI set by Thames on wastewater quality shall be applied for Maynilad.

Table S3 found below summarizes the performance of Maynilad in 2010.

TABLE S3. SUMMARY OF WASTEWATER EFFLUENT STANDARDS

	Year 2010
Number of sewage treatment plants	3
- with sampling shortfall	0
- with no sampling shortfall	100%
- with < 100 % Performance	1
- with Satisfactory Performance (100 %)	67%
Performance	67%

KPI-S3 Evaluation

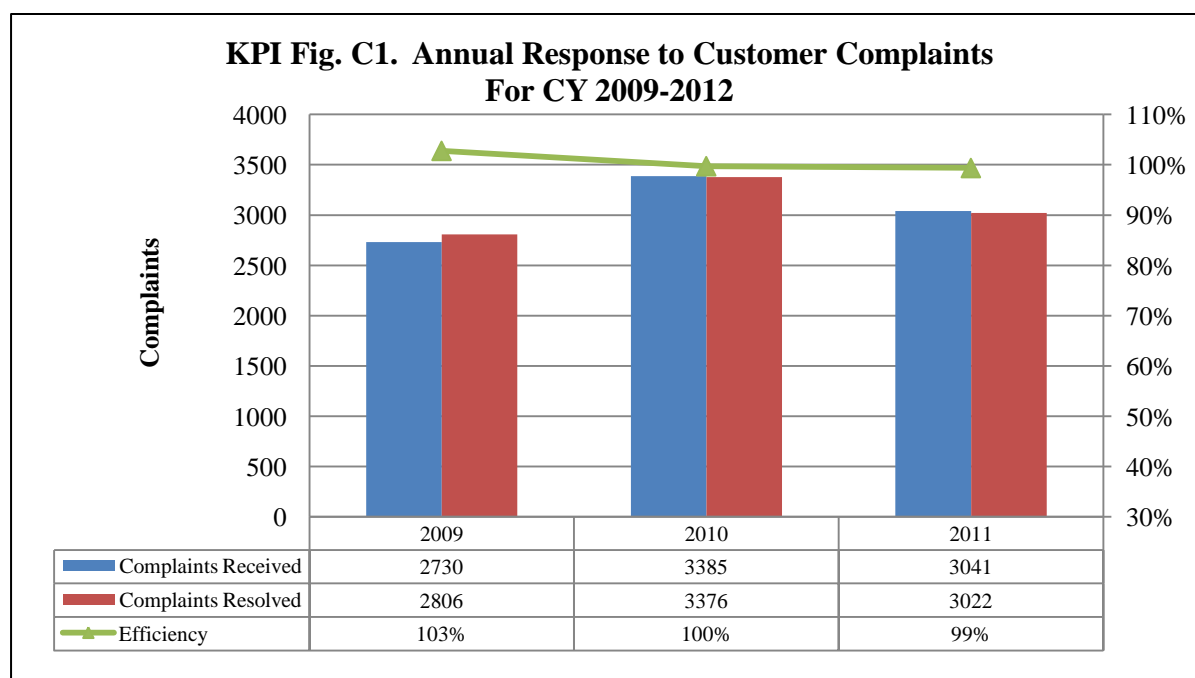
In 2011, Maynilad operated three (3) sewage treatment plants and this number excluded the Project 7 Imhoff Tank STP where the contract for the upgrading had just been awarded recently. The 3 STPs included in the evaluation are the Tondo STP, Dagat- dagatan and the Ayala STP. As shown in Table S3 above, Maynilad **failed** the KPI requirement of 100 percentage passing the effluent standards.

Of the 3 STPs Maynilad operated in 2011, 2, or 67%, failed the 100 percentage KPI requirements on wastewater effluent standards. In its May 2010 report, failures were demonstrated on the following basis:

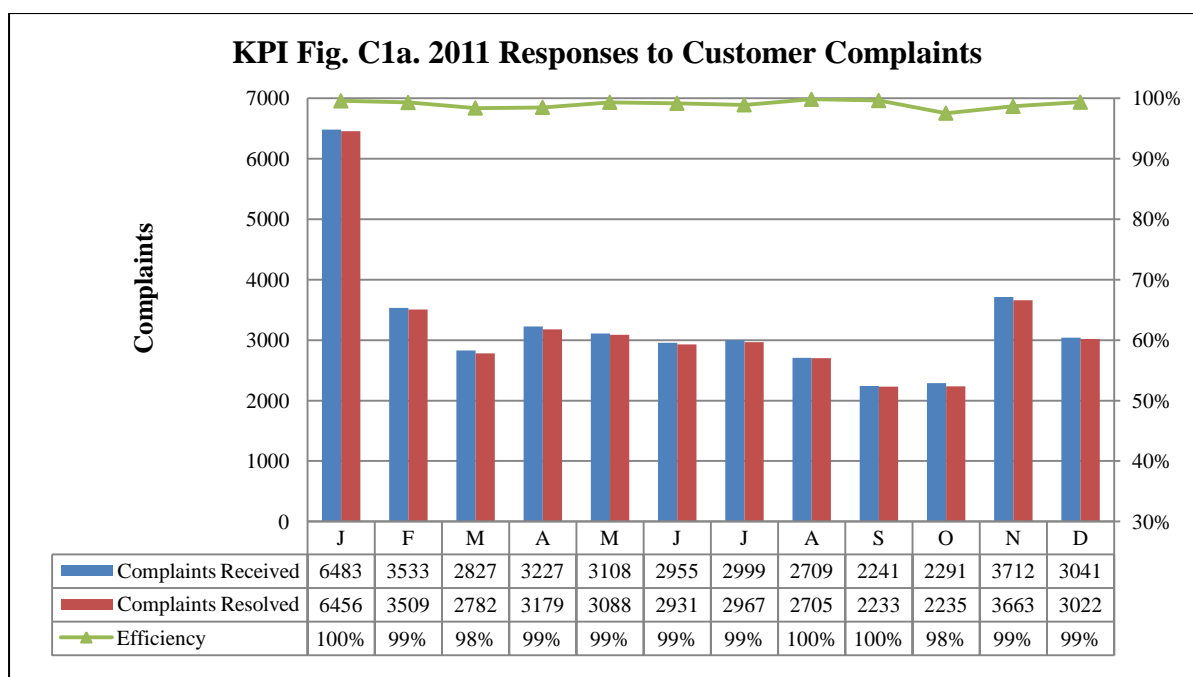
- Wastewater samples collected by MWSS RO at the Dagat-dagatan showed failure in COD on June 2011 and at the Tondo PS showed failure in COD on Mar and Jun 2011, respectively;

CUSTOMER SERVICE (C)

A-10.0 KPI-C1 Response to Customer Service Complaints



Sources : MWSI 2008 2nd Rate Rebasing Business Plan and KPI+BEM Report Cards September 2009-December 2011

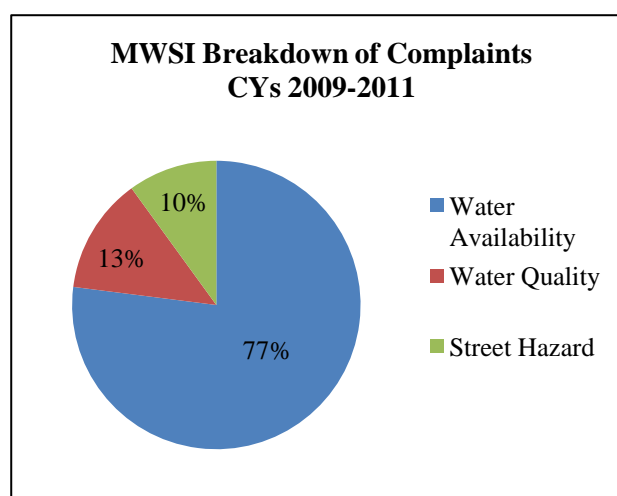


Sources : MWSI 2008 2nd Rate Rebased Business Plan and KPI+BEM Report Cards January-December 2011

KPI-C1 Evaluation

KPI C1 is the indicator which denotes complaints handling efficiency, the parameters for C1 are the number of complaints received per month and the number of complaints resolved within 10 days. Complaints handling efficiency is the ratio of complaints resolved within 10 days with the number of complaints received in a month through the concessionaire's Customer Service Information System (CSIS). As per the 2008 Business Plan, the standard for complaints handling efficiency rate is 95% of all service complaints received per month.

KPI Figure C1 above shows that Maynilad met the required performance with respect to the 95% standard handling efficiency on complaints resolution for CYs 2009 to 2011. Likewise, graph on the right shows the types of service complaints received for CYs 2009 to 2011. Coming from Maynilad's Customer Service Information System (CSIS), a total of 109,156 service complaints was registered during the period under consideration. Majority at 85,324 or 77% of these complaints were Water Availability and Pressure Related while 13% or 13,230 are Water Quality related. Only 10% or 10,602 of the total number of complaints received for the period in review was related to Street Hazards.



The categories of the types of service complaints are defined as follows:

1. **Water Availability and Pressure** - includes leaks that have affected the customers' water supply.
2. **Water Quality** - complaints pertaining to the quality of water from the consumer point of view.
3. **Street Hazard** - Reports of street leaks, open manholes, busted hydrants and complaints arising from civil works undertaken by the concessionaire, including unfinished site restoration.

A-11.0 KPI-C2 Response to Billing Complaints

Received by the Concessionaires (Data from the KPI Report)

The term 'billing complaints' refers to any written, telephone or direct contact with customers about billing issues.

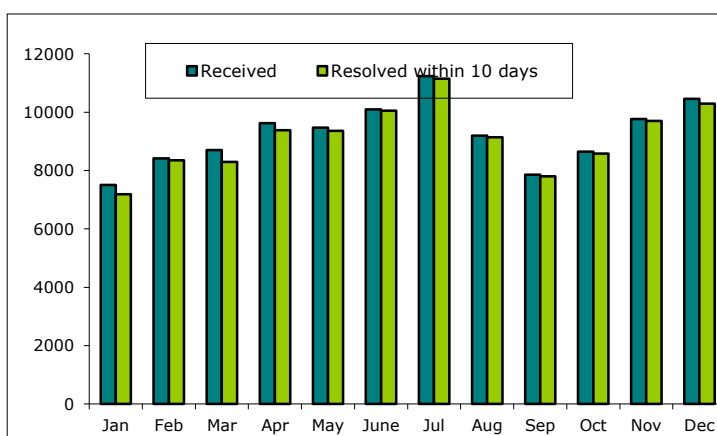
The speed on which the Concessionaires respond to billing complaints serves as the basis of the Regulatory Office in evaluating the performance of the Concessionaires on this respect.

Table below shows the number of billing including meter related complaints received and resolved by MWSI from January to December 2011.

	2011											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Balance (Previous Month)	-	-	-	-	-	-	-	-	-	-	-	-
Received (This Month)	7504	8414	8703	9628	9472	10101	11232	9195	7887	8648	9765	10454
Total	7504	8414	8703	9628	9472	10101	11232	9195	7887	8648	9765	10454
Resolved												
Within 10 days	7189	8354	8293	9381	9364	10050	11149	9143	7809	8582	9696	10290
Beyond 10 days	315	60	410	247	108	51	83	52	78	66	69	164
% Resolved w/in 10 days	95.6%	99.2%	95.3%	97.4%	98.9%	99.5%	99.3%	99.4%	99.0%	99.2%	99.3%	98.4%
Balance (This Month)	-	-	-	-	-	-	-	-	-	-	-	-

MWSI received a total of 111,003 in 2011, of which 109,300 or 98% were resolved within 10 days. This exceeded the 90% target.

Received by the MWSS Regulatory Office (Data from the CSR Database)



Below are data on billing and meter related complaints received in 2011 by the MWSS Regulatory Office (MWSS-RO) thru the Customer Service Regulation (CSR). Received complaints were endorsed to the concerned Concessionaires for appropriate action as part of the Standard Operating Policy (SOP). These include (1) application of average billing (2) rate classification (3) abrupt increase in consumption / excessive billing and (4) billing computation procedure, whereas meter related complaints include stolen meters along with defective meters, which consequently resulted also to billing complaints.

For MWSI, CSR received and endorsed a total of 48 complaints in 2011 plus 1 unresolved complaints in the previous year for an overall total of 49 billing and meter related complaints. Ninety two percent (92%) of these complaints were resolved with an average resolution time of 40 days, which was also more than the 10 days standard time set by the RO. This was inconsistent with MWSI's KPI report that majority (98%) of the received complaints were resolved within 10 days as shown in Table above.

	2011												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Balance (Previous Month)	1	2	6	4	5	4	5	4	3	9	6	5	1 ^a
Received (This Month)	2	6	5	5	4	3	5	4	6	6	1	1	48
Total	3	8	11	9	9	7	10	8	9	15	7	6	49
Resolved	1	2	7	4	5	2	6	3	-	9	2	2	45
% Resolved	33%	25%	64%	44%	56%	29%	60%	62%	-	60%	29%	33%	92%
Ave. Res. Time (in days)	30	32	14	27	87	15	33	26	-	51	25	87	40
Unresolved / Active	2	6	4	5	4	5	4	3	9	6	5	4	4
Ave Age of Unresolved	36	27	64	64	10	31	29	55	40	38	71	88	85

1^a-Balance from December 2010

- Based on the agreement with the Concessionaires, complaints resolved within the 10 days standard time, but which date of resolution fell outside the reference period were also included in the above data. This is to capture all complaints received during the reference period which were resolved within 10 days irrespective of the date of resolution.
- In order not to drastically affect the average resolution time of normal / regular complaints, above data from both Concessionaires exclude complaints concerning request for individual connections by Subdivisions and Peoples Organization (POs) and other policy related issues such as (1) request for the downgrading of rate classification of churches and housing quarters in military bases (2) refund of overpayment resulting from the delay in the implementation of IRR on the Billing Scheme for High-rise and other Multiple Dwellings and (3) reconnection fee for permanently disconnected water connection received by CSR since these require much longer resolution time. These complaints comprised 16% of the total billing complaints received by CSR from MWSI customers in 2011.

A-12.0 KPI-C3 Response to Request for New Connections

This indicator measures the concessionaires' compliance with respect to response time to customers' request for new service connection from the date of application up to the issuance of notification to the customer of the proposed connection charge as provided under Article 9.5.1 of the Concession Agreement (CA).

- MWSI received a total of 112,633 applications for new water service connection during the period-in-review of which 111,808 or 99% were responded within the 5 days standard time.

	2011												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Balance (Previous Month)	-	-	-	-	-	-	-	-	-	-	-	-	-
New application received	6370	6843	8006	20238	17342	7309	8645	9201	9583	7781	6992	4323	112633
Total													
New application responded and communicated w/in 5 days	6327	6746	7929	20186	17252	7234	8584	9131	9507	7718	6936	4258	111808
% Responded	99.3	98.6	99.0	99.7	99.5	99.0	99.3	99.2	99.2	99.2	99.2	98.5	99.3
Balance (This Month)	-	-	-	-	-	-	-	-	-	-	-	-	-

MWSI received a total of 68,091 applications for new service connection during the period-in-review of which 66,873 or 98% were responded within the 5 days standard time.

A-13.0 KPI-C4 Installation of New Water Service Connections

Article 9.5.1 of the CA further provides that such request for new connection shall be carried out by the concessionaires as promptly as maybe practicable following the customer's written acceptance of the proposed connection charge. Hence, this indicator measures the concessionaires' compliance with respect to waiting time for the installation of new service connection from the date of completion / submission of all pertinent documents and payment of connection fees by the customer.

	2011												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Balance (Previous Month)	-	-	-	-	-	-	-	-	-	-	-	-	-
Received applications for implementation	5521	5460	7391	7237	7566	5466	7790	8282	10046	4612	4656	17616	91643
New connection installed w/in 7 days	5362	5368	7160	7036	7329	5258	7668	8057	9819	4433	4542	17453	89485
% installed within 7 days to total applications for implementation	97.1	98.3	98.9	97.2	96.9	96.2	98.4	97.3	97.7	96.1	97.6	99.1	97.6
Total Installed (from W1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Balance (This Month)	-	-	-	-	-	-	-	-	-	-	-	-	-

W1	2011												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
New Regular connections (Billed)	5541	7676	8075	12639	7666	8261	11973	15967	11556	10428	12951	12449	125182

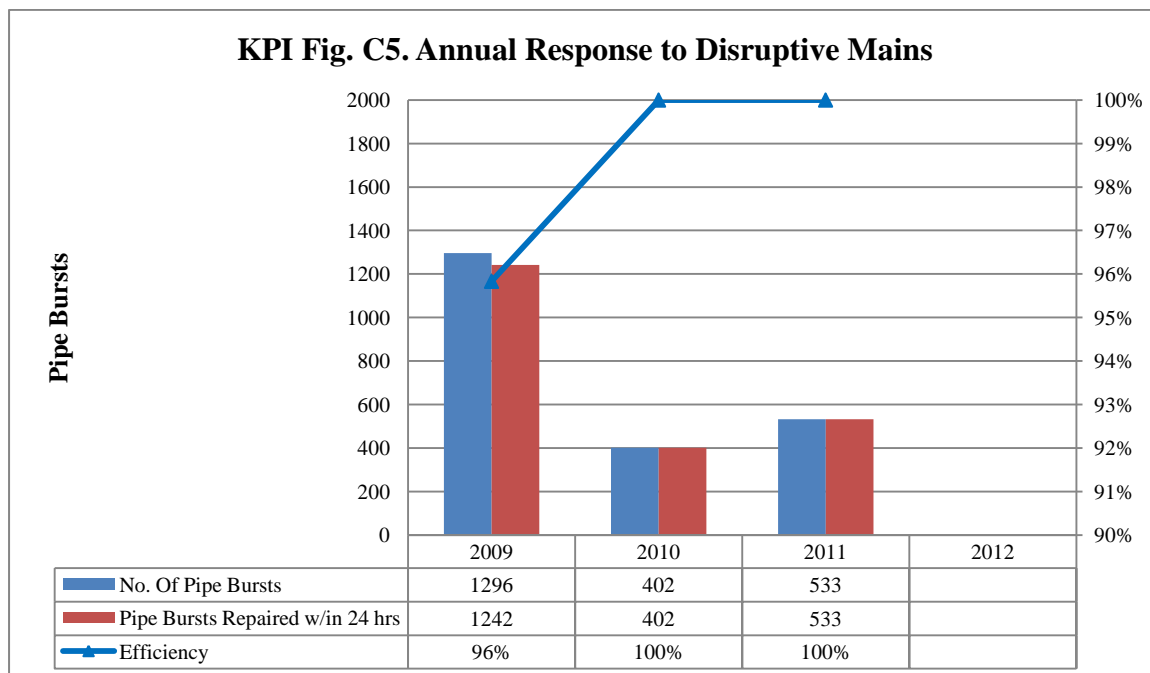
- A total of 89,485 new service connections were installed by MWSI within the 7 days standard time upon payment of connection fees and completion / submission of necessary documents. This represents 98% of the 91,643 total applications for implementation vis-à-vis the 95% target.
- A big discrepancy was observed in the December report of MWSI between the number of installed water connection of 12,449 as reported in W1 as against the number of installed connection within 7 days of 17,453 as reported in C4. Note that W1 pertains to billed connections while data in C4 pertains to the number of connections actually installed whether billed or still unbilled as of the end of the reference period.
- *Note that result of the 2011 PAWS survey disclosed that the average waiting time for the installation of a new connection after payment of required fees and completion / submission of all necessary documents is 23.62 days for MWSI (Refer to Section 2.2.1.4 of the PAWS Year V Report). This is much longer than the 7 days standard time and inconsistent with the KPI reports of both concessionaires in 2011 that majority of installed connections were done within 7 days.*

A-14.0 KPI-C5 Response to Disruptive Mains Failure

For KPI-C5, the unit of measure is % Repaired within 24 hours of reporting:

$$\% \text{ Repaired} = \frac{\text{No. of Repaired Disruptive Mains} * \text{Failure}}{\text{No. of Reported Disruptive Mains} * \text{Failure}} \times 100$$

Note: Mains greater than 300 mm are excluded in this KPI.



KPI Table C5. Response to Disruptive Mains Failure

	2011												YTD
	J	F	M	A	M	J	J	A	S	O	N	D	
Actual no. of pipe bursts	61	61	77	23	29	33	35	32	25	43	51	63	533
Actual no. of repaired within 24 hours	61	61	77	23	29	33	35	32	25	43	51	63	533
% Repaired within 24 hours	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100%

KPI-C5 Evaluation

As of EO December 2011, MWSI reported a total of 533 mainline bursts/leaks with diameter of up to 300 mm which were repaired within the required 24-hour regulatory standard. This translates to about 45 bursts per month in CY 2011 compared to 34 bursts per month in CY 2010.

As per MWSI report, out of the 533 reported mainline bursts/leaks, only 275 were confirmed with leaks and that out of the 275, 63 were with water service interruption. This means that the total number of pipe bursts for CY 2011 for mainlines 300 mm diameter and below is 212. It is worthy to note that said pipe bursts are predominantly recurring at the Fairview-Commonwealth Business Area where most of the pipes are still Asbestos Cement Pipes (ACPs).

KPI-C5 Response to Disruptive Mains Failure, as the term implies this performance indicator refers to pipe bursts with 300 mm diameter and below that should have been repaired by the Concessionaires within the 24-hour regulatory standard. Said performance indicator should not include reported pipe bursts which upon investigation have no leaks or with service interruption as the objective of such indicator is a measure of the Concessionaires' reaction time whether the 24-hour pipe bursts repair regulatory standard was complied with or not. Otherwise, said data would render futile and/or misleading for RO and most importantly for MWSI.

B. BUSINESS EFFICIENCY MEASURES

REVENUE AND COLLECTION/INCOME (IN)

B-1.0 BEM-IN1 Billed Volume

- Formula:

Monthly Actual as % Forecast

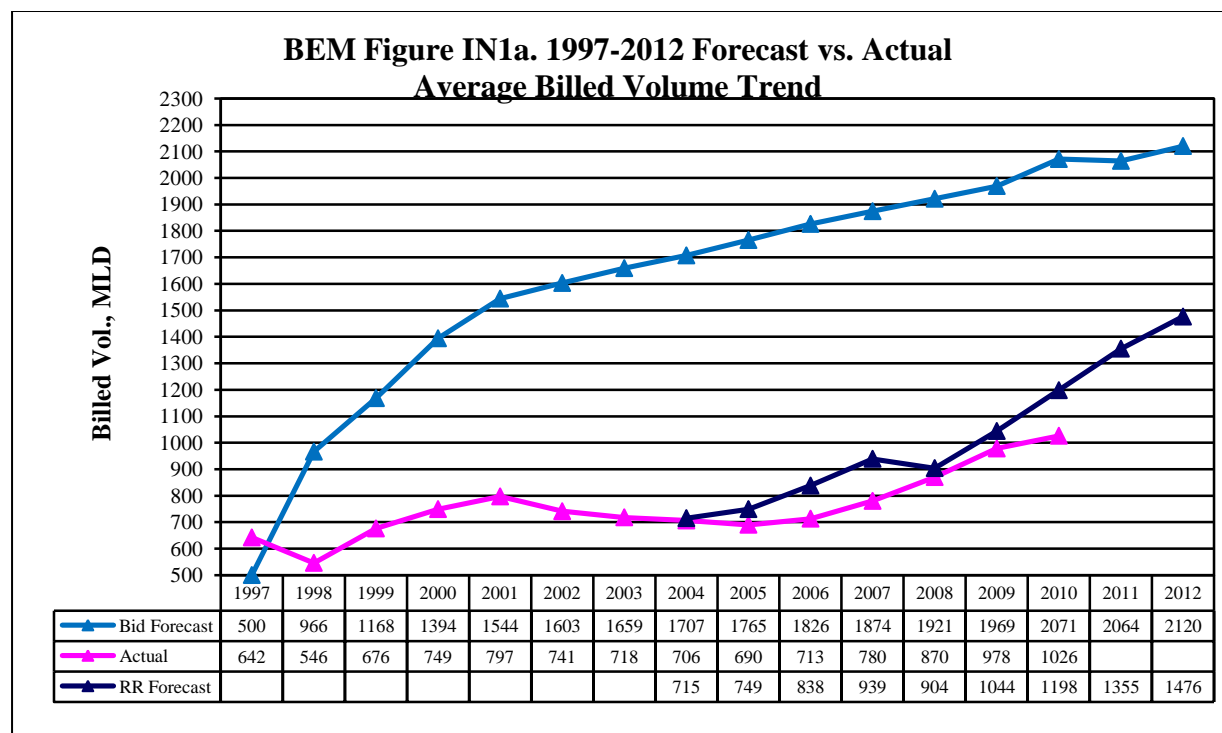
$$= \frac{\text{Actual Billed Volume}}{\text{Forecast Billed Volume}} \times 100$$

Cumulative Actual as % Forecast

$$= \frac{\text{Actual Cumulative Billed Volume}}{\text{Forecast Cumulative Billed Volume}} \times 100$$

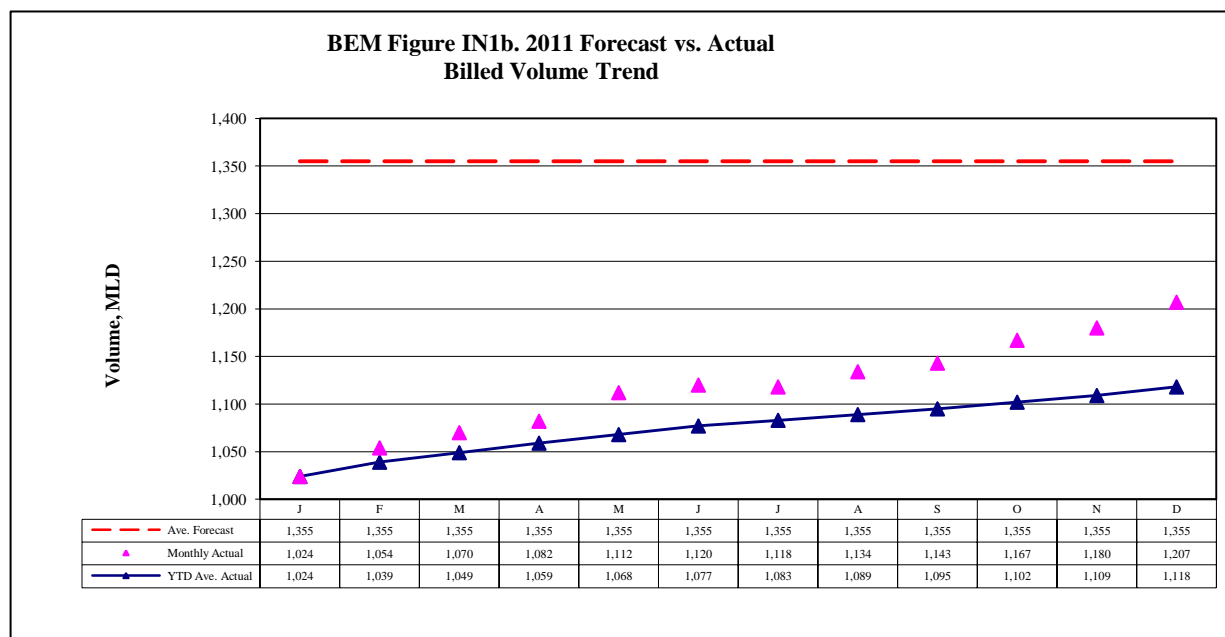
BEM Table IN1a. Annual Average Billed Volume Forecast* (MLD)

2008		2009		2010		2011		2012	
Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
904	870	1044	978	1198	1026	1355	1118	1476	



BEM Table IN1b. 2011 Monthly Billed Volume Forecast vs Actual (MLD)

	J	F	M	A	M	J	J	A	S	O	N	D	AYTD
Forecast	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355
Actual	1,024	1,054	1,070	1,082	1,112	1,120	1,118	1,134	1,143	1,167	1,180	1,207	
Monthly Actual as % Forecast	75.57 %	77.79 %	78.97 %	79.85 %	82.07 %	82.66 %	82.51 %	83.69 %	84.35 %	86.13 %	87.08 %	89.08 %	
Cumulative Actual as % Forecast	75.57 %	76.68 %	77.44 %	78.04 %	78.85 %	79.48 %	79.92 %	80.39 %	80.83 %	81.36 %	81.88 %	82.48 %	



BEM-IN1 Evaluation

As of end-of December 2011, the actual average billed volume of MWSI is 1,118 MLD. Said average billed volume is 41 MLD higher than the average billed volume of 1077 MLD during the CY 2011. However, though the MWSI billed volume is on an upward trend, it is still 237MLD below the Concessionaire's target of 1,355 MLD.

In terms of total volume in million cubic meters (MCM), the total billed volume of the West Zone for CY2011 was registered at 408 MCM which is only around 82% or 87 MCM short of the CY 2011 forecast of 495 MCM. **This is in spite of the fact that the Concessionaire's performance in KPI-W1 almost doubled its target as the actual new service connections for the year under review is 92,015.**

Considering that the new service connection target was overshoot by almost 100%, it is expected that the billed volume shall also be outperformed. It is for this reason that there is a need to further scrutinize the nature of the new service connections as they may be new connections due to individualization of bulk meters rather than service coverage expansion.

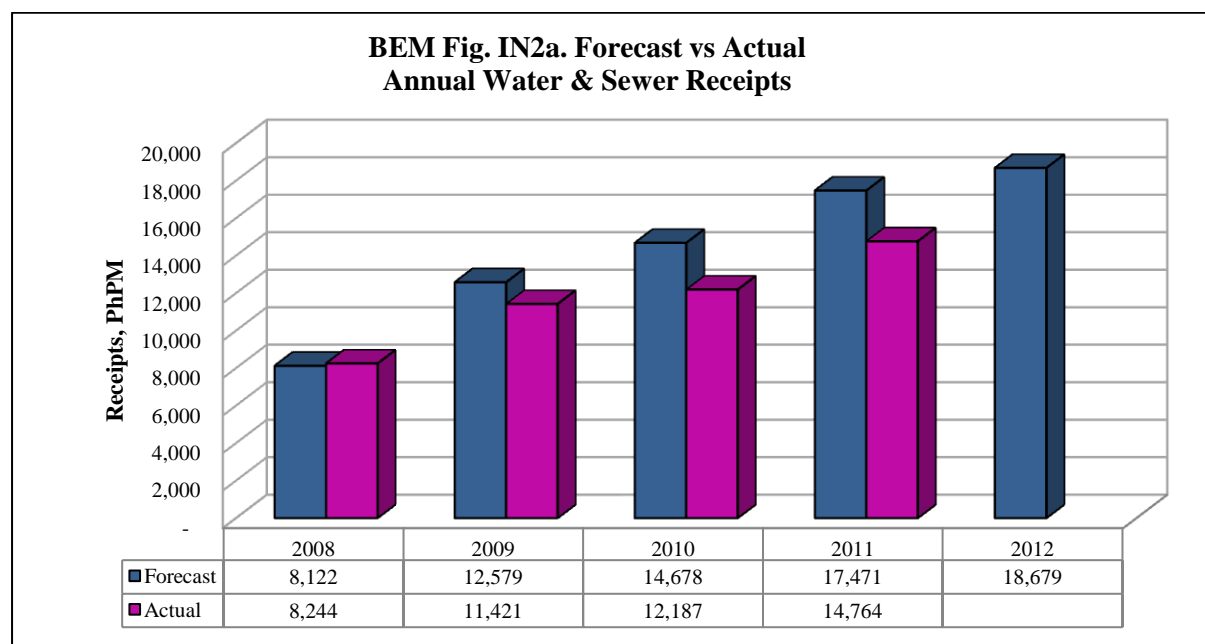
B-2.0 BEM-IN2 Revenue Collection Rate (Monthly Report Card)

Formula:

$$\% \text{ Collection Efficiency} = \frac{\text{Collection on Current Month Billings}}{\text{Current Month Billings}} \times 100$$

BEM Table IN2a. Annual Water and Sewer Receipts Forecast

2008		2009		2010		2011		2012	
Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
8,122	8,244	12,579	11,421	14,678	12,187	17,471	14,764	18,679	



The 2011 annual revenue target of Php17,471 as stated in the final 15-year concession extension Business Plan. This was adjusted by the C factor to be stated at 2011 prices.

BEM Table IN2c. 2011 Monthly Billing vs. Collection

		Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec
Current Collection (In P Million)	P	1130	1065	1230	1164	1269	1220	1269	1235	1285	1271	1265	1361
Current Billing (In P Million)	P	1092	1158	1260	1282	1305	1337	1325	1351	1375	1412	1429	1454
Collection Efficiency (Actual)		103.5%	92.0%	97.6%	90.8%	97.2%	91.2%	95.8%	91.4%	93.5%	90.0%	88.5%	93.6%
Collection Efficiency (Forecast)		95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
Year to Date (Actual)		103.5%	97.6%	97.6%	95.8%	96.1%	95.2%	95.3%	94.8%	94.6%	94.1%	93.6%	93.6%

Maynilad assumed in their term extension investment Plan a target collection efficiency of 95% until 2037.

BEM-IN2 Evaluation

Maynilad only collected P14,764 M in 2011 compared to its adjusted target of P17,471 M. There is a short fall of 15% or P2,707M.

The company posted a year-to-date collection efficiency of 93.6%; lower than the target of 95%.

Year-to-date collection is P14,764M while year to date billing is P15,780M, still P206.7 M short of the 95% target collection.

OPERATIONAL EXPENDITURES (OP)

B-3.0 BEM-OP1 Labor (Monthly Report Card)

Formula:

Monthly Actual as % Forecast

$$= \frac{\text{Actual Monthly Personnel Cost}}{\text{Forecast Monthly Personnel Cost}} \times 100$$

Cumulative Actual as % Forecast

$$= \frac{\text{Actual Cumulative Personnel Cost}}{\text{Forecast Cumulative Personnel Cost}} \times 100$$

BEM Table OP1a. Annual Personnel Cost Forecast*

2008	2009	2010	2011	2012
1,310	1,479	1,657	1752	

*Maynilad 2008 extension investment plan in Million Pesos, at 2008 prices

- The 2011 forecast is adjusted to reflect changes in prices from 2008 to 2010 by using the 2009 and 2010 average increase in CPI. The adjusted personnel cost target for 2010 is Php1,752 million in 2011.
- Monthly Personnel Cost per month was derived by dividing the adjusted annual amount of P 1,752 million forecast for 2011 by 12 months, thus, Php145.98 million monthly.

BEM Table OP1b. Labor Forecast vs Actual

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Headcount (Forecast)		2468	2468	2468	2468	2468	2468	2468	2468	2468	2468	2468	2468
Headcount (Actual)		2170	2216	2214	2232	2254	2112	2122	2128	2148	2183	2205	2203
Personnel Cost (Forecast)(In P M)	P	145.98	145.98	145.98	145.98	145.98	145.98	145.98	145.98	145.98	145.98	145.98	145.98
Personnel Cost (Actual) (In P M)	P	100.69	95.68	108.28	149.33	159.15	379.49	126.73	116.91	117.52	116.23	124.41	88.72
Monthly Actual as % of Forecast		69.0%	65.5%	74.2%	102.3%	109%	259.9%	86.8%	80.1%	80.5%	79.6%	85.2%	60.8%
Cum. Actual as % of Forecast		69.0%	67.3%	69.6%	77.7%	84.0%	113.3%	109.5%	105.9%	103.0%	100.7%	99.3%	96.1%
Personnel Cost/Head (Forecast)	P	59,149	59,149	59,149	59,149	59,149	59,149	59,149	59,149	59,149	59,149	59,149	59,149

Personnel Cost/Head (Actual)	P	46,401	43,177	48,907	66,904	70,608	179,654	59,722	54,939	54,711	53,423	56,422	40,272
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BEM-OP1 Evaluation

As of the end of 2011 Maynilad actually spent P1,683.08M for labor out of the targeted expenditure P1,752M. The company saved about 4% which translates to P68.69M. This was due to lower number of personnel during the year.

The actual personnel cost per head during the year in review was generally lower than the target except during the months of April, May and June.

The company projected a ratio of 2.7 personnel per 1000 connections while the actual ratio was only 2.3 personnel per 1,000 connections. This means that Maynilad's personnel had become efficient in the performance of their functions during the year.

B-4.0 BEM-OP2 Power (Monthly Report Card)

Formula:

Monthly Actual as % Forecast

$$= \frac{\text{Actual Monthly Power Cost}}{\text{Forecast Monthly Power Cost}} \times 100$$

Cumulative Actual as % Forecast

$$= \frac{\text{Actual Cumulative Power Cost}}{\text{Forecast Cumulative Power Cost}} \times 100$$

BEM Table OP2a. Annual Power Cost Forecast*

2008	2009	2010	2011	2012
410	496	646	739	806

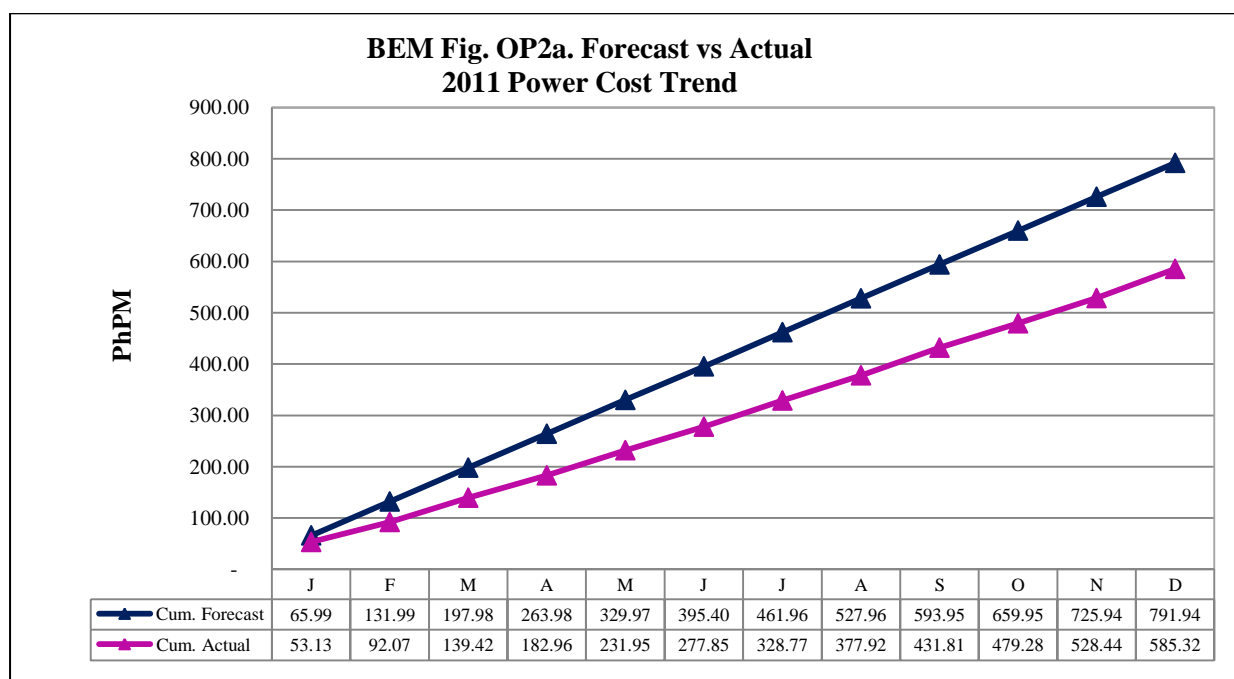
*Maynilad extension Investment Plan in Million Pesos, at 2008 prices

- The 2011 forecast is adjusted to reflect changes in prices from 2008 to 2010 by using the 2009 and 2010 average increase in the CPI. The adjusted power cost target for 2011 is Php791.94 million.
- Monthly Power Cost Forecast is derived by dividing the adjusted annual amount of Php646 million forecast for 2011 by 12 months which amounted to an average monthly power cost of 65.99 million.

BEM Table OP2b. 2010 Monthly Power Cost Forecast vs Actual

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Power Cost (Forecast)(In P M)	P	65.99	65.99	65.99	65.99	65.99	65.99	65.99	65.99	65.99	65.99	65.99	65.99
Power Cost (Actual)	P	53.13	38.94	47.35	43.54	48.99	45.90	50.92	49.15	53.89	47.47	49.16	56.88

(In P M)													
Monthly Actual as % of Forecast		80.5%	59.0%	71.7%	66.0%	74.2%	69.6%	77.2%	74.5%	81.7%	71.9%	74.5%	86.2%
Cum. Actual as % of Forecast		80.5	69.8%	70.4%	69.3%	70.3%	70.2%	71.2%	71.6%	72.7%	72.6%	72.8%	73.9%



BEM-OP2 Evaluation

On an annual basis, the company has targeted a cost of P791.94 M for the year 2011. However it has been efficient in power consumption and spent only P585.32 M as of the end of the year, this means a saving of about 26% on the power which translates to P206.69 M.

Maynilad's consumed a total 76.70 million Kwh in 2011 which is lower than their projected power consumption of 109.49 million Kwh, or a 30% savings on consumption. Thus the savings of the company on power expenditure was due to lower actual power consumption as compared to the targets.

B-5.0 BEM-OP3 Total Controllable OPEX

Formula:

Monthly Actual as % Forecast

$$= \frac{\text{Actual Monthly Total Operating Expenses}}{\text{Forecast Monthly Total Operating Expenses}} \times 100$$

Cumulative Actual as % Forecast

$$= \frac{\text{Actual Cumulative Total Operating Expenses}}{\text{Forecast Cumulative Total Operating Expenses}} \times 100$$

BEM Table OP3a. Annual Total Controllable Operating Expense (Cash Items exc. Interest Expense) Forecast*

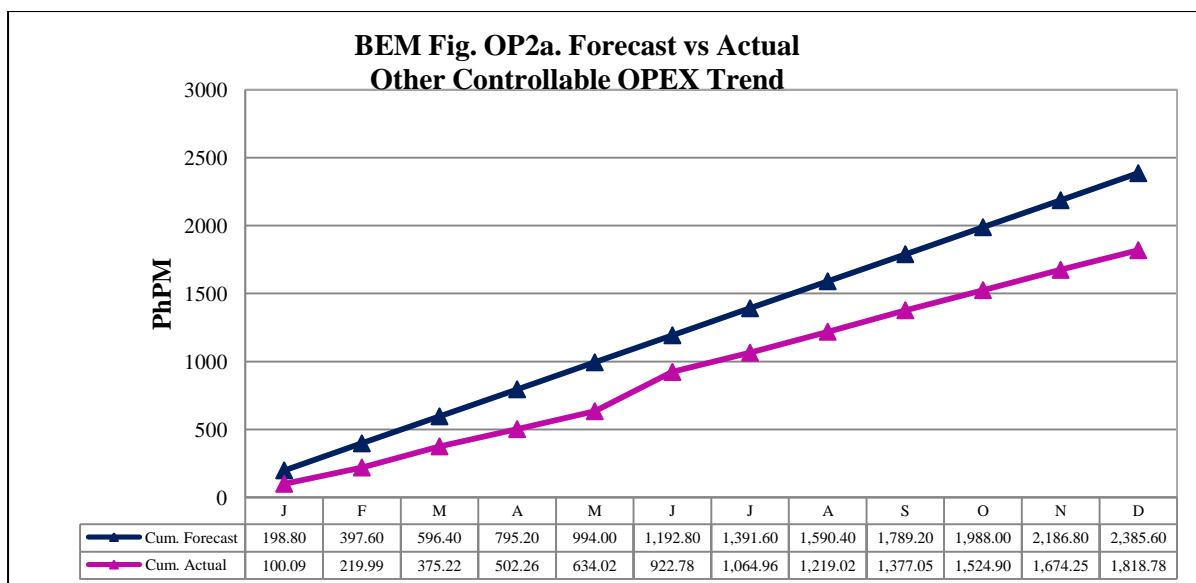
2008	2009	2010	2011	2012
1,540	1,775	2,148	2,385.6	1,883

*Maymilad term extension investment Plan in Million Pesos, at 2008 prices

- The 2011 forecast is adjusted to reflect changes in prices from 2008 to 2010 by using the 2009 and 2010 average increase in CPI. The adjusted other controllable operating expense target for 2010 is Php2,385.6 million.
- Monthly other controllable Operating Expenses forecast is derived by dividing the adjusted annual amount of Php2,385.6 million forecast for 2011 by 12 months which amounted to an average monthly other controllable Operating Expenses of Php198.8 million.
- Total other controllable Operating Expenses does not include personnel and power cost, non-cash expenses and non-controllable expenses (i.e. MWSS annual budget and taxes and licenses).

BEM Table OP3b. Monthly Total (Other) Controllable Operating Expense Forecast vs Actual

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Controllable OPEX (Forecast)(In P M)	P	198.8	198.8	198.8	198.8	198.8	198.8	198.8	198.8	198.8	198.8	198.8	198.8
Controllable OPEX (Actual) (In P M)	P	100.9	119.9	155.23	127.04	131.76	288.76	142.18	154.06	158.03	147.85	149.35	144.53
Monthly Actual as % of Forecast		50.3%	60.3%	78.1%	63.9%	66.3%	145.3 %	71.5%	77.5%	79.5%	74.4%	75.1%	72.7%
Cum. Actual as % of Forecast		50.3%	55.3%	62.9%	63.2%	63.8%	77.4%	76.5%	76.6%	77.0%	76.7%	76.6%	76.2%



BEM-OP3 Evaluation

As of the end of 2011 Maynilad actually spent P1,819 for other controllable operating expenses out of the targeted expenditure P2,386 M. The company saved about 24% which translates to P567 M. This can be attributed to the lower actual cost all throughout the year compared to the monthly targets except in the month of June.

On annual basis the other controllable operating expense rose from P1,635M in 2010 to P1,819M in 2011 posting a relative percentage increase of 11.25% during the year in review.

CAPITAL EXPENDITURES (CA)

B-6.0 BEM-CA1 Total Capital Expenditure (Monthly Report Card)

Formula:

Monthly Actual as % Forecast

$$= \frac{\text{Actual Monthly Total Capital Expenses}}{\text{Forecast Monthly Total Capital Expenses}} \times 100$$

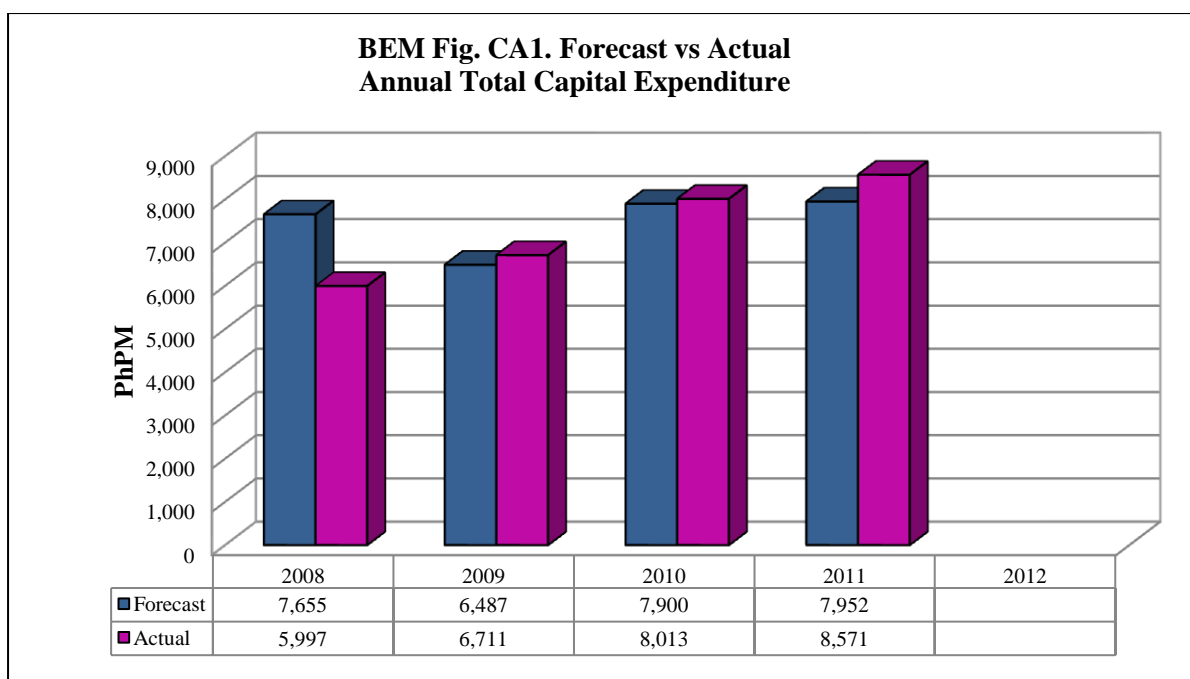
Cumulative Actual as % Forecast

$$= \frac{\text{Actual Cumulative Total Capital Expenses}}{\text{Forecast Cumulative Total Capital Expenses}} \times 100$$

BEM Table CA1a. Annual Total Concessionaire Capital Expenditure Forecast*

2008		2009		2010		2011		2012	
Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
7,655	5,997	6,487	6,711	7,900	8,013	7,952	8,571	6,487	

*Maynilad term extension investment Plan in Million Pesos, at 2008 prices



- The 2011 forecast is adjusted to reflect changes in prices from 2008 to 2010 by using the 2009 and 2010 average increase in CPI. The adjusted CAPEX cost target for 2011 is Php7,951.6 million.
- Monthly CAPEX forecast is derived by dividing the adjusted annual amount of Php7,951.6million forecast for 2011 by 12 months which amounted to an average monthly CAPEX disbursements of Php662.6 million.

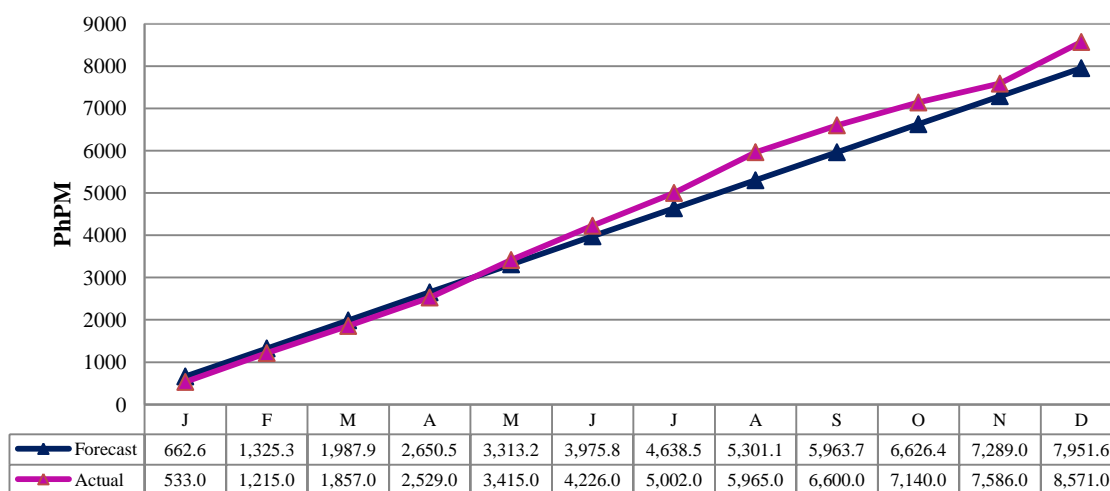
BEM Table CA1b. Monthly Capex Forecast vs. Actual

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Total Capex (Forecast)(In P M)	P	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6
Total Capex (Actual) (In P M)	P	553.0	682.0	642.0	672.0	886.0	811.0	776.0	863.0	735.0	540.0	446.0	985.0
Monthly Actual as % of Forecast		80.4%	102.9%	96.9%	101.4%	133.7%	122.4%	117.1%	130.2%	110.9%	81.5%	67.3%	148.6%
Cum. Actual as % of Forecast		80.4%	91.7%	93.4%	95.4%	103.1%	106.3%	107.8%	110.6%	110.7%	107.8%	104.1%	107.8%

On an annual basis, the capital expenditures of Maynilad Water Services, Inc. increased by 7% from last year's P8,013M to its current level of P8,571M.

Relative to the target CAPEX, the company has overspent 7.8 percent in 2011 which translates to P619M, contrary to that of 2010 wherein the company saved 10% or an equivalent of P898M savings. The 2011 deviation is less than 15%, the limit set in the CAPEX monitoring report framework.

**BEM Figure CA1a. Forecast vs Actual
Total Concessionaire Capital Expenditure Trend**

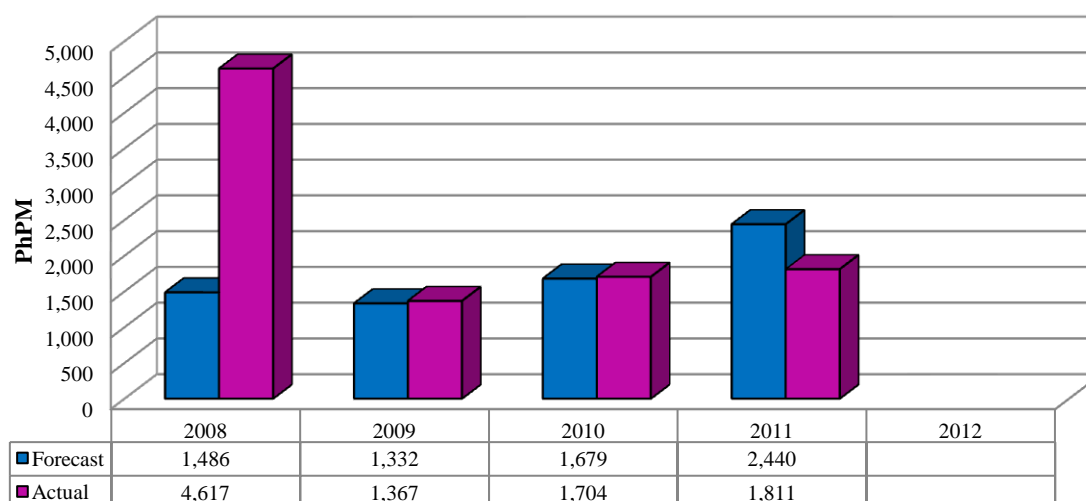


BEM Table CA1c. Annual Concession Fee Payments

2008		2009		2010		2011		2012	
Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
1,486	4,617	1,332	1,367	1,679	1,704	2,440	1,811		

*Maynilad term extension investment Plan in Million Pesos, at 2008 prices

**BEM Fig. CA1c. Forecast vs Actual
Annual Concession Fee Payments**



BEM Table CA1d. Monthly Concession Fee Payment Forecast vs. Actual

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Total Conc. Fees (Forecast)(In P M)	P	203.34	203.34	203.34	203.34	203.34	203.34	203.34	203.34	203.34	203.34	203.34	203.34
Total Conc. Fees (Actual) (In P M)	P	128	54	812	26	6	133	127	57	272	25	26	145
Monthly Actual as % of Forecast		62.9%	26.6%	399.3%	12.8%	3.0%	65.4%	62.5%	28.0%	133.8%	12.3%	12.8%	71.3%
Cum. Actual as % of Forecast		62.9%	44.8%	162.9%	125.4%	100.9%	95.0%	90.3%	82.6%	88.2%	80.7%	74.5%	74.2%

- The 2011 forecast is adjusted to reflect changes in prices from 2008 to 2010 by using the 2009 and 2010 average increase in CPI for local component portion only. The debt service portion is not subject to changes in price levels. The adjusted Concession Fee target for 2011 is Php2,440.12 million.
- Monthly Concession Fee forecast is derived by dividing the adjusted annual amount of Php2,440.12 million forecast for 2011 by 12 months which amounted to an average monthly Concession Fee payments of Php203.34 million.

BEM-CA1 Evaluation

As of the end of 2011, Maynilad saved 26% in their concession fee payments relative to their annual target, contrary to its previous year's over spending of 1.5 % with respect to their target.

This can be due to the delay in the implementation of some MWSS projects included in the Business Plan.

B-7.0 BEM-CA2 Physical Accomplishment

BEM Table CA2. 2011 Cumulative Monthly Physical Percent Completion Per Headline

HEADLINE	Q1		Q2		Q3		Q4	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
NRW Mgt & 3R Program		45%		64%		77%		90%
Operations Support Program		50%		66%		83%		95%
Water Sources Program		0%		8%		12%		17%
Wastewater Program		4%		30%		45%		58%
Natural Calamity Mitigation								

BEM-CA2 Evaluation

As of EO December 2011, the actual physical completion of MWSI headlines namely: NRW Management and 3R Program, Operations Support Program, Water Sources Program and Wastewater Program are 90%, 95%, 17% and 58%, respectively. The Concessionaire failed to report the physical accomplishment of the Natural Calamity Mitigation headline for the period under consideration.

The highlights of the CAPEX physical completion of projects per headline include among others, the following:

1. NRW Management and 3R Program. Establishment of 42 DMAs and laying of about 306 kilometers of secondary and tertiary pipelines as well as the installation of 68,662 New Water Service Connections;
2. Operations Support Program. Completion and readiness of the PAGCOR Pumping Station and Reservoir for commercial operation and laying of 64 kilometers of primary pipelines along Alabang-Zapote, Airport Road, Gen. Tirona Highway, Marcos Alvarez and Aguinaldo Phases 1 & 2;
3. Water Sources Program. The water sources program involves pre-construction of stage for the 2nd 200 MLD Putatan Water Treatment Plant and the preparation of documents for the Sumag and Umiray Rehabilitation Phase 2; and
4. Wastewater Program. Completion of the Baesa, Legal and Grant Sewage Treatment Plants (STP) in Quezon City as well as the Paco STP in Manila.

As per the CAPEX Monitoring Manual (CMM), the Concessionaire shall submit the CAPEX Accomplishment Report (CAR) to RO quarterly but the physical accomplishments as well as actual disbursements shall be reported broken on a monthly basis.

B-8.0 BEM-CA3 Financial Accomplishment

BEM Table CA2. 2011 Monthly Disbursement Per Headline

	2011 Approved RR Budget, PhPM	2011 Actual Disbursements (YTD), PhPM	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
NRW Mgt & 3R Program	3,833	4,295	262	315	297	408	302	471	352	445	269	301	373	500
Operations Support Program	1,848	3,168	199	235	186	235	555	276	291	246	300	115	131	400
Water Sources Program	679	623	46	135	69	24	11	52	42	167	55	5	4	13
Wastewater Program	2,281	837	15	12	81	17	27	31	81	39	119	126	142	147
Natural Calamity Mitigation	52	5	0	0	0	0	3	2	0	0	0	0	0	0
Total	8,692	8,928	522	697	633	684	898	832	766	897	743	547	650	1060

BEM-CA3 Evaluation

As per its CAPEX Accomplishment Report (ACR), the total actual disbursements of MWSI from January to December 2011 totaled PhP 8,928 Million. This is PhP 237 Million or about 3% higher than the CY 2011 budget of PhP 8,692 Million (inflated to 2011 prices) allocated

in its Term Extension Business Plan. Coordinate with FRA as the total forecast CAPEX per BEM CA1 (internal CAPEX + CONFEEs) is PhP 10,392 Million.

NON-REVENUE WATER (NRW)

B-9.0 BEM-NR1 Non-Revenue Water

Formula:

$$\text{Liters per Connection per Day} = \frac{\text{Production} - \text{Billed Volume}}{\text{Total No. of Connections}}$$

BEM Table NR1a. Annual Forecast and Actual NRW Data

		Base 2007	2008	2009	2010	2011	2012
Average Production, MLD	Target	2,435	2,351	2,411	2,455	2,530	2,460
	Actual	2,293	2,405	2,426	2,206	2,143	
Average Billed Vol., MLD	Target	939	904	1,044	1,198	1,355	1,476
	Actual	780	870	978	1,026	1,118	
Average NRW, MLD	Target	1,496	1,447	1,367	1,257	1,175	984
	Actual	1,513	1,534	1,448	1,180	1,025	
NRW Reduction Volume, MLD	Target		125	80	110	82	191
	Actual			94	270	281	
NRW (EOY) in Percentage	Target		62%	57%	51%	46%	40%
	Actual	67%	60%	57%	51%	42%	
Average Connection / Average No. of Billed Connections	Target		747,834	800,325	869,874	957,999	989,824
	Actual	694,578	730,577	784,334	856,869	947,660	
NRW in Liters per Connection per Day	Target		1,935	1,708	1,445	1,227	994
	Actual		2,100	1,846	1,377	1,083	

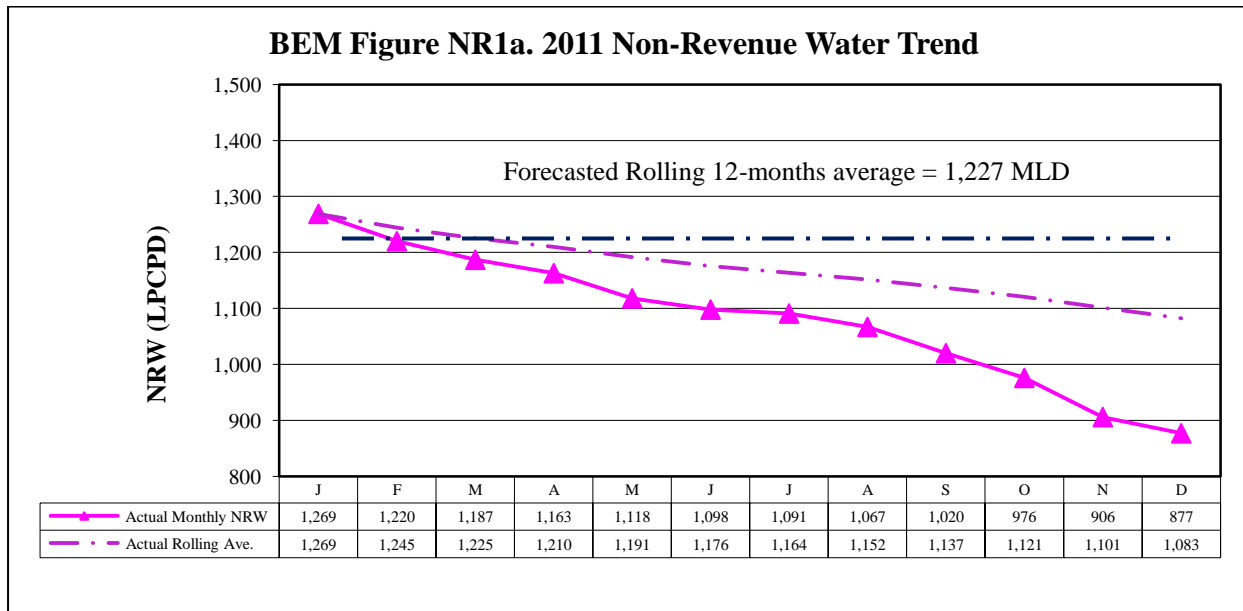
BEM Table NR1c. Annual NRW Volume Reduction Target (MLD)

	Actual* EO Dec-07	2008	2009	2010	2011	2012	
Production Target	2354	2351	2411	2455	2530	2460	
Billed Vol. Target	781	904	1044	1198	1355	1476	
NRW, %	67	62	57	51	46	40	
NRW Vol., MLD	1572	1447	1367	1257	1175	984	Total
NRW Vol. Reduction Target		125	80	110	82	191	588

BEM Table NR1b. 2011 Rolling 12-Month NRW in Liters per Connection per Day

	J	F	M	A	M	J	J	A	S	O	N	D	Rolling Average
Actual Production (MLD)	2,174	2,169	2,160	2,157	2,152	2,149	2,153	2,162	2,136	2,128	2,083	2,089	2,143

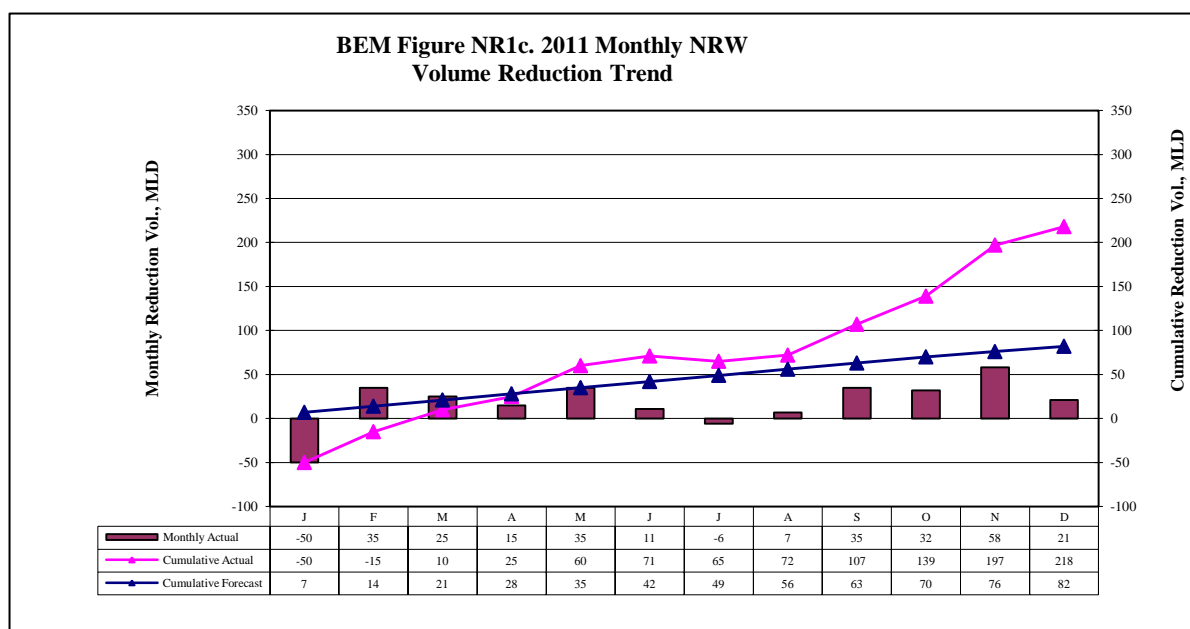
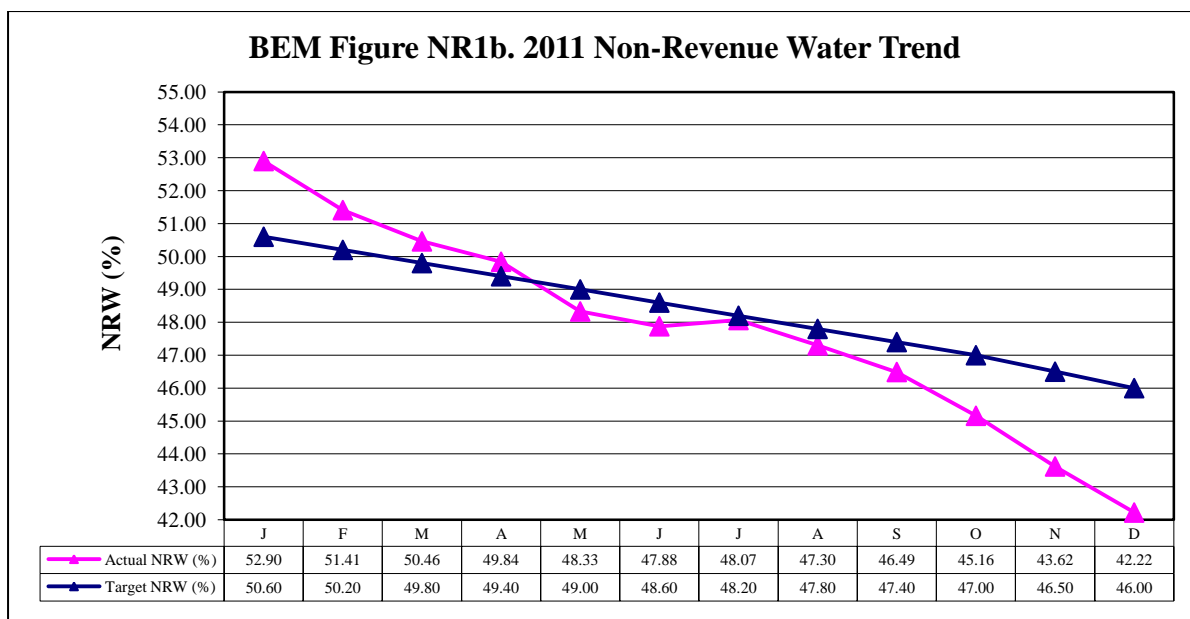
Actual Billed Volume (MLD)	1,024	1,054	1,070	1,082	1,112	1,120	1,118	1,134	1,143	1,167	1,180	1,207	1,118	
Actual NRW (MLD)	1,150	1,115	1,090	1,075	1,040	1,029	1,035	1,028	993	961	903	882	1,025	
No. of Billed Connections	906,098	913,628	918,511	924,019	929,863	937,578	948,773	963,740	973,455	984,584	996,340	1,005,350	951,745	Target
Actual NRW in LPCD	1,269	1,220	1,187	1,163	1,118	1,098	1,091	1,067	1,020	976	906	877	1,083	1,227



BEM Table NR1d. Actual NRW Reduction Volume

	Dec 2010*	2011											
		J	F	M	A	M	J	J	A	S	O	N	D
NRW Volume this Month	1100	1150	1115	1090	1075	1040	1029	1035	1028	993	961	903	882
NRW Volume Gain this Month		(50)	35	25	15	35	11	(6)	7	35	32	58	21
Cumulative Reduction		(50)	(15)	10	25	60	71	65	72	107	139	197	218

*EO 2010 Actual



BEM-NR1 Evaluation

As of EO December 2011, MWSI's NRW was recorded at 42.22% from 51% as of EO December 2010. Likewise, MWSI has also reduced its NRW in terms of volume in the amount of 218 MLD for CY 2011 which is 136 MLD higher than its forecast of 82 MLD cumulative NRW reduction for the year under review.

Moreover, in terms of liters per connection per day (LPCPD), MWSI's NRW (rolling 12-month average) was computed at 1,081 LPCPD. This is 146 LPCPD lower than its target of 1,227 LPCPD for CY 2011 but still way above the internationally accepted standard of 200 LPCPD or lower.