

ETHEKWINI NON-REVENUE WATER BRANCH


**OVERVIEW OF NRW INITIATIVES FOR
2010/2011**

**Presentation to DWA Strategy Steering
Committee
September 2010**

It is not the strongest of the species that survive, nor the most intelligent,
but the one most responsive to change – Charles Darwin


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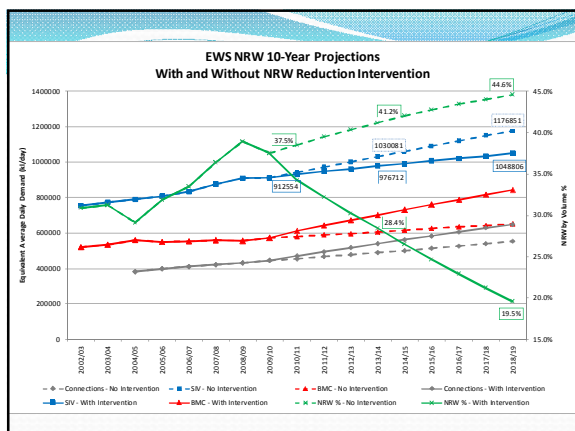
eThekweni Municipality Quick Statistics

- 3,6 million people
- 646 000 properties
- Supply 912 Ml/day of water from 9 Treatment Works
- Treat 500 Ml/d of Waste Water
- 263 Water Reservoirs
- 27 Waste Water Treatment Works
- 7 000 km of sewer mains
- 12 000km of water mains
- 445 000 water connections
- Combined annual expenditure of R4.3bn (2010/11)
- Municipal budget 2010/11 R23,5bn



National Government Directive

- Assagay Hotel – WC/WDM Workshop - 19 August 2010
- President has informed us that average waterloss for SA is 30%
- He has instructed the Minister of Water Affairs that this must be halved by 2014 (18%)
- Communication to the City Manager is expected in this regard
- Estimated budget given is approx 5bn but this funding is not being provided.

NRW Strategic Plan Objectives

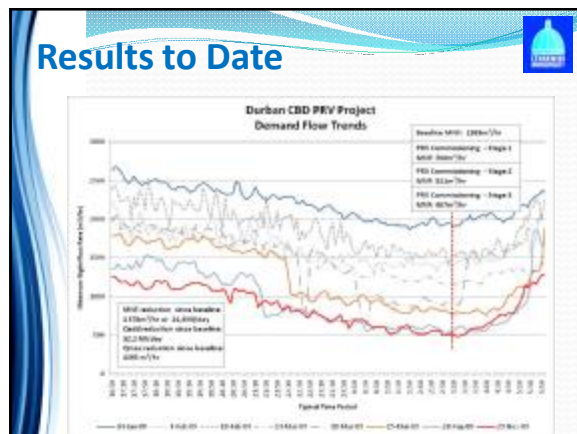
- NRW by volume for 2006/2007 – 30.6%
- NRW by volume for 2009/2010 – 37.5%
- Target for June 2013 – 28% loss (R175m pa savings)
- Target for June 2018 – 25% loss (IL1 4.5)
 - 2% NRW reduction per annum is realistic.
- Main drivers:-
 - Reduce real losses
 - AC Mains replacement
 - Active leak detection
 - Pressure reduction
 - Rezoning
 - Improving reservoir integrity
 - Reduce apparent losses
 - Illegal connection rectification
 - Billing data integrity improvements
 - Improve meter accuracy

IWA Water Balance

Own Sources m ³ /day ± x %	System Input m ³ /day ± x %	Water Exported m ³ /day ± x %	Authorised Consumption m ³ /day ± x %	Billed Authorised Consumption m ³ /day ± x %	Billed Water Exported m ³ /day ± x %	Revenue Water m ³ /day ± x %
				Billed Metered Consumption m ³ /day ± x %	Billed Unmetered Consumption m ³ /day ± x %	
Imported Water m ³ /day ± x %	Water Supplied m ³ /day ± x %	Unbilled Authorised Consumption m ³ /day ± x %	Unbilled Metered Consumption m ³ /day ± x %	Unbilled Unmetered Consumption m ³ /day ± x %	Unauthorized Consumption m ³ /day ± x %	Non-revenue Water m ³ /day ± x %
				Metering Inaccuracies m ³ /day	Mains Leaks m ³ /day	
				Reservoir Overflows m ³ /day	Service connection Leaks m ³ /day	

SIV Reduction – Real Losses

- Rezoning - New Pressure Standard -2.5bar – 6bar (225 designed /300 commissioned)
- Advanced pressure management (optimising existing + controllers) (57 sites)
- Active prv Maintenance
- GSM based failure detection devices on prv's (100)
- Leak detection (7500km / 9000 leaks)
- AC mains relay (incl rezoning + replace connection pipes) (1800 km)
- New Fault Manager software to assist with analysis of faults data. Improve speed and quality of repairs.
- Reservoir overflows (incl response time)
- Reservoir integrity (leaks)



Apparent / Commercial Losses



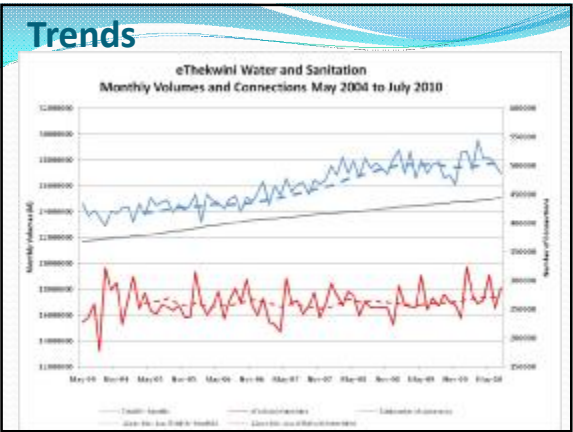
- New standards for meter installations
- Change out programme for meters 40mm and greater and older than 10 years (1000)
- Ensure Top 200 meters < 5 years old
- Change out programme for domestic meters older than 20 years (22 346)
- Checking Council databases for properties with existing buildings or electrical connections that don't have a water connection
- Checking of all Government owned properties for multiple connections
- Checking properties where connections were previously removed
- Amnesty Programme commenced 15 March 2010
- 75 Custody Transfer Points – Bulk Purchase from Umgeni Water (4 upgrades)
- Top 17 sites account for 99% of volume purchased R3m / day

Weekly Monitoring

Key Performance Indicator: Consolidated BWS	Unit	2010/11 FY				
		Target: FY2010/11	Weekly Target: FY2010/11	Target to Date: FY2010/11	Progress to Date: FY2010/11	
number of new PRV zones designed and handed over to Contractor (all sources)	No.	232	4	35	31	85%
number of new PRV's commissioned and handed over to Operations	No.	300	5.9	47	1	2%
number of PRV controllers commissioned	No.	57	1.1	9	3	34%
length of mains completed leak detection surveys (all levels)	km	7500	144	1152	697	63%
number of leaks detected and repaired (all types)	No.	9000	172	1376	3362	34%
number of new informal area meters (Type K) handed over to Contractor	No.	600	12	96	229	39%
number of new informal area meters (Type K) installed and commissioned	No.	600	23	96	36	17%
number of new informal area meters (Type K) registered in COINS	No.	600	12	96	36	17%
number of remaining reservoir outlet meters not registered in COINS	No.	48	1	40	46	87%


Allied Interventions

- Asset management is being implemented across the Unit
- Risk management has been implemented across the Unit
- Data cleansing and launch of the new prv database
- Drafting of Standard Operating Procedures and asset management plans
- Performance management of senior staff
- Increased publicity and communication
- Buy-in from all Deputy Heads and recognition that the reduction of NRW is a key strategic initiative

Conclusions

- In order for any NRW reduction intervention to be successful, the entire water company must fully support all aspects of loss management and provide a coordinated effort to reduce all NRW. **This is not to be underestimated!**
- Consumer education is equally important. Unless the consumers accept and subscribe to our policies we will forever be removing vast numbers of illegal connections and penalising those who do not pay.
- Current NRW budget R93m
- EWS allied interventions R150m



Conclusions

- Qualified staff are the biggest asset of the Municipality and must be recruited and remunerated and retained.
- Stricter policy **and enforcement** enable the municipality to improve performance. This will be pivotal with the Amnesty Programme.
- The lowering of the design pressures is having a great impact (NRW reduction, bursts, pipeline life)
- The tide has started to turn and the results are becoming visible.

