

Water Utility Performance Measures	What Do They Measure
<b>GOAL: Provide Adequate Capacity</b>	
# of Hours of Treated Water Storage Capacity at Average Day Demand	Sufficient Storage Capacity and Emergency Preparedness
<b>GOAL: Meet Service Requirements with Economic Efficiency</b>	
Cost of Water Quality Monitoring / Population Served	Operating Cost Effectiveness
Cost of Customer Billing / Service Connection (Metered Utilities)	Operating Cost Effectiveness
(Total Water Operating Cost + Cost of Bulk Water Purchased) / Population Served	Operating Cost Effectiveness
(Total Water Operating Cost + Cost of Bulk Water Purchased) / Volume of Water Treated ML	Operating Cost Effectiveness
Water Rate for a Typical Size Residential Connection using 330m <sup>3</sup> /year	Operating Cost Effectiveness
<b>GOAL: Protect the Environment</b>	
Cost of Water Conservation Program / Population Served -	Operating Cost Effectiveness
# of Days of Water Restrictions	Environmental Stewardship
Per Capita Average Day Consumption for Residential Customers	Environmental Stewardship
<b>GOAL: Provide Good Customer Service</b>	
# of Water Quality Customer Complaints / 1,000 People Served	Customer Satisfaction
# of Water Quality Customer Complaints by Reason / 1,000 People Served	Customer Satisfaction
Cost of Customer Communication / Population Served -	Operating Cost Effectiveness
<b>GOAL: Protect Public Health</b>	
# of Boil Water Advisory Days * Capita Affected / Population Served	Impacts of Water Quality on Customers
# of Boil Water Advisory Days / Households affected	Impacts of Water Quality on Customers



<b>Water Distribution Performance Measures</b>	
<b>GOAL: Provide Reliable Service and Infrastructure</b>	
# of Main Breaks / 100 km Length	System Reliability
Major & Minor Main Breaks / 100 km Length	System Reliability
Main Breaks by Material Type / 100 km of Material Length	System Reliability
% of Valves Cycled	Preventative Maintenance
% of Inoperable or Leaking Valves	System Reliability
Non-Revenue Water in m <sup>3</sup> / km / day	System Management /Condition / Reliability
Non-Revenue Water in L / Connection / Day	System Management /Condition / Reliability
Infrastructure Leakage Index	System Management /Condition / Reliability
% of Hydrants Inspected (Level B) and Checked (Level A)	Preventative Maintenance
Breakdown of Hydrants Checked Level A	Preventative Maintenance
# of Emergency Service Connection Repairs & Replacements / # of Service Connections	System Condition / Reliability
# of Unplanned System Interruptions / 100 km Length	System Condition / Reliability
Causes of Unplanned System Interruptions / 100 km Length	System Condition / Reliability
5 Year Running Average Capital Reinvestment / Replacement Value	Level of Infrastructure Reinvestment
% of Main Length Replaced	Level of Infrastructure Reinvestment
<b>GOAL: Meet Service Requirements with Economic Efficiency</b>	
# of Field FTEs / 100 km Length	Field Staffing Levels
# of O&M FTEs / 100 km Length	O&M Staffing Levels
Breakdown of O&M FTEs / 100 km Length	O&M Staffing Levels
# of Inhouse Metering Field FTEs / 1,000 Meters	Field Staffing Levels
Pump Station Field FTEs / 1,000 Total Pump Station Hp	Field Staffing Levels
O&M Cost ('000) / km Length	Cost Effectiveness
O&M Cost ('000) as % of System	Cost Effectiveness



<b>Water Distribution Performance Measures</b>	
Replacement Value	
(O&M Cost + Capital Reinvestment ('000)) / km Length	Cost Effectiveness
Total Operating Cost with Actual Indirect Charge-back ('000) / km Length	Cost Effectiveness
Indirect Cost as % of Total Operating Cost 2007 - All Systems	Cost Effectiveness
Pump Station O&M Cost ('000) / Total Pump Station Horsepower	Cost Effectiveness
Pipes O&M Cost ('000) / km Length	Cost Effectiveness
Metering O&M Cost / # of Meters	Cost Effectiveness
Cost of Meter Reading / # of Meter Readings	Cost Effectiveness
Pump Station Energy Consumed kWh / Total Pump Station Hp	Energy Consumption
Cost of Fire Hydrant O&M / # of Fire Hydrants	Cost Effectiveness
Unit Cost of Flushing (\$/km)	Cleaning Productivity
Unplanned Maintenance Hours / Total Maintenance Hours	Maintenance Planning
Cost of Main Break Repairs as % of Total O&M Cost	Cost Effectiveness
<b>GOAL: Protect the Environment</b>	
Peaking Factor (MDD/ADD)	Water Consumption
<b>GOAL: Provide a safe and productive work environment</b>	
# of Field Accidents with Lost Time / 1,000 Field Labour Hours	Field Accident Frequency
# of Lost Hours due to Field Accidents / 1,000 Field Labour Hours	Field Accident and Injury Severity
# of Sick Days Taken per Field Employee	Indicator of Staff Morale & Absenteeism
Total Available Field Hours / Total Paid Field Hours	Staff Availability
Breakdown of Unavailable Field Hours / Total Paid Field Hours	Staff Availability
Total Overtime Hours / Total Paid Field Hours	Indicator of Additional Staff Resource Requirements



<b>Water Distribution Performance Measures</b>	
# of Field Employees per Age Category	Succession Planning Requirements
# of Field Employees Eligible for Retirement per Year Category	Succession Planning Requirements
<b>GOAL: Have satisfied and informed customers and improve level of public trust</b>	
# of Water Pressure Complaints by Customers / 1,000 People Served	Customer Satisfaction
% of Calls for Service resolved within the Defined Level of Service	Customer Satisfaction
<b>GOAL: Protect Public Health</b>	
Cumulative Length Cleaned as % of System Length	Preventative Maintenance
Average Value of THMs (mg/L)	Compliance and Health & Safety
# of Days with Total Coliform Occurrences	Compliance and Health & Safety
Average Value for Turbidity (NTU)	Compliance and Health & Safety



<b>Water Treatment Performance Measures</b>	
<b>GOAL: Provide Reliable Service and Infrastructure</b>	
5 Year Running Average Capital Reinvestment / Replacement Value	Level of Infrastructure Reinvestment
# of Unplanned Hours that Plant could not Operate at Rated Capacity	Maintenance Planning
Unit Filter Run Volume (m <sup>3</sup> /m <sup>2</sup> )	Filter Performance
<b>GOAL: Provide Adequate Capacity</b>	
# of Days the Plant Operated > 90% and > 100% of Capacity in 2007	Sufficiency of Treatment Capacity
Average Day Demand (ML/day) / Existing Water License Capacity (ML/day)	Compliance and Sufficient Treatment Capacity
<b>GOAL: Meet Service Requirements with Economic Efficiency</b>	
# of Field FTEs / 1,000 ML Treated	Field Staffing Levels
# of O&M FTEs / 1,000 ML Treated	O&M Staffing Levels
Breakdown of O&M FTEs / 1,000 ML Treated	O&M Staffing Levels
Breakdown of O&M FTEs / Groundwater Well - Groundwater Systems	O&M Staffing Levels
O&M Cost / ML Treated	Cost Effectiveness
O&M Cost ('000) / Groundwater Well - Groundwater Systems	Cost Effectiveness
O&M Cost ('000) as % of Replacement Value	Cost Effectiveness
(O&M Cost + Capital Reinvestment Cost) / ML Treated	Cost Effectiveness
Total Operating Cost with Actual Indirect Charge-back / ML Treated	Cost Effectiveness
Indirect Costs as % of Total Operating Cost	Cost Effectiveness
Energy Consumed in kWh / ML Treated	Energy Consumption
Breakdown of Energy Consumed in kWh / ML Treated	Energy Consumption
Chemical Cost / ML Treated	Cost Effectiveness
Unplanned Maintenance Hours / Total Maintenance Hours	Maintenance Planning



<b>Water Treatment Performance Measures</b>	
<b>GOAL: Protect the Environment</b>	
% Residuals	Filter Performance
% of Backwash Waste Treated 2007 - All Filtration Plants	Backwash Waste Disposal
% of Filter-to-Waste Treated 2007 - All Filtration Plants	Filter to Waste Disposal
<b>GOAL: Provide a Safe and Productive Workplace</b>	
# of Field Accidents with Lost Time / 1,000 Field Labour Hours	Field Accident Frequency
# of Lost Hours due to Field Accidents / 1,000 Field Labour Hours	Field Accident and Injury Severity
# of Sick Days Taken per Field Employee	Indicator of Staff Morale & Absenteeism
Total Available Field Hours / Total Paid Field Hours	Staff Availability
Total Overtime Hours / Total Paid Field Hours	Indicator of Additional Staff Resource Requirements
Breakdown of Unavailable Field Hours / Total Paid Field Hours	Staff Availability
# of Field Employees per Age Category	Succession Planning Requirements
# of Field Employees Eligible for Retirement per Year Category	Succession Planning Requirements
<b>GOAL: Protect Public Health</b>	
Average Annual Treated Water Turbidity (NTU)	Compliance and Health & Safety
# of Total Coliform Occurrences in Treated Water	Compliance and Health & Safety
Average Annual Treated Water Nitrates	Compliance and Health & Safety
Raw Water Turbidity (% of Days in Turbidity Range)	Raw Water Quality

