



EPCOR Water Services  
Performance Based Regulation  
Edmonton Progress Report **2009**

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## Performance Based Regulation Progress Report 2009 Highlights

EPCOR Water Services Inc. (EPCOR Water) protects public health by providing a reliable supply of high quality water to over 230,000 residential, commercial and industrial customer accounts within Edmonton.

This report provides an annual update to City Council regarding the operational and financial results of EPCOR Water under the 2007 - 2011 Performance Based Regulation (PBR) Bylaw. In addition to 2009 highlights, it outlines expected future plans and challenges. This report is specifically in respect of EPCOR Water's drinking water treatment and distribution operations within Edmonton.

For customers in the Edmonton Region, PBR delivers many benefits including:

- Assuring customers that their utility must meet performance standards
- Ensuring customers receive stable and predictable rates over the five year period
- Encouraging EPCOR Water to keep costs low and to find better and more efficient ways to operate the system
- Ensuring EPCOR Water is accountable for protecting customers from cost increases where possible

For the year ended December 31, 2009, the following highlights EPCOR Water's operating and financial performance under the PBR:

- EPCOR Water exceeded the operating performance standards, achieving **100.3 points** compared to the PBR standard of **100 points**. Bonus points were available for surpassing target measures.
- 2009 actual net income of **\$23.8 million** was close to the PBR forecast of **\$24 million**.

*Note: In this report, linkages between PBR and the City of Edmonton Strategic Plan (2009-2018) "The Way Ahead" have been identified by a coloured triangle: ▲ represents an indicator of Edmonton's environmental sustainability and ▲ represents a contribution towards Edmonton's financial stability.*



## Operating Performance

In 2009, EPCOR Water once again exceeded its overall operating performance standards by achieving a total 100.3 points compared to the target of 100 points. This is the third consecutive year of exceeding the performance standard under the 2007-2011 PBR Bylaw.

Table 1 - Operating Performance Measures\*

Performance Measure	Weighting	Points Earned	Rating
System Reliability Index	25.0	26.8	🟢
Water Quality Index	25.0	25.0	🟢
Customer Service Index	20.0	19.1	🔴
Environmental Index	15.0	15.4	🟢
Safety Index	15.0	14.0	🔴
<b>Aggregate Points Earned (sum of all indices)</b>	<b>100.00</b>	<b>100.3</b>	<b>🟢</b>

🟢 Met/Exceeded Target    🔴 Below Target

\* For more details refer to Appendix A - 2009 Water Utility Performance Measures.



## System Reliability Index

The system reliability index includes the following components:

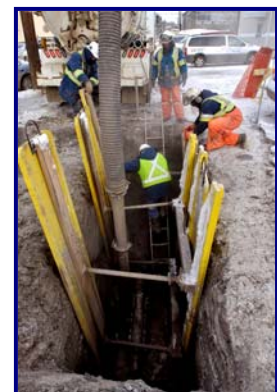
- Water main break factor compares the number of actual breaks in a year to a 10 year historical average.
- Water main break duration factor measures the percentage of water main breaks repaired within 24 hours from the time the water is shut off.
- Planned interruption factor measures the effectiveness of planned interruptions to minimize disruption of water service to customers. This factor measures the percentage of customers provided with 48 hours advance notice and whether the interruption exceeded the length of time indicated on the notice provided to customers.
- Water pressure factor measures the number of incidents per year where the water pressure is below 20 psi for two or more consecutive 15 minute periods.
- Water loss factor measures the percentage of treated water that is unaccounted for within the waterworks system.



Overall, EPCOR Water **surpassed its target for System Reliability** for the third consecutive year, achieving 26.8 points compared to the target of 25 points. As outlined in Appendix A, EPCOR Water surpassed the PBR target for planned interruption, water pressure and water loss factors. However, the water main break and water main break duration factors were below the PBR target.

### Initiatives to Improve Performance on the System Reliability Index

1. The number of water main breaks that occur in any given year can vary based on several uncontrollable factors, including rapid changes in weather as well as soil moisture conditions. The 2009 results were reflective of weather impacts leading to higher numbers of main breaks. Three major events challenged the ability of field crews to complete all breaks within the 24 hour performance standard. To improve the water main break duration factor, EPCOR Water has revised maintenance shift schedules to provide improved coverage and crew support seven days a week.





Edmonton's cold snap in mid-October, 2009 led to 55 water main breaks over six days, including 20 breaks in one 24-hour period.

2. EPCOR Water has initiated a formal review of the circumstances affecting every occurrence when the timely repair of a water main break is not achieved. Results of that review and any identified opportunities for improvement are shared with all maintenance staff. EPCOR Water has already experienced better results thus far in 2010 from these initiatives: as of May, only one break has exceeded 24 hours to repair.
3. Over the past 25 years, by following its established criteria for the replacement of water mains based upon main break history, EPCOR Water has seen a general reduction in annual water main breaks in Edmonton from the highest value of more than 1,600 in 1985 to current levels. In Edmonton, cast iron mains are more prone to breaks than other types of mains and are the focus of an ongoing replacement program. For more details see Appendix B graphs - *Amount of Cast Iron Mains Replaced Since 1952* and *Length of Cast Iron Main vs Main Breaks (1952-2009)*.
4. EPCOR Water is working with the City of Edmonton's Transportation Department to expand the water main replacement program criteria by including more locations where water main breaks have historically been concurrent with locations of proposed pavement reconstruction or rehabilitation.



## Water Quality Index

This index is a summary of the percentage of Edmonton water quality tests that meet EPCOR Water's internal standards and regulatory measures. EPCOR Water **met these standards**, earning the full 25.0 points available for this index.

During the year, EPCOR Water performed over 108,000 water quality tests, checking for 327 different substances to meet provincial standards and national guidelines. **99.7% of the tests met or surpassed the requirements**, compared to the Water Quality Index standard of 99.6%. The standard was met in the face of raw water quality challenges during Spring run off, significant rainfall events and on-going maintenance of the distribution system.



All monthly and annual water quality data is available for public review on EPCOR's website ([www.epcor.ca](http://www.epcor.ca))

In 2009, EPCOR Water's Quality Assurance Laboratory scored the highest among 68 labs in Canada and the U.S in tests for microbiological parameters administered by the U.S. Environmental Protection Agency.





## Customer Service Index

This index reflects the following components:

- **Post service audit factor** measures customer satisfaction levels of those who rated their service experience with Water Dispatch personnel and/or field crews as “very satisfied” or “completely satisfied”.
- **Response time factor** measures the time that elapses from when EPCOR Water receives a customer call and the field crew physically confirms a main break has occurred.
- **Home sniffing factor** measures the percentage of volunteer community members who favorably assess the taste and odour of the drinking water during the spring run-off season.



In 2009, EPCOR Water achieved **19.1 points, below the target** of 20.0 points for the Customer Service Index. The response time and home sniffing factors did not meet the targeted performance. See Appendix A for details.

EPCOR Water achieved the best result in the past three years for the post service audit factor. This was the result of a number of initiatives to support customer service, including customer response training and communication tools for water dispatch staff, implementation of an event management process to escalate proactive communication with customers, media and City Council when major water distribution events are occurring, concurrent with the addition of resources from other parts of EPCOR to support the service restoration activities. A new process to improve coordination with the City Transportation department was implemented to reduce time between repair completion and final pavement restoration.

### Initiatives to Improve Performance on the Customer Service Index

1. The **average response time** is expected to remain above the target of 22 minutes for the remainder of the PBR period due to EPCOR Water’s safety policy requiring field crew staff to pull over before responding to a phone call. This adds an average of 2 to 3 minutes to the response time target originally set in the PBR Bylaw. To determine options to improve the response time factor, EPCOR Water has evaluated alternative communication methods including a new voice activated hands free technology being considered in New York City for taxi drivers. However, to ensure employee safety, all of the alternative communications will still require staff to pull over prior to responding to a call.





EPCOR Water participated in a 2008 National Water and Wastewater Benchmarking initiative to compare response times of water utilities across Canada. EPCOR Water's 25 minute response time in 2009 is better than the target response times for the majority of surveyed municipalities. See utility emergency response time comparison chart in Appendix C.

2. The home sniffing factor measures the effectiveness of the water treatment process in removing compounds in the raw water that cause musty and earthy odours, particularly during the Spring run off season. The 2009 home sniffing results indicated a handful of customers that rated the odour of the water as objectionable throughout the study period (before, during and after the peak of Spring run-off). These customers cited a "chlorinous" odour rather than the "musty, earthy" odours normally associated with the raw water.



This may reflect a bias by these customers against the odour of chlorine rather than a reflection of the effectiveness of the treatment process. This phenomenon has occurred over the past few years and may represent a trend in negative perceptions of chlorinated water.

To ensure appropriate action is taken, if necessary, based on results of the home sniffing program, EPCOR Water plans to take a new approach to its current volunteer selection process and engage a marketing firm to ensure the use of a statistically valid representative sample of volunteers. EPCOR Water is also examining the home sniffing data to determine if there is any correlation between customer satisfaction and the distribution of chlorine residual concentration in different areas of the City.



## Environmental Index

The Environment Index consists of:

- **Emergency response training** measures the number of practice exercises undertaken in a year.
- **Environmental Reporting** reflects the completeness and timeliness of incident reporting.
- **Water conservation factor** reflects the average monthly water consumption per residential household.
- **Vehicle fuel efficiency** measures the effectiveness of EPCOR Water's fuel usage based on the number of litres/100 kilometers used by the total vehicle fleet.



**For the third consecutive year, EPCOR Water surpassed the Environmental Index target, earning 15.4 points of the available 15.0 points in 2009; thus demonstrating its continued environmental leadership. All measures, with the exception of vehicle fuel efficiency factor, either met or surpassed the standards in 2009. See Appendix A for further details.**



The PBR Environmental Index contributes to the City of Edmonton's measure of progress towards its ten year strategic goal to "Preserve and Sustain Edmonton's Environment".

### Initiatives to Improve the Environmental Index

The vehicle fuel efficiency measure fell below the standard due primarily to increased idling time in very cold winter months.

1. EPCOR Water is committed to improving its performance for the vehicle fuel efficiency measure and has implemented several initiatives since 2007, including:
  - All new vehicles purchased are reviewed for fuel usage and where appropriate alternative more efficient vehicles are chosen. Hybrid vehicles have been purchased for use by the Foremen travelling to different sites.
  - All vehicles are reviewed regularly to ensure that the amount of equipment stored on each vehicle (which contributes to weight and fuel usage) is appropriate.
  - Alternative power sources have been implemented for equipment on vehicles to avoid the requirement to idle the vehicles at the job site.

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- A parts running service has been implemented to avoid the need for the larger vehicles to return to the main yard for missing components.
- Work planning and scheduling tools have been implemented to allow geographic assignment of priority work to reduce travel required between sites.
- Converting tires to be inflated with nitrogen to avoid travelling on low tires, a known cause of fuel inefficiency.
- Using a diesel fuel additive in 2010 to reduce fuel consumption.
- Introduction of an idling education program.

The PBR target was established to achieve a 5-10% reduction in overall fuel usage using 2005 performance as the baseline. To date, EPCOR Water has been able to achieve an average of 6% reduction.



## Safety Index

EPCOR Water **did not meet its targets for the Safety Index** in 2009, achieving 14.0 points compared to the standard of 15.0 points.

The Safety Index measures performance of both Activities Based and Outcomes Based indicators:

- Activities Based or Leading indicators include the number of training and monitoring activities in four areas:
  - i) safety meetings
  - ii) completion of formal safe work plans
  - iii) first aid and emergency response training
  - iv) work site inspections and observations
- Outcomes Based or Lagging indicators include incident statistics in three areas:
  - i) lost time frequency rate
  - ii) injury frequency rate
  - iii) injury severity rate



As outlined in Appendix A, EPCOR Water met or surpassed its targets for three of the four Activities Based indicators including safety meetings, first aid and emergency training, work site inspections and observations. However, the completion of formal safe work plans fell below the PBR target.

For the Outcomes Based indicators, EPCOR Water surpassed its target for lost time frequency rate, met its target for the injury frequency rate but fell below the target for injury severity rate.

EPCOR places the highest priority on supporting a safe work environment and culture. EPCOR is committed to achieving a zero injury culture through communication and changes to safe work practices, linking of incentive pay to safety results and identifying and implementing new initiatives.

EPCOR supports and encourages staff awareness and engagement in support of a safe work environment and culture. The following provides examples of safety initiatives identified by the water distribution team within EPCOR Water:

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- A Slips, Trips and Falls Awareness Program was developed and delivered, and safe work plans were modified to increase awareness of increased slips/trips incidents from temperature changes while working in field locations.
- Ergonomics review and training on proper tool use.

### Initiatives to Improve Safety Performance Index

1. EPCOR Water has initiated work in 2010 to implement an Environmental Health and Safety Management System that will meet the standard of ISO 14001 and OSHAS 18001.
2. EPCOR Water has introduced a new computer-based Incident Management System to assist in tracking health and safety incidents and to analyze occurrence patterns.
3. In 2010, EPCOR formed a President's Safety and Environment Council which involves monthly safety and environmental performance reviews by EPCOR senior leadership. This includes discussion of significant incidents and near misses, with employees sharing their experiences and suggestions for improvement. The purpose of the review is to learn from past events, provide recognition of safety accomplishments and to further promote a strong safety culture.
4. For 2009 PBR reporting, EPCOR Water completed 2,690 safe work plans, below the target of 3,486. The number of safe work plans completed varies yearly and is reflective of the frequency and duration of work activities, such as water main repairs, valve maintenance, plant maintenance and confined space entry. Another factor contributing to the lower numbers was the tracking documentation itself. It did not allow capture of daily safe work plans for activities occurring at a single physical location over multiple days.

A review of the safe work planning process has been completed in early 2010. Through this review a number of revisions to the safe work plan documentation were identified and are in the process of being implemented. The documents are being developed for each major work function to reflect the unique hazards of the different work types and include the documentation of periodic reviews during long duration events. Staff are being trained on the new forms throughout 2010. The audit process for safe work planning has also been increased.



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Outcomes Based indicators provide useful information on incident statistics. These indicators tend to vary from year to year depending on the number and nature of occurrences/incidents as well as the severity of injuries which will impact absence from the workplace.

EPCOR Water will continue to monitor and assess all of the safety indicators to identify areas to improve training, communication and implement new safety initiatives and tools to support zero injury workplace culture and ensure the well being of its employees.



## Financial Results

### Economic Overview

In 2009, the economic slowdown and decline in construction activity in Edmonton had a slight impact on EPCOR Water. Modest increase in the number of water customers was offset by a decline in water consumption per customer. However, weather can cause significant variation in yearly residential water consumption, and Edmonton did experience periods of warm dry summer weather in 2009.



The increased availability of water efficient appliances and the adoption of conservation practices by consumers in recent years are reflected in a general trend of declining water consumption per customer.

Weather can have a significant impact on EPCOR Water's operations and financial results. Melting snow, freeze/thaw cycles and seasonal precipitation events in the upstream watershed affect the quality of water entering our water treatment plants and the resulting costs of treatment.

At the same time, the recession has provided greater availability of labour and contractor resources which alleviates cost pressures in managing EPCOR Water's capital program and operations.

Like many organizations, EPCOR Water is facing the demographic shift with a large number of employees expected to retire over the next few years. Together with its parent company EPCOR Utilities Inc; EPCOR Water continues to review human resource strategies to ensure that it attract and retain a strong supply of labour and management. In the Water distribution area, 25 new permanent labour staff have been hired in the last two years to provide sufficient cross training opportunities with the senior labour staff expected to retire in the coming years. A formal rotation training program has been implemented which allows all new staff an opportunity to work in the different labour roles to provide the necessary depth of experience to manage through the upcoming retirements.

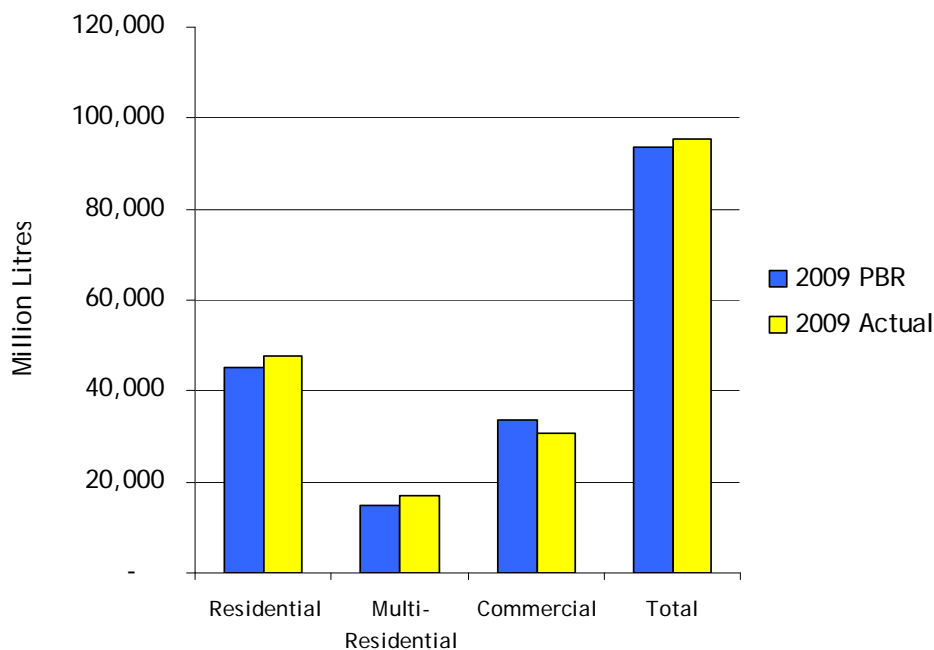
In 2009, EPCOR Water implemented an organization redesign to ensure key operational areas can meet ongoing business demands and to support future succession planning.



## Annual Water Consumption

In 2009, actual water consumption within the City of Edmonton was 95,486 million litres (ML) compared to the forecast of 93,507 ML. The graph below breaks down consumption by customer segment. Residential single family use continues to be about 50% of total annual demand.

**Graph 1 - 2009 Annual Water Consumption by Customer Segment**



In 2009, Edmonton reported one of the lowest water usage rates for single family residential customers with an average of 244 litres per capita per day (l/c/d) compared to the average of 266 l/c/d for Canadian residential customers living in large metered communities.

Edmonton has historically used less water than the Canadian average, in part due to our well established metering program, rate setting methods and public education programs. Many Edmonton residents are receptive to wise watering initiatives such as EPCOR’s popular rain barrel sale. More than 1,600 locally made rain barrels were sold at cost for a limited time.





Total consumption in 2009 reflects an increase in housing demand especially in multi-residential dwellings, partially offset by lower consumption from commercial customers which are becoming more water efficient in their operations.

## Net Income

In 2009, EPCOR sold its power generation assets and related operations to a new company, Capital Power Corporation. As expected, this resulted in a smaller business base for EPCOR and a reduction in economies of scale related to shared services' costs for EPCOR Water. As EPCOR adds to its asset base through the acquisition of new businesses, economies of scale would be expected to increase, reducing shared services costs to EPCOR Water in the future.

To manage cost impacts, there has been a focus on streamlining corporately shared processes, updating systems and identifying opportunities for increased efficiencies and cost management. We expect positive results over time.

The 2009 actual net income was \$23.8 million compared to the 2009 PBR forecast of \$24.0 million, a decrease of \$0.2 million. The decrease is primarily due to an increase in operating costs and franchise fees, offset by lower depreciation and interest expense and higher than forecast revenue.

	(\$ millions)	2009 PBR Forecast	2009 Actual
	<b>Revenue</b>	<b>\$130.8</b>	<b>\$141.9</b>
Less:	<b>Operating Costs</b>	<b>(56.6)</b>	<b>(71.8)</b>
Less:	<b>Franchise Fees</b>	<b>(9.7)</b>	<b>(10.4)</b>
Less:	<b>Depreciation</b>	<b>(16.6)</b>	<b>(15.0)</b>
Less:	<b>Interest Expense</b>	<b>(24.0)</b>	<b>(20.9)</b>
	<b>Net Income</b>	<b>\$ 24.0</b>	<b>\$ 23.8</b>

In 2009, revenue of \$141.9 million represents an increase of \$11.1 million compared to the 2009 PBR forecast. The increase in revenue is attributable mainly to higher than forecasted inflation rates on annual water rate increases and higher than forecast revenue from services such as temporary services, water permits and late payment penalties.



Actual depreciation and interest expense were lower than forecast by \$1.6 million and \$3.1 million, respectively, primarily due to lower than forecast depreciation on general plant assets and the impact of lower than forecast cost of debt (actual 6.03% vs. forecast 6.97%).

Actual operating costs were \$71.8 million compared to the PBR forecast of \$56.6 million, an increase of \$15.2 million. Inflation rates in 2009 were higher than the forecasted rates and contributed in part to the cost increases. In addition, increased staffing levels to support succession planning, and the impact of higher incidence of main breaks resulted in increased maintenance costs. These cost increases were partially offset by lower chemical costs due to favourable Spring run off conditions.

In recent years, utilities such as EPCOR Water have experienced increasingly rigorous financial controls, financial reporting, and corporate governance controls. These trends have resulted in increased costs associated with governance and transactional services provided by EPCOR's central shared services group. The group continues to search for efficiencies to offset these costs.

## Return on Equity

The rate of return on equity approved for the five-year term in the PBR plan (2007-2011) is 11.25%. Actual returns in any particular year can be higher or lower, depending on the actual operating and capital costs reported that year.

In 2009, the rate of return on equity achieved was 10.69%, a decrease of 1.59% compared to 2008, reflecting the impact of the increased costs associated with rising labour and material costs as well as governance and transactional services provided by EPCOR's central shared services group.

Over the three year period (2007-2009) reported under the five year PBR plan, the average rate of return on equity achieved was 12.75%. However, it is expected the average rate of return on equity achieved over the five-year term will be close to the approved rate of return.



## Capital Spending

In 2009 EPCOR Water invested \$50.8 million in capital additions compared to the 2009 PBR forecast of \$44.5 million.

EPCOR Water's capital program for 2009 included upgrades and replacement of the waterworks infrastructure, as well as projects to support customer growth driven expansion of the system and changes in regulatory requirements.



Major capital projects completed in 2009 included:

- **Water Main Renewals (\$17.1 million)** - This is a project to replace an average of 15 kilometres of pipe per year. Cumulatively, EPCOR Water has replaced 40% of its cast iron pipe over the past 25 years;
- **EL Smith Dechlorination (\$4.1 million)** - This is a project to meet future environmental regulation requirements to enhance the aquatic environment of the North Saskatchewan River by removing certain residual substances (solids and chlorine) at the water treatment plant prior to discharging it back into the river;
- **EL Smith Emergency Power (\$2.4 million)** - This is a project to replace and upgrade the electrical system to ensure safe and reliable operations of the water treatment plants and reservoirs;
- **Water Main Cost Sharing Program (\$2.1 million)** - This project provides developers with a rebate for the construction of water mains between 300 and 450 mm in diameter. This helps ensure installation of appropriately sized water mains to meet EPCOR requirements in new development areas;
- **Private Development Transmission Mains (\$2.0 million)** - This project extends and enhances the water mains network to meet the needs for water supply and fire protection in new development areas. In 2009, two major projects included the 127<sup>th</sup> Street transmission main extension from the Castledowns Reservoir to north of 167<sup>th</sup> Avenue and the Rabbit Hill Road extension.
- **EL Smith Clarifier Rehabilitation (\$1.9 million)** - This is a project to extend the life of the clarifier at the water treatment plant by recoating the steel structures to prevent rusting;
- **Transmission Mains Replacements (\$1.1 million)** - This is a project to improve the reliability of water transmission mains through rehabilitation or replacement of aging pipes and infrastructure. Transmission mains are much larger in diameter than water mains. In 2009, this project included the replacement of the transmission mains on 132 Avenue and 127 Street which had experienced a high number of breaks in 2008.



## Rates Comparison with Surrounding Communities and Other Regions

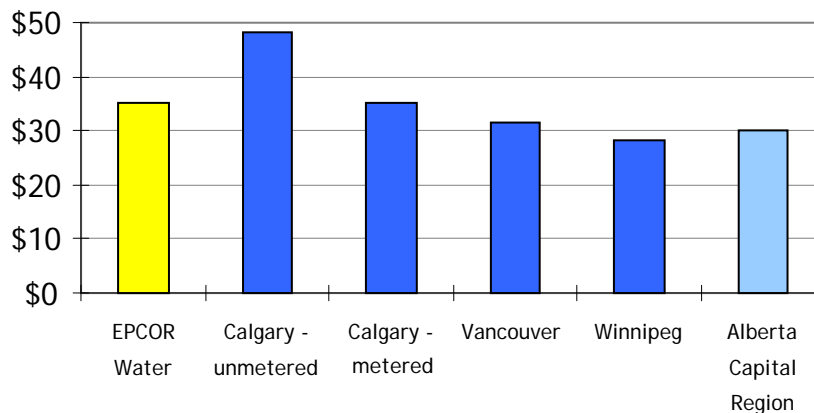
Rates comparisons with other communities are difficult because the extent of potential cross subsidization is unknown. The 2009 comparative water rate information is based on surveys of Calgary, Vancouver, Winnipeg and Alberta Capital Region (64 outlying counties and communities). The rate comparisons are based on the total cost to the customer and included fixed charges, consumption charges, plus any surcharges.

Edmonton residential and commercial customers enjoy water rates comparable to Calgary.

The residential water comparison graph below is based upon a consumption of 19 cubic metres per month (m<sup>3</sup>/month). This is representative of the average monthly consumption of an EPCOR Water residential customer. Comparisons are not made for the multi-residential customer class as many jurisdictions do not have a similar rate class.

**Graph 2 - Residential Water Monthly Bill Comparison**

Average monthly consumption of 19 m<sup>3</sup>/household





EPCOR residential water customers' rates are lower than unmetered Calgary residents and are comparable to the metered residents of Calgary. It is important to note that Edmonton has a challenging water source compared to some other cities and must conduct additional treatment.

Vancouver and Winnipeg reflect lower rates as they only need to disinfect water with chlorine which results in lower water treatment costs. The Alberta Capital Region's lower water bills reflect the lower costs associated with maintaining a newer distribution system compared to EPCOR's waterworks system.

Overall in the commercial water segment, EPCOR Water's charges are competitive compared to the other surveyed utilities as demonstrated in the graph below.

Comparisons are provided for three types of commercial customers:

- Small commercial business such as a restaurant
- Medium commercial business such as a hotel, hospital or large shopping centre
- Large commercial customer such as a brewery or food processing plant



**Graph 3 - Commercial Water Bill Comparison**

	Small	Medium	Large
<b>Commercial Business</b>	<b>Restaurant</b>	<b>Hotel / Hospital</b>	<b>Brewery / Processing Plant</b>
Average Monthly Consumption (m <sup>3</sup> )	325	6,000	20,000
<b>EPCOR Water</b>	<b>\$350</b>	<b>\$4,982</b>	<b>\$14,326</b>
Calgary	\$419	\$5,687	\$14,639
Vancouver	\$218	\$3,885	\$12,973
Winnipeg	\$402	\$5,976	\$18,778
Alberta Capital Region	\$413	\$7,513	\$28,357



## Future Plans and Challenges

### Invest in water infrastructure for regulatory and City requirements

While Edmonton was impacted by the recent economic recession, there are signs of recovery in 2010 with increased housing starts and forecasts of moderate population growth. Expected future growth within Edmonton, increasingly stringent water quality and environmental standards, and the City's neighbourhood rehabilitation initiative are driving EPCOR Water's plans to prudently invest an increased amount of capital into its water treatment and distribution infrastructure.



EPCOR's long term focus on maintaining and rehabilitating distribution networks and plant facilities places us ahead of the curve in managing Edmonton's water infrastructure.

EPCOR Water plans to increase the level of capital spending on its annual water main renewal program by approximately \$20 to \$30 million starting in 2011, with some initial spending expected in 2010. This additional investment is not only a result of the increase in main breaks in 2009, which has escalated the number of water mains qualifying for renewal under EPCOR Water's current replacement criteria; but more significantly it is driven by the benefits of coordinating our water main replacement program with the City's neighbourhood rehabilitation initiative. While this will result in replacing some water mains earlier than they would have been in the past under EPCOR Water's current criteria for replacement, coordination with the City's Transportation Department will minimize new pavement cuts thus minimizing costs and disruptions to Edmonton residents and businesses.

Further discussions will be held with the City during 2010 to facilitate the submission for consideration of a Non-Routine Adjustment, through 2011 water rates, to cover the additional capital spending for 2010 and 2011 for the advancement of water main renewal work. Spending in 2012 and future years will be reflected in the next PBR renewal application (2012 - 2016). The estimated increase in water rates in 2011 based on a \$20 million increase in capital is an additional 1.6% on top of the normal inflation-based rate increase.



In order to respond to future Alberta Environmental requirements, EPCOR Water is investing in capital projects, such as the Rossdale dechlorination project in 2010 to 2011 and construction of an on-site hypochlorite system at the Rossdale site, which will reduce risks associated with transporting chlorine.

## Prepare for PBR renewal (2012 - 2016)

The current term of EPCOR Water's PBR plan will expire in March 2012. EPCOR Water would like to solicit input from City Council and Administration over the next year on possible new performance criteria to include in the renewal of PBR, expected to occur in 2011.



The PBR has offered stable and predictable rates which contributes to the City of Edmonton's ten-year strategic goal of "Ensuring Edmonton's Financial Stability".

EPCOR Water continues work on a Cost of Service study expected to be completed in the third quarter of 2010. The study is to ensure the costs associated with the operations and maintenance of the water utility are fairly and appropriately allocated to the various customer groups. Stakeholders, including the City of Edmonton, have been engaged in this process to obtain feedback and keep them informed. Study results will confirm whether the rates charged to various customer classes are recovering the costs of water treatment and delivery to those groups.

## Continue leadership in environmental initiatives

EPCOR Water will continue its proactive approach to ensuring it surpasses current and proposed environmental standards, as well as meet the needs of its stakeholders.

In 2010 and 2011, EPCOR Water will continue developing plans to minimize the impact of treatment plant residuals on the environment.



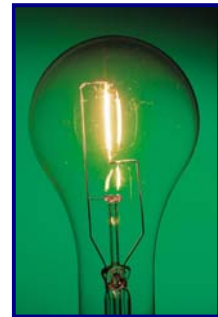


EPCOR Water is also responsive to efficiency initiatives that will shape future operations. The Province of Alberta, through the Alberta Water Council and its Water for Life strategy, is advocating conservation planning for all water-use sectors, including municipalities. EPCOR Water will continue its water wise public education initiatives. A recent demographic study of Edmonton's residential and multi-family water use patterns indicates there may be value in developing specific conservation initiatives for high per suite multi family accounts. Work is also being undertaken to identify all high consumption groups so targeted efficiency programs can be developed.



## Achieve operational efficiencies and contain costs

A continuing focus on process improvement will allow us to manage operational costs. EPCOR Water actively monitors and analyzes the prices of natural gas and power given the significance of these costs in the water treatment and distribution processes. EPCOR Water periodically conduct energy audits of its facilities to prioritize energy efficiency initiatives and will continue to manage its power costs by optimizing reservoir operations and pump scheduling, training operators on energy efficient procedures, and by replacing equipment as needed with energy efficiency in mind. EPCOR Water will also continue to effectively manage its power costs by monitoring time of use and limiting exposure to high pool prices.



Price increases for water treatment chemicals expected in 2010 will be mitigated through strategies such as winter chemical optimization. There will be continued efforts towards improving vehicle fuel efficiency, and implementation of general cost reduction strategies.

2009 was the first full year of implementation of a process redesign effort, which involved redesigning core operating processes for EPCOR's water treatment plants. The addition of staff to support work scheduling, prioritization and maintenance oversight as well as other improvements are expected to generate increased future productivity and efficiencies.

In 2009, EPCOR Water received the Oracle Spatial North American Enterprises Excellence Award, recognizing its commitment to efficiency and technological innovation of its Geospatial Information System.





## Prepare for International Financial Reporting Standards in 2011

The Canadian Institute of Chartered Accountants (CICA) confirmed plans to converge Canadian Generally Accepted Accounting Principles (GAAP) with International Financial Reporting Standards (IFRS) effective January 1, 2011. EPCOR shared services has established a core team to develop and implement a transition plan to IFRS. EPCOR Water is participating in this IFRS project.



## Conclusion

Overall, EPCOR Water continues to demonstrate excellence in both its operating and financial performance for 2009, the third year of a five year PBR term. EPCOR Water expects continued strong performance in 2010 due to its commitment to ensure water quality and reliability standards are maintained or surpassed. In addition to its strong company focus on environment, safety and customer satisfaction will be important areas where the company will strive to meet or exceed its performance objectives.

Some of the PBR measures are also reflected in EPCOR's Corporate Social Responsibility report which tracks the company's economic, environmental and social impacts within the community. See [www.epcor.ca/en-ca/corporate-responsibility/Pages/default.aspx](http://www.epcor.ca/en-ca/corporate-responsibility/Pages/default.aspx).

### Forward-looking Information:

*Certain information in this report is based on certain assumptions and analyses made by EPCOR in light of its experience and perception of historical trends, current conditions and expected future developments and other factors it believes are appropriate. Whether actual results, performance or achievements will conform to EPCOR's expectations and predictions is subject to a number of known and unknown risks and uncertainties which could cause actual results and experience to differ materially from EPCOR's expectations. The primary risks and uncertainties relate to, but are not limited to: (i) operating performance; (ii) unanticipated maintenance and other expenditures; (iii) regulatory and government decisions including changes to environmental, financial reporting and tax legislation; (iv) weather and economic conditions; (v) competitive pressures; (vi) construction; (vii) availability and cost of financing; (viii) availability of labour and management resources; and (ix) performance of partners, contractors and suppliers in fulfilling their obligation.*

*Readers are cautioned not to place undue reliance on forward-looking statements as actual results could differ materially from the plans, expectations, estimates or intentions expressed in the forward-looking statements. Except as required by law, EPCOR disclaims any intention and assumes no obligation to update any forward-looking statement even if new information becomes available, as a result of future events or for any other reason.*



## Appendix A – 2009 Water Utility Performance Measures

Measure	Benchmark	Weighting	Points Earned	Target	2009 Actual	Rating
<b>System Reliability Index</b>						
Water Main Break	# breaks	5.0	4.7	630	669	Below Target
Water Main Break Duration Factor	% fixed within 24 hours from time water shut off	5.0	4.8	93.6%	90.7%	Below Target
Planned Interruption Factor	% compliance	5.0	5.2	95.0%	97.6%	Met/Exceeded Target
Water Pressure Factor	# times below 20 PSI	5.0	6.0	5	0	Met/Exceeded Target
Water Loss Factor <sup>1</sup>	%	5.0	6.1	4.9%	3.8%	Met/Exceeded Target
<b>Total</b>		<b>25.0</b>	<b>26.8</b>			<b>Met/Exceeded Target</b>
<b>Water Quality Index</b>						
<b>Total</b>		<b>25.00</b>	<b>25.0</b>	<b>99.6%</b>	<b>99.7%</b>	<b>Met/Exceeded Target</b>
<b>Customer Service Index</b>						
Post Service Audit Factor	% satisfied	6.66	6.9	72.6%	75.1%	Met/Exceeded Target
Response Time Factor	minutes to confirm breaks	6.67	5.7	22	25	Below Target
Home Sniffing Factor	% satisfaction	6.67	6.5	93.4%	90.5%	Below Target
<b>Total</b>		<b>20.0</b>	<b>19.1</b>			<b>Below Target</b>
<b>Environmental Index</b>						
Emergency Reponse Training	# of exercises	3.75	4.5	3	6	Met/Exceeded Target
Completeness of Reporting	% target achieved	1.88	1.9	100.0%	100.0%	Met/Exceeded Target
Timeliness of Reporting	% target achieved	1.88	1.9	100.0%	100.0%	Met/Exceeded Target
Environment Incident Reporting	# incidents	3.75	3.7	0	0	Met/Exceeded Target
Water Conservation	% target achieved	1.50	1.5	20.00	19.42	Met/Exceeded Target
Vehicle Fuel Efficiency	litres/100 km	2.25	1.9	29.75	30.46	Below Target
<b>Total</b>		<b>15.0</b>	<b>15.4</b>			<b>Met/Exceeded Target</b>
<b>Safety Index</b>						
Safety Meetings	# meetings	1.50	1.50	40	41	Met/Exceeded Target
Formal Safe Work Plans	# completed	3.75	2.90	3,486	2,690	Below Target
First Aid Training	% of staff trained	3.00	3.00	33.0%	53.8%	Met/Exceeded Target
Work Site Inspection/Observations	# conducted	3.00	3.00	800	860	Met/Exceeded Target
Lost Time Frequency Rate	frequency rate	0.75	0.80	0.59	0.54	Met/Exceeded Target
Injury Frequency Rate	frequency rate	1.50	1.50	2.4	2.4	Met/Exceeded Target
Injury Severity Rate	frequency rate	1.50	1.30	8.92	10.45	Below Target
<b>Total</b>		<b>15.0</b>	<b>14.0</b>			<b>Below Target</b>
<b>Aggregate Points Earned (sum of all indices)</b>			<b>100.3</b>			
<b>Points Required ar Performance Standard</b>			<b>100.0</b>			
<b>Points Above/Below Performance Standard</b>			<b>0.3</b>			
<b>Water System Service Quality Penalty, If Any<sup>2</sup></b>			<b>0.0</b>			

Met/Exceeded Target █ Below Target █

<sup>1</sup> Water Loss Factor target and actual performance reported above does not reflect a revised measurement methodology utilized for other reporting purposes. The methodology used to determine the standard performance measure in Waterworks Bylaw No. 12585,

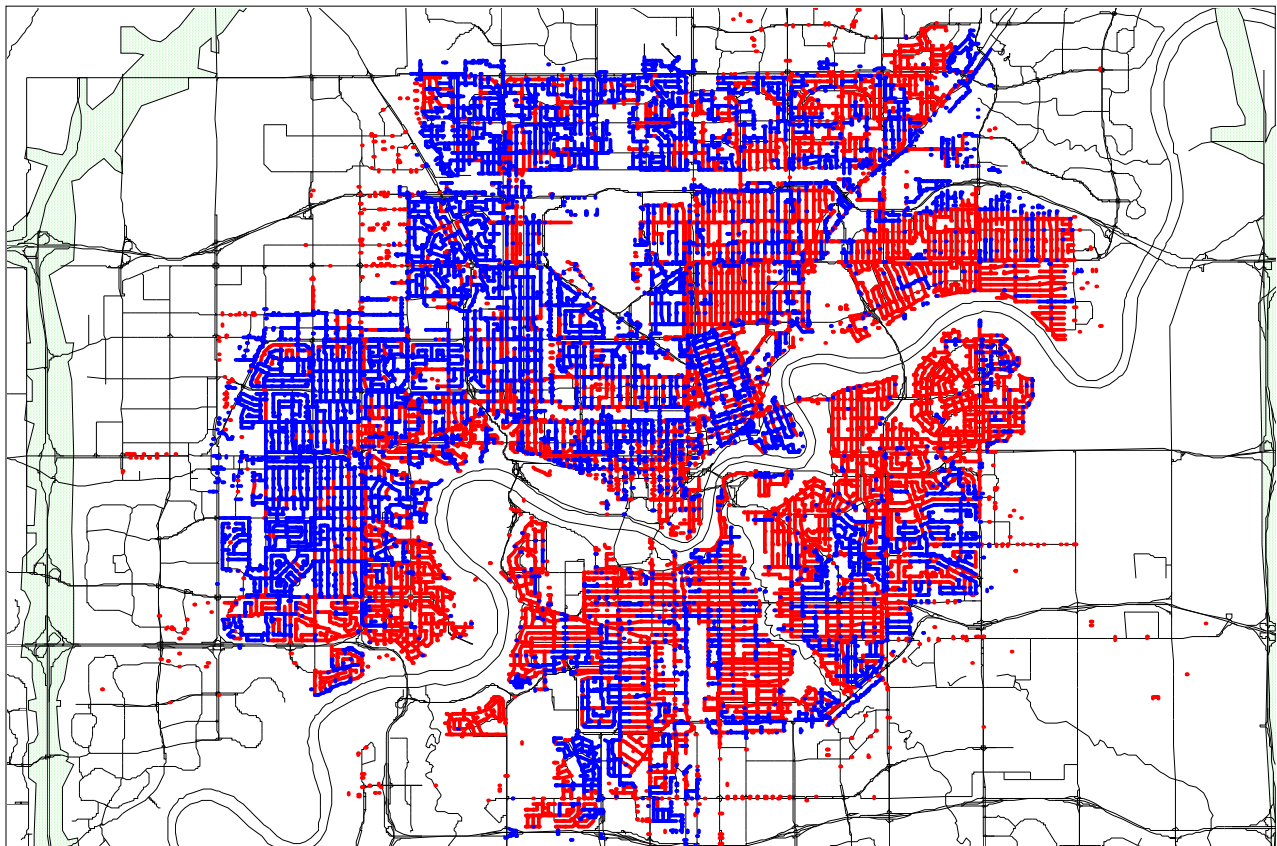
<sup>2</sup> In accordance with Schedule 3 Section 3.0 Water System Service Quality of Waterworks Bylaw No. 12585, there is no water system quality penalty to be assessed as the points earned are above 100.



## Appendix B -Cast Iron Mains Replaced since 1952

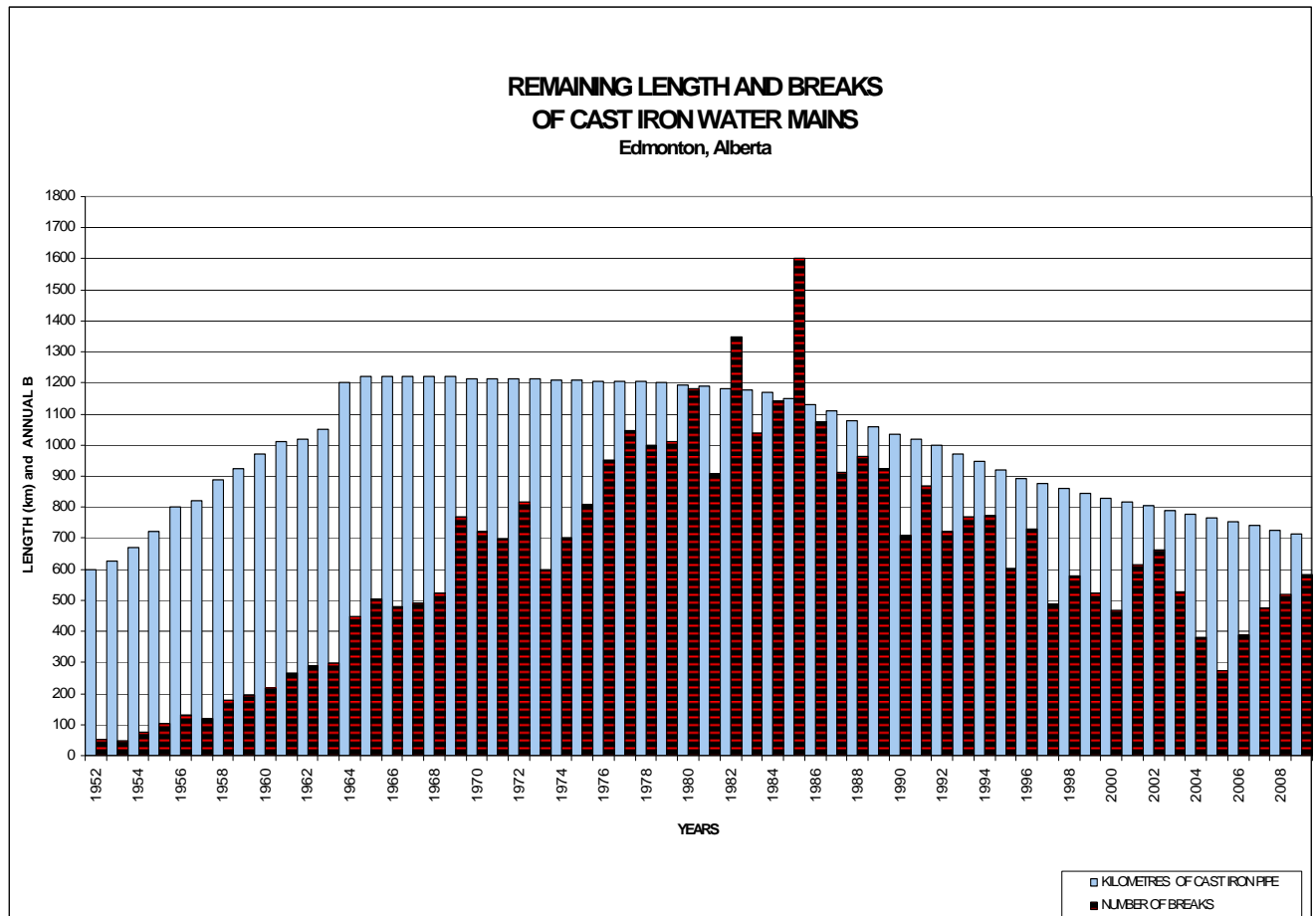
**Blue lines** = replaced cast iron mains

**Red Lines** = cast iron mains still to be replaced



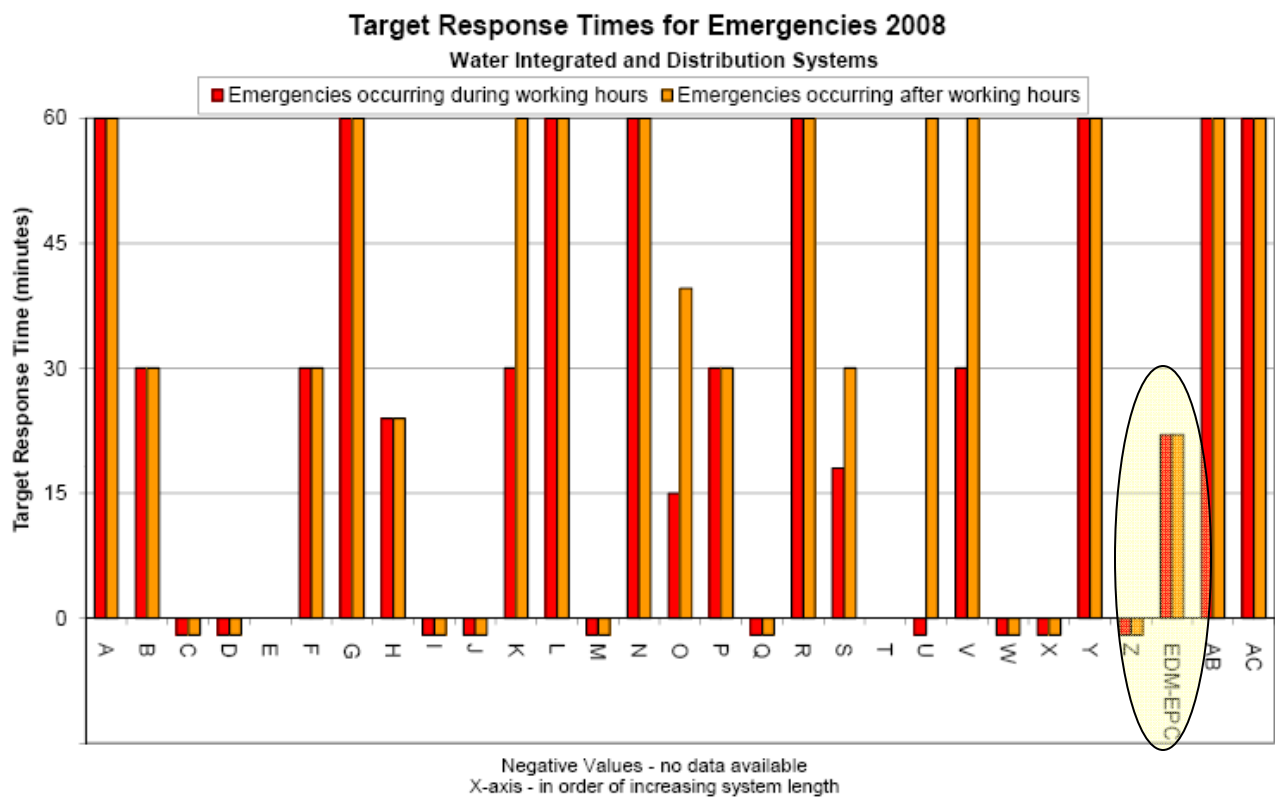


## Length of Cast Iron Mains vs Number of Breaks (1952-2009)





## Appendix C – Water Utilities’ Emergency Response Times\*



Note: Letters A-Z refer to various Canadian water utilities

\* Source: National Water and Wastewater Benchmarking Initiative of Canada 2008



## References

City of Calgary. Water & Wastewater Rates page. Last Updated February 2, 2009.

[www.calgary.ca/portal/server.pt/gateway/PTARGS\\_0\\_0\\_104\\_0\\_0\\_35/http%3B/content.calgary.ca/CCA/City+Hall/Business+Units/Water+Services/Customer+Service/Water+and+Wastewater+Rates/Water+and+Wastewater+Rates.htm](http://www.calgary.ca/portal/server.pt/gateway/PTARGS_0_0_104_0_0_35/http%3B/content.calgary.ca/CCA/City+Hall/Business+Units/Water+Services/Customer+Service/Water+and+Wastewater+Rates/Water+and+Wastewater+Rates.htm)

City of Fort Saskatchewan. Tax and Utilities: City Utilities Q&A page.

[www.foresask.ca/ftsk\\_Community\\_Services/ftsk\\_Utilities.aspx?id=1364](http://www.foresask.ca/ftsk_Community_Services/ftsk_Utilities.aspx?id=1364)

City of Leduc. "Consolidation of Bylaw No. 208-91 WATER RATES, CONTROL & MANAGEMENT BYLAW."

[www.leduc.ca/Leduc/files/bylaws/Consolidated\\_Bylaw\\_208-91.pdf](http://www.leduc.ca/Leduc/files/bylaws/Consolidated_Bylaw_208-91.pdf)

City of St. Albert. Utilities in 2009.

[www.stalbert.ca/utilities-in-2009](http://www.stalbert.ca/utilities-in-2009)

City of Winnipeg. 2009 Water and sewer rates.

[www.winnipeg.ca/waterandwaste/billing/rates.stm](http://www.winnipeg.ca/waterandwaste/billing/rates.stm)

City of Vancouver. Water and sewer rates 2009 page.

[www.vancouver.ca/engsvcs/watersewers/business/watersewerRates.htm](http://www.vancouver.ca/engsvcs/watersewers/business/watersewerRates.htm)

Edmonton Socio-Economic Outlook 2009 - 2014, City of Edmonton, 2009

The Way Ahead, City of Edmonton Strategic Plan 2009-2018

EPCOR Corporate Social Responsibility Report - 2008