

## Milwaukee's Freshwater Advantage for Business

The Milwaukee Water Works (MWW) is a national leader in providing high-quality drinking water and water quality monitoring. Established in 1871, the Milwaukee Water Works is proud to be the largest and oldest continuously operating water utility in Wisconsin.

While providing fresh, safe water for a healthful quality of life, we provide commercial and manufacturing business, and research with a reliable supply of high-quality water at a low price. Milwaukee's abundant supply of water, with its return to Lake Michigan, is a key advantage for water intensive and water technology businesses to perform competitively and profitably. Freshwater is Milwaukee's competitive advantage.

### Business Leaders recognize a high-value service

- **"Miller-Coors'** roots run deep near the shores of Lake Michigan in Milwaukee. Water flows through every step of the brewing process, making it vital to our products. This location is key to the success of our business because the water here is plentiful, high quality, and the water utility provides sterling water quality service." **Kim Marotta, Vice President Corporate Social Responsibility.**
- **Coca-Cola Refreshments** "We require safe and sustainable water resources. Lake Michigan provides an ample source of very high quality water. We appreciate assurances that Milwaukee's water utility has strong preventive maintenance programs and a sound capital investment program." **Tom Petrilli, Plant Manager.** In 2005, Coca-Cola Enterprises expanded its bottling line in Milwaukee to produce *Dasani* for Midwest distribution. Company officials cited the availability and high quality of Milwaukee water in their decision.
- **King Juice Co.** King Juice Co., Inc. is a premier, mid-size packager of non-carbonated liquids based in Milwaukee. The firm also produces its own line of Calypso Branded juices and fruit drinks in a 123,000-square foot facility. King Juice Co. is the 29th largest of Milwaukee Water Works' manufacturing customers. The company recently completed a 54,000-square foot expansion to add a second production line. King Juice benefits from the advantage of the Declining Block Rate and is certified to receive a discounted rate from the Milwaukee Metropolitan Sewerage District (MMSD).

"We need good water for our products. We love the water here, and we're happy to know that we receive discounted rates. We distribute to 46 states and recently completed a significant expansion to add a second production line, proving our commitment to Milwaukee." **Tim Kezman, President.**

- **Palermo Villa, Inc.** Founded by Italian immigrant Gaspare Fallucca 40 years ago, Palermo Villa, Inc. is one of the fastest-growing frozen pizza manufacturers in the United States. In 2011, the company completed a \$22 million, 110,000-square foot expansion to its Milwaukee facility in order to extend its national distribution and respond quickly to increased product demand.

"A great pizza starts with a great crust and a great crust starts with great water. The high quality water supply we have access to in Milwaukee is just one of the advantages of doing business here."

**Giacomo Fallucca, President and CEO**

- **Cintas Corp. Industrial Laundry** City of Milwaukee and M7 regional business recruiting guided the Cintas Corp. to locate an \$8.5 million industrial laundry in Milwaukee. The facility opened in 2007. The decision to create 125 jobs was driven by Milwaukee's superior water supply and distribution system, according to the Milwaukee Economic Development Corp.

### **Rate Advantage for Commercial Customers**

The Milwaukee Water Works provides a declining block rate (DBR) in which cost per unit volume decreases with increased usage. This rate structure is appropriate where there is an abundant, renewable supply of water, Lake Michigan, and all water is returned to the lake. The DBR applies to customers who use more than 34 Ccf of water per month (25,000 gallons/month) or more than 100 Ccf of water per quarter (75,000 gallons/quarter).

On the wastewater side of the water cycle, the MMSD charges only for wastewater discharged to the sewer, not for water used in the product or that which is evaporated.

### **Milwaukee water is conducive to water-intensive industry use and research**

Milwaukee water is clean and pure, providing an ideal platform for manufacturing, processing, and research.

- Reliable pressure and fire flow pressures exceed state standards. Range: 40- 74 pounds per square inch (psi). Higher elevations may have slightly lower pressures.
- Consistently cool temperature decreases energy used for cooling. Median Value, 46.6°F (8.1°C); Range, 29.7°-71.1°F (-1.3-21.7°C)
- Low total dissolved solids. Median Value, 179 mg/L; Range, 173-187 mg/L
- Moderate Hardness. Total, as CaCO<sub>3</sub>) Median Value, 137 mg or 8.01 grains per gallon; Range, 112-142 mg/L

The Milwaukee Water Works treats Lake Michigan water with ozone as the primary disinfectant to destroy microorganisms that cause disease, reduce the formation of disinfection byproducts, and remove taste and odor. Particles are removed through coagulation, flocculation, settling, and biologically active filtration. Chlorine is a secondary disinfectant. Fluoride is added to reduce dental cavities. A phosphorous compound is added to control pipe corrosion to prevent lead and copper that may be present in pipes from leaching into the water. Chloramine disinfection maintains a residual in the distribution system. We continuously conduct water quality monitoring, or sampling, from the lake source water to the distribution system of 1,956 miles of water mains that carry over 100 million gallons of treated water every day.

Treated water enters homes and businesses through a service line pipe and a water meter. After you use water, it leaves your property through the sanitary sewer pipe and flows to the Milwaukee Metropolitan Sewerage District treatment facility where it is treated and returned to Lake Michigan.

### **Milwaukee is a national leader in providing high quality water and water quality monitoring**

MWW is recognized for its comprehensive water monitoring program, which goes above and beyond requirements set forth by the U.S. Environmental Protection Agency's (EPA) Safe Drinking Water Act. This monitoring also extends to Lake Michigan source water. MWW combines electronic continuous monitoring of treatment process control indicators with grab samples to validate those and provide historical validation. MWW continuously analyzes Lake Michigan source water to the distribution system of 1,956 miles of water mains that transport over 100 million gallons of treated water daily.

In 2013, MWW tested for the presence of over 500 contaminants in the source water, entry point, and distribution system, of which 91 are regulated at the entry point by the EPA. Source water is tested for 6-12 parameters required by the EPA; these include *Cryptosporidium*, bacteria, Total Organic Compounds, and alkalinity. Virus monitoring is performed voluntarily.

MWW water quality monitoring and screening activities include organisms and contaminants that are not yet regulated but may be considered of emerging concern to public health, including endocrine disrupting compounds and pharmaceuticals and personal care products. This is done as a precaution to ensure safe water, to collect baseline data for study, to help increase the understanding of how contaminants may affect public health, and to meet future regulations. Milwaukee was one of the first U.S. cities to test its source and treated water for emerging contaminants. None have been found in Milwaukee's treated drinking water. Milwaukee was the first U.S. city to post the results on the Internet, demonstrating a commitment to water quality and transparency.

In 2008, the Associated Press cited Milwaukee as one of only 28 major utilities in the U.S. to test source and treated water for EDCs and PPCPs (Endocrine Disrupting Compounds and Pharmaceuticals and Personal Care Products). Neither testing nor disclosure of results is required under the Safe Drinking Water Act. Milwaukee's water quality monitoring system was in compliance five years ahead of time with new EPA regulations to control disinfection byproducts.

### **Water Supply and Capacity**

Lake Michigan is the sixth largest freshwater lake on earth. Water treated and used in Milwaukee is returned to the lake. This translates into excess supply of water for Milwaukee.

The Milwaukee Water Works also has excess treatment capacity. The utility has seen a steady decline in water sold in the past four decades, the combination of more efficient water use and conservation, and changes in the industrial landscape. Water sold dropped from 58 billion gallons in 1976 to 30.6 billion gallons in 2013. For 2013, average daily pumpage was 100 million gallons. The utility could provide over 100 million additional gallons per day while maintaining an adequate safety margin of supply for emergency fire suppression.

### **Regional availability of Milwaukee water**

Milwaukee water is distributed in a service area of 196 square miles with the physical connections and capacity to expand. The MWW provides water to over 860,000 people in 16 communities in Milwaukee, Ozaukee, and Waukesha Counties: Milwaukee, Brown Deer, Butler, Franklin, Greendale, Greenfield, Hales Corners, Shorewood, St. Francis, Wauwatosa, West Allis, and West Milwaukee. We also provide water to the Milwaukee County Grounds facilities and portions of Menomonee Falls, Mequon, New Berlin, and Thiensville

### **Excellence in Customer Service**

MWW works in partnership with business and industrial customers, the Department of City Development, and the Milwaukee Economic Development Corp. The Water Marketing Specialist serves as liaison with commercial customers, providing information about permits and water rates and troubleshoots water-related issues a customer may present. A founding sponsor of FaB Wisconsin and a member of the Water Council, the Milwaukee Water Works is engaged in economic development efforts encouraging business to expand or locate in its service area and the Milwaukee region.

The Water Quality Manager is available during business hours for consultation and a 24-hour Control Center covers after-hours concerns and emergencies. Commercial Meter Readers read the meters of 1,000 largest customers on a monthly basis, and identify changes in season or monthly patterns and report discrepancies for timely corrective action. Customers can view and compare monthly or quarterly water use by accessing their account online.

**Infrastructure**

The Capital Improvements Program provides for long term improvements to utility infrastructure to ensure a reliable supply of high quality water. The program includes treatment process facilities, laboratories, pumping and water storage, equipment, water mains, hydrants, and meters. The current emphasis is on the distribution system, including remote pumping and storage facilities and water mains and backup power generation. Since 1993, the Milwaukee Water Works has invested \$441 million in its infrastructure.

**Security and reliability**

To ensure continuous water service, ongoing efforts are improving the physical, cyber, and procedural security of water plants and other infrastructure. The utility maintains and tests its Continuity of Operations Plan (COOP) to ensure the utility has sufficient resources to continue essential operations should critical infrastructure be affected by an adverse event.

We continue a multi-year project to provide backup diesel engine-generated electrical power for critical infrastructure such as water treatment processes and distribution pumps. The backup system was designed to meet 94% of daily water demand throughout the service area, including our 15 suburban customers, in the event of a local or regional power outage. Public health is the primary consideration in the delivery of water, but Milwaukee Water Works' systems were designed to provide sufficient water to suppress major fires.

We have been recognized by the EPA for our relationships with local, state, and national health and environmental agencies. A working group has met for over 20 years to maintain a program of enteric disease surveillance and response.

**A utility strategy to operate as efficiently as possible**

As water use and revenues fall, the Milwaukee Water Works has focused on reducing costs and making operational efficiencies. The strategy results in savings in energy, chemicals, manpower, and other costs to maintain low and reasonable water rates.

We have adopted supply-side conservation techniques to save water and energy. The Milwaukee Water Works saved over one billion gallons from 2006 to 2013 through operational changes in treating and distributing water, flushing mains and hydrants. It would take decades of conservation by customers to equal these savings. The American Water Works Association (AWWA) has recognized our efforts with three awards for water efficiency.

Please visit <http://greatmilwaukee.com/> and <http://milwaukee.gov/water/business>

**Contact us**

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