

RPU Plugged In



Back to School!

Be Energy Wise Even When No One's Home

Community Education Classes

Seeing Double?

Bacteria-free Water in Rochester



Keeping Rochester's Water **Bacteria Free** Tiny Organisms, Big Diseases



Potential sources of contamination include sanitary and storm sewers, septic systems, feedlots, and pet waste.

The disinfectant chlorine is added to groundwater at each well, after it is pumped out of the ground, to minimize the chance for any bacteria, viruses, or fungi to grow in the water distribution system. Total chlorine is measured weekly at the 25 different sites around the City, with concentrations averaging 1.0 parts per million (ppm). The Maximum Residual Disinfectant Level and Goal for Chlorine is 4.0 ppm.

RPU has an intensive bacteria testing and disinfection treatment process to ensure bacteria-free drinking water in Rochester. Testing for *coliform* bacteria in the municipal system is conducted weekly in RPU's environmental laboratory on samples collected from 25 different locations on the water distribution system. RPU is required to sample and test for the presence of *coliform* bacteria 100 times each month. RPU sampled and performed 1,526 bacteria tests during 2012, which showed no presence of *coliform* bacteria or *E. coli* in Rochester's drinking water.

Disinfection of Wastewater

Did you know that bacteria is used to help clean more than 14 million gallons of wastewater from our home and businesses each day at Rochester's Water Reclamation Plant (WRP)? Once the wastewater is at the WRP, it must undergo a series of advanced and complex treatment processes before it can be released into the Zumbro River. Initial treatment processes include removing large solids by passing water through screens and collecting solids that either float or sink in settling tanks. Only water, human waste, and toilet paper should be flushed down the toilet. Items such as rags, feminine care products, baby wipes, or any other item are not meant to go down the toilet and can cause costly repairs to the equipment if flushed, so toss these items in the trash!

Historically, bacterial diseases associated with water were common: cholera, diarrhea and dehydration, dysentery, salmonellosis, and even typhoid fever. Today's effective water management practices have virtually eradicated these problems, but vigilance is an ongoing effort. Water managers use Fecal *coliform* bacteria as "indicator" organisms because they are easily detectable when present in large numbers. They can be found in the digestive systems of humans and animals and when they are present in water, they may provide information about the presence of other, disease-causing bacteria. Rochester's water supply, wastewater, and storm water utilities all manage bacteria in different ways.

Water Supply Disinfection Treatment Process & Testing Program

Coliform bacteria, particularly *Escherichia coliform* (*E.coli*) bacteria, are the most common type of contamination that public water suppliers encounter. These disease-causing organisms are easily transmitted to drinking water if animal waste reaches a water supply that lacks suitable disinfection.



Whether in your yard or on a walk, please pick up your pet's waste with a plastic bag, tie the bag, and dispose of used bags in a trash container.

While some of the solids are removed in early treatments, the wastewater still contains contaminants that are suspended or dissolved in the water. The WRP creates an artificial environment that mimics natural processes allowing suspended and dissolved solids to be consumed by microorganisms, including bacteria. As a result of the bacteria's work, solids are created that can settle to the bottom of the tank and be removed from the wastewater. Chlorine is then added to disinfect water, killing the majority of any remaining bacteria or viruses. Sodium bisulfite is added to neutralize the chlorine before it leaves the WRP and enters the Zumbro River. Isn't it ironic that the bacteria can be beneficial for the treatment process, yet would pose a risk to the Zumbro River if disinfection did not occur at the end of the process?

Bacteria in Storm Water Runoff

Surface waters, including lakes, rivers, and streams, replenish our groundwater supply. Any pollution in these waters has the potential to reach the supply, so even though our drinking water does receive regular testing and treatment, it is still worthwhile for residents to change pollution causing behaviors on the land.

When it rains or the snow melts, storm water carries anything found on the land (trash, motor fluids, fertilizers, soil, pet waste, and more) into the storm drain. From there, the storm water is carried to ponds and rivers. The presence of animal waste in storm water runoff has many negative implications for water quality. Animal waste, including dog and goose waste, contains many different types of bacteria that can spread disease to humans and other animals. Roundworms, Fecal coliform and *E. coli* bacteria, and *Giardia* are just a few of the many harmful microorganisms that can be found in animal waste. Animal waste also contributes an abundance of nutrients that encourage aquatic weed and algae growth. Overly fertile water becomes cloudy and green, limiting light penetration. Decomposition of excess plant growth can result in reduced oxygen levels in the water. Both situations negatively affect fish and other aquatic organisms.

Animal waste is one of the many small sources of pollution that add up to a big problem for water quality. Fortunately, the solution is simple: pick up after your pet! Whether in your yard or on a walk, please pick up your pet's waste with a plastic bag, tie the bag, and dispose of used bags in a trash container. Don't put pet waste down the toilet.

RPU Employees Give Back

RPU employees donated school supplies and more than \$200 out of their own pockets to the United Way Running Start for School initiative!



Fall Community Education Classes Hosted By RPU

Gain a better knowledge on geothermal and solar energy by attending the RPU sponsored Community Education classes being offered this fall. Great for the advanced homeowner looking to further their energy efficiency or for the beginner just dipping their toes in to learn the basics. Sign up today because space is limited!

Rochester Community Education

<https://rochester.thatscommunityed.com/>

507.328.4000

Solar Energy for Your Home or Business

An overview of solar electric and solar heating systems will be presented. There will be many photos of solar installations so that you can get a good idea of what they look like and how they are installed. Many basic questions will be addressed such as: How well does solar energy work in Minnesota? How much energy do the systems produce? What are the costs involved and overall economics? What incentives are available? Is there any maintenance? There will be plenty of time for questions and discussion.

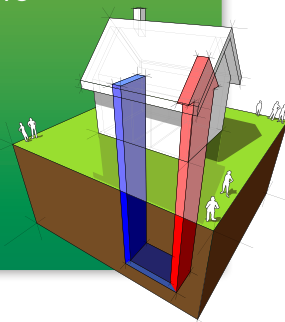
Instructor: Micah Johnson
Date: Saturday, October 5, 2013
Time: 10 a.m.-12 p.m.
Session(s): 1
Location: Cascade Meadow & Environmental Science Center



Residential Geothermal Heating and Cooling

Whether you are building a new home or considering a new heating and cooling system for your present one, consider the economic and environmental advantages of geothermal technology. It is the world's most advanced, most cost-effective heating, ventilation, and air conditioning (HVAC) system for new or existing homes. This class will provide you with geothermal basics: what it does and how it works. Geothermal heating and cooling systems can provide greater comfort and energy savings. Find out information on federal tax credits and Rochester Public Utilities' installation incentives.

Instructor: Arnie Lorimor
Date: Tuesday, October 22, 2013
Time: 6:30-8:30 p.m.
Session(s): 1
Location: Cascade Meadow & Environmental Science Center



Seeing Double?

You may do a double take when you receive your October billing and see two energy charges. This actually happens twice a year: once in June and again in October. The reason behind the dual energy charge is the change in the rate. As of October 1, the cost per kilowatt drops from 11 cents to 9 cents/kwh (kilowatt-hour). This means that part of your usage is prorated at the higher (summer) rate and part of your usage is prorated at the lower (non-summer) rate, hence the reason for two separate energy charges appearing on your bill.

As of June 1, the rate then goes back up to the summer rate. The reason for the rate adjustment twice a year is

to accommodate the costs due to the increased usage during the summer months when there is a larger demand for energy. Increased usage in summertime results from higher usage of air conditioners and dehumidifiers.

So, when you receive your October statement, don't fret. It's not a double billing. It's just a prorated adjustment to your bill based on the shift in the rates. The energy customer charge is a flat fee on the billing statement and that will stay the same at \$14.50/month regardless of how much energy you use.

If you have questions about summer and non-summer rates, contact RPU customer service at **507.280.1500**.

FREE WORKSHOP DATES COMING SOON FOR THIS RESIDENTIAL ENERGY EFFICIENCY PROGRAM



ATTEND A FREE ENERGY EFFICIENCY WORKSHOP!

Attendees are eligible for a home energy audit. Auditors will also install products that can help you start saving right away. You'll receive information on energy efficiency financing and rebates. This \$400 value is available to workshop attendees for a co-pay of only \$50!

**Watch future issues of Plugged In
for alerts on workshop dates
or visit www.rpu.org.**

*Rebates available on a first-come first-serve basis while funds last. See rebate applications for minimum efficiency requirements.





Back to School!



It's that time each year that students of all ages dread – back to school time! Making sure you have the right school supplies, the right clothes, and lunches packed is only half the battle. Did you know that part of your back-to-school tradition could be saving energy and water by recognizing your changing habits as your children, big and small, go back to school this fall?



Set your programmable thermostat to adjust to your schedule

Don't waste energy cooling your home down during the day when no one is home. Have your air conditioner turn on shortly before you or your children get home. Make sure that windows and doors are closed during the times that it is scheduled to turn on.



Take a look at your lighting

Soon there will be less sunlight in the mornings and possibly more people getting up earlier in your household. Ensure that there is adequate and efficient lighting available by identifying which lights are used the most and what type of light they are. Consider LED (light-emitting diode) lighting in the areas that are used the most. For instance, a bed-side lamp, bathroom fixtures, and the kitchen might be the best areas to replace incandescent lighting with LEDs, depending on your family's morning habits. Make sure to take advantage of RPU's Conserve & Save® rebate program if you are purchasing Energy Star® LED lighting.



Don't sprinkle during the day

Don't run your sprinklers when you aren't home to keep an eye on them. Changing winds and sun intensity are two big factors that can greatly alter how effective your watering is. Even a mild wind can throw off where the water from your sprinkler will fall. Watering a driveway or sidewalk doesn't do much for your yard. In addition, the ideal time of day to water is in the early morning hours before the sun is out to evaporate all of your water. And if you don't have to get up early, consider buying a timer to go on your outside hose. (Make sure to remove outside hoses before the first freeze of the fall/winter.)



Just like spring cleaning, do fall cleaning

Make it a habit to do simple cleaning tasks in the fall, just like in the spring. Vacuuming the coils on your refrigerator can help to ensure that it is running efficiently and not overheating. Cleaning your windows can make a significant difference in how much daylight gets into your home. Use as much daylight as you can to reduce your energy use for lights and lamps.



You can still grill out

Just because school is back in, doesn't mean that you still can't use the grill for dinner. Prepare family meals without the use of the microwave, oven, and stovetop. Use the grill to cook the meal and then, of course, wash the dishes by hand so you don't have to use the dishwasher.



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CALLING FOR NOMINATIONS!

Environmental Achievement Awards are given annually for outstanding environmental achievement in Olmsted County.



Nominations are sought for individuals, families, youth, organizations, or businesses in any or all categories:

- Climate Change
- Education
- Renewables
- Sustainable Food Production
- Conservation
- Energy
- Water
- Other

NOMINATE YOUR ENVIRONMENTAL HERO!

APPLICATIONS: www.rpu.org • DEADLINE: October 18

RPU Plugged In 2-Year Anniversary Edition

This edition marks the two-year anniversary of RPU *Plugged In*. We hope that it has been a valuable resource to help keep you updated on RPU news, events, and projects. Through our customer satisfaction survey we have heard that many enjoy reading it and look forward to it on a monthly basis. In order to help us to improve RPU *Plugged In*, we are asking you for ideas. Do you have an article idea for us? Do you have a question that you'd like to be addressed in a future issue? If so, contact RPU by emailing RPU Customer Service through the Contact Us link on the RPU website, www.rpu.org, or give us a call at **507.280.1500**.



First issue of RPU *Plugged In*

