



**OWATONNA**  
**PUBLIC UTILITIES**

VOLUME 27 | ISSUE #4

# CUSTOMER UPDATE



## FEATURING: ELECTRIC UTILITY INDUSTRY

- |                     |                            |                       |
|---------------------|----------------------------|-----------------------|
| 2 OPU Memo          | 5 Utility Equipment Series | 6 Clean H2Owatonna    |
| 3 City Spot         | 5 OPU Highlights           | 7 Featured Rebates    |
| 3 Conservation Tips | 5 Customer Survey          | 8 General Information |
| 4 Electric Industry | 6 Call Before You Dig      |                       |



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# OPU MEMO



Ron Johnson,  
Director, Engineering

## OPU Commission

Mr. Kim Cosens  
Mr. Dale E. Simon  
Mr. Matt Kottke  
Mr. Kent Rossi  
Mr. Randy Doyal

Spring storms and construction season are upon us. We have been lucky in Owatonna to have avoided being hit by any destructive storms so far this year. It is an unpleasant fact of modern day life that big storms, such as tornadoes, heavy snow, and ice storms, often cause major power outages. Sometimes these outages can last for days or even weeks in heavily damaged areas. In the post mortem that follows a major storm-related power outage, there is almost always a public clamoring for electric utilities to bury overhead power lines. For many, it seems only intuitive that placing electric wires underground should protect them from severe storms. Given the critical role that electricity plays in today's high-tech society, even a momentary power outage is an inconvenience. Extended power outages present a major hardship and can be catastrophic in terms of health and safety consequences and the economic losses created.

Given the vulnerability of electric power lines to storms, why don't electric utilities simply bury these lines so they will be protected? Burying existing overhead power lines does not completely protect consumers from storm-related power outages. While underground power lines do result in fewer overall power outages, the duration of power outages on underground systems tends to be longer than for overhead lines. The costs to build large underground main lines can be up to 10 times the cost of building the new overhead line. Once built, there is also far less flexibility to modify underground construction versus overhead construction. This makes replacing overhead main lines very hard to justify.

The majority of OPU's power lines are either main feeder (three phase) lines or tap (single phase) lines. For the reliability and the cost effectiveness, OPU is committed to keeping main feeder lines overhead. Most of our single phase lines feed residential areas. Many of these lines run down rear lot lines. These are the overhead lines that we see the potential to convert to underground lines. Many of these lines run through areas with many trees. Squirrels and fallen tree branches are a couple of the top causes for power outages.

Three years ago, OPU was approached by Jaguar Communications with a potential cost sharing underground project. Jaguar's contractor was looking at boring in conduits in areas where OPU had existing facilities. We agreed to have their contractor also install conduits and pedestals for OPU while they were going through these residential areas. All existing electric facilities will eventually need to be replaced. This project provides an opportunity to replace the single phase overhead lines with underground lines in a more cost effective manner as priorities allow.

A lot of this conduit has been installed in the NE quarter of our community and we expect them to complete installing conduit in the NE quarter this year. They will then work their way into the SE quarter of town, proceeding to the west half of town. We expect these conduits to be installed over the next three to five years. Our crews have also been working in the NE part of town, but our work can't be done as quickly as boring in conduit. During this conversion process, there will need to be both overhead and underground facilities in the area. Once the electrical conversion is completed, the overhead facilities can be removed. Depending on the economy and our available manpower, we expect this conversion of single phase overhead lines to underground to take around fifteen years to complete.

In most areas, we plan to loop the single phase lines. This means that the lines have a source feed from two ends. Most single phase overhead lines are built as a one-way dead end feed. This means that a problem on the line can cause the rest of the line to be out of power until the issue is fixed. By having looped feeds in the underground system, the issue can usually be isolated and the rest of the line back-fed from another source, reducing the outage time. This gives our customers the benefit of reduced outages and can substantially reduce the outage time when an outage happens. After a new line is installed, we expect the new underground system to last a minimum of 35 years.



# CITY SPOT

## OWATONNA CITY COUNCIL

### HIGHLIGHTING: PUBLIC WORKS DEPARTMENT



The City of Owatonna has an active Urban Forestry program that is managed through the Public Works Department. The forestry division of the City Street Department or “tree crew,” led by the City Forester, is responsible for the care and maintenance of trees throughout the City. Ron Knutson currently serves as Owatonna’s City Forester.

The tree crew not only plants and cares for trees in the City boulevards, but also in the City Parks, on the municipal golf course and on other City owned properties.

The City of Owatonna has achieved Tree City USA status every year since 1991. Four standards have to be met to become a Tree City USA community: having a tree board or department, a tree care ordinance, a comprehensive community forestry program, and an Arbor Day observance and proclamation. The City is proud to be designated as Tree City USA—an accomplishment that improves the quality of life for the citizens of Owatonna.

Trees are a vital component of the infrastructure in our cities and towns, and they provide environmental and economical benefits:

- Trees promote healthier communities. Leaves filter the air we breathe by removing dust and other particles.
- Trees moderate climate, conserve water and provide habitat for wildlife.
- Trees in urban areas reduce the heat island effect caused by pavement and buildings.
- Properly placed trees can increase property values, and buildings in wooded areas rent more quickly and tenants stay longer.
- Trees enhance streets, having a powerful effect on how a street looks, feels, and functions.

### **SHADE TREE ORDINANCE**

Ordinances governing the maintenance and planting of trees are critical to implement and sustain a successful forestry program. City Ordinance 97.00 was amended earlier this year as required by MN DNR as part of the 2013 Community Forest Bonding Grant and future onset of Emerald Ash Borer (EAB). The amendment included the addition of EAB as a shade tree pest, combines existing shade tree pests into one section for unified management of various pests/disease, and updated the approved boulevard tree list. The City’s Code of Ordinances can be found on the City website.

## CONSERVATION TIP\$

Save on heating and cooling costs by locating and fixing drafts in your basement. Look for spider webs around basement windows to locate drafty areas. Spiders build their webs in areas with moving air and can indicate what areas need to be sealed.

Go to [www.tinyurl.com/OPU-Tips](http://www.tinyurl.com/OPU-Tips) for more conservation tips



### **MAYOR**

Tom Kuntz

### **COUNCIL MEMBERS**

David Burbank

Nathan Dotson

Jeff Okerberg

Kevin Raney

Greg Schultz

Brent Svenby

Doug Voss



# ELECTRIC INDUSTRY

*Information for this article obtained from "The American Lineman -- Honoring the Evolution and Importance of an Unsung Hero" book written by Alan Drew, the Northwest Lineman College*

Different professions come to mind when you say the word "lineman". This history of the lineman industry really dates back to the invention and trial of the telegraph. Building the first telegraph line required workers to dig holes, set poles, install insulators and string wires. While workers were not referred to as linemen at this time, it is reasonable to credit this first telegraph line in America to the birth of the lineman. The term "lineman" is believed to have started somewhere between 1870 and 1885.

Tools of these early linemen consisted of pole climbers; many of which were constructed by the local blacksmith and attached to the lineman's leg by a variety of methods, including leather thongs and straps. The majority of the linemen supported themselves on the pole by firmly securing one climber in the pole and wrapping the other leg around the pole. Other tools were pole pikes, cant hooks and shovels for use setting poles. There were other tools designed to take the strain off conductors, including wire grips, draw tongs and rope blocks. Most of which were individually designed and manufactured by linemen or the telegraph companies. The first lineman's pliers were designed by Mathias Klein in 1857 and remains the number one lineman tool to this day.

From the very beginning, linemen faced many challenges keeping the lines functioning properly. Buffalo discovered the poles made wonderful backscratchers consequently tipping over the poles. The Indians realized more poles meant more colonization so they would burn and rip down the poles; storms ripped through territories. After the civil war, electricity seemed to hold promise in improved productivity and an enhanced quality of life. Telephone and electric lines were starting to be installed in bigger cities on the same poles as the telegraph lines. Linemen were now faced with exposure to a variety of electrical circuits and therefore electrocution. It was estimated one out of every three linemen were killed in the early years.

As electricity use grew, linemen quickly learned the value of grounding circuits in addition to disconnecting them from the energy source. The roots of the practice of grounding circuits after they have become disconnected can be traced to the arc lamp era in the late 1880s and are still used today. Crossarms and conductors were jammed together on wood poles without any standards or codes creating little space for climbing or working. In some areas of New York City, the number of wires reached the point of being unsightly up to the point of blocking sunlight from parts of the city. Some poles & lines had over 40 crossarms and 400 wires on them. Electrical contacts became so frequent, New York finally passed an ordinance that required existing overhead lines in certain areas to be removed and placed underground.

As cities grew, electricity became a vital piece to the production of goods and services and written codes and safety rules were developed resulting in standardization of construction practices and work rules. This era also fostered better safety equipment being developed. Stronger insulators, insulated shoes, insulated switches, rubber gloves, rubber coats, insulated hoods, line hose and blankets were developed to better protect the linemen. To this day, a lot of these same protective devices are used by our linemen to ensure their safety. Other safety equipment includes hardhats and safety glasses.

Some things about being a lineman have not changed over the years, the laws of electricity still apply in the same manner as they did 100 years ago. In many ways, today's linemen work on poles, crossarms, and conductors much like they did in the past and many of the same hazards still exist. However, progress brings unlimited changes. Today's linemen and the companies they work for must understand and comply with a myriad of rules and regulations. Even with all the rules and regulations, according to Forbes, electrical power line workers are listed as having one the top 10 most dangerous jobs in the United States with 20.3 fatalities out of 100,000 full-time workers.

The next time you see a lineman working on a pole or a job site around town thank them for the dangerous work they do.

# EQUIPMENT SERIES



Residential electric meters are the ultimate “set it and forget it” piece of equipment used by Owatonna Public Utilities (OPU). Traditionally, a new electric meter we install will operate for about 15 years before we need to check it for accuracy. Very few have to be replaced at the 15-year mark, so most are reinstalled and last for another 15 years before they are replaced.

At its most basic level, the electric meter functions as a cash register. When you finish shopping for groceries, don't you want to know, with a high degree of certainty, what your food cost? It's the same for electric meters: Without them, we wouldn't know what to charge you for the electricity you buy.

When an electric meter needs to be replaced, or installed for the first time in a new home, that basic meter costs OPU about \$60. Each year, OPU replaces or installs between 200 and 300 residential electric meters, at a cost of between \$12,000 and \$18,000.

Although these meters look harmless, do not tamper with them as electric shock is always a possibility.

## MYLAR BALLOONS

If you celebrate with metallic balloons, remember to keep them tethered at all times and dispose of them properly. Proper handling and disposal keeps them from drifting into power lines and causing a power outage.

When a metallic balloon touches a power line or floats into substation equipment, it can cause a surge of electricity that short circuits equipment and can lead to power outages, fires, and possible injuries.

To reduce these types of incidences, keep the following tips in mind:

- Keep balloons tethered at all times and attached to a weight.
- Never release a metallic balloon outdoors.
- When no longer in use, puncture and deflate the balloons before creatively reusing or disposing of them.
- If a balloon or another toy becomes entangled in an overhead power line, do not attempt to retrieve it. Call OPU for assistance.



Always assume power lines are live, and keep yourself and all other items at least 10 feet away from power lines. Check out the video on our website to watch what happens when a metallic balloon contacts a power line. (Information for this article obtained from [safeelectricity.org](http://safeelectricity.org))

## OPU HIGHLIGHT



**OPU Electric crew : - back row: Dean Schroeder, Tom Foss, Gary Strohman, Jake Perdue Tony Hartle. Front row: Weston Lovelette, Matt Clements, Jeff Bertram, Cody Reed. Not pictured: Collin Wencil**

Whether it's a blizzard, a thunderstorm filled with lightning or a squirrel getting into a transformer, our lineworkers venture out into the elements, putting it all on the line to restore power.

Despite numerous safety precautions, these workers face hazardous conditions on a daily basis. It's a job that, according to the Bureau of Labor Statistics, is one of the deadliest and most dangerous in the United States.

Yet, with all the known hazards of working with electricity, lineworkers are committed to keeping the energy flowing safely to homes and businesses no matter the conditions or weather.

And for that, OPU recognizes the contributions and dedication of our lineworkers during National Lineworker Appreciation Day, April 10, 2017.

In addition to restoring power, our linemen construct, test, and maintain our distribution system which includes 102 miles of overhead lines and 92 miles of underground lines. They also install new customer services and maintain the city's streetlights.

In large part, due to the excellent work our lineworkers do day in and day out, OPU has received recognition for significantly outperforming the electric industry national average for reliability.

# CALL BEFORE YOU DIG

Minnesota Law **REQUIRES** homeowners, do-it-yourselfers, excavators and contractors contact Gopher State One Call two business days prior to digging, driving stakes, or performing any other activities that involve disrupting the ground. ***Never assume the depth of a utility or that the depth of the utilities are consistent.***

Gopher State One Call will contact the utility companies in the area to have underground lines marked. Once all utility lines are marked, digging may begin. Proceed with caution and avoid the tolerance zone or hand dig with a shovel within 2 feet of the marked utility lines.

Watch for private facilities such as sprinklers, power lines to garages or out buildings, gas grill lines or invisible fencing as these will not be located by Minnesota utility companies.

Visit [gopherstateonecall.org](http://gopherstateonecall.org) to learn what information will need to be given when contacting Gopher State One Call.

The service is **FREE**. Call toll free at 800-252-1166 or simply dial 811.



**Know what's below.  
Call before you dig.**



## **SEEKING PARTICIPATION – RAINGARDEN COST SHARE**

The City is currently seeking applicants to participate in the Raingarden Cost Share Program. The City will provide 50% of the cost of installation, up to \$500. The City has a limited number of awards, so get started now with the planning process! **Schedule a site visit with Brad Rademacher, Water Quality Specialist and learn why a Rain Garden is right for you!**

Rain gardens are a smart and proven way of using beautiful landscaping to clean our waterways, protect our natural habitats, improve homes and neighborhoods, reduce flooding and save money in pollution clean-up.

### **Major Benefits of Raingardens**

1. Keep water clean by filtering runoff before it reaches local waterways.
2. Protect our community from flooding and drainage issues.
3. Replenish aquifers by infiltrating water into the ground.
4. Enhance the beauty of your yard and our neighborhoods.
5. Provide habitats for wildlife, from birds to butterflies.

**Rain Gardens are a simple way to make a big difference!**

**Learn more about the Rain Garden Cost Share Program through The City's Stormwater Website or contact Brad Rademacher, Water Quality Specialist, (507)-774-7300 or [Bradley.rademacher@ci.owatonna.mn.us](mailto:Bradley.rademacher@ci.owatonna.mn.us)**



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# REBATES

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Office: 451-2480 Service: 451-1616

**OFFICE HOURS:**  
**Monday-Wednesday:**  
 8:00 a.m. - 5:00 p.m.  
**Thursday:**  
 8:00 a.m. - 6:00 p.m.  
**Friday:**  
 8:00 a.m. - 4:00 p.m.  
**Saturday & Sunday:**  
 Closed

**Payment Options**

- Online at [www.owatonnautilities.com](http://www.owatonnautilities.com)
- Automatic Withdrawal; bank account or credit card
- Drive-up drop box located in the parking lot south of building
- Drop box locations at Cash Wise Grocery Store and HyVee Food Store
- Mail
- At Owatonna Public Utilities; cash, credit card, check or money order

**Moving?**  
 Remember to contact the Customer Service Department **ONE WEEK** prior to moving, 451-2480.

# April 18<sup>th</sup> is National Lineworker Appreciation Day



**Thank you Dean, Weston, Tom, Matt, Gary, Jeff, Jake, Cody, Tony and Collin, for all you do!**



**Tell Us How We're Doing**

Your opinion matters to us. Please take a few minutes to tell us how we did by visiting our website at [owatonnautilities.com/customerurvey](http://owatonnautilities.com/customerurvey) or simply scan the QR code above.

**From the Editors**

We welcome your comments and suggestions for future issues. Feel free to give us a call at 451-2480 or send an email to [schmolt@owatonnautilities.com](mailto:schmolt@owatonnautilities.com).

**Gas Leak?**

If you smell gas and can't find the source immediately, go to a neighbor's house and call OPU at 451-1616.



Don't turn electrical switches on or off or use a flashlight or telephone in the home, because an electrical spark could ignite the gas and cause an explosion.