

WATTS *Current*

December 2020

For Our Members

Why Don't Utilities Bury More Overhead Power Lines?

By Nik Schulte, Distribution Engineering Manager

Across the country, we continue to see natural disasters cause widespread outages – wildfires out west, hurricanes down south and a destructive derecho that swept through our own state in August.

Following widespread or prolonged outages, people sometimes ask why electric utilities don't bury more overhead power lines to reduce future outage events. This question really boils down to the reliability and affordability of electric service. I'll explain why burying large expanses of overhead power lines can be a very expensive way to marginally increase reliability in most instances.

Reliable service is our daily priority

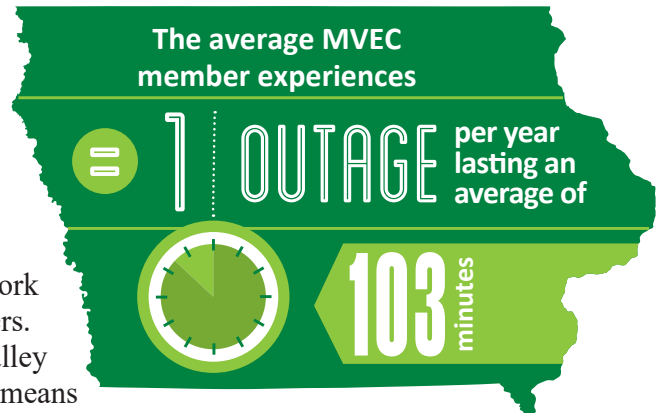
First of all, you should know that we plan for and continually work towards maintaining safe, reliable electric service to our members. In fact, the five-year average reliability rating for Maquoketa Valley Electric Cooperative (MVEC) is an impressive 99.9889%. This means that from 2015 to 2019, your cooperative kept the lights on for an average of 99.99% of the time. Even when severe weather threats like blizzards, tornadoes, thunderstorms and ice storms caused extensive outages, MVEC's 5-year reliability rating only dropped to 99.97%. According to our five-year data, a member experiences one outage per year, lasting 103 minutes on average.

Maintaining affordable electricity

With extremely reliable service already in place, the debate over burying power lines typically comes down to cost. At MVEC, the cost to bury electric infrastructure can be two to five times greater than the cost to build it above ground. Burying power lines requires underground trenching, moving cable and communication lines and adding new transformers and switches to make sure power can be distributed remotely. These costs would ultimately need to be paid by our members, who are already experiencing reliable service.

Following the Derecho, many utilities were faced with replacing more expensive underground infrastructure that was destroyed when uprooted tree roots tore thru buried cable.

Simply stated, it can be extremely cost-prohibitive to bury vast spans of overhead power lines. In most circumstances, it's considerably less expensive and more cost effective for electric utilities to maintain reliable service with overhead infrastructure through pole testing and vegetation management efforts.



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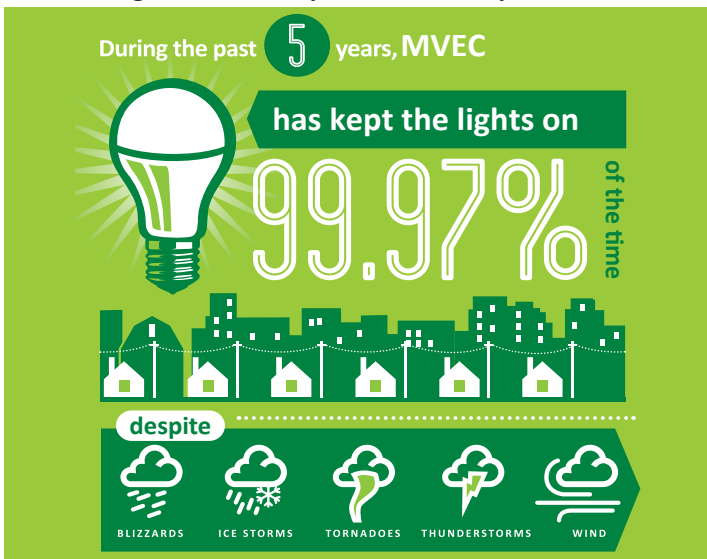
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Local decision-making

MVEC considers several options and variables when reviewing ways to improve system reliability. Sometimes we will make the decision to bury strategic sections of power lines when it's feasible to do so.

Your engineering, operations and finance teams work diligently to balance the reliability, affordability and safety of electric service to you.

Because MVEC is owned and governed by you, as the members we serve, our only priority is working for you and serving the needs of your community.



Smart Tips For Using Electric Blankets

When buying an electric blanket, check for approved safety certification. Look for electric blankets with safety features, including an automatic shut off.

To help you have both a warm and safe winter, here are some tips for using electric blankets:

- Plug electric blankets directly into outlets; avoiding an extension cord.
- Always to turn off electric blankets when not in use.
- Be aware of pets and children near heating blankets. Pets should never be allowed to sleep on top of electric blankets.
- Keep electric blankets away from water. If they become wet, do not turn them on to dry.
- Store your electric blanket in a manner which avoids creasing. If it cannot be stored flat, loosely fold or roll the blanket in a cool, dry closet.

To learn more visit SafeElectricity.org.

Heat And Cool Your Home With A Heat Pump

If you're looking for an energy efficient upgrade that will save you money on your electric bills, consider a geothermal heating and cooling system. With a federal and state tax credit, there is no better time to install this HVAC system!

Why is a geothermal heat pump so energy efficient?

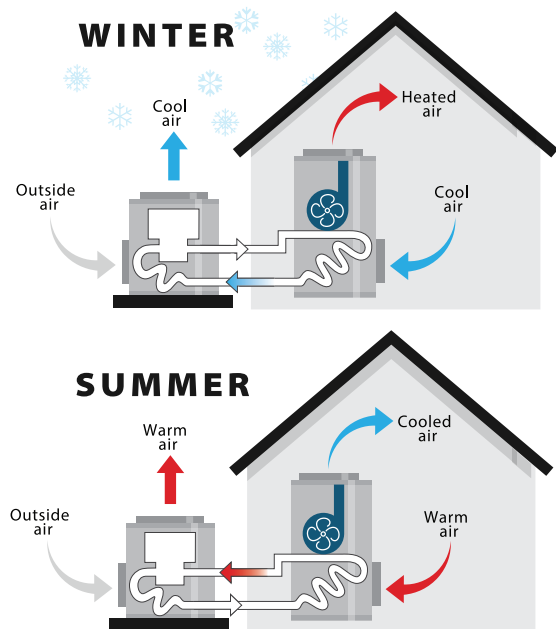
A geothermal heat pump (also known as a ground source heat pump) is a highly-efficient renewable-energy technology that is used for both residential and

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air-source HEAT PUMP

- **Pulls heat** indoors from the outdoor air in the winter and from indoor air in the summer
- When properly installed, requires **little maintenance** and delivers 1.5-3.5 times the energy it uses
- **Easy to convert** from propane or oil system
- More **efficient** than gas
- **Dehumidify better** than standard central air conditioners, resulting in **less energy usage** and more cooling in summer months

Possibly eligible for energy-efficiency rebates and incentive heat rate





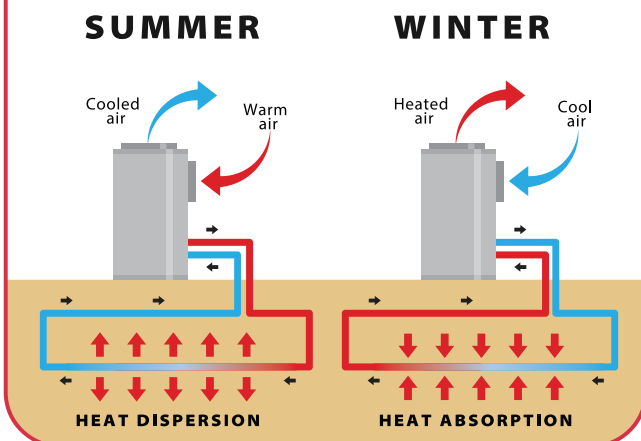
commercial buildings. Geothermal pumps are used for space heating and cooling, as well as water heating.

The technology relies on the fact that the earth (beneath the surface) remains at a relatively constant temperature throughout the year, warmer than the air above it during the winter and cooler than the air in the summer, very much like a cave. The geothermal heat pump takes advantage of this by efficiently transferring heat stored in the earth or in ground water into a building during the winter and transferring it out of the building and back into the ground during the summer. The ground acts as a heat source in winter and a heat sink in summer.

ground-source HEAT PUMP

- **One system** for heating, cooling, and water heating
- Uses the abundant, **natural energy** the earth stores beneath us
- **Highest efficiency**, documenting heating efficiencies of up to **500%**, meaning homeowners get \$5 of heating for every dollar they spend
- Excess heat energy can be routed to the water heater, **saving** homeowners **two-thirds** of their water heating costs year-round
- Higher installation costs than standard forced-air furnace and central air conditioner, but **shorter payback periods** because of increased operating efficiency

Possibly eligible for energy-efficiency rebates, incentive heat rate and tax credits



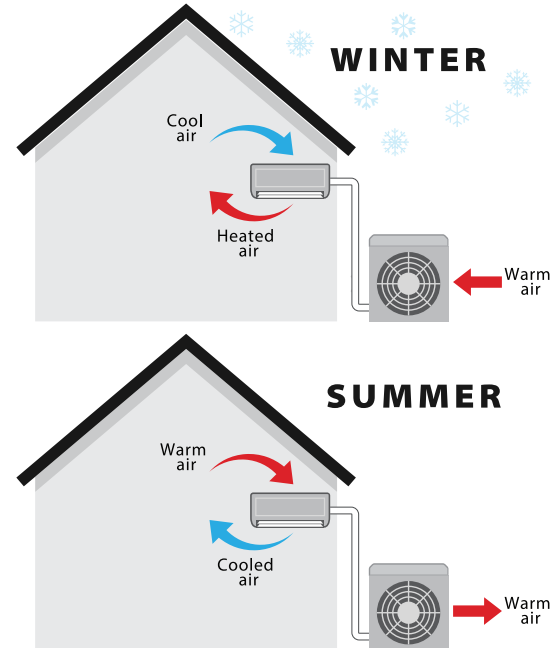
Data from the Environmental Protection Agency shows that homeowners save **30-70% on heating costs and 20-50% on cooling costs by using geothermal heat pumps compared to other conventional systems. This translates to roughly \$400 to \$1,500 in annual savings.**

Installing a geothermal system involves adding an underground loop system, which makes the installation cost more expensive upfront compared to conventional HVAC systems. Homeowners can utilize federal and state geothermal tax credits to help offset these installation costs. Additionally, MVEC offers energy efficiency rebates on heat pumps and an incentive electric rate for whole-house electric heating systems.

mini-split/ductless HEAT PUMP

- Like an air-source heat pump, but **smaller**
- **Ductless**, so works on houses that don't have duct work
- **Cost effective** and **easy to install**
- Only runs when and as hard as it needs to, thus is **extremely energy efficient**
- Scalable so one outdoor compressor can **run multiple units** inside
- Ideal for those who want **air conditioning** in homes that don't currently have it

Possibly eligible for energy-efficiency rebates, incentive heat rate





Let's Get Social: Social Media For Seniors

What is social media? Think of social media as web sites where you engage and connect with other people, communities, organizations and businesses; web sites where you can share, create, learn, discuss and promote content, ideas, opportunities and more. The most common social media options include Facebook, Twitter, Instagram, Pinterest and YouTube.

According to the Pew Research Center, a rapidly growing demographic group for social media use is people aged 65 and older. The study also showed 34 percent of seniors use social media sites, and there are no signs of slowing down.

While it may be true that seniors are typically weary of digital media because it didn't exist while they were growing up. There is nothing wrong with adapting to the current time and taking advantage of the benefits of social media and technology.

Social media is a warm gathering place, allowing people of all generations to connect, communicate, and share mutual interests. Many seniors are adapting and learning how to use social media, in fact data suggests more seniors are using social media every day than those who read their daily newspaper.

When you think about the benefits of social media, the positive elements that rise to the top include staying engaged with life, maintaining relationships and retaining a healthy lifestyle. Successful aging is clearly associated with higher levels of physical and cognitive health and social engagement.

Studies have shown that key health benefits involve reduced isolation, loneliness, and depressive symptoms. Getting out of the house to spend time with loved ones can be difficult, especially with mobility challenges and now with the pandemic. Since social media helps to satisfy primary social needs, it acts as a mental stimulant, which keeps one's mental health in check. Video chat options such as Skype or Facetime are perfect social media platforms for face to face interactions with loved ones. Seeing a family member's face can help to keep that close connection when distance is a challenge.

Today, social media networks can be easily accessed through a smartphone, computer, or tablet.



Here are just some of the ways that seniors can use social media to enhance their lives.

- Stay connected with family and friends with only a few clicks. See photos of family vacations, events and special occasions. Use video chat instead of a phone call, email or letter.
- Make new friends by connecting with others your age who have similar interests, or connect with long lost friends from your younger years.
- Follow sites like Pinterest to see travel options, recipes, hobby or health news and so much more. There are social media pages for every subject you can imagine.
- Social media can be a great news source as well as a way to know what others think of events locally and around the world.
- As the baby boomer generation hits their senior years, many are retiring later or starting second careers following a first retirement. Social media is a great place to market handmade crafts, business consulting services, promote events and more. Working online can help a senior start marketing a new business, or help grow an existing business, at little to no cost.
- Social media comes with an endless amount of entertainment. Whether it's laughing at a cartoon/meme, reliving the past through clips of favorite old shows, playing games, or reading articles, social media is a great way to laugh, learn, and share. Streaming music and listening to your favorite songs can boost your mood or help you relax.
- Seniors who enjoy Do it Yourself (DIY) projects can watch YouTube videos to learn a new hobby, improve your home's energy efficiency or learn how to use new technology such as stream TV



- Join a social media community and experience events together without leaving home; book, hobby or religious clubs are just a few options.
- Educational opportunities through a local college social media site may include scientific breakthroughs, historical accounts, current events, and more. Scrolling through a Facebook newsfeed is a great way to engage in local and global events while learning more about the world outside of your own home or senior living community.

HOW DO YOU ACCESS SOCIAL MEDIA?

Getting started with social media is simple. First talk with your family and friends and see what social media sites they use the most so that you can connect with the same web sites they use. Learn how to download an app or setup a site. Some sites may require you to set up a username and a password.

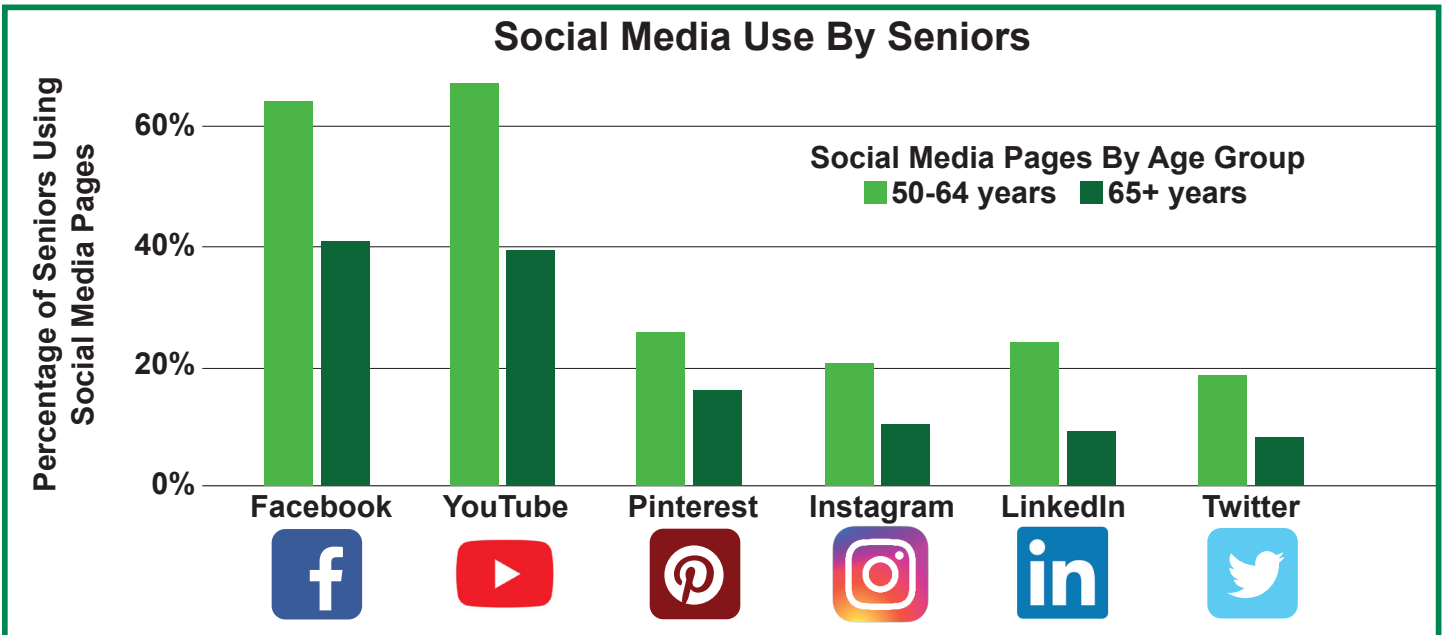
There are two ways that are used to access the social media web sites.

1. Web sites accessed from your web browser, by simply entering the address for the site.
For example: www.facebook.com, www.youtube.com or www.pinterest.com
2. Apps installed on your devices. There are Apple and Android apps for all of the major social media web sites. They are installed from the App Store. All of the apps are free to install and use.

Here are some tips to help you with privacy concerns on social media.

- Choose your level of engagement. You do not have to share anything about yourself or your activities, you can simply view posts and updates made by your friends, family and even strangers.
- DO NOT share personal identifying information such as your address, full date of birth, phone number, driver’s license number or especially your social security number.
- If you choose to share personal activities, be careful not to overshare. For example, if you are planning a vacation, you may not want others to know you will be away and create an invitation for burglary.
- Be aware of scams. Just as with mail and phone calls, if something sounds too good to be true, it probably is.
- Talk to your children if you intend to post pictures of your grandchildren to ensure that their privacy concerns are understood.

In general, social media is perfectly safe - if you use it safely. Don’t become addicted to the myriad of sites to the point it reduces your physical activity. Remember to treat the people you meet on social media like you would a stranger. Know that people can pretend to be someone they’re not, and never send money or personal information to strangers over the Internet.



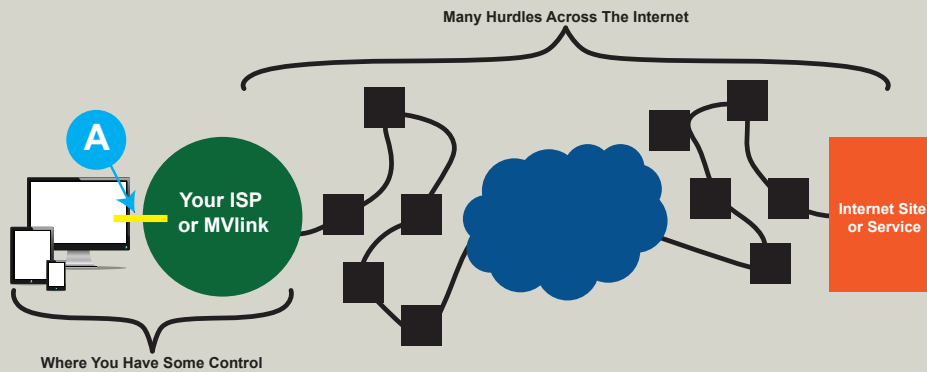


The Fiber Download

What Is MVlink, Or Your ISP, Selling You?

Last month as part of this three part series we talked about understanding bandwidth. This month, you'll learn about Internet Service Providers (ISP). When you selected MVlink as your ISP, you ultimately selected the upload and download bandwidth you need for your home. You certainly noticed that the greater the bandwidth, the higher the cost; but why is that?

Check out this diagram. Starting with A, you see the connection between your home and MVlink's data connection point and that connection is what makes up a portion of your MVlink bill. Everything you see to the right of ISP (MVlink) is somewhat out of our control. Every time a person accesses the web, that request travels beyond MVlink across many different routes, collects the site data and then returns it back to you. Neither you, nor MVlink can control the routes or the experience beyond the ISP. In other words, you control your computer and your router if you choose not to use MVlink's router. MVlink controls the modem and fiber lines between your home and our equipment. As a MVlink user, you also have some control beyond your router because you get to choose the bandwidth plan, and that is what determines how large the data transmission pipe is that feeds you. (Remember the milkshake and straw reference from last month? The larger the straw, the easier to drink the milkshake.)



While MVlink can sell bandwidth, we can't guarantee you will receive exactly that amount every time you access the Internet. Many factors come into play from providers to the ISP. For example, some ISPs share a bandwidth feed among a cluster of homes and could experience overloading if too many people are utilizing it at the same time. MVlink users have the benefit of an 'end to end' direct fiber connection, meaning your connection is not shared and is not subject to weaker infrastructure such as cable. Generally speaking, a dedicated fiber connection is much more reliable and why it is often referred to as the 'gold standard' for broadband service.

Download and Upload Capacity

Most Internet users are familiar with download speeds as they watch YouTube or play a game. However now upload speeds are being referenced more often as people need to upload files or videos to their offices or as Zoom requires sufficient broadband capacity to send your video upstream, just as much as it needs capacity for you to watch it. When you purchase Internet service, you want to be aware of both the download and the upload capacity you need. MVlink is unique in offering symmetrical upload and download speeds.

Thinking about a 100 Mbps download pipe/capacity, you could simultaneously stream a 4K video, participate in four different Zoom streams, watch several 1080p (HD) video streams and still do some web surfing, social media and email exchanges. Members currently using another ISP with maybe a 25 Mbps download capacity, could only participate in two Zoom meetings while one HD video is streaming; the 4K video stream wouldn't even be an option.

Moving to the upload explanation, it helps to understand what your needs are. If you need to upload a 2 GB file to You Tube, it could take as much as 90 minutes if your upload speed is 3 Mbps, but take less than one minute if you have a 1 Gbps upload capacity. Online learning and work-based video conferencing is much more prevalent today as we survive the pandemic. If the entire family needs to be on Zoom or uploading video at the same time, you will need a strong upload bandwidth as well. Members with limited bandwidth may need to shut down everything not needed while video conferences are in progress. Or, they may need to schedule uploads to occur overnight or during low-use times within your household or business.

Next Month: Your Home Network

*Symmetrical
Upload &
Download
Speeds*

MVlink
FIBER INTERNET

Standard 85 Mbps/85 Mbps

Premium 250 Mbps/250 Mbps

Platinum 500 Mbps/500 Mbps

Ultra 1 GB (1000 Mbps)/1 GB

Sites to See

Watch this section for new or popular Internet sites you may want to explore.

- www.usatoday.com
The 45 best and coolest tech gifts of 2020.
- www.townandcountrymag.com
51 Failsafe Gifts For The Technology-Obsessed

Glossary of Terms

Browser: A software program that is used to look at various kinds of Internet resources. The most popular browsers are Microsoft Internet Explorer, Firefox, Safari and Google Chrome.

Plug-In: A piece of software that extends or enhances the capabilities of another program. Browser plug-ins commonly add features such as audio, video, animation, etc. One of the most popular plug-ins is Flash Player.



Four Ways Santa Saves Energy In His Workshop



The holiday season is finally upon us, and Santa and his elves have been especially busy as they gear up for their biggest night of the year.

It's no secret that Santa is known for running an efficient workshop - how else could he make all those toys in time for Christmas Eve? Rumor has it that one way Santa ensures an efficient workspace is through energy-saving measures.

Here are four ways Santa saves energy in his workshop.

- ✓ 1. Santa leaves his decorations up year-round, by using LED holiday light strands, he's able to save on his monthly energy bills. LED holiday strands can last up to 40 seasons, which make them a great option for any home.
- ✓ 2. Santa requires several power tools to make a year's worth of new toys. That's why he insists on using cordless power tools with the ENERGY STAR® rating. According to energystar.gov, if all power tools in the U.S. used ENERGY STAR®-rated battery chargers, 2 billion kWh hours of electricity could be saved - that's equivalent to reducing greenhouse gas emissions by 1.7 million tons!
- ✓ 3. Mrs. Claus loves to keep warm by the fire in the evenings, and Santa knows one of the best tricks to ensure fireplace efficiency. While a fireplace can keep a small area of your home cozy and warm, it can also pull heated air from the room through the chimney. That's why Santa always closes the fireplace flue when a fire isn't burning.
- ✓ 4. Santa also saves energy by using power strips. Power strips are ideal for workshops, craft nooks, game rooms and other spaces in your home. With one simple switch, you can conveniently control several devices and electronics that are plugged into the power strip.

This holiday season, let's take a page from Santa's book and remember to save energy when possible. With these four tips, you'll be well on your way to savings (and hopefully, Santa's "nice" list!).

Watts The Answer?

1. First of all, you should know that we plan for and continually work towards maintaining safe,

electric service to our members.

2. This translates to roughly \$ _____ to \$ _____ in annual savings.

3. Generally speaking, a dedicated fiber connection is much more reliable and why it is often referred to as the " _____ " for broadband service.

Mail your answers in with your energy bill, or email them to efletcher@mvec.coop

Two winners will each receive a \$10.00 credit on their energy bills.

Please complete the following:

Name

Address

October winners:

Janice Roling, Guttenberg

Pat Dierks, Preston



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Anamosa, Iowa 52205

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Understanding Your Electric Bill

ON-PEAK hours are 4 p.m. - 9 p.m.
OFF-PEAK hours are
Midnight - 4 p.m. and 9 p.m. - Midnight
These times are in effect every day.

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After Hours Call Center: 800-582-8998

www.mvec.coop

Email direct to the following departments:

- Electric Billing: billing@mvec.coop
- Electric Service: maintenance@mvec.coop
- Internet/Phone Service: fiber@mvec.coop

This institution is an equal opportunity provider and employer.

Energy Efficiency Tip of the Month

Energy bills can increase during winter for a variety of reasons, like house guests, more time spent at home, and shorter days and longer nights. Small actions, like turning down your thermostat, replacing old bulbs with LEDs and washing clothes in cold water can help you save.

Source: energy.gov



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