

BURT COUNTY

PUBLIC POWER

PO Box 209
Tekamah, NE 68061

It's Your Power!



Install and Maintain Irrigation Systems Safely

Safe Electricity urges proper installation for new systems and regular maintenance for existing systems. Ensure everyone's safety by taking these measures:

- Do not store, handle or assemble irrigation pipes under or near overhead power lines.
- Make sure everyone in the area, including children, understands the danger of moving pipes near power lines. Efforts to free animals from pipes by lifting them upright have proven deadly for young people.
- Avoid moving pipes in windy conditions. People have been killed when the relatively light aluminum pipe they held blew into power lines.
- Keep pipes at least ten feet away from the lines—above, below and to the sides—at all times. If an irrigation pipe makes contact with a power line, stay far away and warn others to stay away. Call 9-1-1 or your local electric utility to report the location.
- Have a qualified electrician install your system, and inspect the pump and wiring before the start of each irrigation season.
- Make sure irrigation systems with electric motors are adequately grounded with copper piping. If there's a lightning strike or a short in the system, having the system grounded provides a safe path for a surge of electricity to ground, rather than energizing the equipment or passing through a person who may come in contact with the equipment. This also prevents energizing the ground around the equipment.
- Make sure the system is positioned at least 15 feet away from power lines when operating, and position the water jet streams so that there is no chance that they will spray power lines.
- If lines do come in contact with water from the sprayer, make sure no one approaches the system because the power line can transmit electricity to the irrigation system. Ensure the system is off before adjusting jets to spray away from lines.

Burt's Briefs

Our office will be closed Monday, July 5th in observation of Independence Day. In case of emergency, please call our toll free number 1-888-835-1620. Thank you!

Remember to support your local county 4-H clubs by attending the county fairs.

Call Digger's Hotline (1-800-331-5666) 48 hours before you begin digging. Make sure you know the location of buried electrical lines.

Contact our office before pruning, trimming, or cutting down trees that are near overhead electric lines. Have a professional trim your trees when near electrical lines.

Electrical outlets are for electric plugs only, and should be weatherproof and protected by a GFCI (ground fault circuit interrupter) on all outside locations.

Hot weather is here again and temperatures are beginning to soar. Please remember not to lock your pets in your car during these hot summer months. Even with the windows rolled down, the temperature inside can soar to 160 degrees.



LED: A Rising Star In Energy Savings

Many of us might recall that way back in 2007, the U.S. Department of Energy (DOE) passed the Energy and Independence Act. Well, actually, you probably don't remember that at all. What you probably remember is watching the news a few years later and realizing the future of incandescent light bulbs was quite dim.

While this legislation included a wide range of recommendations for the energy industry, the main and probably most memorable requirement was that new light bulbs use 25% less energy. As a result, there was a huge push between 2012 and 2014 to replace older incandescent light bulbs with newer, more energy-efficient versions.

Oftentimes, regulations come and go without much fanfare. However, when incandescent light bulbs were phased out, it directly impacted light bulb choices and left many of us wondering what all the fuss was about.

Traditional incandescent bulbs produce light by heating a wire filament to a temperature that results in the generation of light. Incandescent bulbs were popular because they were inexpensive and available in a wide range of colors. However, much of their energy went into heat production and very little toward emitting light.

Incandescent light bulbs also have a very short lifespan, lasting only about one year on average. Although they are no longer available in U.S. stores, the energy costs associated with the once-popular bulb, along with its stunted lifespan, far outweigh the initial savings at the cash register. Since incandescent bulbs produce a lot of heat, they may cause burn injuries and pose a fire risk.

Nowadays, the three most popular light bulbs are the light-emitting diode (LED), the halogen incandescent and the compact fluorescent light (CFL). According to the National Electrical Manufacturers Association, in the third quarter of 2018, light bulb orders were broken down as follows: *LEDs accounted for 65%*, halogens made up 28%, and CFLs were 7%.

What makes LEDs different? LED light bulbs work when an electrical current passes through a microchip, which illuminates the tiny light sources we call LEDs, and the result is visible light. LED light bulbs produce light up to 90% more efficiently than traditional incandescent light bulbs. They also include features that keep the bulb cooler to the touch, which avoids potential injuries and fire risks.

LEDs are also safer than their closest competitors, CFL and halogen bulbs. CFLs contain a small amount of mercury, which is dangerous if ingested. In addition, this type of bulb should not be thrown in the trash. Halogen bulbs operate at very high temperatures, which means they can cause burns to the skin if touched. They can also, in some cases, cause a fire: when they are knocked over or come in contact with something flammable, for example.

Moreover, many LEDs are rated with a lifespan of 50,000 hours. That means if one is used 8 hours a day, it is projected to last 17 years! Residential LEDs, especially those that are designated with the ENERGY STAR logo, use at least 75% less energy and last 25 times longer than incandescent lighting, according to the DOE.

In comparison, halogen light bulbs last about a year and CFL bulbs about 3 years (both based on 8-hour-a-day usage).

LEDs help the environment while reducing energy costs. According to the DOE, their widespread use is on track to save the equivalent annual electrical output of 44 large electric power plants, with a total savings of more than \$30 billion, by the year 2027!

For more information about electrical safety and energy efficiency, visit SafeElectricity.org.

MAKE THE SWITCH

SAVE MONEY and REDUCE ENERGY USE by replacing outdated lightbulbs with newer, more efficient LED lights.



Safe Electricity.org



Alphabet Soup: What are GFCIs and AFCIs?

We have probably all heard the terms GFCI and AFCI when it comes to electrical safety, but what do the letters stand for? And how do these letter-heavy, acronym-named devices help keep us safe?

GFCIs

GFCIs, or ground fault circuit interrupters, help protect against electrical shock and electrocution. It is important to test and reset the red outlet (GFCI) buttons monthly to ensure they are working properly. GFCIs are typically installed in outlets or circuits close to water sources in and outside of the home.

When they are in working order, GFCIs help prevent shock by determining current variations along the electrical path. If a person's body starts to receive a shock, the GFCI senses this and cuts off the power.

According to the National Electrical Code, a "ground fault" is a conducting connection (whether intentional or accidental) between any electric conductor and any conducting material that is grounded or that may become grounded.

In other words, a ground fault happens when an electrical circuit malfunctions, causing the electrical current to seek a path to ground other than via the intended wires. A human or animal in the wrong place at the wrong time could become that "path to ground" or conduit of electricity.

AFCIs

AFCIs, or arc fault circuit interrupters, are required by the National Electric Code for some, but not for all, electrical circuits in the home. The device breaks the circuit when it determines a dangerous electrical arc, which is a discharge between two electrodes that can cause intense heat or light. As you can imagine, the extreme heat of an arc can cause a fire, so that is why AFCIs are required by code.

Most people associate arcs with welding, but they can happen in the home or when the conductors on a power line are interrupted, such as when a tree falls in it or a car strikes a utility pole and the line falls.

Much like a GFCI is to a ground fault, the AFCI breaks the circuit when it detects an arc or abnormalities in the flow of electricity. That safeguard or break in circuit helps prevent a fire or other arc-related electrical damage. The temperatures of an arc can exceed 10,000 degrees.

An AFCI can distinguish between insignificant, harmless arcs and the undesirable kind that could start a fire or cause damage. Benign or uneventful arcs can be an everyday byproduct of using switches and plugs in good working order.

What are arcs and ground faults, again?

So, in review, an arc fault is the unintended result of current flowing through an unplanned path. A significant arc can cause burning particles that can easily ignite the materials around it (drywall, insulation, wood).

And a ground fault? A ground fault happens when stray electricity takes an unintentional pathway and the current flows directly to the earth (to the ground). The result, if you become part of that path, could be shock or electrocution.

Nebraska Extension News

By Kathleen Cue , Extension Educator

Garden Update

Colorado Spruce

The Christmas tree shape of Colorado spruce is beautiful indeed, but several common problems make growing them a challenge.

Deep Cold

February's hard hit of negative double digit cold results in the tops dying out of spruce trees. This caused cracks to develop in trunk tissues that then leak sap. This is apparent with the accumulation of white crust on the trunk and branches. Once cracks develop, canker pathogens like *Cytospora* gain access to conductive tissues within the tree, widening the wound. Unfortunately, sprays and drenches do not counter the effects of *Cytospora* canker. Prune out the dead central leader and re-train a lower branch to take over as the new central leader. Branches below the new central leader can be cut back to restore the pyramid shape. [How To Prune Coniferous Evergreen Trees \(uidaho.edu\)](#)

Spruce Spider Mite

The spruce spider mite is a small sucking pest of spruce and other evergreens. With their needle-like mouthpart, the spruce spider mite removes sugars, sap, and chlorophyll from foliage. When mite populations are high, needles present an off-color appearance of dusty green. Leaves eventually turn brown altogether and fall from the tree. The spruce spider mite is active in the cooler parts of the season, with activity peaking in spring and fall. A hand lens or a microscope is a handy tool to identify spruce spider mites, but the paper test can also be applied. Using a sheet of white paper, tap a branch over the paper and look for small dots moving across the page. Miticides are effectively applied when mites are active in spring and fall. Rainfall has a nice way of keeping mite populations down by drowning them. [Ins of ev 3--6-09 \(unl.edu\)](#)

Bagworm

Tear drop-shaped bags and loss of needles are clear indications of bagworm infestations. A few caterpillars can defoliate trees in a relatively short time frame, leaving branches bare and killing next year's growth buds. Products containing the active ingredient *Bacillus thuringiensis* (Bt) can be applied in mid-June to early July to target these caterpillars when they are small. As the caterpillars grow, so do their appetites, causing significant defoliation and being difficult to manage as well. Come August, caterpillars are too big to manage with insecticides and hand-picking bags from trees is really the only option. [Be On the Lookout for Bagworms | Nebraska Extension: Community Environment | Nebraska \(unl.edu\)](#)

Rhizosphaera Needle Cast

This fungal disease, caused by the pathogen *Rhizosphaera kalkhoffii*, interferes with intake of carbon dioxide through the needles. The needle's breathing structures, known as stomates, are clogged with the fungus's spore producing structures. Without the ability to breathe in carbon dioxide and exhale oxygen, trees are unable to photosynthesize, starting a cycle of decline that, if left untreated, can cause defoliation and death to the tree. Cool wet springs provide the perfect conditions for development

Burt County Public Power District News

Tekamah, Nebraska 68061
Phone 374-2631 or 1-888-835-1620

Board of Directors

Michael J. Chatt	President
Michael R. Williams	Vice President
Dwane Piere	Treasurer
Greg Johnson	Secretary
Gerald Bohling	Director
Scott Lindstrom	Director
Jonathan Dockhorn	Manager
RVW, Inc.	Engineer
Blankenau Wilmoth LLP	Attorney

Meetings

In accordance with Nebraska Statute, notice is hereby given that the regular meetings of the Board of Directors of the Burt County Public Power District are held on the 1st Thursday of each month, commencing at 9:30 A.M. at the district office located in Tekamah, Nebraska. In the event that a holiday falls on the said 1st Thursday, the meeting date shall be as set by the Board of Directors and published in the Legal Notice.

An agenda for each regular meeting of the board is available for public inspection during business hours at least three (3) days prior to each meeting; provided however, that the Board of Directors shall have the right to modify the said agenda to include items of an emergency nature.

Office Hours

7:30 A.M. to 4:00 P.M.

of needle cast. A hand lens or microscope is handy for spotting infected stomates, which appear as rows of black dots on needles. Good air circulation, keeping irrigation water from wetting foliage, mulching beneath trees, and application of a fungicide will manage needle cast. [Dis of ev 1-20-09 \(unl.edu\)](#)

Tree Overuse

Colorado spruce is suited to rocky, well-drained soils, in locations that receive 6 or more hours of direct, uninterrupted sunlight daily. Heavily irrigated clay soils and shady sites are situational conditions ripe with opportunity for decline, necessitating costly interventions that may or may not work. With the tree popular for use as accents in front yards, as windbreaks, and in allees, the Colorado spruce has become the dominant evergreen in the landscape. As with any over-used plant, a major concern is the potential for an emerging insect or disease problem to infect the species (think: emerald ash borer for ash, Dutch elm disease for elm, and pine wilt for pine). Diversity is always the best choice, especially when utilizing trees with insect and disease resistance. Substitutions for this much-overused tree include juniper, Concolor fir, Douglas fir, Fraser fir, Norway spruce, Black Hills spruce, and Ponderosa pine.