

News & Views

Johnson County REMC
A Touchstone Energy® Cooperative 

Our mission: To provide reliable, competitively priced utility services to our customers and the community.

May/June 2017

Take the time to plug into safety

May is Electrical Safety Month. We all depend on electricity to power our lives, but accidents can happen when electricity is improperly used.

Johnson County REMC's concern for safety extends beyond our employees. We care deeply about the safety of our members, and this month, we encourage you to "plug into safety." According to the Electrical Safety Foundation International, thousands of people in the U.S. are critically injured and electrocuted as a result of electrical fires, accidents, and electrical contact in their homes.

To promote safety education in our local communities, we offer safety demonstrations in local schools, 4H groups, and other organizations by request. We frequently provide electrical safety content in News & Views, and we encourage our members to contact us if they see a downed power line or any other type of dangerous electrical situation. We strive to

provide our communities with safe, reliable and affordable electricity and to serve as your trusted energy advisor, now and into the future.

It is no accident that safety is a top priority at Johnson County REMC. We are committed to a culture of safety that is integral to our daily operations. In fact, Johnson County REMC is part of the Rural Electric Safety Achievement Program (RESAP). RESAP follows specific guidelines and protocols for electrical safety that are considered leading industry practices. For example, our lineworkers are required to wear personal protective equipment at all times when on the job. This equipment includes special fire-resistant clothing which limits potential injuries from burns and sparks. Insulated rubber gloves are worn in tandem to protect from electrical shock. Our safety team also regularly discusses important safety issues within the building and out in the field.

At Johnson County REMC we believe our duty and responsibility is to raise awareness about the importance of electrical safety. Please visit <http://www.esfi.org/> for tips about how to keep you and your loved ones safe.



Air-Source Heat Pumps

By Shane Neher, Energy Advisor



An air-source heat pump can provide efficient heating and cooling for your home, and when properly installed can deliver 1.5 to 3 times more heat energy than the electricity it consumes. This is possible because a heat pump

transfers heat rather than producing heat from a combustible fuel like natural gas.

Air-source heat pumps have been used for many years in nearly all parts of the United States. However, until recently heat pumps have not been used in areas that experience long periods of subfreezing temperatures. Today, advancements made in air-source heat pump technology allow these units to be a legitimate heating alternative to combustible fuel based heating in these colder regions.

Heat pump selection

Every residential air-source heat pump sold in the United States has an accompanying Energy Guide label. The label displays the heat pump's heating and cooling efficiency performance rating, and compares it to other available makes and models.

Heating efficiency for air-source heat pumps is indicated by the Heating Season Performance Factor (HSPF), which is the total heating required for a conditioned space during

the winter season. The HSPF is indicated in British thermal units (Btu's) divided by the total electricity consumed by the heat pump unit during the season and expressed in watt-hours. Cooling efficiency is indicated by the Seasonal Energy Efficiency Ratio (SEER). The SEER is the total Btu's of heat removed from a conditioned space during the summer season, divided by the total electricity consumed by the heat pump unit during the season and expressed in watt-hours.

In general, the higher the SEER, the higher the heat pump unit purchase cost. However, the energy savings for these units can return the higher initial investment several times during a heat pump's life. A new central heat pump replacing an old unit will use much less energy, cutting both heating and air-conditioning costs. It is important to remember that HSPF rates both the efficiency of the compressor and any electric-resistance elements installed if needed for auxiliary heating. The SEER rates only a heat pump's cooling efficiency during warmer times of the year. In warmer climates, SEER is more important than HSPF. In colder climates, focus on getting the highest HSPF feasible.

If you plan on changing your cooling system this year, consider installing a heat pump in place of your older air conditioner. Johnson County REMC offers incentives for heat pump replacement and you can view them at JCREMC.com in the blue REBATES box. Also, when choosing an air-source electric heat pump, it is good to look for the ENERGY STAR® label.

How Heat Pumps work

An air-source heat pump system consists of a compressor and two coils made of copper tubing (one inside and one outside) surrounded by aluminum fins to aid heat transfer. In heating mode, liquid refrigerant in the outside coils extracts heat molecules from the air, even in cold temperatures, and then evaporates into a gas. The indoor coils release heat from the refrigerant as it condenses back into a liquid. A reversing valve, near the compressor, can change the direction of the refrigerant flow for summer cooling as well as for defrosting the outdoor coils in winter.

The efficiency and performance of today's air-source heat pumps is a result of technical advances such as the following:

- Thermostatic expansion valves for more precise control of the refrigerant flow to the indoor coil
- Variable speed blowers, which are more efficient and can compensate for some of the adverse effects of restricted ducts, dirty filters, and dirty coils
- Improved coil design
- Improved electric motor and two-speed compressor designs
- Copper tubing, grooved inside to increase surface area.

Tip of the Month

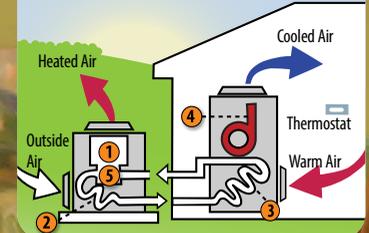
Keep warm summer air outside where it belongs! Add caulk or weatherstripping to seal air leaks around leaky doors and windows.

Source: U.S Department of Energy

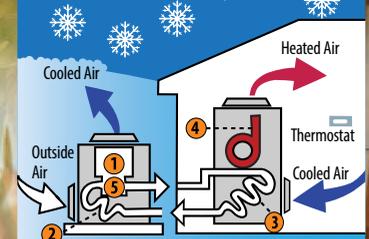
How Do Air-Source Heat Pumps Work?

By transferring heat between a house and outside air, these devices trim electricity use by as much as 30 percent to 40 percent in moderate climates.

SUMMER



WINTER



1 Compressor

Increases refrigerant/freon pressure to accept the maximum heat from the air.

2 Condenser

Coils move freon (and with it, hot or cold air) to or from outside air.

3 Evaporator

Coils move freon (and with it, hot or cold air) to or from outside air.

4 Air Handler

Fan blows air into a home's ducts.

5 Reversing Valve

Switches the direction of the freon flow, changing the heat pump's output to hot or cold air (controlled by thermostat).

Source: NRECA

Vegetation management critical to safety and reliability

Johnson County REMC is committed to bringing you reliable electricity service. With our continual effort to keep the electricity flowing to homes and businesses, vegetation management is an ongoing priority. Tim Hogue, Director of Operations, is quick to point out that vegetation management crews are working every day throughout the year to trim about one-third of our cooperative service territory annually. Tree trimming crews specifically maintain vegetation along the right of way for approximately 1,131 miles of overhead line. Our clearly defined goal is to perform vegetation management for the entire service territory on a three year rotation.

Recent heavy rains which weaken soil around tree root structures and damage caused by the Emerald Ash Borer have contributed significantly to the need for tree trimming and removal. Many trees in need of maintenance are located along county roads or farm fields. However, due to the nature of densely populated areas within our service territory, considerable trimming on property adjacent to homes is required.

Johnson County REMC makes a concerted effort to notify homeowners when it is determined that trimming is needed near residences. Please keep in mind that electrical safety and reliability are paramount in these decisions.

Due to years of diligent vegetation

management, Johnson County REMC has significantly reduced the risk for power outages due to trees, shrubs and falling limbs. Yet the costs associated with tree trimming and removal continue to be significant. In order for us to fulfill our commitment to providing reliable electricity service to our membership, more than \$600,000 is allocated each year to this very important reliability and safety procedure.

Johnson County REMC members can help in the effort to further reduce outages and expenses. The rule of thumb is basic. Don't plant anything without first identifying the location of overhead power lines and ground level transformers.

Tree removal candidates:

1. Trees located at homes, schools, parks or other areas with overhead conductors, where children might be inclined to climb.
2. Volunteer trees that will grow too large over time.
3. Dying or unstable trees.
4. Trees that impede access to pad-mounted underground equipment.

If you have a tree or have seen a tree that could be a safety or reliability concern, please call our office at 317-736-6174 and provide the location of the tree or vegetation.

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Call before you dig 811 or
(800) 382-5544

Need rates information?
Visit our website or call for
details.

Johnson County REMC publishes News & Views as a service to our members. Back issues may be viewed on our website or obtained from our office.

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