

Heater Hype Warning



MESSAGE FROM
GENERAL MANAGER AND CEO JERRY D. WILLIAMS

AS COLD WEATHER MOVES IN, we get more calls from members concerned about higher electric bills.

Everyone would like to stay cozy and warm in the winter and cool in the summer with the least amount of impact on their electric bill. Unfortunately some advertisements for electric heaters are more hype than heat. This is the time of year you will see full-page newspaper advertisements for energy-efficient heaters with beautiful wood mantles or wood framing that are handmade by kind-looking bearded gentlemen driving horse-drawn wagon. I have never seen anyone delivering these heaters with a horse and wagon, but the picture must have been taken somewhere. The fact is these heaters are usually simple electric space heaters that look good.

The advertisement or label may have the words “energy-efficient”, but compared to what? Many people have been disappointed when they buy so called “energy-efficient” space heaters to help heat their homes. A space heater is exactly what the name implies –designed to heat a small “space”. Space heaters can be as simple as the plain white model found on the Walmart shelf or the fancy heaters covered in wood. Either way, a 1,000 watt heater will produce 3,412 British thermal units (commonly called Btus) of heat. The heating coils are electric resistance heat, which is 100 percent efficient. If that 1,000-watt heater is on for one hour, it will use 1,000 watts for an hour or 1 kWh on your electric meter. We use a “k” to indicate 1,000 and the “h” stands for “hour”. Many of the common electric space heaters will have a small fan that blows air across the heater coils. I suppose you could say that a heater with the little fan is more efficient at heating the space around you than a heater without the little fan.

In the past, Lamar Electric sold an electric space heater that was constructed to look like a fireplace, complete with a wood mantle, wood hearth and lights that resembled flames. It was pretty and decorated many living rooms. This fake fireplace used a 1,500 watt heater element and had a small fan that would blow the heat a few feet directly in front. The fan helped keep the wood from overheating and added some efficiency by moving the heat a few feet. There was one other great energy saving item. It had a separate switch for the flames, which allowed you to see pretty flames coming from this beautiful wood fireplace and not operate the heating unit.

Don't be fooled by salesmen or advertising displays that tell you, “These heaters will cost you pennies a day.” They gener-

ally don't say how many pennies. The heaters may be efficient because it has a little fan to blow over the red-hot electric coils, but no matter how you slice it, a watt is a watt. A \$450 efficient 1,500 watt space heater that looks like a fireplace will produce 5,118 Btu's of heat, which is exactly the same 5,118 Btu's a 1,500 watt Walmart space heater priced at \$20 will produce.

There are some situations where a space heater is the least expensive way to go, but be cautious. If you only want to heat the space around your feet and chair while you watch TV for a few hours, the space heater may be the least expensive solution. You can also turn the central heating unit thermostat down (as low as 50 degrees), place the space heater in a room that is occupied by several people and close that room off from the rest of the home. This method of “zone heating” can help reduce your heating costs, especially if you toss everyone a blanket and get the dog to join you. Just remember, space heaters are not a very good solution to heat the whole house, but they can be housed in a very beautiful wooden fake fireplace that everyone can gather around.

I have visited with folks who had five space heaters scattered through their home and couldn't understand why their electric bill was so high.

Let's do some math, using the popular 1,500 –watt model. Most space heaters have a thermostat, but with one heater per room, it will seldom go off, unless something like the sun adds warmth. If we assume the heater is on for 40 minutes and off for 20 minutes, the result is 16 hours of run time per day. Sixteen hours at 1.5 kWh per hour (remember 1,000 watts = 1 kWh; so 1,500 watts = 1.5 kWh) adds up to 24 kWh per day. That doesn't sound so bad, until you multiply it by about 12 cents per kWh and get \$2.88 per day for about 22 days of the month. The total is \$63.36 for that one heater for the month. Remember the advertisement about pennies a day; 288 pennies per day. Imagine you had 5 heaters going for a total of \$316.80 for the month. Of course this is \$316.80 before you add any electricity for your lights, big screen TV, refrigerator, etc. Don't forget, the space heaters only heated 5 small areas of the home.

Many pre-constructed homes and mobile homes are constructed with an “electric furnace” because it is less expensive. These “electric furnace” units are nothing more than heating with “resistance heat” similar to the space heaters. The big difference is the heating coils are installed inside your central heat/AC unit. The coils still get red hot like a toaster, but there are more of them. Many central electric heat units have two sets

of coils; one about 5,000 watts and a second around 8,000 watts. When you see two large breakers of around 45 amps and 70 amps in the breaker box or on the unit inside the closet you will know you have resistance heat installed. The concept is both sets of coils will only come on when it is very cold. This type heating unit is only marginally better than the space heaters because the central fan will distribute the heat evenly throughout the house but you will most likely have a 400 watt fan spreading the heat.

Let's do so more math. Assume the 5,000 watt unit is on 16 hours a day and the 8,000 watt coil only kicks in for 6 hours. The result is 5.4 kWh (don't forget to add the fan motor to the heating coil wattage) for 16 hours and 13.4 kWh for 6 hours. The result is 166.8 kWh for the day; at 12 cents per kWh that equates to \$20.02 per day. If you assume it is pretty cold 22 days in the month, the result is \$440.44 to heat the house for a month.

Neither of these two ways are an efficient way to heat your home. The most efficient way to stay warm is an electric heat pump, unless you can invest in a geothermal electric heat pump (the absolute most efficient). The heat pump is basically a central air conditioner with a few extra parts that allow it to work backwards in the winter. It is called a heat pump because it pumps heat into your house from the outside air in the winter and pumps heat out of your house during hot weather. It looks like a regular air conditioner.

Don't bother with those efficient space heaters, unless you plan on heating a very small space. Avoid using an electric furnace if you can. Consider installing an electric heat pump to heat the whole house and pay for it with the savings of as much as \$200 per month during the heating season, compared to using space heaters or an electric furnace.

There's an App for That!

BY KATIE MORRIS

WHEN THE IPHONE FIRST CAME OUT, Apple wanted to spread the word about the usefulness of the device so the average Joe could justify spending hundreds of dollars on it. Apple accomplished this by coining the phrase, "There's an app for that!" If you need to check the weather, "There's an app for that!" If you want to check how many calories are in your lunch, "There's an app for that!" If you want to know if it is dark outside (believe it or not), "There's an app for that!"

Have you ever been on vacation or visiting a friend out of town, or just got busy and realized that your electric bill is due—today? We've all been there. Now there is no need to worry because "there's an app for that!" You can pay your Lamar Electric bill through an app called SmartHub. SmartHub is available for free in app stores for Apple and Android users.

Through SmartHub, not only can you pay your bill, but also you can report an outage, look at previously paid bills and check your usage. The SmartHub app will even tell you if we already know your lights are off and are working to restore your power! You can also see how much electricity you have used for the current billing cycle, right up to midnight of the previous day.

SmartHub is a great tool for members who are on the go. If you need help downloading the app or logging in, just give Lamar Electric a call. Even if you don't pay your bill through the app, it is helpful for checking usage, reporting outages and seeing if we already know your power is out.



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Pole-Top and Bucket Rescue Training at Lamar Electric

LINEMEN WORK WITH THOUSANDS OF VOLTS OF ELECTRICITY high atop power lines 24 hours a day, 365 days a year, to keep electricity flowing. Linemen are often first responders during storms and other catastrophic events, working to make the scene safe for other public safety heroes.

In the unlikely event that a lineman is on a pole or in the bucket of a bucket truck and has a major medical emergency (such as an electric shock), his fellow linemen are the first responders. Although an ambulance crew could be necessary, it is not trained at rescuing a man from atop an electrical pole.

In October, Lamar Electric Cooperative conducted its annual pole-top and bucket rescue safety training school. Thankfully, it is not part of a linemen's typical day to rescue a man from the top of a pole or inside a bucket; however, it is vital that they keep the rescue procedures fresh in their minds, just in case.

Scott Corley, a loss control specialist for Texas Electric Cooperatives, assisted Lamar Electric with the training. "Most of the guys are experienced and have been through this training a number of times," Corley said. "This is something we train for and hope we never have to use. In case of an accident or injury, we can rescue the man from the bucket or pole safely and keep the rescuer safe in the process."

The wood pole fall-restraint device was mandated in 2014 by OSHA to help prevent injuries incurred by linemen falling from a pole. Linemen carry the device with them at all times and use it every time they climb a pole.

"Our goal is to have all of our linemen trained to do a rescue like this and take an injured individual down from the pole as quickly as possible, so emergency medical professionals can begin working immediately," said Lamar Electric Line Superintendent Scott Sansom.

Linemen must complete the rescue in fewer than four minutes to avoid brain damage because of lack of oxygen to the injured individual. All of Lamar Electric's linemen completed a rescue in two minutes and 30 seconds or less.

"In the 26 years that I've been at Lamar Electric, we have not had to do a rescue like this," Sansom said. "I hope we can go another 26 years without an incident."

In addition to being trained for pole-top or bucket rescue, all Lamar Electric linemen have been trained in first aid and CPR and in automated external defibrillator use.



Why Does It Take So Long To Get Power Restored?

WHEN THE LIGHTS GO OUT, there are many ways to report your outage. You can call Lamar Electric and talk to an employee, call us and select the automated system, text us, report it through the SmartHub app, or you can report your outage online through our website. No matter how you report your outage, the same message comes across our dispatcher's computer screen.

As soon as the first few members report an outage, the dispatcher has the ability to ping meters near the outage that has been reported to see if those meters are also without power. This gives a more complete picture of what is going on and allows a computer-generated routine to predict which breaker or fuse is open.

Some folks wonder why it takes so long to get the lights turned back on. Some might even think it is as easy as a flip of a switch. Unfortunately, it is not. Some think we can turn the power lines off or on from the office, but we can't.

When an outage is reported, a crew is dispatched to the home or area that has reported the outage. Once the crews arrive at the outage area, they begin to investigate potential causes of the outage. Our crews already know where the fuses and breakers are and which one is predicted to be open. (Fuses and breakers are closed when the line is energized and open when there is an outage on surrounding lines.) Once crews verify which device is open, the dispatcher enters this information into the outage system. A verified open device in our outage system will provide an indication on every account affected and can be seen on SmartHub.

After crews verify which fuse or breaker is open, they begin patrolling the line that is without power from that point. This could mean driving or walking past miles of line, looking closely at each pole, transformer, wire, crossarm, insulator and other equipment to see if anything looks out of the ordinary. These men also look for tree limbs or other foreign objects that could be touching the lines, causing an outage. If it is dark, storming or foggy, this can make this process longer and harder for Lamar Electric linemen.

Once the cause of the outage has been located, the linemen must verify once again that the line is not energized and then install grounds on the line to ensure the safety of our employees. After this, the linemen begin working to solve the problem. They might have to cut up a tree that has fallen on the line or

remove a broken pole and install a new one. Poles and transformers that need replacing require linemen to call someone at the office with specific details such as size and type, and have these pieces of equipment delivered to the outage location.

If a new hole must be dug for a pole, the linemen are required to call for someone to locate underground telephone or gas lines in the area. The linemen are not permitted to dig until a state-certified contractor has approved the area to dig. An "emergency locate" requires a minimum of two hours to respond to the request, but it might take longer to get a representative to check the area for other underground utilities. For this reason, our men will often attempt to pull the old pole out of the ground and put the new pole in the same hole. Once a new pole is installed and wires are spliced back together, the grounds must be removed from the lines, and power can then be restored.

We have installed fault (electrical short) indicators, called navigators, on many power lines. Some folks mistake these devices for cameras hanging on the line. They are about the size of a softball with a clear lens on the bottom. When a fault occurs "downstream" of this device, an internal strobe light starts flashing. This device allows a lineman to quickly go to a point in the middle of a circuit and determine if the problem is upstream or downstream of this device. Navigators often are placed on each side of a segment of power lines that is difficult to access, such as a swamp area. This speeds up the time needed to locate the problem and restore the outage.

As you can see, outage restoration is a very complicated process, and there are many safety measures to follow. Our linemen always work as quickly and safely as possible to ensure that you are out of power the least amount of time possible. Unfortunately, we are unable to get your lights back on with the flip of a switch; however, we are working on new technology advances, such as pinging meters, prediction routines and navigators, to allow our linemen to enter into an outage with the most information possible.

You can help us by providing additional comments when you report your outage, such as, "I heard a big bang," or "My neighbors appear to be out as well," or "The lights flickered three times and then went out." Statements like these give crews a better idea as to what might have caused the outage.

As always, we thank you for your patience and cooperation as we work to restore your power.