

## New energy-efficient lighting is a big win for Heartland Community Schools

by Mick Northrop

After months of research, planning, getting bids and working with his board members, Heartland Community School superintendent Dr. Norm Yoder said they finished the first phase of their lighting upgrade just in time for school to begin in August. Yoder said he is pleased with the results and is glad they chose to start with the two gym upgrades.

They chose a T5 six bulb fluorescent high-bay fixture, which is perfect for gymnasiums. The new fixtures out perform their old lighting 2-1 in terms of light output with a 23% energy savings. The old lights were noisy, expensive to maintain and were only putting out about 60% of their original light. Besides that, if they were switched off, it took several seconds for them to warm back up again. This made it difficult to shut them off during the school day, so they were usually just left on. The new lights come on instantly, so they can now be shut off after each use adding even more energy savings. The difference in light output is tremendous, which I'm sure will be appreciated by the students and community members taking part in the activities throughout the year.

The next phase of the project has already begun in the Ag Shop, where the same type of fixtures will be installed. During the summer break Yoder says they plan to start upgrading lights in the rest of the building, starting with the classrooms. Like most older schools around the country, most of the fluorescent fixtures in the school have T-12 bulbs and magnetic ballasts. This technology is being phased out by



**Heartland Community School Superintendent Dr. Norm Yoder shows the lighting upgrade in one of their gyms as a group of elementary students enjoy an activity**

the lighting industry to make room for more energy-efficient fixtures. Upgrading to new T8 fixtures with electronic ballasts will save the school 30% on their lighting cost. They are also considering installing occupancy sensors throughout the building to add even more energy savings.

If the school goes ahead with everything suggested in their energy audit, they could receive up to \$25,000 in rebates from Perennial.

I'm glad to see Heartland Community School taking advantage of this great Perennial rebate program and I hope more schools will do the same.



## Why electrical usage goes up during wintertime

"Why has my electrical usage gone up?" This is a common question regardless of the time of year.

There are several possible reasons for higher electrical bills, but before we list a few major causes, it is important to understand something important.

Your electric bill is made up of two parts which are "base load" and "weather load." To understand **Base Load** look at your lowest bill in the last 12 months which is usually in April or May. This is the time of year when there is no space heating or air conditioning. The term base load is used because this is the amount of electricity that you use every month on lighting, running appliances, televisions, game systems, and everything else that consumes electricity. Unless you change your living habits, replace older appliances with more energy-efficient ones, or install energy efficient lighting (CFLs), the base load will not go down.

**Weather Load** is the second component of your bill and is determined by the condition outside, how well your home is weatherized and whether you use outside equipment such as block heaters, livestock tank heaters, etc. Sometimes weather load is harder to control, but weatherizing, tuning up your heating system and lowering your thermostat will help. You should also make sure outside heating equipment such as block heaters, tank heaters or well heaters are on thermostats and are working properly.

If you are looking for ways to lower your bill, look for the obvious ones first. Simple things like shutting off lights when you leave a room, taking shorter showers or turning off the computer when you are done using it, will significantly lower your base load.

Here are a few other major causes of higher bills:

• **Appliance Problems** - Loose gaskets around refrigerators or freezers doors or dirty cooling fins can cause them to run continuously and cost you more. A

problem with the furnace or central air conditioner can also cause high usage. Annual maintenance is important especially on heating and cooling equipment as they make up about 50% of your electric bill.

• **Electrical Wiring** - A loose connection or wires that are shorting to the ground either on the pole, house, or underground, can cause high usage. This type of problem as well as other equipment problems could also lead to a fire. Be sure to contact a licensed electrician if you suspect problems with your electrical wiring.

• **Farm Well** - If you live in an area that is not served by a municipal water system, you must pay to pump your water. A water leak or a problem with the well's pressure system, could cause your well to run too much and in some cases continuously.

• **Block Heaters** - Block heaters are used to keep engines warm in the wintertime so they are easier to start. These heaters can use a lot of electricity when the outside temperatures are cold. Be sure they are unhooked when temperatures are expected to stay above freezing.

• **Heat Tape** - Heat tape is used to prevent water pipes from freezing in the wintertime. Colder temperatures or faulty thermostats (if so equipped) can cause higher usage. Be sure they are unplugged when temperatures are expected to stay above freezing.

• **Livestock Tank Heaters** - Tank heaters are generally out in the open space and are exposed to extreme cold temperatures. Tank heaters usually operate using a thermostat. Thermostats can stick or can be set too high. In either case your bill will be higher. Be sure to check these heaters often and make sure they are shut off when temperatures are expected to stay above freezing.

• **Hot-tubs** - If you have a hot-tub, you should expect to have a higher electric bill, especially if it is outside in the wintertime or used in an unconditioned

room. You can help control your cost by paying attention to the water temperature and by making sure the lid is kept in place and well sealed when not in use.

• **Added Appliances** - You may have a new energy efficient refrigerator, but your bill won't be lower if you plugged in your old one in the garage. If you are purchasing a new appliance, be sure to look for the ENERGY STAR logo on it. The ENERGY STAR label ensures that you are purchasing a product that meets the highest level of energy efficiency and quality. Instead of using your old refrigerator or freezer in the garage, consider purchasing a larger one and consolidating your items into one unit. Perennial also offers a refrigerator and freezer recycling program on a seasonal basis. That program begins again next spring.

## Let Perennial read the meter

Perennial will be reading all meters from the office starting in December. There may be times that



the meter does not communicate the reading back to the office. If this happens, we will still need to send personnel to the service and read the meter.

This has been a phase-in process which started with the villages, followed by irrigation and seasonal services, and finishing with customer-read meters.

We have nearly completed installation of the automated meters. The remaining installations are due to either service upgrades or weak communication signals. Perennial will continue to read these meters in the field, until they have been replaced or boosters have been installed to improve communications.

The billing and due dates will remain the same.

**Perennial employees and directors receive recognition at annual awards banquet**



**Lance Ring**  
5 Years



**Jeff Rhodes**  
5 Years



**Steve Gerken**  
5 Years



**Don Reetz**  
10 Years



**Jeff Burk**  
10 Years



**Jim Martindale**  
15 Years



**Alan Vrbka**  
30 Years



**Ardean Richert**  
30 Years



**Cecil Kennel**  
Director  
10 Years



**H.P. Hirschfeld**  
Director  
25 Years

**The following employees were recognized for their accomplishments in the apprenticeship program**



**Dane Steube**  
Apprentice I



**Josh Seaberg**  
Apprentice II



**David Gerken**  
Apprentice III



**Dustin Arduser**  
Apprentice III



**Steve Gerken**  
Apprentice IV



**Jeff Rhodes**  
Apprentice IV



**Josh Strobe**  
Journeyman



**Shayde Linabery**  
Journeyman



**Luke Johnson**  
Journeyman



**Keith Hoffman**  
Journeyman



**Johnny Sich**  
Journeyman

**Wanted... highly motivated safety-conscious individuals who want to become line technicians**

Perennial PPD is offering a \$1,000 per year scholarship to a student planning to enroll in a utility line program. Applicants must reside within Perennial's service area to be eligible.

We are a strong and growing company which is experiencing a high workload for new construction and maintenance. Combined with the fact that many senior line techni-

cians are nearing retirement age, we are anxious to train and hire new line technicians for the future.

Receiving this scholarship does not guarantee future employment with Perennial, but recipients will receive strong consideration. Call us for more information at (402) 362-3355 or go to our website at [www.perennialpower.com](http://www.perennialpower.com).

# Save big on attic insulation

Federal tax credit ends December 31st, Perennial rebate continues

December 31, 2010 marks the end of the 30% tax credit up to \$1,500 for energy efficient windows, doors, insulation and several other energy saving improvements. But as long as they are purchased before the end of the year, you can still claim the tax credit.

## Perennial attic insulation rebate program continues

Adding insulation in the attic is still one of the best ways to lower your heating and air conditioning costs, especially if you have little or no insulation to start with. On a sunny day with the hot sun blasting directly on the roof, attics can get up to 140 degrees F when the inside of the house is 75 degrees F. That is a 65 degree F temperature differential.

Your house acts like a chimney in the winter, where cooler air enters the house in lower areas and attempts to exit the house in the warmer - higher areas. A house with a poor and leaky envelope will show significant heat loss through the attic and eaves.

If you have little insulation in the attic (six inches or less on average) and add at least six inches or R-19, take advantage of Perennial's Energy Wise Residential Attic Insulation Program. To qualify your home must be heated primarily with electricity (heat pump, electric furnace, baseboard or radiant, etc.) Perennial will give you a .15 cent per square ft. rebate up to \$300. New construction and/or additions do not qualify.

## Add tax credit and rebate together for bigger savings

The combination of the 30% tax credit and the Perennial rebate can pay for over half of your insulation. Consider that your attic space is 2,000 sq. ft. and you want to add twelve inches of insulation.

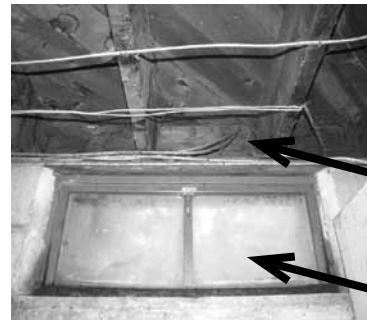
According to a local lumber yard, it will take 105 bags of loose-fill insulation that covers 19 sq. ft. per bag. With tax the final cost of the insulation would be \$963. If you minus a \$289 tax credit and a \$300 Perennial rebate, your insulation will cost you \$374. If you have the time and don't mind getting dirty, some lumber yards will even let you use their machine to blow in the insulation into your attic. In some cases the payback could be as quick as one heating season.



# Energy losses may be lurking in your basement



**Figure 1** Are your floors cold and drafty? Are some rooms harder to heat than others? Does it take a long time for hot water to reach your faucet? If you answered yes to any or all of these symptoms, then chances are your basement or crawlspace looks like the one in these pictures. Basements are one of the most neglected parts of the house when it comes to energy conservation.



**Figure 2**

The arrows show places where cold air enters your home and makes your rooms harder to heat.



**Figure 3**

should both be insulated with rigid insulation board. A layer of sand should be placed on the dirt and then covered with a sheet of plastic. An airtight crawlspace will also improve the air temperature coming out of the furnace ducts in those areas of the house.

The top arrow in **Figure 2** shows the rim joist in other areas of the foundation that may not be in a crawlspace. These areas should also be insulated. The second arrow shows a typical basement window with a metal frame and single pane glass. This is a big area for air leaks and should be closed tight and sealed with plastic window covering.

**Figure 3** Every time you turn on your hot water it costs you money. How much it costs depends on how well your water heater and hot water pipes are insulated. Even if your basement is insulated, it is still best to insulate all exposed hot water pipes like shown in Figure 3.

The bottom line is when you are looking for ways to save energy, don't overlook the many opportunities that lurk in your basement.