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HILL COUNTY ELECTRIC COOPERATIVE NEWS & VIEWS

Touchstone Energy®

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HILL COUNTY ELECTRIC COOPERATIVE, INC.

TIP OF THE MONTH

Did you know that 90 percent of the energy used to operate a washing machine comes from using hot water? A simple switch from hot to cold can save a great deal of energy! Also, consider air drying or even line drying to save even more household energy.

Source: U.S. Department of Energy

Solar Panel Plans!

Image of a solor panel similar to the one HCE will be installing.

Manager's Message

by Rick Stevens, General Manager

The National Rural Electric Cooperative Association (NRECA) strongly believes that any discussion and analysis of the benefits and costs of solar panels as a generation source are unique to each utility. Any discussion of value should include reliability, affordability, safety and environmental compliance. There is no "standard" method for determining net benefits and costs of solar. Benefits and costs that meet the standard of 'known and measurable' are the methods that should be used in solar cost-benefit analysis. So how do we get the information needed to determine the benefits and costs of a solar installation? Well, electric cooperatives big and small across the country are now sponsoring innovative solar projects to meet member demand for solar energy and to learn first-hand the benefits and costs of a solar installation in their service areas.

In that regard, the Hill County Electric (HCE) Board has authorized Management to pursue the installation of a 5 kW solar installation at HCE's headquarters. Generally, residential installations would be of this size or smaller and this will provide Cooperative employees a means of obtaining first-hand experience with a solar installation. The installation will be at ground level so our members can see the installation up close. All output will be metered and the information provided for public observation, probably using a link on our website, www.hillcountyelectric.coop. Studies have proven that on an annual average, solar performs better in our colder regions. However, a number of utilities in colder regions generally experience their highest electricity usage during the winter months but at times when solar is not producing energy so the benefit to the cooperative to reduce peak demand is minimal.

We will also be determining the costs to safely and reliably interconnect a solar installation with the electrical grid. That said, the electrical grid offers significant value to solar as a source of strong, stable, and reliable frequency/voltage to which solar inverters can synchronize their output; it offers a means of selling/offsetting excess energy produced; and it provides a reliable backup/standby service to meet your energy needs when solar is not producing.

So, why is HCE pursuing a solar energy installation? There are two principle differences between rural electric cooperatives and most other utilities. First, cooperatives are consumer-owned and not-for-profit. Our "stockholders" are those we provide electric service to and they are the reason we are focused on finding out more about the solar generation installations that are becoming more prevalent across our country. Second, because of the very low consumer density in co-op service areas the cost of distributing power and providing other services can be relatively high. HCE has just over 1 meter per mile of line. The average for small electric cooperatives is 7 meters per mile of line. Anything that increases those costs such as multiple solar installations that reduce power consumption, but not cooperative costs since it must act as a back-up power source is a matter of critical concern, particularly given that the average co-op served household income is 11.5% lower than the national average.

The more HCE can learn now will put us in a better position to work with our members' future power supply needs no matter which direction they may take us. That is the power of your Electric Cooperative working for you.

Be Safe With Standby Generators

Most of us take it for granted, but electrical service can be interrupted. While Hill County Electric (HCE) crews work hard to keep these interruptions short, natural disasters and Montana's unpredictable weather may cause extended interruptions when people need power the most. In these cases, HCE encourages members to have standby generators, especially for heating. Standby generators assure electricity during power failures. However, improperly connecting a portable generator to electric wiring can produce "back feed" - a dangerous current that can electrocute or critically injure you or others. Back feed into power lines from a generator could create "hot" power lines during an outage. Linemen who expect the line to be de-energized could be injured.

One good way to avoid back feeding is to install a double-pole, double throw transfer-switch. The term double-throw means that the operator can place or "throw" the switch into two different positions. Such a switch will prevent electricity, generated by the standby unit, to flow simultaneously to both the meter and back into the utility's system. Installing a double-throw or transfer switch can keep you and HCE linemen safe.

The double throw transfer switch is installed under or in place of the customer's meter base, before the entrance cable enters the building to the breaker panel. This switch will allow the operation of any circuit in the breaker panel—up to the limitation of the generator's capacity. Double throw transfer switch installations for 120/240 V, single-phase service, must be bonded according to National Electrical Code requirements and local regulations:

• The double throw or transfer switch must have a capacity (100AMP or 200AMP) equal to or greater than the capacity of the breaker panel (i.e., if you have a 200AMP breaker panel you must use a 200AMP transfer switch). See figure 1.

• Only install the double throw switch on the exterior of the building or on the meter pole. It is normally installed at the meter location. HCE members are responsible for assuring that the point of attachment is substantial enough for the switch to be secured to the building or meter pole.

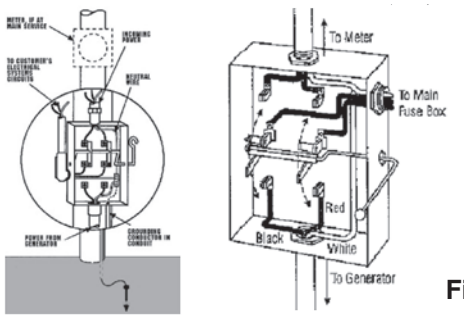


Figure 1

• The double throw switch allows you to safely energize any circuit in the house with the generator while assuring that it cannot back-feed into HCE power lines. The number of circuits that can be energized at one time is determined by the output capacity of the generator.

• Although a double throw and transfer switch/ meter base combination is more costly, it is highly recommended. It has a better appearance and eliminates shifting the meter base on the house to allow room for just a double throw switch. The switch/ meter base combination usually covers siding, holes or marks left from old equipment, but there may be some exceptions. HCE is not responsible for repairs.

For single-phase, 120/240 volt power, the transfer safety switch should be a double-pole, double-throw type. Double pole means that there are two pairs of wire lugs available for connection of hot conductors. The third wire (neutral wire) is continuous through the transfer enclosure, and is typically not switched (NEC Article 230-83). The ground wire also passes through the switch enclosure to provide a safe and continuous ground connection.

A three-phase generator would require a three-pole, double-throw switch. Some electric services use current transformer (CT) metering. This may require the use of a pole-top transfer safety switch. The operation of these switches is essentially the same, except that an extended manual switch lever is needed to allow the user to operate the switch from ground level.

HCE recommends having a certified electrician install your standby generator. Contact Joe Troiano, HCE's Master Electrician, at 1-877-394-7804 when planning to buy a standby generator and he can provide you with an estimate to have your system installed.

BLAST FROM THE PAST

This article appeared in the HCE Newsletter February 1971.

BEAR PAW SKI BOWL

The Bear Paw Ski Bowl, which is operated by Winter Sports, Inc., is open three days a week on Thursday, Saturday and Sunday. The facilities consist of three lifts and three main runs.

The beginner slope, otherwise known as the "dope slope" is located at the base of the hill and is 400 feet long. This tow is a rope tow and is powered by a three-phase, ten horsepower electric motor. This slope is where the skiing instructions are first given by a certified ski instructor on Saturday and Sunday.

The next lift on the hill is called the poma lift. This lift is 1200 feet long. The poma lift has round nylon discs that are suspended from a moving overhead cable. These discs are on a long spring and are pulled down and placed between the legs and pull you up the hill. The lift is operated by a three-phase, 40 horsepower motor.

The top lift is another rope tow and is powered by a three-phase, 15 horsepower motor and is 1100 feet long. This upper part of the hill is for the advanced skier.

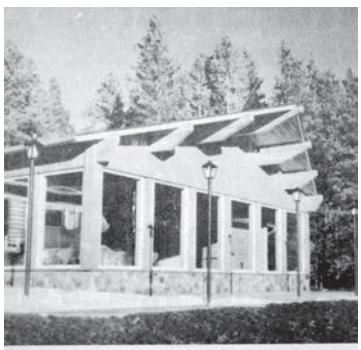
The three tows give a skier a vertical rise of 700 feet and a total of 2700 feet of lifts. All tow motors are fed by underground three-phase services. The skier can make his way down three different runs from the top. A little over two years ago Hill County Electric constructed nearly nine miles of three-phase line to the ski bowl area. At present, ski rentals are available in Havre and a certified ski instructor will give lessons on Saturday and Sunday between 10 a.m. and 4:30 p.m. During the winter quarter at Northern Montana College, skiing is offered for credit on Thursday afternoons. At present, 80 students are enrolled in this class.

The road was improved this past summer and fall and is normally always plowed. The weather at the bowl is usually milder and warmer than the surrounding areas. The snow conditions are usually very good to excellent. When this article was written on January 18, they had 48 inches of packed snow on the hill top and 20 inches at the bottom. They have also acquired a new snow packer for grooming the ski slopes.

In addition Baldy Butte Inn is also in operation at this location. The Inn has a restaurant, a lounge with a beautiful fireplace and also a store and gift shop, which will go into operation this spring. There are trailer pads with water and electricity that will be used for camping this summer. Eight tepees will also be set up this summer to be rented to campers. Along with everything else, there is good fishing in the summer and snowmobiling and skiing in the winter.

SNOW PACKER USED FOR GROOMING THE SLOPES.

SKIIERS WAITING TO RIDE THE LIFT TO THE TOP OF THE SLOPE.



BALDY BUTTE INN.

HCE HAPPENINGS

During October, Hill County Electric had approximately 2,783 account hours affected by outages.
OF THESE HOURS:

Equipment Or Material Failure: 10
Primary Underground Faults: 85
Caused By WAPA or NWE: 469
Due To Weather: 2,139
Miscellaneous, Public Or Unknown Causes: 80

This compares to 2,237 hours one year ago. HCE crews worked on locates, work orders and maintenance across the service area. Outback is changing out poles in the North Joplin substation area and will then move southeast of Box Elder for about 5 miles of pole change outs.

HCE General Manager, Rick Stevens, and HCE Board member, Fritz Keller, award St. Jude's Thaddeus Catholic School a $2,500 Technology Grant plus $2,500 in matching funds from CoBank. HCE was able to apply for matching funds from CoBank as part of their "Sharing Success" program.

SWAP & SHOP

SWAP & SHOP is a classified advertising section of the Hill County Electric & Triangle Communications websites and newsletters. It is maintained as a service to customers & communities wanting to buy, sell and announce non-commercial items. To include an ad, go to itstriangle.com/swap-and-shop and fill out the online form. Administrators will review the information within two business days & if approved the ad will appear on the website. It will stay online for 60 days unless you notify us to remove or change it. It will also appear in any of the HCE & Triangle newsletters printed during that 60 day window. HCE and Triangle reserve the right to abbreviate ads and if the section is full, we will display ads on a first come, first-served basis.

FOR SALE

Horse Trailer
'97 Circle J, bumper pull, three horse slant w/ dividers, tack room in front, good tires and good floor. $4,500 OBO. 406.398.5511

Couches for Sale
Two like new couches for sale. One is brown, reclines on both ends, $500. Second is tan leather, $300. Excellent condition! Call 406.395.4835

Woman's Down Vest
L.L. Bean down vest, woman's size S, reversible, $30. Call 406.669.3139 (Molt) or buffalo@itstriangle.com

Handmade Ladder Shelf
Ladder shelf for displaying items. Handmade of solid oak with walnut stain. Measures 58" high x 29" wide x 6 1/2" deep $150. Call 406.566.2352 or 406.366.4625

2012 Cabela's Side-by-Side
Like new 700cc with 700 miles. Asking $6,500.
Call 406.326.2287

HOUSEHOLD

Wooden Cabinet
Wooden "microwave" stand. Cabinet with 2 doors, surface for microwave oven, 2 shelves above, one with racks to hang wine glasses, on wheels. 18"x30"x68".
Call 406.669.3139 (Molt) or buffalo@itstriangle.com

IN SEARCH OF

Car or Pickup to Restore
Looking for Chevy or Ford car or 1/2 ton pickups from the 30's, 40's or 50's to restore. Call 406.326.2287

VEHICLES

2007 6.7 Dodge Mega Cab Diesel
3/4 Ton, Laramie, great condition. heated leather seats, ranch hand grill guard, spray in bed liner, diamond plated tool box, running boards, new tires. Very well maintained. Call 406.794.9008