Offers Scholarship Opportunities

Shenandoah Valley Electric Cooperative (SVEC) is pleased to offer ten $1,000 scholarships in 2016 to students whose parents or guardians are member-owners of SVEC.

The eligibility requirements and judging criteria are outlined in the application form that is available online, at any SVEC office, or in the students’ school guidance department. **All applications and essays must be delivered personally to SVEC’s Mt. Crawford office by 4:30 p.m. on Feb. 22, 2016, or postmarked no later than Feb. 22, 2016.**

If you have any questions concerning this scholarship opportunity, please check our website at www.svec.coop or contact Cammie Tutwiler or Preston Knight at Shenandoah Valley Electric Cooperative at 1-800-234-7832.

Electricity Remains a Good Value

Electricity continues to be a bargain, especially when compared to other consumer goods. As demand for energy rises and fuel prices increase, your electric cooperative is committed to providing safe, reliable electricity and keeping your electric bill affordable.
If your home remains without power, the service line between a transformer and your residence may need to be repaired. Always call to report an outage to help line crews isolate these local issues.

Transmission towers and cables that supply power to transmission substations (and thousands of consumers) rarely fail. But when damage occurs, these facilities must be repaired before other parts of the system can operate.

When electricity goes out, most of us expect power will be restored within a few hours. But when a major storm causes widespread damage, longer outages may result. Co-op line crews work long, hard hours to restore service safely to the greatest number of consumers in the shortest time possible. Here's what's going on if you find yourself in the dark.

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Why Are Energy Bills Higher in the Winter?

Along with the seasonal transition to fall and winter come noticeable changes in our surroundings. The sun disappears earlier in the evening. Temperatures turn cooler. Warm breezes turn to chilly winds. As a result of one or more of these factors, winter also means that people spend more time inside, and use more electricity.

When people are inside for more of the day, this can result in an increased use of electricity and thus an increase in your electric bill. Temperatures go down, it gets dark earlier, and your family comes inside. You hit the light switch, the TV is clicked on, a computer is booted up, and the thermostat is adjusted to a comfortable level. All of these actions cause more electricity to be used.

One of the things that might not be evident is the amount of energy you use heating and cooling your home. It is important to know that controlling the temperature in your home, with heating and cooling, can account for about 45 percent of your electric bill.

There are steps to take to minimize the effects of what can lead to higher bills during the chilly months. One good tip is to set your thermostat as low as is comfortable in the winter. Also, try to pay attention to how much energy you consume. If you are not using something, turn it off. Try to use compact fluorescent light bulbs (CFLs) and other ENERGY STAR products. CFLs are four times more energy efficient than regular light bulbs and provide the same light levels.

Appliances account for about 20 percent of your household’s energy consumption. Only run your dishwasher when it is full; don’t keep your refrigerator or freezer too cold; and try to use cold water to wash clothes whenever possible.

At Shenandoah Valley Electric Cooperative, we know the seasons will change and the costs will continue to fluctuate. What we won’t change is our dedication and commitment to providing our member-owners with competitively priced electric energy and customer service, second to none.

Check our website, www.svec.coop, for energy-savers tips, or come by one of our district offices to pick up an Energy Savers booklet.
The aesthetics of underground power lines enable an even better view of an already picturesque Shenandoah Valley, but they often pose a major challenge compared to their overhead counterpart — higher costs to install and maintain.

Shenandoah Valley Electric Cooperative (SVEC) regularly fields requests from member-owners who prefer burying primary power lines leading to their property. It’s logical — underground lines protect the scenic landscape from the sight of poles and wires, and they aren’t vulnerable to damaging winds or ice.

Especially after a major storm that causes widespread power outages, it’s common for consumers to question why all lines are not put out of harm’s way. The inquiry makes sense, but while underground lines seem attractive, member-owners’ requests for them cannot always be granted.

Affordability for SVEC is the defining factor, and the technology, while improving, still isn’t available to make underground lines the universal solution to power-delivery needs. “It’s hard to give a quick cost difference between overhead and underground,” Manager of Field Services Dale Dove said. “There are so many variables that come into play... Every situation is different. It takes an actual visit or a visual to get to know all of the variables involved.”

As a not-for-profit organization, SVEC strives to provide the most cost-effective, and reliable, service for its member-owners. If underground primary lines are the cheapest option — and generally, because of the nature of the work, they are not — then they will likely be built.

On its website, the U.S. Energy Information Administration states that the cost of underground power lines is up to five to 10 times more than overhead distribution lines.

That’s not necessarily always the case within SVEC’s service territory, but cost differences certainly exist. Determining the price of installation becomes the tricky part for primary lines, but at least understanding that “variables” are involved offers insight as to why we don’t live in a world free from overhead power lines.

Primary lines carry electricity to transformers near a person’s home. Secondary lines are what then distribute a lower voltage from the transformer into the home itself. Underground service is generally more routine and affordable along secondary lines.

Naturally, for primary lines, the issue all starts with what’s above, beneath, or on the surface. For example, if the lay of the land features several hills, overhead lines make less sense. In this case, the delivery of electricity will require a more complex system of equipment, including a series of differently sized poles. The same basically applies to longer runs of line: The shorter the distance, the cheaper overhead lines tend to be since less equipment is needed and not as much land needs to be cleared.

However, if there are many trees or much brush that need to be removed from the right-of-way for overhead construction, underground wiring becomes a more viable option. Burying lines is also more common in small-lot subdivisions, where developers request and pay for the option for aesthetic reasons. A high concentration of homes in these areas helps spread out the expense.

Many cities and towns have also buried lines in their downtowns over the years, bearing the cost to improve the look and feel of their central districts.

Then again, for the average SVEC member-owner, if a property has a lot of...
rock to be excavated, or if soil leaves underground cable more susceptible to damage, overhead lines are preferred.

These factors are among the many that contribute to the conclusion that there is no easy answer for what the cost difference is between constructing the two types of lines.

“[W]e usually have to look at each case individually to tell,” District Operations Manager Greg Rogers said.

SVEC maintains 5,220 miles of overhead primary distribution line, compared to 2,353 underground, he said. In other words, nearly 70 percent of the power delivered by the Cooperative travels via overhead lines.

Of course, the movement to place cable underground didn’t start until well after SVEC formed in 1936. It wasn’t until the mid-1970s that the program began to take off, when the Cooperative first realized a cost benefit, Dove said.

Still, many cables are now reaching the end of their useful life, if they haven’t been replaced already. According to Rogers, underground cable generally has a lifespan of up to 30 years, while overhead lines can last about 50 years.

He added, “Obviously overhead is easier to monitor and keep up over time with lower replacement cost.”

Main overhead lines are patrolled every year, while places where underground equipment terminates, such as at a ground transformer, are looked at every three years, Rogers said. Primary wire is buried at least 30 inches in the ground.

Technological advancements over time have helped the underground cables become longer lasting. For instance, the wires now come with a jacket to cover and protect them, which helps with the long-term replacement costs of underground lines. Like the initial installation costs, replacement costs for underground work could be several times more expensive than changing the same equipment if it were overhead.

If cost isn’t a factor to an individual member-owner, he or she can, in most cases, choose the more expensive construction option. In Section IV of SVEC’s Terms and Conditions, the policy reads: “The standard construction practices of the Cooperative shall be overhead construction. Where the Applicant requests underground facilities and the Cooperative agrees, the cost differential between underground and overhead extensions shall be charged to the Applicant in addition to other charges that apply.”

The “other charges” can include costs incurred for removing rock.

“We try to build the line the most economical way,” Dove said. “We do get people who want to pay the cost difference.”

That segment of people isn’t a big one, though. In a 2012 report, “Out of Sight, Out of Mind,” prepared for Edison Electric Institute, polling showed that electric customers “... have limited tolerance for higher costs for utility services to pay for undergrounding.”

“Given the cost impact of converting existing overhead distribution facilities to underground and customer concerns about utility-cost increases, a wholesale move to underground most existing utility distribution facilities is probably prohibitively expensive,” the report reads.

Next month: Read about the differences in outage restoration between underground and overhead lines.

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SVEC personnel spent a December day installing underground cable to two Rockingham County homes. They buried secondary lines to carry electricity to the homes. The process to determine whether lines should be buried or built overhead for primary lines — those that bring electricity to transformers near homes — is more complicated, and often comes down to the cost for SVEC member-owners.
The story goes that while looking for a cave on the morning of Aug. 13, 1878, Andrew Campbell, his nephew Quint, and three other men came upon a limestone sinkhole atop a big hill west of Luray. Cold air from the sinkhole extinguished the candle held by Campbell, piquing the five men’s curiosity — and with the help of local photographer Benton Stebbins — they started digging the rocks away from the mouth of the cave.

Four hours later, Andrew and Quint climbed down a rope into the cave, which would become known as Luray Caverns, the largest series of caverns in the east, visited by more than 500,000 people annually.

**THE ILLUMINATION**

Though initially discovered by candlelight, visitors to the caverns can now enjoy guided tours along well-lit, paved walkways through cathedral-sized rooms with 10-story-high ceilings.

“Visitors are simply amazed at the gigantic size of the caverns and the thousands of stalactites and stalagmites visible in every direction,” said John Shaffer, director of public relations at Luray Caverns, in an email interview.

The tour features stone formations known by names such as “Saracen’s Tent,” which Shaffer said, “National Geographic proclaimed this to be the most perfectly formed drapery structure in the world. The tent-like formation absolutely seems to have been hand-folded for an entryway.”

Other formations include “Giant’s Hall,” “Dream Lake,” “Titania’s Veil,” “Double Column,” and of course, The Stalacpipe Organ.

The stalactites (from the ceiling) and stalagmites (from the floor) create formations throughout the caverns, and at “Double Column” the two formations come together to form 47 feet — one column — that is the tallest in the caverns.

“The Double Column is the best example of the two basic formations — up close, it’s towering in height,” Shaffer said.

Though all of the formations in the caverns are calcite, a crystalline form of limestone, “Titania’s Veil” is a pristine example of a calcite formation, in its finest purity.

“A brilliant white in color, Titania’s Veil was named for Shakespeare’s fairy queen in *A Midsummer Night’s Dream*,” he said.

From top: In 1977, Luray Caverns was designated as a Registered Natural Landmark by the National Park Service and the Department of Interior. • The Great Stalacpipe Organ covers 3.5 acres of the surrounding caverns. • This 1892 Mercedes-Benz is part of the Car and Carriage Caravan, which highlights transportation from the 1700s to the 1930s. • Bottom: The Luray Valley Museum celebrates this region’s Shenandoah culture.
As for naming the landmarks, Shaffer said that Dr. Horace Hovey, an author and noted authority on caves from Connecticut, requested a tour of the caverns after learning of the discovery from New York newspapers. Hovey and Andrew Campbell named the formations while on the tour. The names of the explorers and some local leaders, physical appearances of formations, Greek mythology, and ancient literature were used in the naming.

Besides the formations, Luray Caverns also features a Stalacpipe Organ — the world's largest musical instrument.

“This one-of-a-kind musical instrument uses stalactites covering 3.5 acres of the surrounding caverns to produce tones of symphonic quality when electronically tapped by rubber-tipped mallots,” Shaffer said.

Besides the unusual formations, and a stalacpipe organ, the caverns also feature “Dream Lake,” which is the largest body of water in the caverns, 18-20 inches at its deepest point.

In 1977, Luray Caverns was designated as a Registered Natural Landmark by the National Park Service and the Department of Interior. The announcement proclaimed Luray Caverns possesses exceptional value as an illustration of the nation's heritage and contributes to a better understanding of man's environment.

**LURAY VALLEY MUSEUM AND CARAVAN**

Shaffer said the Luray Valley Museum is a presentation of thematic elements celebrating our region's Shenandoah culture. A main building displays Shenandoah Valley artifacts and a history in chronological order connecting this history of the early settlers to their European culture, decorative arts and search for religious freedom brought to Page County and the Shenandoah Valley. In addition, a collection of historic, local buildings has been transported to the site and restored to represent a small 19th-century farming community.

The journey starts at the log Stonyan building, which houses historic items from pre-contact Native peoples (1750s) to life in the 1920s. Following is a seven-acre recreation of a small 19th-century farming community. You can knock on the door of the 1835 home of the county's first delegate to the Virginia Assembly, Reuben Bell; check out the Hamburg Regular School, circa 1885, which was the area's first school for African-American children; and read the actual signatures of Union and Confederate soldiers written into the walls of the Elk Run Dunkard Church.

After viewing some of the oldest structures in the Valley, it's only fitting to follow up with some of the oldest cars and carriages in the area. The centerpiece of the collection is an 1892 Mercedes-Benz, one of the oldest cars in the country still in working condition. The collection also features a 1908 Baker Electric car, and a 1925 Rolls-Royce Silver Ghost, which was owned by Rudolph Valentino at one time.

“The Car and Carriage Caravan is truly a history of America as told through the carriages, coaches, and automobiles that highlight the advancement in transportation from the 1700s to the 1930s,” Shaffer said.

No matter what kind of adventure you and your family may be looking to have, Luray Caverns offers a variety of choices. Check the sidebar for even more options available at the Caverns.

Luray Caverns operates motels at each of the two entrances — Luray Caverns East and Luray Caverns West. The iconic Mimslyn Inn, a member of Historic Hotels of America, recreates the antebellum era of the old South just four blocks away. Two other lodging areas, Big Meadows and Skyland, are located on Skyline Drive in nearby Shenandoah National Park.

To get more information, check Luray Caverns’ website at www.luraycaverns.com or call 540-743-6551.

**IF YOU GO ...**

Not included in the general admission ticket cost of Luray Caverns, but located adjacent to the caverns for an additional fee, are a few other attractions: The Garden Maze, The Rope Adventure Park, and the Stonyan Mining Sluice. Check www.luraycaverns.com/discover/attractions for more information.

The Garden Maze features an enchanted fountain, a hidden cave, and an elevated platform, in case you get completely lost! The Rope Adventure Park has three different levels of rope course challenges, from “The Little Adventurer” to “The High Ropes Course.” The Mining Sluice is a completely recreated, fully operational mining station.

The Caverns Country Club offers an 18-hole, par-72 golf course in the middle of the rolling farmlands overlooking the Shenandoah River. Call 1-888-443-6551 for more information or visit www.luraycaverns.com/discover/attractions.