A look back at 2011

Throughout 2011, all Fayetteville Public Utilities departments made significant upgrades and improvements to our system. Even with decreases in our total operations budgets over the past two years, together we have managed to complete scheduled work plans systemwide for reliability and have expanded our natural gas and telecom services to reach additional customers.

With our vision focused on enhancing utility services, we have accomplished the following in 2011:

- Constructed a secondary gas supply line across the Elk River to provide an alternate source of natural gas to customers who live in the southeast portion of our system. This line consisted of roughly two miles of 6-inch steel high-pressure main on Winchester Highway and 6.5 miles of six-inch polyethylene main on Rambo and Lees Creek roads. In addition, we built the new Kelso Natural Gas Regulator Station, which allows us to backfeed 30 psi to the industrial park on Winchester Highway if a problem arises with the primary gas feed.
- Upgraded 2.45 miles of electric three-phase conductor on Elora Road for redundancy.
- Upgraded 1.5 miles of three-phase conductor and replaced numerous poles and transformers in Petersburg to improve service and reduce losses.
- Transferred electric circuit 2-4 from the Brogan Avenue Substation to a new circuit installed at the Hamilton Substation to improve system reliability. This circuit supplies power to those who live north of Fayetteville.
- Converted 2.2 miles of single-phase line to three-phase power to accommodate the solar collection site built at 564 Old Huntsville Road.
- Implemented the dewatering process for biosolid disposal at the FPU Wastewater Treatment Plant after voluntarily discontinuing the land application process.
- Completed underground camera inspections and smoke testing of sewer lines in the Laten Bottom area, which includes Radio City, Twin Oaks, Bagley Drive, Markham Drive, the area near the Fayetteville Country Club, many of the avenues and parts of William D. Jones Boulevard. In these areas, we continue to monitor flow and check for infiltration during heavy rains. We plan to continue sewer line inspections and repairs in the Laten Bottom area to enhance service.
- Continued to expand our cable TV, Internet and digital phone service in areas of new construction in Park City.
- Upgraded the Prospect and Eufala Regulator Stations to ensure safety and pressure of natural gas service.
- Completed a natural gas system expansion along L Mitchell Road that included roughly 2.1 miles of 2-inch polyethylene main and 1,400 feet of 4-inch polyethylene main.
- Worked diligently with local contractors, investors and the Tennessee Valley Authority through the Generation Partners program to help bring solar power collection sites to Lincoln County.
- Moved a step closer in constructing the new Water Treatment Plant. We expect the new plant to be operational by 2013.

Aside from system upgrades, other important goals were reached in fiscal year 2010-2011.

In 2010, FPU held at 1.68 hours per customer for outage duration. This is well below the national standard of 5 hours per customer. This alone is a notable accomplishment for our Electric Department, which serves nearly 18,000 customers.

FPU’s Water Treatment Plant continues to record well below the daily allowable standards for water turbidity (the condition of suspended matter such as dirt and other particles in drinking water). Daily turbidity levels of the FPU drinking water delivered from our plant’s clearwell to our customers have been recorded as low as 0.03 Nephelo-
metric Turbidity Units, or NTU, but normally average between 0.03 to 0.05 NTU; governing state regulations allow turbidity levels of 0.30 NTU. (The lower the turbidity level, the clearer the drinking water.)

Our Natural Gas Department reports continued growth as customers schedule new connections to their homes and continue to purchase quality heating products and gas grills from FPU.

We began a pilot youth program, the FPU Student Utility Board, which is the first of its kind in Tennessee. This program targets high school seniors to give them better insight to how FPU operates and how we serve the community. Because of the youth board’s success, we are continuing the program locally and encouraging other electric utilities across the state to invest in similar programs in their hometowns.

Last year, we continued to make improvements with our SCADA and mapping systems, our 24/7 dispatch service, Metering Department and more.

Everything we do to enhance service at FPU directly affects our customers and the quality of service we provide. We realize that the achievements for 2011 would have been impossible without the support and trust that our customers give to FPU and to those who work here. Our goal has always been to do the right things to benefit our customers — by offering the most reliable and safest utility services at the lowest possible cost to our customers. And this will continue to be our benchmark for the New Year.

When the Tennessee Valley Authority implemented the seasonal rate structure in April, its purpose was to reflect in a more timely manner the actual cost of producing and purchasing power when energy demand rises and falls throughout the year. As we move into the winter months when power demand is normally higher, we expect TVA wholesale electric rates to increase during the months of December through March in accordance with TVA’s seasonal rate plan.

Seasonal rates have been established to include the summer months of June through September and winter months of December through March. These are the months when energy use is at its highest due to the need for heating, cooling and other activities that require additional electricity. The months of April, May, October and November are referred to as “transitional” months when electric demand is lower due to a lesser need for heating and cooling.

In addition to the seasonal rate adjustments, the total monthly fuel cost continues to change monthly. Please check the rates section on the Fayetteville Public Utilities website, www.fpu-tn.com, for monthly postings of the total fuel cost charge. You can also visit TVA’s website for additional information at www.tva.gov.

At the time of publication, FPU did not have the seasonal rate increase information from TVA that will be in effect this month. Please watch for articles in the local news media and postings on FPU’s website for specific seasonal rate information. If you have a question about electric rates, call our Customer Service Department at 931-433-1522.

Now through Dec. 30, you can donate canned and nonperishable food items in the Harvest of Hope Food Drive sponsored by Fayetteville Public Utilities. All donations will be given to the Good Samaritan Association of Lincoln County to help feed our neighbors in need.

Each year FPU serves as a drop-off center for those who wish to donate food items for the Good Samaritan assistance program.

“Even though the Good Samaritan receives donations throughout the year from caring citizens, the Harvest of Hope Food Drive serves as a ‘boost’ during the holiday season to help supply the local food bank for the upcoming year,” says Gina Warren, FPU public information specialist.

Items can be left at the main FPU office located at 408 College St. W. during regular office hours.

Donations can include nonperishable canned food items such as meats, vegetables, fruits or juices. Boxed or bagged rice, noodles and beans, canned or dry soups and soup mixes are needed. Dry goods like crackers, oats, packages of Kool-Aid, hot cocoa and coffee will also be accepted.

A standard food box given through the Good Samaritan Program will normally feed a family of four for about four days.

If your group or school would like to participate in the Harvest of Hope food donation program, please contact Gina Warren at FPU, 433-1522, ext. 166. And if you or someone you know is in need of assistance this year, please contact Good Samaritan at 433-0260.
Since their first meeting in August, the Fayetteville Public Utilities Student Utility Board (SUB) has experienced what it’s like to work in the Customer Service Department and has learned about the inner workings of the Water and Wastewater Treatment Plants.

In addition to on-site learning, the youth board members also served as assistants and representatives for the utility at various public events in which FPU is involved.

The seven high school seniors serving on the FPU Student Utility Board meet monthly at the utility to gain a better understanding of how each department operates. Those serving on the board are Brandon Hicks, Megan Moore, Katie Lewter, Tyler Wright, Troi Davis, Adriene Atchley and Jordan Griner.

“Each day is structured to allow students to see the operations of each department, and this gives them a better understanding of what FPU is, how we work and how we serve the community,” says Gina Warren, SUB coordinator. “Not only are these students learning about our daily operations, but they also learn about other things we do for the community like participate in community events, sponsor educational programs, teach utility safety and conservation and more.”

Lewter says the Water Treatment Plant visit is her favorite so far.

“The Water Treatment Plant is more interesting than I thought it would be,” says Hicks, agreeing that there’s more involved in treating public drinking water than he imagined before the tour. “I really enjoyed getting to try on the breathing apparatus.”

“I enjoyed seeing the process of purifying the local water and what the jobs entail when running the plant,” said Moore.

The FPU Student Utility Board program includes 10 regular monthly meetings throughout the school year. Some of those meetings are field trips to FPU facilities and job sites across the county. The students are also given an opportunity to prepare a Channel 6 television show featuring information from their schools, promoting upcoming events or interviewing people they admire. The shows they produce will air on FPU’s Channel 6 in early 2012.

“As far as the utility industry goes, this program is the first of its kind in Tennessee,” says Britt Dye, FPU CEO and general manager. “To our knowledge, no other utility in the state offers such a program. The Student Utility Board meetings have reciprocal benefits. The students benefit by learning about their local utilities, but, in turn, we learn from the students what their interests and concerns are relating to their utilities and their future in Lincoln County.”

The upcoming December SUB meeting will expand on how FPU gives back to its customers through community service. The young board members will be working directly with the Harvest of Hope Food Drive and also helping with charitable giving that benefits local children.
The sun is an incredibly powerful source of energy. All across Lincoln County, you can see its power being turned into usable energy. Thanks to the renewable energy initiatives and investors of solar power locally, the Fayetteville Public Utilities service area boasts the most solar generation in the state of Tennessee through Tennessee Valley Authority’s Generation Partners Program.4

Solar collection sites have been constructed across FPU’s service area from Elora to Petersburg. Many of them top chicken barns; some are residential installations. Even Fayetteville’s square boasts solar panels at work atop Carter’s Drug Store. Together the 13 individual 20-kilowatt sites are generating 269 kilowatts of solar power.

But perhaps two of the most visible solar installations are those along Huntsville Highway and Old Huntsville Road that together are producing 3 megawatts of solar power. These large solar-collection sites are the most recent to become a reality in Lincoln County and are credited to the teamwork among Brown Construction, solar site investors, Fayetteville Public Utilities, the Tennessee Valley Authority and its Generation Partners program.

Solar has long been a renewable resource used by TVA and blended into the overall power grid across the Valley. But not until recent years has solar energy become a popular choice of individual homeowners and businesses who are concerned with “greener” energy and energy efficiency.

Choosing to install photovoltaic panels was an easy decision for Barry Brown, owner of Brown Construction of Fayetteville, and his daughter, Danielle, two of the local investors in solar energy. Brown and his solar construction team have turned nearly 20 acres into solar collection sites. From Brown’s two locations, some 14,000 solar panels are now transforming solar energy into usable electricity that’s transported across FPU’s power grid and used by local residents and businesses.

The solar site on Old Huntsville Road was built as a 750-kilowatt facility. The Huntsville Highway site contains three 750-kilowatt solar installations.

Many across the TVA service area are making substantial investments in solar power through the Generation Partners program to produce enough renewable energy to sell back to TVA across the power grid and support the green power initiative.

What exactly is solar power?

Solar energy is power from the sun’s rays that reach the Earth. Using photovoltaic cells made from silicon alloys, sunlight can be converted into other forms of energy, such as heat and electricity. When rays of sunshine strike a solar panel, they give some of the electrons inside the panels more energy, a process that creates an electrical current.

Solar power is generated as direct current and changed to alternating current through an inverter as 480 volts. It then travels through the coils of a transformer and stepped up to 12,470 volts of electricity, which is carried across FPU’s three-phase distribution circuits to serve nearby customers.

Over the past several years we have heard about alternative energy sources — alternatives that would reduce our reliance on coal and natural gas fuels. Power generated from water, wind, solar, biomass and landfill methane are on the rise as the most popular choices for energy-conscious consumers nationwide.

What is Generation Partners?

Generation Partners supports homeowners and businesses that install small-scale renewable generating sources — solar panels or wind turbines, for example — on their property. Generation Partners puts ordinary users of TVA power into business generating renewable energy.

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The program supplies TVA’s renewable energy credits for the Green Power Switch program, which allows anyone in the Tennessee Valley to purchase as much green power as desired. Generation Partners participants defray the cost of their renewable systems and lower their monthly energy bills through the revenue they receive from the sale of the green power back to TVA.

The generating system must be installed within six months of TVA’s approval. It must comply with environmental regulations and national standards, be certified by a licensed electrician and comply with all applicable codes.

Most of the current solar sites in Lincoln County have been built under the previous 200 KW allowance. Because of its growing popularity and affordability, recent changes to the Generation Partners program now allow solar generation of 500 watts to 50 KW per installation to participate in the program. According to TVA, more changes to the program are expected in the future.

**How do we benefit locally from solar generation?**

In each case, the local solar sites help supply TVA with its renewable resource mix of power generation just as other solar, wind and biomass sites across the state continue to do. Those who participate in the Generation Partners program sell the power they generate to TVA through FPU’s power grid. This additional power flowing through the power lines blends with electricity that comes from TVA through the power grid. In higher electric demand times like summer and winter, the additional power supplied by renewable energy sites like the ones in Lincoln County will supply additional power to TVA and will possibly help reduce its need to purchase power from other power generation facilities. It’s this purchased power and higher generation costs that contribute to higher power generation and distribution costs for TVA. And that’s what we see from TVA through the total monthly fuel cost charge on FPU electric bills.

According to Dan Harry, FPU’s supervisor of engineering, FPU evaluated the effects of the solar generation on the utility’s distribution system. Before adding solar generation to the local power grid, FPU must ensure that our customers are not losing quality of service.

It is important to understand that solar generation will not help lower the cost of energy locally. Local residents will continue to be billed for their energy use just as they have been. FPU does not benefit directly from solar power being transferred across our power grid. The true benefit of the solar power lies with TVA, as it will help to achieve its green power initiative.

Through programs like Generation Partners, TVA aims to have 50 percent of its overall power supply come from zero or near-zero carbon emitting resources by 2020. This is all a part of TVA’s commitment to cleaner, greener energy for the Valley.

“FPU and TVA support the efforts of all those who have built solar collection sites in this area,” says FPU CEO and General Manager Britt Dye. “Throughout the process, FPU employees have served as liaisons between the solar investors and TVA.”

**How much solar power is generated locally?**

Each solar site is under a 10-year contract with TVA to sell back the solar power generated at the locations. This power is purchased by TVA at a premium of 12 cents per kilowatt-hour above the current per-kilowatt-hour charge.

On cloudy days, the solar sites are expected to generate a minimal amount of electricity, but they perform at their peak on sunny days.

As earlier stated, the solar power now being generated in Lincoln County is equivalent to 3.2 megawatts of energy, a substantial amount for our community size. Normally, FPU’s system averages 100 megawatts of power supplied by TVA.

Currently, there are plans on the horizon for additional solar sites to be built in this area. If all applications receive approval and reach their full capacity, Lincoln County could possibly boast of up to 5.6 megawatts of solar generation.

Across the Tennessee Valley, TVA had 619 Generation Partners working projects through July, totaling more than 23 megawatts of solar, wind and biomass generation. Another 213 projects, representing another 45 megawatts of power, have been approved by TVA and are in various stages of construction.

As consumers and power plants alike continue to search for ways to support a greener, more energy-efficient world, ventures like the solar sites will continue to grow across the area. For more information about the Generation Partners program, please visit www.generationpartners.com.

*At the time of publication, Lincoln County had a total of 3.2 megawatts of solar power collection sites across the area. The next-largest solar generation site is in West Tennessee at 2.8 megawatts.*