Spring 2012

POWER PARTNERS NEWS

Providing Powerful Solutions For Business & Industry

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President's Message

As the summer begins, we send this issue of *Power Partners* to remind you of the many energy savings and cost improvement programs available to our customers. TVA has implemented a long-range plan to maintain rate stability.

We can easily see the volatility of energy costs when we fill up at the gas station. Many more cost factors are involved in supplying electric power. TVA uses a mix of power generation sources to balance costs and provide highly reliable power. Power generated by TVA is among the lowest cost power in the nation. But when peak demand exceeds TVA's generating capacity and it has to purchase power from other companies, the costs not only are higher, but they also are exposed to market volatility.

That's why TVA has a vested interest in helping your business save energy, especially during peak demand periods, such as the hot summer days ahead. At Ripley Power and Light Company, we want your business to operate efficiently so that you can grow. We consider ourselves to be your partner in growing the economy.

We encourage you to take advantage of the assistance we can provide in reducing your energy costs. If you have questions or want to schedule any of the services discussed in this newsletter give us a call. We're ready to work with you.

FOCUS ON SUCCESS

Energy Efficiency Provides Financial Incentives For Halls Plant

Crafco, a global pavement-preservation company, is saving thousands of dollars a year with an energy-efficiency program offered by Ripley Power and Light Company through the utility's partnership with TVA.

Besides saving money in energy costs, the Halls, Tennessee, plant also received $12,610 in incentives from TVA's Energy Right Solutions for Business program. To qualify, Crafco replaced old fluorescent and metal halide light fixtures with modern energy-efficient fluorescent fixtures in a series of buildings encompassing 200,000 square feet. The company also installed motion sensors that turn off the lights when employees leave an area.

The project will reduce Crafco's electricity consumption at its Halls manufacturing facility, which has 50 employees.

The total annual energy savings is estimated to be 252,500 kilowatt hours a year.

Gary Allen, Crafco Plant Manager, left, accepts a $12,610 check from Mike Allmand, President and CEO of Ripley Power and Light Company. Crafco took advantage of an energy-efficiency program offered by Ripley Power and Light through its partnership with TVA.

ERSI Updates Program to Save You Money

If you manage an industrial facility, the sheer size of your operation has already demonstrated the importance of the efficient use of energy. The industrial sector alone accounts for about one-third of U.S. energy use.

The Energy Right Solutions for Industry (ERSI) program offers customized TVA technical assistance to industrial users of power to devise plant-wide, holistic approaches to energy savings. TVA helps customers maximize efficiency, control expenses and boost their bottom lines.

In addition, program participants may be eligible for financial incentives to implement energy-saving changes in their operations and plant.

Energy efficiency programs can save you money and help TVA keep energy costs lower for consumers of power throughout the Tennessee Valley.

In an ongoing effort to maximize program efficiency and accessibility, TVA is enhancing its Energy Right Solutions for Business Program.

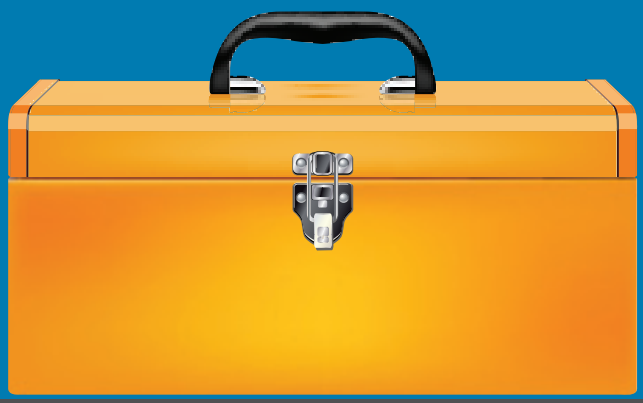
Some of the changes include:

- Lighting is only available in the Standard Rebate, although Preferred Partner Network members may be able to calculate a higher incentive
- Pre-Inspection for Standard Rebate HVAC is being removed

What is staying the same:

- Standard Rebate project receipts are required and samples of projects are inspected on site
- There are no measurement costs on the part of the end user
- Standard Rebate – HVAC applicants must be approved by the power distributor

This streamlining of services will ensure that we continue to offer the highest quality energy efficiency incentive programs to save you money, while protecting our valuable resources. For more information, contact your local power distributor or visit www.energyright.com.



HVAC Evaporative Cooling

The addition of external Evaporative Cooling to existing HVAC equipment including Air Cooled Chillers, Packaged Units and larger Split systems is gaining widespread popularity as building owners push to lower energy use without replacing equipment that is relatively new.

The operating concept is simple and straightforward. Hot outside air is cooled as it passes through the evaporative cooling media, before it reaches the condenser coils. This allows the system to operate as though it were cooler outside than it actually is. The cooler the apparent outdoor temperature, the more efficiently the air cooled system performs.

Evaporative cooling equipment may provide the following benefits to your equipment:

- Reduces energy use
- Reduces demand charges
- Reduces overall maintenance
- Increases tonnage capability
- Improves the kW/Ton Ratio
- Reduces head pressure
- Increases system reliability/longevity
- Protects Coils from debris and damage
- Extends the life of HVAC equipment
- Potentially qualifies for REBATE$

Some manufacturers utilize filter media and specialized spray nozzles and computer-controlled water valves to facilitate evaporation. It is important to note that a properly designed spray system will not allow excessive water to actually come in contact with the coil. Full evaporation without coil saturation is best for efficiency improvement without degrading the life of the coils. These systems also serve an additional function as they result in cleaner condenser coils. Cleaner coils lead to increased heat transfer and that results in even more efficient operation.

Additional savings on existing HVAC equipment can be realized with the installation of Economizers, Carbon Dioxide Demand Controlled Ventilation and Programmable Thermostats.

Membership for TVA's Preferred Partner Network for Contractors is Now Open

The Preferred Partners Network (PPN) is a network of approved commercial and industrial trade allies committed to the design, manufacture, distribution, installation, servicing, and promotion of high quality energy efficiency and demand response technologies and equipment for commercial and industrial applications.

The PPN consists of trade allies who have the tools, information, and technical expertise to influence energy efficiency use throughout Tennessee Valley Authority's (TVA) service area.

Applications for Preferred Partner Network are available electronically at www.energyrightpartners.com for easier access.

Recognizing that there are many different entities that affect the sale and installation of high efficiency equipment throughout the Valley, the application process has been modified to reflect three distinct groups:

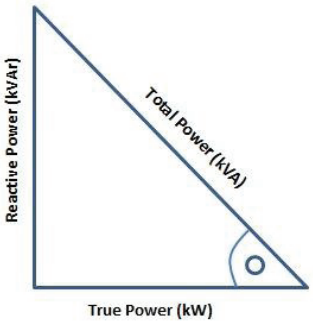
- Contractors and Installers
- Manufacturers, Distributors and Manufacturer Representatives
- Architects, Engineers, Design and Consulting Firms

Each group will have unique requirements, customized to their group but all members will need to:

- Re-certify annually, on their membership anniversary
- Attend at least two training sessions per membership year
- Submit and complete at least one project through the EnergyRight Program within their membership year

Training opportunities will be held throughout the year, and members will receive a certificate of completion.

Power Factor



$kVA^2 = kW^2 + kVAr^2$

$kVA = sqrt (kW^2 + kVAr^2)$

Power Factor = kW / kVA

Power Factor = Cos O

Most loads in industrial environments are inductive. Examples of inductive loads include: motors, transformers, relays and lamp ballasts. If a piece of equipment moves, chances are it's an inductive load.

Inductive loads require two types of power: working power (kW) and reactive power (kVAR). Working power performs the actual work, for example, creating heat, light, machine output, etc. Reactive power supplies the electromagnetic field required by motors, transformers, and other inductive equipment. Working and reactive power together make up the power being supplied, which is known as apparent power (kVA).

Power factor is the ratio of actual power converted to work in a circuit, versus the apparent power being drawn from the line. Low power factor indicates that electricity is being used inefficiently. This inefficient use of power could result in added costs on your electric bill, which are typically referred to as power factor demand charges. If your facility has a low power factor, then the savings associated with improving it could be dramatic.

For example, a local saw mill in West Tennessee recently had a power factor study performed at their facility by a member of TVA's Comprehensive Services team. The study recommended adding capacitors to the system to provide the reactive power needed to improve the power factor. The installation of the capacitors would increase the overall power factor of the facility from approximately 62% to 85%. This eliminated all power factor demand charges associated with having a low power factor and will save the company approximately $35,000 annually. The simple payback for this project was less than 12 months.

If you think your facility has a low power factor and you would like some information on how to improve it, please contact your local power distributor.

Green Power Switch Leaders Honored

In April, TVA and its Green Power Switch partners honored regional businesses and local power distributors that are driving the success of the TVA Green Power Switch program.

Leading power distributors were recognized in such areas as having the most consumers and businesses signed up for Green Power Switch and the highest percentage of customers participating. Business awards were based on such criteria as the volume of Green Power Switch blocks purchased and the percent of energy consumption offset by clean renewable energy.

Green Power Switch was launched in 2000 as the first-of-its-kind program in the Southeast. It allows consumers to help ensure that renewable energy from wind, solar and landfill gas is added to TVA's power supply.

This year, West Tennessee organizations won two of the 17 categories awarded. Dr. Brad Priester, Mid-South Retina in Jackson, Tennessee, was awarded the Commitment of the Year award, for Green Power Switch purchases that offset 100 percent of total electric consumption. Jackson Energy Authority received the Excellence in Clean Energy Initiatives award from the Tennessee Renewable Energy and Economic Development Council.

TVA Comprehensive Services

Your local power provider can offer engineering and technical assistance through TVA's Comprehensive Services Program (CSP). Here is a list of services that can help you implement the ideas presented in this issue of Power Partners:

Power Quality - Studies address voltage problems originating inside or outside the facility.

Power Factor Energy Audits - General survey of energy use in a facility, metering and recommendations to correct for low power factor.

Grounding/Lightning - Grounding study, grounding testing, and lightning-protection recommendations.

Demand-Side Management - Monitoring and testing electrical systems and recommendations related to managing peak demand, energy management opportunities, process, and facility improvements.

Water Heating - Studies explore heat-pump water-heater applications, standard energy-efficient water heaters, and cost comparison of electric versus fossil-fuel system.

HVAC - Studies examine the sizing of HVAC equipment, offer heating-and-cooling system comparisons, and investigate problems with existing systems.

Lighting - Studies provide recommendations for the design of lighting systems in such places as sports fields, roadways, parking lots, and commercial and industrial plants.

Wiring and Electrical Distribution Equipment - Studies analyze the facility's distribution system including the sizing of wiring and equipment.

Infrared Scans - Infrared scans of electrical equipment such as transformers, breakers, bus and conductor connections for hot spots, as well as scans for facility heating and cooling loss.

Ultrasonic Testing - Ultrasound technology can locate compressed air leaks caused by vibration, holes in hoses, loose joints and cracks.

For more information call your local power distributor.

Compressed Air Systems

Compressed air production can be one of the major energy expenses in an industrial facility. Ensuring that your compressed air system is designed and maintained properly could reduce energy costs associated with compressed air production by 20 to 35 percent.

Ways to reduce energy costs associated with a compressed air system include:

- Reduce pressure output from the compressor
- Reduce pressure drop throughout the system
- Eliminate poor compressed air applications
- Locate and repair leaks on an annual basis
- Only operate one compressor at partial load

For more information about operating your compressed air system more efficiently, contact Mike Demeris, Energy Services Specialist, at 731-635-2323.

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Energy Efficiency Provides Financial Incentives For Halls Plant

"We saw this as a way to cut our energy bill down," said Crafco Plant Manager Gary Allen.

The project was completed this year. Allen said they haven't had enough time to evaluate their monthly savings, but he expects it to be substantial. And, he said, he's thankful for Ripley Power and Light's involvement with the incentives program.

"I have received excellent customer service from Ripley Power and Light," Allen said. "They do everything I ask them to do very quickly and very promptly. I can't say enough good stuff about them. If I need something, they're right here."

It's a win-win partnership. The program saves Crafco money. It also reduces the load on TVA's electric grid, particularly during peak demand times when TVA has to go out and buy electricity at a higher cost because it can't generate enough electricity at its own plants to meet the demand.

Crafco makes Roadsaver and PolyFlex Sealants and many other highway repair materials and roofing products at the Halls plant. The products are used to preserve pavement and repair cracks in asphalt and concrete pavements. Crafco is the largest manufacturer of these type sealants in the world, and its products can be found everywhere. Crafco's Halls facility is the largest of its six materials manufacturing plants and has been in Halls since 1983.

Crafco is a subsidiary of Jackson, Mississippi-based Ergon Inc., which operates six business segments and employs 3,000 people worldwide. Crafco's company headquarters is based in Chandler, Arizona.