them to troubleshoot most common problems. We are not in the repair business, and when problems are found; customers are referred to their HVAC contractor for repairs.

- **No appointment is necessary for air conditioner or heat pump installations unless the outdoor compressor is inaccessible or access is prohibited. We ask customers to ensure any locks are removed from the electrical disconnect box located beside the air conditioning unit.**

- **Converge does not alter any safety controls.** In order to maintain the highest level of safety, it is important to not alter, disable or bypass any of the safety controls, including building fire emergency and smoke control systems.

- **All of Converge’s recommended wiring involves the control circuit of the air conditioner installation.** Converge does not change any wiring completed by the air conditioner manufacturer during the production process. The DLC switch is wired into the control circuit wiring, which is provided by the installation contractor.

- **After installation, a quality assurance inspection is done on 10 percent of all jobs. Also, random samples of all installations are selected several times a year, and detailed quality assurance inspections are performed, mostly by the LG&E program manager. Our findings are that the number of installation problems remains insignificant. While still a low number, HVAC contractors disconnecting switches is our largest concern.**

- **Converge trains all installers for proper installations, operating under the authority and control of experienced and licensed personnel to ensure that all code and regulatory requirements are met.** Installation of devices will be done by and under the supervision of qualified and experienced personnel to ensure that the installation is properly done; all federal, state, and local code and regulatory requirements and guidelines are properly met; and safe conditions are maintained for occupants.

**Additional questions?**

If you have any questions about the program, or about the technology, please don’t hesitate to contact LG&E and KU’s Energy Efficiency Department directly. Our on-site technology specialist can answer any additional questions.

- **Phone:** 1-800-356-5467
- **Email:** demand.conservation@lge-ku.com
- **Online:** lge-ku.com/dc
What is Demand Conservation?

LG&E and KU’s Demand Conservation program helps the utility manage energy needs during peak electricity demand days. More than 155,000 customers are already participating in the program.

When customers sign up for Demand Conservation, LG&E and KU will install a direct load control (DLC) switch on the customer’s central air conditioning system, heat pump, electric water heater and/or pool pump. Customers can request a switch for any or all of these systems.

The switch periodically cycles the air compressor off for approximately 10-15 minutes during each half-hour interval for up to four hours. We do not schedule cycling events on weekends or holidays unless there is an extreme system emergency, and we do not call more than 20 cycle events per year. Many people say the cycling is barely noticeable and only increases the home temperature by a few degrees.

For participating in this program, homeowners earn up to $5 in energy bill credits each month from June through September for each installed A/C switch, and different credit amounts are available for the other installations. Renters need prior landlord/property owner consent for participation and bonus or monthly credits may vary and could be split per landlord/tenant agreement.

The program is available in Louisville Gas and Electric Company and Kentucky Utilities Company electric service areas.

How does Demand Conservation work?

- The direct load control (DLC) switch is basically a radio receiver with a small relay that is used to interrupt the low-voltage thermostat control circuit on an A/C or heat pump (a 30-amp relay is used for electric water heaters). The switch is activated only on the days when LG&E or KU has a need to reduce peak demand. The misconception is that we cycle every day, and this simply is not true. As mentioned above, we are limited to 20 cycle events per year. In 2011 and 2012, there were 10 cycle events; in 2013, there were only two. A radio signal is sent and the DLC switch simply interrupts the 24-volt thermostat circuit during the control period, turning off the compressor and outdoor fan. The indoor fan continues to run, however, to minimize any effect on the indoor temperature. An example of a control session would be that between 2 p.m. and 6 p.m., the compressor cycles off for 10 minutes out of each 30-minute period during these four hours. For customers’ convenience, LG&E and KU post notices several hours in advance on our website when we must schedule a cycling event later that day.
- The DLC switches have always been designed to cause absolutely no harm to any air conditioning unit; they control the compressor through the control circuit in a manner that mimics the way a typical thermostat does.

- This is not a new technology. Utilities began using these switches in the late 1970s. There are 6 to 7 million switches installed in the U.S. (some installed in the early 1980s are still in place and in use).
- Equipment manufacturers are aware of these devices and understand their function. These switches do not void or affect the warranty in any way. In fact, all switches are approved by Underwriters Laboratories and are 100 percent compliant with the 2003 American Refrigeration Institute (ARI) guidelines for the installation of energy management devices on air conditioning.
- The typical air conditioner cycles on and off 4,000 to 6,000 times during the summer. Our DLC switch adds 60 to 80 on/off cycles a summer. This is why the manufacturers do not have a problem with this system. There is no evidence that this activity has any meaningful effect on the life of the compressor.
- If power is turned off to the A/C unit (from an outage or removing the disconnect), when power is restored, the DLC switch keeps the A/C unit off for five to seven minutes; this delay actually protects the compressor from short-cycling — which can be very damaging.
- Temperature recorders we have in a sample of customer homes show less than a one-degree temperature rise in the home on control days. This is why very few switches have been removed.
- The DLC switches operate in a fail-safe mode. If the electronics ever fail (less than one-tenth of 1 percent), the normally closed relay closes and allows the thermostat to have total control of the air conditioning system. In the event of failure of an add-on control device, the normal operation of the equipment being controlled will not be jeopardized. The DLC switches have always provided a minimum compressor “off” cycle of six minutes. The subsequent “on” cycle is a minimum of five minutes, and control strategies call for no more than four cycles per hour. In order to maintain the highest level of safety, it is important to not short-cycle motor controllers, motors or compressors. The compressor “off” cycle should last a minimum of five minutes. The compressor “on” cycle should last a minimum of three minutes.

Who is doing the installation of the switch devices?

- Our contractor, Comverge, is a company that specializes in installing these switches for utilities. They hold a Master Electrical License in Kentucky and have qualified, trained employees on staff, all of whom are active Journeyman or Master HVAC licensed technicians. All applicable permitting, licensing, insurance and other requirements have been followed.
- Comverge performs classroom and field training of all employees and has a detailed installation manual. The nature of the work performed is actually electrical, not HVAC — but the HVAC background of the employees enables...