Optimizing Energy Delivery.

Many energy efficiency programs focus on demand-side management through changing end-user energy consumption patterns. While these programs provide many benefits, industry experts have long argued that distribution system improvements are a vast and largely untapped resource that can yield significant energy and demand savings. Cooper Power Systems’ centralized power factor management system and voltage optimization solutions increase power performance to ensure that electricity is carried efficiently through the transmission and distribution lines.

Energy and demand savings through system improvements.

Capacitor Banks and Controls

The installation of power capacitors enables a utility to realize savings on their generation, EHV transmission, subtransmission, and distribution system. Many of these benefits translate into decongesting the electrical system and allowing for more efficient energy delivery services.

Installing capacitors on a system will lower losses by reducing reactive current. This loss reduction will minimize peak kW seen by generators. In addition, because energy losses will be reduced, fewer kilowatt-hours (kWh) need to be generated. Cooper Power Systems studies show that applying power factor correction capacitors on distribution feeders can help reduce the kWh generated by 1.5%.

As a leading supplier of cost effective Distribution Automation Capacitor Bank Control (CBC) solutions, we provide an integrated systems approach for power factor/volt-amperes reactive (VAR) management with off-the-shelf hardware and a specially designed application in our Yukon Enterprise Software Platform.

Our capacitors, controllers, communications, and centralized automation decrease system loses, improve energy efficiency, eliminate compliance penalties and improve grid stability during peak stresses. By releasing energy capacity through the installation of capacitors and controls, a utility may postpone the need for adding other and more expensive equipment and generation facilities.

Voltage Optimization Solutions

Improving electric distribution system efficiency through voltage regulation can save energy, reduce peak demand and better manage reactive power. Nationwide, more and more utilities are exploring the benefits of voltage management programs to enhance energy efficiency and reliability.

For more than 50 years, Cooper Power Systems’ voltage regulator line has been recognized as an industry leader for high quality, superior performance, and unmatched service. Our voltage regulators accurately keep voltage levels within programmed limits—for improved power quality and valuable distribution automation data—both automatically and inexpensively.

Industry research indicates that the energy savings results from implementing voltage regulation programs are within the expected values of 1 to 3 percent total energy reduction, 2 to 4 percent reduction in kW demand, and a 4 to 10 percent reduction in kvar demand.