

POWERPROFILE

Customer: City of Concord
Location: Concord, North Carolina
Market Segment: Utility
Customer Business Issue: Balancing electrical demand and energy costs through peak load shaving
Solution: 18 CAT® 3516 generators



POWER NEED

The City of Concord, North Carolina, is the second largest city in the Charlotte Metropolitan Area, and is the twelfth largest city in North Carolina. It has an estimated population in 2016 of over 85,000. In 2015, it was ranked as the city with the 16th fastest growing economy in the United States.

This growth in population has significantly increased the demand for electricity in the area from new homes and commercial properties. Peak power demands typically occur during the hot summer months in this southern city, when businesses and residences need power to run air conditioning systems overtime. This led the municipality to believe that a peak power asset was the best long-term investment to feed the growing electrical demand at the lowest possible cost. To help overcome its growing power challenges, the City of Concord turned to its local CAT dealer, Carolina CAT Power Systems, headquartered in nearby Charlotte.

SOLUTION

City of Concord keeps the electricity flowing through a peak load shaving effort that includes 18 CAT 3516 diesel generator sets. The municipality examines hour-by-hour wholesale energy prices to determine the most cost-effective combination of potential power sources to meet demand at any given time. When it costs less for the utility to address a portion of the demand by generating its own electricity, they fire up a carefully selected array of the generator sets to fill the need. On afternoons and early evenings in the summer when local electric demand peaks, and the cost of purchasing energy on the energy markets is expensive, City of Concord may strike all 18 generator sets. During the spring and fall when demand is lower, days can go by when all the generator sets are quiet.

The City produces 29,000 kW of power on demand for peak shaving. Their peak shaving efforts save, on average, \$4.9 million dollars annually on the cost of purchased power. These savings help to keep their retail power costs down, while the services they provide remain high. With an annual budget of approximately \$843,000, this peak shaving generation is very beneficial for the City of Concord and its citizens.

The payoff for City of Concord's careful management of energy sources is seen in its 30,000 customers' utility bills each month. "These generator sets help us manage our resources and keep the cost of power down," said Bob Pate, Director of Concord Electric Systems. "With this option, we don't find ourselves in a position where we have to buy electricity at top dollar during the high peak demand time. We are able to then pass along these savings to our residents."

