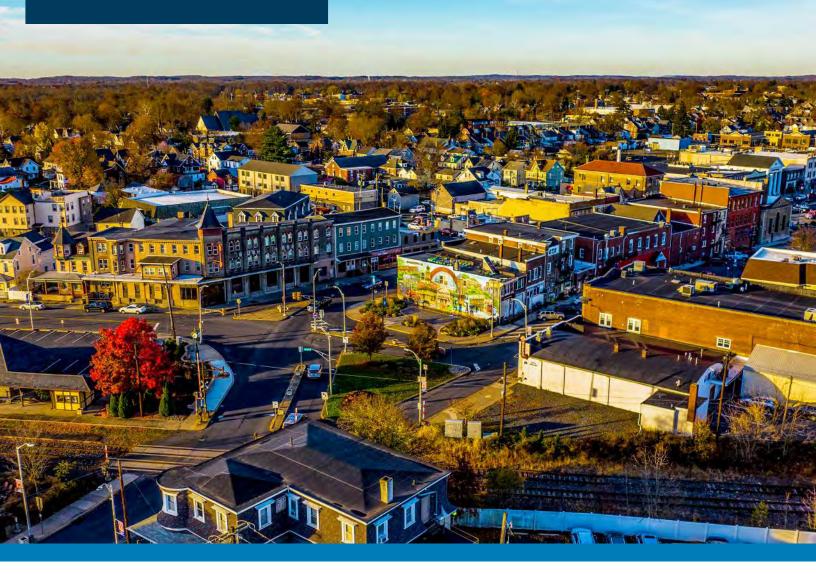# QUAKERTOWN, PENNSYLVANIA

AND 27 OTHER COMMUNITIES BENEFIT FROM POWERSECURE'S DISTRIBUTED GENERATION

ABOUT THE CUSTOMER

AMP is the nonprofit wholesale power supplier and services provider for 132 municipal Members in the states of Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia, West Virginia; as well as the Delaware Municipal Electric Corporation, a joint action agency with 8 Delaware municipal members. Settled in 1801, Quakertown, PA, today boasts a population of about 9,200.

The borough has owned and operated its own electric system — Quakertown Municipal Electric Light Plant — since 1893. Quakertown is a Member of AMP and is a host for one of 14 sites for AMP's two current behind-the-meter R.I.C.E. peaking project. The projects integrate PowerSecure generation systems into 14 host AMP Member community utility systems in Ohio and Pennsylvania, providing benefits to a total of 28 Member communities, including Quakertown.

THE CHALLENGE

A primary purpose of AMP's behind-the-meter projects is to provide local generation behind the Member utility's meter, resulting in reduced system peaks and reduced transmission costs and installed capacity demand charges. Capacity charges in PJM are based on the peak demand during the five highest peak hours in the summer months and transmission charges are based on the single highest peak hour of the year. In light of the long-term financial impact of increasing capacity and transmission costs, AMP decided to pursue a behind-the-meter investment using the PowerSecure generation system for the benefit of AMP's participating Members.

PowerSecure's system also provides emergency backup power and can operate during hours when market prices are higher than the operating costs of the generators.
The Borough of Quakertown is an AMP host site. AMP owns the PowerSecure systems, finances their construction and dispatches the resources. PowerSecure prepares the sites, designs the installation, manages construction, and maintains and remotely monitors the units.

"PowerSecure understands public power systems and the communities they serve. They serve as a resource throughout the approval process and provide a product designed to offer peak demand savings and emergency backup power, at a time when cost and resiliency are of paramount concern to customers."
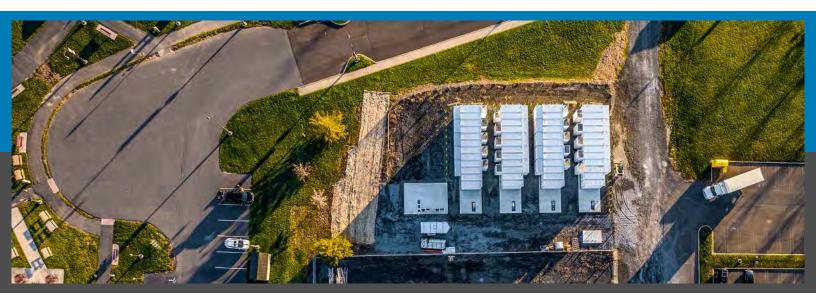
— **Willey Sandell | AMP's** vice president of generation operations and development

THE SOLUTION

PowerSecure provided four (4) engine Tier 4 PowerBlocks, each 3,125 kW standby (2,700 kW LTP) for a total of 12,500 kW standby (10,800 kW LTP) output in Quakertown.

Emissions for Tier 4 Final are considerably lower than natural gas engines on five critical pollutants: NOx, CO, HC, Formaldehyde and Methane. The total CO_2 equivalent emissions are within 5% of each other.

PowerSecure monitors each system 24/7/365 and tests each unit once a month to run system diagnostics, sending alerts to AMP and to the Borough of Quakertown if they notice a problem. The borough's utility employees receive maintenance and troubleshooting training for the generators, with PowerSecure able to send local crews to a site whenever needed.

BENEFITS TO THE CUSTOMER

With PowerSecure's industry-leading reliability, the distributed generation microgrid solution provided:

1 ► Provides Quakertown as AMP's host site, with the opportunity to reduce the impact of rising transmission and capacity costs and offers resiliency from utility outages.

2 ► Evaluates the system effectiveness and integration of an advanced microgrid in a setting with less than 10,000 occupants.

3 ► "AMP Members often ask about the environmental impact of operating Tier 4 Final generators," Sandell said. "PowerSecure's units are factory certified to meet the U.S. Environmental Protection Agency's Tier 4 Final standards."

4 ► Incorporates Tier 4 Final clean energy standards into 14 small communities.

5 ► "If we have a catastrophic event and need to supply power to our community, we can do that quickly with very little restrictions in order to get the community up and running"
— **Scott McElree**, Borough Manager |Chief of Police

"PowerSecure being able to provide a true turnkey solution is very important to us...Their ability to provide operational and maintenance support, as well as a fixed cost format, enables us to project future cost savings and return on investment."

— **Paul Beckhusen, AMP** senior vice president of power supply and energy marketing