PROJECT SUMMARY

Burns & McDonnell was hired to perform four projects for Pepco Holdings Inc. (PHI) since 2002. These projects included an analysis of telecommunications and protective relaying schemes, an assessment of remote alarming connectivity, a plan for integrating the networks of three legacy companies and design for smart grid communications.

SERVICES PROVIDED

- Communications standard and strategy development
- Protective relaying problem diagnosis
- Smart grid communications design

PROJECT BACKGROUND AND DESCRIPTION

PHI is an energy holding company engaged in regulated utility operations and the sale of competitive energy products and services to residential and commercial customers. PHI delivers electricity and natural gas to more than 1.8 million customers in Delaware, the District of Columbia, Maryland, New Jersey and Virginia, making it one of the largest electricity delivery companies in the mid-Atlantic region.

In 2007, Burns & McDonnell completed a strategy for a highly reliable integrated telecommunications platform that would provide efficient and secure use of corporate voice and data networks for its three electric utilities.

In 2008, Burns & McDonnell designed the power delivery data network (PDDN) to deliver communications for smart grid applications. These applications included: distribution automation (DA), substation remote access, supervisory control and data acquisition (SCADA), voice over Internet protocol (IP), radio over IP, automated metering infrastructure (AMI), secure corporate data network access, network management and others.

To accomplish this, Burns & McDonnell created an IP addressing scheme, designed a data network, procured equipment and engineered ethernet over fiber and multiple vertical routed and switched networks. Program management services were provided to ensure project completion.

PROJECT FEATURES

- Blueprint of the future (smart grid)
- North American Electric Reliability Corp. (NERC) critical infrastructure protection (CIP) compliance
- Cybersecurity
- Supervisory control and data acquisition (SCADA)
- Internet protocol (IP) networking
- SONET
- Advanced metering infrastructure (AMI)
- Distribution automation (DA)
- Digital microwave and 900-Mhz radio
- Fiber optics
- Multi-protocol routing
- Capacitor control