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Standby Power

Case History

Franklin, Tennessee

Where:

Franklin Data Center, Franklin, Tennessee

What:

- One DQLC standby diesel generator set rated at 2500 kW
- PowerCommand® Automatic Transfer Switch

Purpose:

Provide standby power for a state-of-the-art data center

Primary choice factors:

- Proven products
- 24/7 service

Distributor:

Cummins Crosspoint



Making a data center secure

As part of business continuity planning, Cummins Inc. recognized the need to construct, equip and staff a second data center. The number-one priority for the new center was security. Today, everything about the center's site, design and operation reflects that objective.

Cummins headquarters and main data center are located in Columbus, Indiana. The new data facility is in Franklin, Tennessee, 230 miles to the south — far enough away so that severe weather in one city will not affect the other center. The Franklin center is also located in a Zero Flood Zone, so flooding is not a risk. In addition, the center is directly across the street from a firehouse that operates 24/7.



The generator set with control module inside its enclosure.



The PowerCommand® Automatic Transfer Switch and other control equipment.

To provide additional protection, the Franklin Data Center offers an array of security features:

- Fire and security monitoring 24/7
- 10 cameras monitored continually
- 7,300 square feet of raised-floor server space and cabling
- High-speed, redundant network connections to the Columbus headquarters data center
- 210 tons of air-conditioning capacity with N+1 redundancy
- Redundant power feeds
- N+1 UPS backup system rated at 1600 amps
- 3000-amp underground electrical service
- Sprinkler-system-equipped two-alarm pre-action system required to turn on the sprinklers in any given area

Teamwork

The Franklin center is operated by Cummins Business Services (CBS), an internal shared-services organization that provides IT and other services to several global business units across the Cummins organization. Several vendors made significant contributions to the successful design and construction of the data center, including Bala Consulting Engineers, C.O. Christian Electrical Contracting, Franklin Mechanical, Square D and Emerson (Liebert).

The entire project was completed in nine months, a testament to how well the various companies worked together to get the job done. For example, this cooperation was key to solving problems related to electrical and building codes. The companies involved in the project worked with one another and the local authorities to reach solutions.

Standby power

For standby power, Cummins naturally called on its Cummins Power Generation division, which supplied a 2500 kW diesel generator set with a 6500-gallon fuel tank. With this sizeable fuel capacity, the data center can run on power from the generator for up to four full days. Some commercial data centers boast that they have 48 hours' worth of fuel on site to power generator sets — only half of what the Franklin site offers.

Cummins Crosspoint, the local distributor for Cummins Power Generation, managed the standby power system installation and continues to provide regular maintenance. Crosspoint technicians are also available 24/7 if the need for nonscheduled service should arise.

Next step: deciding on Tier III

There are four tiers (or levels) of redundancy for data centers defined by the Uptime Institute, encompassing many different types of systems and equipment. These include cabling, data backup and power generation systems, to name a few.

The CBS/IT staff at the Franklin Data Center is reviewing the center's current configuration and determining whether they should undertake an upgrade to qualify for Tier III status. Tier III mandates multiple independent distribution paths serving IT equipment, which would mean adding another generator set at the Franklin Center, for an N+1 margin of safety.

Though a significant decision involving analysis, planning and resources, such a step would represent yet another measure of extra protection for this already-secure facility.



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