

Application Solutions

Utility Selects Majorsine for Network Upgrade

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The North American Transmission and Distribution (T&D) Power Grid is being modernized with state of the art equipment to keep up with growing power demand. A Multi State T&D Company incorporated new automation systems and a private network. The telemetry and console equipment to be deployed is available only in standard 120 VAC input in contrast to the automation system which is equipped with redundant power AC and DC power supplies. Following best engineering practices all equipment is to be on a common reliable power source for planned and involuntary shutdowns.

The most important factor in the back-up power system design is the length of runtime during power outages. Substation Engineering for the utility specified a DC power plant to back-up the entire system. This design included inverters to support the AC only console and telemetry equipment.

This utility had a history of using ferroresonant inverters which required large rack space and a big footprint. In contrast, the Majorsine provides the same output as the old style in only 2U rack space preserving valuable rack space for additional equipment in the project. Increased efficiency of the inverter allows better utilization of the DC power system. The Majorsine was selected because it provides optimum space and power usage.

During normal operation, the Majorsine Power Inverter provides filtered pure sine wave AC power to the console and telemetry equipment because the client chose to operate in the integrated AC Bypass Mode. The integrated static switch automatically transfers to the DC source and gives the equipment hours of runtime in the event the of substation grid outage. Once power is restored the Majorsine transfers back to the client preferred state of AC bypass mode.

The T&D company engineer told the consulting firm **“that they have been reviewing network designs, and the thing they like the most was the Majorpower inverter that we used and they will start using this for future company substations.”**