CASE STUDY
IMPROVING RELIABILITY

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S&C System VI™ Switchgear: Perfect Answer for College Upgrade

S&C Featured Solution: System VI Switchgear

Location: Eastern United States

Customer Challenge

An eastern U.S. college needed to upgrade its electrical distribution system to accommodate additional loads. The college had been served from a 12.47-kV line, with service stepped down to 4.16 kV to match the campus system. But because the load increase would be significant, the local utility advised the college it would be advantageous to purchase power at the higher voltage.

The college obviously wanted to reuse as much of their existing system as possible. But new switchgear would clearly be needed. The college requested that this gear include load metering.

A lineup of freestanding metal-enclosed switchgear was considered. But because the gear would be installed at the top of a hill, metal-enclosed switchgear was deemed to be too obtrusive. A more suitable alternative was sought.

S&C System VI Switchgear was the perfect solution. System VI Switchgear is comprised of multiple units of S&C Vista Underground Distribution Switchgear, joined together through air-insulated transition bays. Because Vista switchgear is insulated with SF_6 gas, it is much smaller than traditional metal-enclosed switchgear. With its low profile, Vista switchgear blends ideally with the landscape.

S&C Solution

The consultant for the college redesigned the front end of the campus distribution system to use 12.47-kV service. See the single-line diagram on page 2.

In this arrangement, a new S&C PMH-7 Pad-Mounted Gear unit feeds two new 3000-kVA, 12.47/4.16-kV transformers. Protection for the transformers is provided by S&C SML-20 Power Fuses.

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Distribution to the existing campus loop is provided through a new five-section S&C System VI Switchgear lineup. Power from the transformers enters the lineup through two fault interrupters in Section 3, a Vista switchgear Model 312 unit.

Metering is provided in the doors of the air-insulated transition bays, Sections 2 and 4. Voltage transformers and current transformers in the transition bays provide sensing for metering.

Fault interrupters in Sections 1 and 5—each a Vista switchgear Model 202—serve the existing campus loop. To serve the new loads, a new Vista switchgear Model 413 unit is connected to each side of the loop through the 4-point junctions shown in the one-line diagram.

Results

The new gear has been well received. The operations staff of the college is especially pleased with the low profile of the System VI Switchgear lineup and its ease of operation.