



S&C Vista Gear Minimizes Outage Time for a Switchgear Retrofit

S&C Featured Solution: Vista® Underground Distribution Switchgear

Location: Southern United States

Customer Challenge

Compact S&C Vista Underground Distribution Switchgear was the key to a successful switchgear retrofit project at a southern U.S. hospital.

A flashover in a bay of the hospital's existing metal-enclosed switchgear lineup forced the hospital to operate on emergency generators for almost two days. The event convinced the administration of the need to replace the 25-year-old gear, which was located in the basement of the facility's central plant. Space limitations were a problem, though. The cramped area would necessitate removal of the old equipment before new gear could be installed. But the hospital could not afford to run on emergency generation for the time it would take to complete the project.

The hospital was very satisfied with the performance of the S&C Source-Transfer Vista switchgear located in a different building, and it asked S&C to offer a solution for replacing the gear in the central plant. After reviewing the application, S&C determined that the central plant had enough room to accommodate new Vista switchgear units. The new gear could be installed without disturbing the existing gear, so the retrofit could take place in a series of steps.

Other difficulties had to be overcome. If the Vista switchgear were floor-mounted, there wouldn't be enough space on the bushing side of the gear to connect the cables. Wall-mounted Vista switchgear was a possibility. But space would be needed behind the gear for training the cables. And special support frames meeting Seismic Zone 3 requirements would have to be furnished to support the gear.

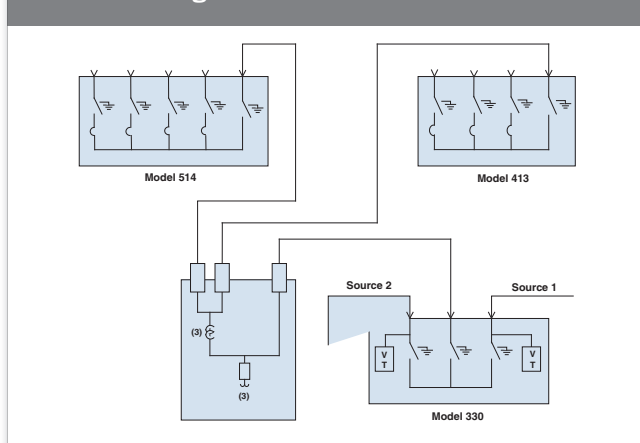
S&C Solution

Working with the local contractor and the hospital's consulting engineer, S&C developed a four-step plan for installing new wall-mounted Vista switchgear units during scheduled weekend outages. See the one-line diagram on bottom-left.

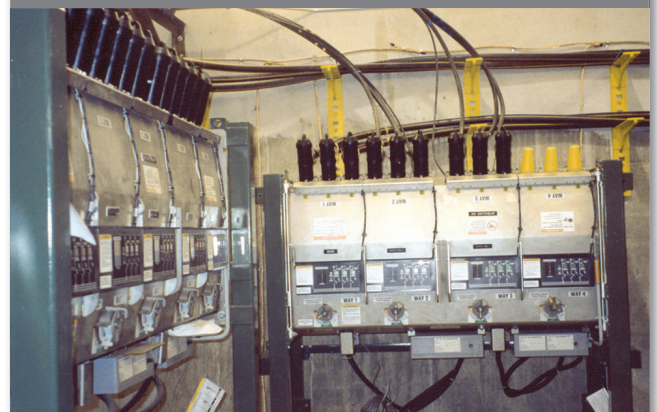
First, a new Model 330 Source-Transfer Vista switchgear unit was installed, with the existing switchgear remaining energized.

Next, a 24-hour power outage was scheduled. The emergency generators provided power during this outage. A three-bay portion of the existing gear was removed at this time and a Model 514 Manual Vista switchgear unit was installed in the vacated area. This unit was connected to the Source-Transfer Vista

One-line diagram.



Manual vault-mounted style Vista switchgear Models 514 and 413.





switchgear and to the affected feeder circuits. The new Vista gear was then energized and power was restored to the remaining bays of the existing switchgear.

Two more bays of the existing switchgear were removed during a second 24-hour power outage. A Model 413 Manual Vista switchgear unit was then installed and temporarily powered by piggybacking the load-side elbow connectors on the Source-Transfer Vista switchgear unit. With this step, the entire load was transferred to the new switchgear.

The final scheduled outage entailed removal of the incoming sections of the existing gear and installation of a new metering bay. All circuits were then rearranged in their permanent configuration as shown in the single-line diagram.

The Vista switchgear units are secured in their special support frames upside down so the bushing cable connections are at the top and the switch operators

at the bottom. The frames are adjustable and can be positioned 12 to 24 inches (30 to 61 cm) from the wall to facilitate cable training and 24 to 48 inches (61 to 122 cm) from the floor to facilitate switching operations. Elbow connections on the top of the metering bay are at the same elevation as the bushings on the Vista switchgear units for easy cable training with a minimum of bends. The frames are anchored to both wall and floor to meet Seismic Zone 3 requirements.

Results

S&C Vista switchgear demonstrated itself to be the best choice for this retrofit project, where downtime needed to be minimized and space restrictions hampered the installation of conventional metal-enclosed switchgear.