CASE STUDY
IMPROVING RELIABILITY

S&C ELECTRIC COMPANY
Excellence Through Innovation

Remote Supervisory Vista Switchgear for High-Rise Application in Arizona

S&C Featured Solution: Vista® Underground Distribution Switchgear

Location: Phoenix, Arizona, United States

Customer Challenge

A developer of high-technology properties in the southwestern United States needed assistance in designing the medium-voltage electrical system for one of their acquisitions: a refurbished downtown high-rise building in Phoenix, Arizona. The developer turned to their local electrical utility, Arizona Public Service, for guidance.

Arizona Public Service subsequently formed a team to learn about the electrical systems used in other high-rise buildings. The team traveled to a number of locations in the U.S. to view installations.

After taking into consideration a variety of factors such as available space, configuration flexibility, and ease of grounding, the team concluded that S&C's Vista Underground Distribution Switchgear would be the best choice for the application.

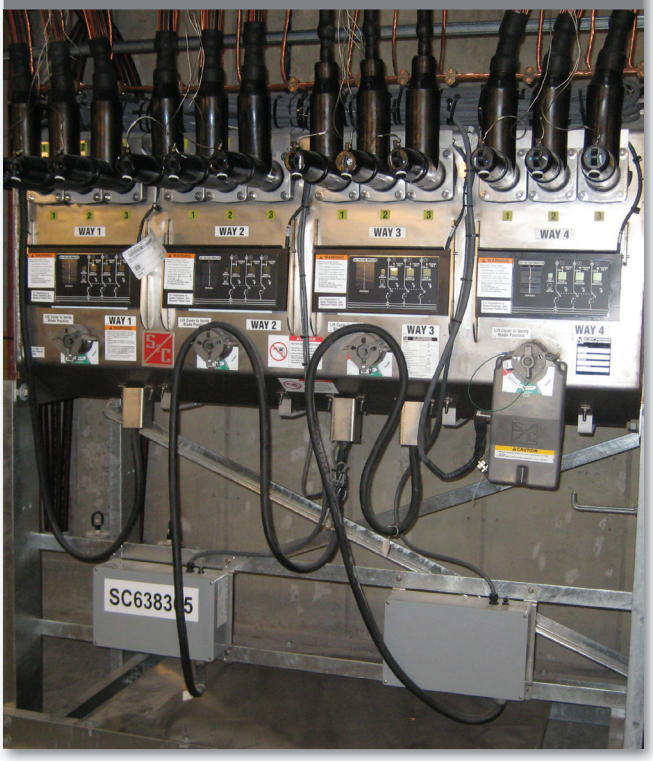
S&C Solution

Arizona Public Service contacted the local S&C Sales Office who, in turn, worked with S&C's Automation Systems Division, Metal-Enclosed Gear Products Division, and Power Systems Solutions Division to develop a proposal for the project.

The proposal called for six units of Vault-Mounted Remote Supervisory Vista Underground Distribution Switchgear: three units of Model 303, with three fault-interrupter ways, and three units of Model 404, with four fault-interrupter ways. All the units are rated 15.5 kV system class, 25 kA shot-circuit.

The Vista gear includes a number of special features. The bushing arrangement on the SF_6-insulated tank was modified to simplify handling of the ceiling-supported cables. Auxiliary contacts in the tank monitor the state of the vacuum interrupters and disconnect of each fault interrupter.

Vault-mounted Remote Supervisory Vista UDS Model 404.



Special bushing arrangement.

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The custom-designed low-voltage enclosure of each unit features a Harris DART RTU and a fiber-optic transceiver, as well as a loss-of-voltage relay.

Three remote status indication and control panels were furnished, to meet the utility's requirement for operating the gear remotely from a control room. Each panel features a mimic bus for monitoring and controlling two Vista switchgear units.

An emergency shut-down system was also furnished, with "kill switches" located at the vault entrance doors and the control room. These switches allow fire department and operating personnel to de-energize all feeders served from the fault-interrupter ways of the Vista gear.

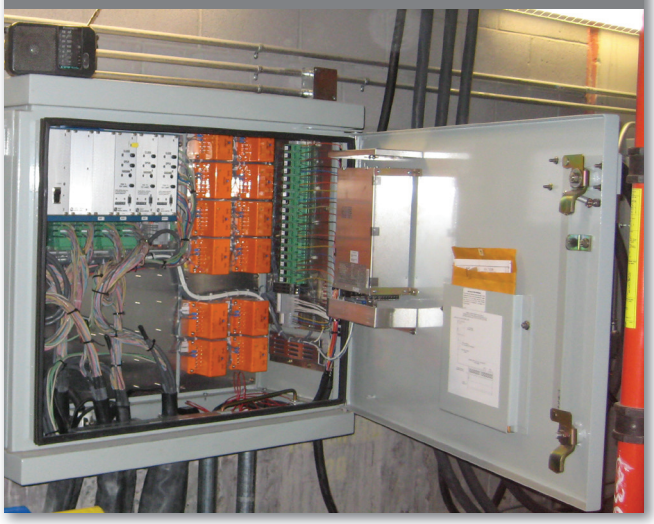
Results

The Vista Underground Distribution Switchgear was installed and energized in September 2007.

Arizona Public Service is so pleased with the features and capabilities of the Vista gear that they have decided to standardize on it for their system. They've identified over twenty projects that can use Vista gear and have already started work on one project that uses gear similar to that furnished for this application.

Arizona Public Service also plans to use S&C's turnkey services for all low-voltage work associated with Vista gear applications.

Custom-designed low-voltage enclosure.



Remote status indication and control panel.