CASE STUDY
High-Voltage Switching and Protection

S&C ELECTRIC COMPANY
Excellence Through Innovation

Vertical Circuit-Switcher Helps Brazilian Substation Needing a Tight Fix

S&C Featured Solution: High-Voltage Switching and Protection

Location: São Sebastião do Passé, Brazil

Customer Challenge

The São Sebastião do Passé unit of a large Brazilian oil and gas company operates regional substations to distribute the electricity necessary to energize oil-extraction equipment and to support the sites' offices. However, as capacity has grown, new switching equipment and transformer protection became necessary at its three 69-kV substations. The changes, though, had to be made within the existing footprint of the substations and without expanding the facilities' infrastructure.

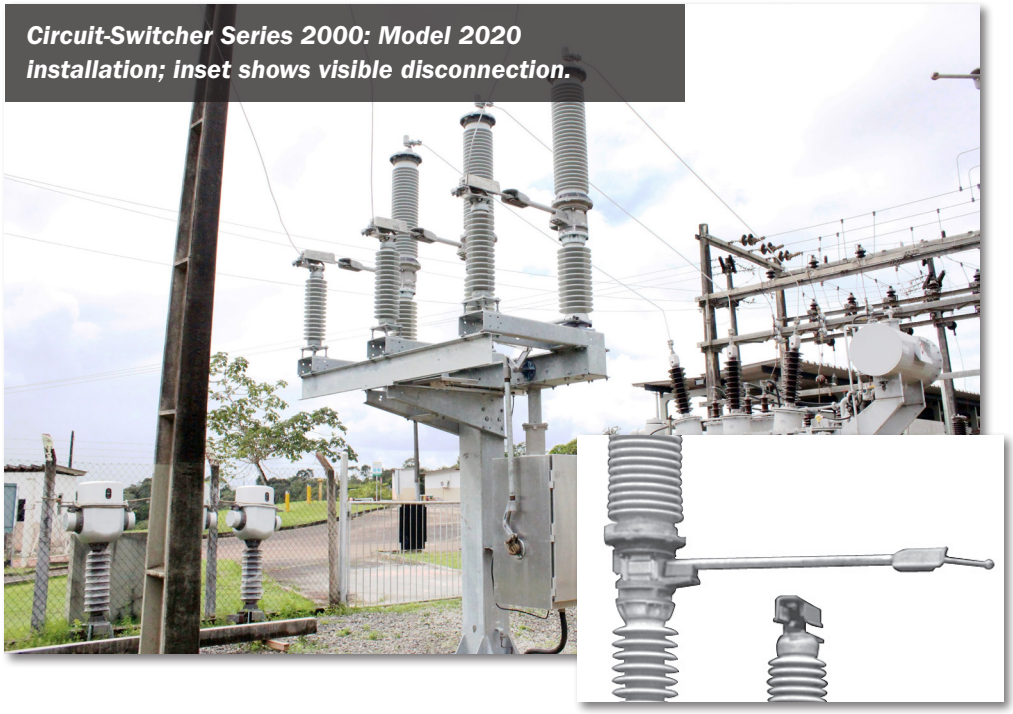
The organization sought a solution that could accommodate its space without breaking the company's budget, while also adhering to the oil company's suppliers' high security standards, which require a visible disconnection.

S&C Solution

Already familiar with S&C Electric Company's medium-voltage switching and protection products and services, the oil and gas company asked S&C to identify, specify, and provide a technical solution to overcome the installation challenges related to its circuit-switchers and transformer protection having to fit in a tight space. After a review, S&C recommended implementing six Model 2020 Series 2000 Circuit-Switchers, which would enable the oil and gas company to upgrade its facilities' capacity quickly and within each substation's small footprint.

S&C recommended the 2020 model, with its vertical-interrupter design, because it can accommodate substations with minimal space. It also met with the oil and gas company's requirement for an integrated switch that simultaneously supports protection and maneuverability. And since the solution is assembled and tested at S&C's factory, the time and installation process were reduced and simplified during commissioning at the customer's site.

In choosing S&C for the job, the Brazilian oil and gas company was particularly interested in S&C's ability to customize the equipment needed to fit the limited space and to accommodate strict security standards.



Circuit-Switcher Series 2000: Model 2020 installation; inset shows visible disconnection.

With its Model 2020 Series 2000 Circuit-Switcher, S&C ensured tight installation without new-construction costs and infrastructure changes.

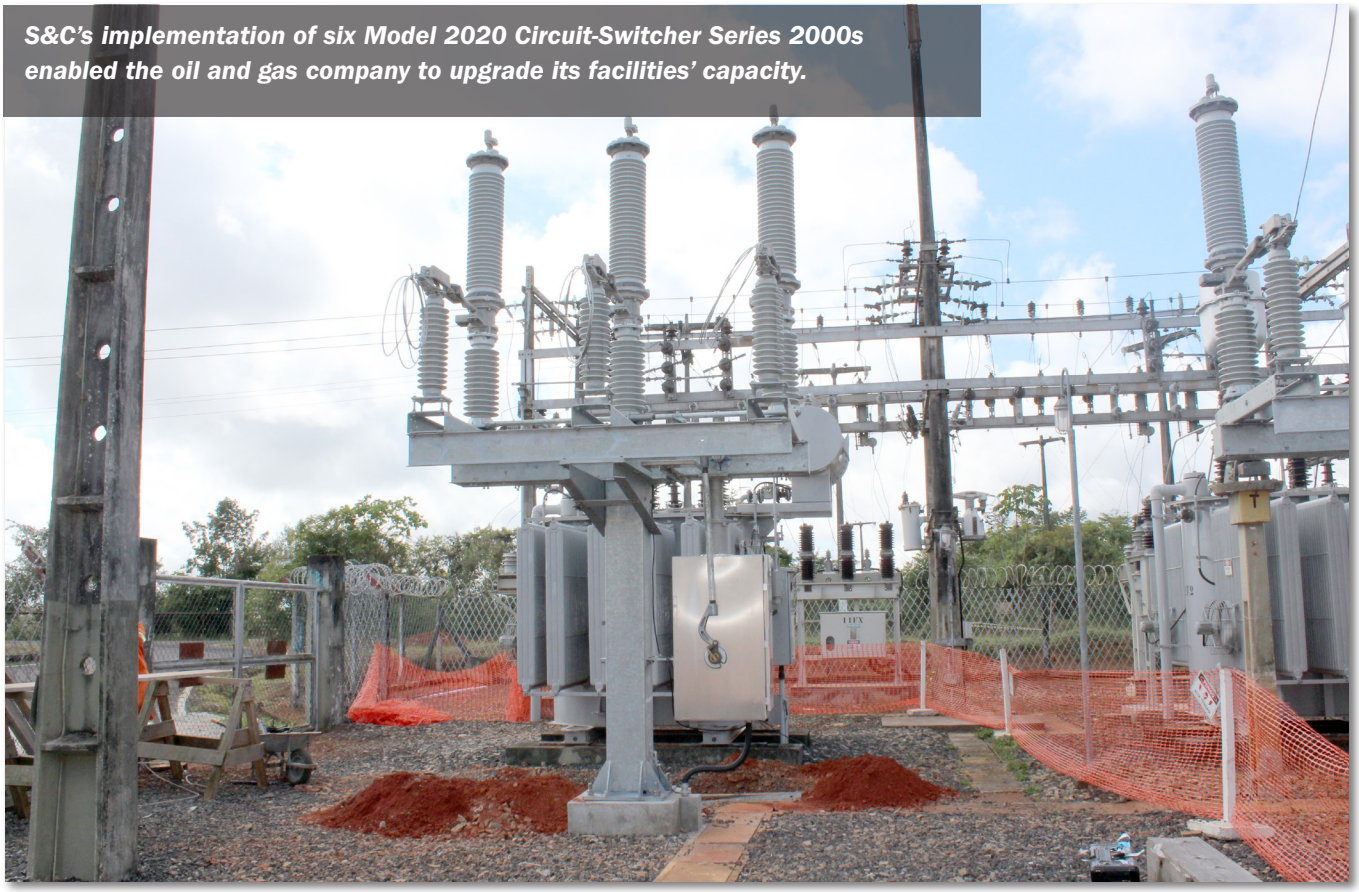
To identify and fulfill such specific requests, S&C examined where and how to install the equipment to prevent future disruptions or potential electric arcing, two additional benefits S&C's equipment provided under the project. For that, S&C worked to warrant that the solution would be installed within the minimum distance needed between phases and other equipment already located in the substation.

S&C also provided a project manager to oversee the Circuit-Switcher's installation and commissioning.

While the switch was being installed, S&C held training sessions for the organization's equipment-maintenance staff members about the operation and maintenance of the Model 2020 Series 2000 Circuit-Switchers. The training ensured they were adequately able to operate and maintain the equipment safely and effectively.

Results

The Brazilian oil and gas company was very satisfied with S&C's ability to accomplish its goal to quickly upgrade its substation switching and transformer-protection equipment within existing tight-space limitations. It was also pleased that S&C was able to provide onsite training to its equipment specialists. The project is used as an example to demonstrate to other commercial and industrial customers how the Model 2020 Series 2000 Circuit-Switchers can help substations faced with limited physical space.



S&C's implementation of six Model 2020 Circuit-Switcher Series 2000s enabled the oil and gas company to upgrade its facilities' capacity.