



Customer

N.V. Energiebedrijven Suriname

Location

Suriname, Paramaribo

Date of delivery

October 2010

Contract sum

More than EUR 25 million

Summary

Design for and realisation of:

- Civil design
- Electrical engineering
- Construction of 3 substations
 - 2 pcs of 33 / 12 kV stations
 - 1 pc of 33 kV main transmission stations
- Installation of 17 pcs of ring main units
- Installation of 63 pcs of PM transformers
- Laying of 36 km 33 kV cables
- Laying of 80 km 12 kV cables
- Laying of 100 km LV cables
- Installation of 3,750 house connections

Power Supply EVP Suriname

NV Energiebedrijven Suriname (EBS) had several problems with its electricity grid in Paramaribo. In order to resolve these problems, a consortium was established with Strukton Systems acting as the main contractor. The consortium conducted a study into the biggest problems and potential risk areas. The following activities emerged from the study:

1. Construction of a new substation in Peperpot to facilitate further grid extension. Additionally, this will increase the reliability of the existing grid.
2. Extension of the distribution grid in the area of Peperpot to directly establish 400 domestic and business connections.
3. Construction of a new substation in Zorg & Hoop. This will reduce the number of power outages in the Zorg & Hoop distribution grid. Furthermore, this will improve the reliability of the power supply.
4. Extension of the Zorg & Hoop distribution grid. This will facilitate approx. 3,350 domestic and business connections.
5. Construction of a main transmission station at OSA and a replacement of the old switchgears in the OSA power station. This will substantially reduce the risk of power outages. The new switchgears in Paramaribo's 33 kV main station, coupled with the renewal of the 333 kV cable network has made the grid more reliable and safe for the outer areas of Paramaribo. Furthermore, the network operations are now easier to manage and therefore more efficient.





Implementation

The consortium carried out the civil engineering works for the Peperpot, Zorg & Hoop and OSA substations, including site finishing, fencing, sewerage system, water connections, etc. The Peperpot and Zorg & Hoop substations are equipped with a 33 kV switchgear, 12 kV switchgear, 10 and 20 MVA transformers, SCADA system with protection relays, camera surveillance systems, fire and burglar alarm systems, auxiliary transformer and building systems like lighting, air conditioning, etc.

OSA power station

The consortium constructed the power station building at OSA and installed a 33 kV switchgear with a double busbar system of 22-panels including sectionalising and buscoupler. This system serves as a main transmission station of 33 kV. This station distributes the power capacity generated by the power station to the different substations in Paramaribo. An additional 30 MVA transformer has also been installed. The consortium also built offices, workshops and SCADA and PLC rooms within this two-storey main power building.

The consortium installed 17 pcs of closed ring main units in transformer stations in the Peperpot and Zorg & Hoop areas. These transformer stations are supplied from the substations. 64 pcs of PM transformers and 50 pcs of pot and pole mounted transformers were installed to distribute the power from the transformer station to the low voltage grid. Additional cabling has been supplied and laid in the transmission and distribution grid. This relates to:

- 36 km of 33 kV 1x800 mm² cable
- 20 km of 12 kV 3x150 mm² cable
- 20 km of 12 kV 3x95 mm² cable
- 15 km of 12 kV 1x95 mm² cable
- 25 km of 12 kV 1x70 mm² cable

To improve the domestic service line connections, low voltage lines have been split up into shorter sections. Worn parts of the low voltage grid have been replaced. New domestic service line connections have been made and/or replaced. A total of 110 km of low voltage cable has been laid to upgrade the grid and domestic service line connections. Additionally, 3,750 domestic service line connections have been installed, including placement of kWh meters.

The implementation period for the above mentioned activities was set at 30 months. Within this period, the consortium installed and commissioned the EVP+ project and handed it over to the customer - NV Energiebedrijven Suriname - to its full satisfaction.

