

Underground Cable Link

Cables preferred in densely populated areas on Barbados



Cable data

Voltage	69 kV AC
Power	72 MVA
Length	25 000 m / 34 200 m
Conductor	630 mm ² Cu / 500 mm ² Cu
Insulation	XLPE
Weight	9,7 kg/m / 8,1 kg/m
Customer	Barbados Light & Power Company Ltd
Year	2001

Project content

XLPE cables, joints and terminations
Cable system design
Project Management
Civil works
Supervision, installation and testing

Environmental issues and great demands on laying were two elements that ABB wove into their tailored solution for the 8.7 kilometre long transmission cable on Barbados. It also proved to be the introduction to an extended collaboration between ABB and Barbados Light & Power.

When procurement was initiated the idea was for power transmission to take place using overhead lines. However, as the connections concerned densely populated areas in and around Bridgetown, conditions changed with the authorities' processing of the application and buried cable was the only permitted method.

Barbados is situated in a hurricane belt, which further motivated the installation of cable ahead of overhead lines,

both from safety and cost standpoints. A number of cable suppliers were invited to tender for the project after which ABB was selected as the supplier of this turnkey project.

Active role

This also meant that ABB took on an active role in dimensioning and in the work to create the most cost efficient and safe system. The project comprised both cable and accessories as well as civil works and installation under ABB's project management.

From the outset the client had imagined a joint-installation of 25 kV cable with our 69 kV cable over a part of the area. ABB was able to propose a cost-saving alternative to the original proposed solution by installing 25 kV cable together with the 69 kV cable over the entire section. In doing so the client could take down the overhead line that

run through the heavily populated area. As the ground in most parts of Barbados is extremely hard it is very expensive to excavate cable trenches and costs could be reduced through joint installation.

Disturbances to traffic were kept to a minimum in those areas where the cable route crossed the heavily trafficked motorways as the roads could be kept partly open while the cable was installed in pipes under the road.

Total solutions with joints

The cable joint consisted of a double joint in parallel groups with copper conductors of 500 and 630 square millimetres. The cable was produced in 600 metre lengths with 96 prefabricated joints.



BU Cables

ABB Power Technologies AB

SEHVC M-060E

Telephone
+46 455 556 00

Telefax
+46 455 556 55

E-mail
sehvc@se.abb.com