

The completion of 275kV Suruga-Higashishimizu line

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275kV Suruga-Higashishimizu line, which is composed of 3 km cable in total length, was completed in November 2013. We adopted 275kV XLPE cable with a copper wire screen and metallic shield inside a PVC jacket and applied 275kV Rubber Blocked Joint (RBJ) to the site for the first time in Japan.

The tunnel to install 1000m long cables has an about 60 m high shaft and a rapid slope (angle 25%, distance 700 m). We established the method to place the cables in such a severe circumstance and checked its certainty by using a sample cable with the length of 180 m. The sample cable was pulled through the same route of the actual cables, and it was confirmed that the sample cable was intact as a result of the dissection and inspection.

The quality management was considered important to apply 275kV RBJ, but there was no control criterion before. We created it by repeating the simulation tests with the sample products. To check the validity of the installed line including 275 RBJ, we conducted an AC electric examination, measuring the partial discharge. During the partial discharge measurement, we reduced the influence of the corona discharge to the outdoor sealing ends by shielding it electrically.