

Connection of the offshore wind farm in Le Tréport

Feasibility study of the shore cliffs crossing
2011 - 2012



FRANCE - Le Tréport

Client

RTE (RESEAU DE
TRANSPORT
D'ELECTRICITE)

Owner
RTE

Highlights

3 to 6 three-pole cables
(225 kV)
Intertidal zone (foreshore)
400 to 600 m wide
Chalk shore cliffs 85 to
110 m high
Substantial erosion by the
sea



The Project

As part of the connection project of the offshore wind farm in Le Tréport (Normandy, France), French electricity distribution operator RTE contracted TERRASOL to conduct a preliminary study of the solutions that could be considered for crossing the foreshore and the chalk cliffs of the coast between Dieppe and Le Tréport.

The distance to be covered underground is about 2,000 m.

The connection comprises three to six three-pole cables (225 kV), 261 mm in diameter, with two optional additional monopolar cables (320 kV), 128 mm in diameter on option.

The cliffs of the Alabaster Coast are known for their high rates of retreat due to erosion by the sea (up to 50 cm/year).

The cliffs are formed of a sequence of cretaceous chalks overlaid by a fine layer of flinty clay. They contain a major aquifer (the chalk water table) flowing to the sea through karstic channels under pressure.

Our Services

Our mission consisted in establishing a zoning of the cliffs over about 3 km, and identifying and qualifying the geotechnical uncertainties with regard to each technical solution:

- directional drilling,
- tunnel boring machine Ø3 m,
- micro-tunneling Ø 2.1m.

For each solution, TERRASOL drew up a geotechnical soil-testing programme to be conducted as part of the engineering design studies. TERRASOL then provided assistance to SETEC ALS and SETEC TPI for drafting the preliminary feasibility study and the multi-criterion analysis of each solution.

Key points of our missions

- Geological and geotechnical synthesis over 3 km of cliffs
- Geological risk analysis
- Preliminary studies of the cliffs crossing options
- Definition of the soil-testing programme for each solution considered