110kV Erdkabelanbindung UA Bacharach



SHORT DESCRIPTION

In the process of the energy turnaround, high-voltage power lines must be built in Germany in order to be able to transport the regeneratively generated wind energy from the wind farms to the conurbations. Some of these are to be constructed as underground cables.

THE PROJECT

In the area of the Bacharach substation in Rhineland-Palatinate, Implenia is laying a total of 4.1 km of cable protection pipes using the newly developed E-Power Pipe® method from Herrenknecht. Using a specially developed tunnel boring machine with a bore diameter of 505 mm, almost 700 m are driven six times in a curved drive. In the future, the method will be used in areas where, for example, open construction methods cannot be approved for environmental reasons.

CHALLENGES

- Pilot process with partial need for technical optimisation
- Work processes must first be developed
- Strongly changing geology with partly very hard quartzite deposits
- Height difference of approx. 13 metres between start and target shaft

SUSTAINABILITY

- The E-Powerpipe method prevented an open trench and thus an impact on the natural soil layers. In addition, the emissions on the local infrastructure and buildings can be kept to a minimum.

FURTHER INFORMATION

Total length: approx. 4,130 m, 6 attitude
Gradient: 2 % falling
Line layout: Straight and curves with Rmin = 500 m
Diameter: OD 505 mm
Pipe type: steel pipes, 9.00 m, subsequent pulling-in, PE pipes, 315 x 28.6 mm SDR 11
Geology: Hunsrück shale, siltstone, quartzite

FACTS

Location	Bacharach , Germany
Status	completed
Construction volume (value of our services)	7.73 M CHF
Start of construction	September 2018
Completion	April 2019
Building owner	Amprion GmbH, Dortmund
Other tunnelling	✓
Overall length	4130 m
Diameter	0.51 m
Civil engineer	Ingenieurbüro Fischer GmbH, Düsseldorf

SERVICES

Special Foundations

E-Powerpipe