PROJECT REPORT

Emden
Converter station Siemens

Data and facts

Company	PORR Spezialtiefbau GmbH
Type	Foundations
Runtime	01.2024 - 10.2024
Principal	Siemens Energy

Project report online

www.porr.de

Deep foundations for the converter station on the A-Nord route

Starting point of a new extra-high-voltage link

The A-Nord direct-current link runs from Emden to Osterath and utilises existing power lines over long sections of the route. Converter stations are being built at either end of the link to enable the conversion between alternating-current and direct-current transmission. The converter station in Emden forms the northern feed-in point of the new line. Even before the technical installations can be commissioned, the foundations for halls, operational buildings and technical facilities are being laid underground.

5,200 piles for the converter station

The converter station consists of a positive and a negative pole. Each of these areas comprises two converter units. Each converter is housed in a converter hall approximately 18 m high with a floor area of around 5,000 m². Around 5,200 full displacement drilled piles were driven as well as other operational and technical buildings to provide deep foundations for the halls. The piles reach lengths of 15 to 16 m and transfer the loads from the future structures into load-bearing soil layers.

Foundations for halls and technical buildings

Fundex piles of various diameters were used for the foundation works. The deep foundations were tailored to the requirements of the converter halls, operational buildings and technical installations. The piles form the basis for load transfer in the structures and create the conditions for the subsequent structural works on the converter site.

Work between the route and the coastal landscape

The work took place in the vicinity of the new extra-high-voltage connection as well as the existing energy infrastructure in East Frisia. In addition to the ground conditions, site logistics and coordination with the other construction phases of the converter station had to be taken into account. The pile foundations were constructed in sections and adapted to the requirements of the overall project. In the immediate vicinity of the project site, further deep foundations had previously been constructed for infrastructure works in the Emden area, as well as work on a railway overpass on the B210 and at a substation site.

Foundation for the converter station

Even before the converters, switchgear and technical installations become visible, the foundations for the future power transmission are being laid beneath the ground surface. The installation of around 5,200 full displacement drilled piles has laid the groundwork for the subsequent construction phases of the converter station. Between the coastal landscape, the power line corridor and the converter hall, a central section of the A-Nord infrastructure project is thus taking shape.

Impressions

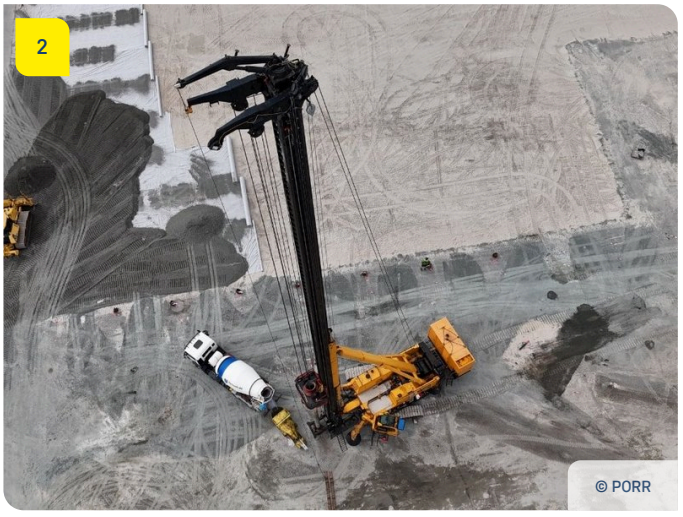

Image notes

1 PORR Spezialtiefbau Emden Tiefgruendung 2

2 PORR Spezialtiefbau Emden Tiefgruendung

View of the construction site with three drilling rigs.

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The piles in Emden are up to 16 metres long.

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Do you have questions about the project or would you like to learn more? Feel free to contact us for further information.

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