

## INP Reference

### Extra-high voltage overhead power lines with underground cable sections

**LOCATION:** Emden, Germany - Conneforde, Germany

**SYSTEM/TECHNOLOGY:** 380-kV extra-high voltage level

**SERVICES:** Commissioning, Project management, Quality assurance, Site management, Documentation, As-built status and data recording, Detail engineering, Installation supervision

**INDUSTRY BRANCH/TYPE OF PLANT:** Transmission & Distribution

**CLIENT:** TenneT TSO GmbH

**PROJECT SIZE:** > € 720 million

#### Tasks

The 380-kV grid development project Conneforde – Emden East is necessary for linking offshore grid connection systems (BorWin 3 and 4) and for transmission of the successively rising onshore wind supply from the region.

#### Project description

The two substations Emden/Borssum and Conneforde (Wiefelstede municipality, Ammerland administrative district) have previously been connected to each other via a 2-system 220-kV overhead power line.

The supervision is undertaken by TenneT TSO GmbH. To increase the performance of this connection owing to the increased power generation from offshore wind installations, a renewal of the line route as a 4-system line and increase in the voltage level to 380 kV is necessary. At the same time, the connection is to be routed to the newly erected substation Emden/East. At maximum operational capacity utilization (n-1 case), 3600 A per circuit are to be transmitted.

#### INP Services

Supervision, inspection and clarification of the previous basic engineering and construction feasibility with consideration of the nature conservation regulations and specifications. Supervision of the construction phase.

#### POINTS OF CONTACT



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