Connecting
Martin Linge

NKT’s power from shore cable system covers the needs of the oil and gas field in Norway
Supporting sustainable offshore operations

The world’s longest cable system of its kind will help save thousands of tons of CO₂ per year.

The project

The Martin Linge oil and gas field needed an efficient power transmission link from shore.

The Martin Linge oil and gas field is located in the North Sea offshore Norway, close to the border to the UK continental shelf. The owner Equinor wanted to power the offshore activities from the onshore power grid instead of using onsite generators. This would reduce the environmental impact by saving about 200,000 tons of CO₂ (carbon dioxide) annually.

Other advantages that Equinor wanted to obtain with a power-from-shore solution were reduced risk of fire and reduced need for maintenance. They wanted lower weight and less noise and vibration on the platform. The project was to improve overall working conditions.

The project included additional challenges besides the very tough environment of the North Sea. A large number of interfaces within the project required a well-organized and efficient management from the various involved specialists. There was also a high focus on health and safety which required a careful prevention work, before and during project execution.

NKT has extensive experience in power-from-shore solutions for the offshore oil and gas industry. We were awarded the contract to connect the field to the Norwegian power grid.

The solution

NKT provided a record-breaking HVAC (high-voltage alternating current) cable system.

We designed, manufactured and installed the entire impressive 145 kV three-core XLPE HVAC submarine cable system. It is 163 kilometres long and plays a key role in making the oil and gas field more carbon-efficient. It has low electrical losses, excellent tensile strength to withstand the harsh conditions of the North Sea and includes three fiber optic links.

We also supplied a 3.5-kilometre 17.5 kV infield cable including 500 metres of dynamic cable that connects the platform to a FSO (floating storage and offloading vessel). The dynamic cable is designed to withstand the motion of the FSO caused by wind, waves and current.

The main cable system was produced at NKT’s state-of-the-art production facilities in Karlskrona, Sweden. It goes out from Kollsnes, is connected to the Martin Linge platform and was delivered in two sub-lengths, connected with a rigid field joint and installed at water depths reaching 358 meters.

The infield cable parts were jointed and tested at the factory before being laid on the seabed between the platform and the FSO.

NKT’s capacity, competence and pioneering work will surely continue to break new ground. We delivered a world unique dynamic cable – as well as a world record length AC cable system.
“NKT has the expertise to prepare and install cable systems in demanding environments.”
## Key Facts

<table>
<thead>
<tr>
<th>Client:</th>
<th>Equinor</th>
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<tr>
<td>Location of the project:</td>
<td>North Sea, Norway</td>
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<tr>
<td>Quantity of order:</td>
<td>A 145 kV three-core XLPE HVAC submarine cable system with a 55 MW power rating including fiber optic links plus a 17.5 kV infield cable system including dynamic cable</td>
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<td>Total cable route length:</td>
<td>163 km</td>
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<td>Duration:</td>
<td>2012 – 2019</td>
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### Scope
- Design and engineering of turnkey cable systems
- Manufacturing of cable, fiber optic links and dynamic cable
- Delivery
- Cable-laying and jointing
- Testing and commissioning

### Location

![Map of Norway showing locations](image-url)