

# Complete HVAC & Partial Discharge Commissioning Testing of 66kV Off-Shore Cable



## Project Overview

The Correll Group was delighted to be awarded the contract by Asso.subsea to deliver the offshore pull-ins and termination and testing of 66kV export and inter-array submarine cables for the Vesterhav Nord and Syd Offshore wind farms located in the Danish North Sea.

The two offshore wind farms consist of four export and 37 inter-array cables, for a total of more than 70 kilometres.



**Client:** Asso.subsea

**Location:** Denmark

**Year:** 2023

## Project Scope

Correll, in conjunction with our strategic partner Kinectrics performed the offshore pull-ins and termination, as well as HVAC & Partial Discharge (PD) commissioning testing of 66kV export and inter-array submarine cables.

The HVAC tests were performed in accordance with IEC 63026. While the distributed PD tests were performed according to CIGRE TB 728. The PD was monitored continuously at every Wind Turbine Generator throughout the AC High Voltage test.

The team worked closely with Asso.subsea to deliver the Vesterhav Project. With the support of Kinectrics, the first string has undergone high voltage testing.



Set up of HV testing unit at the Vesterhav South Onshore Substation

## Milestones

**1st August, 2023:** Successfully completed the testing on all four strings (the last being the 78th) cable end into the 41 pre-installed mono pile foundations.

Cable cross sections on-site; 1200, 800, 500.

**10 October, 2023:** String C: The testing of 57 terminations (Nexans 66kV 909TB/G) and 3 x in-line joints were installed at the beach landing site. The export cable was then connected with the pre-installed land cables.

Sam Dowey, Managing Director at Correll said: "We are very proud to be the first company to successfully use "Partial Discharge, IR, Tan Delta and Resonance Testing with remote PD monitoring equipment connected through the Correll installed FO communication system" from onshore to offshore for the Vesterhav Project.

"This was the first project of its kind to be undertaken using this innovative approach, methodology and equipment within the global offshore wind industry".

## About Vesterhav Nord & Syd

Located 5.5 to 8.4km and 9 to 10 offshore respectively, Vesterhav Nord and Syd will comprise a total of 41 Siemens Gamesa 8.4 MW turbines with a combined capacity of 344.4 MW.

Once fully commissioned, the wind farms are forecast to generate 1.57TWh of green power per year - enough to meet the energy needs of approximately 380,000 households in Denmark.

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