

Case study - North Sea Link

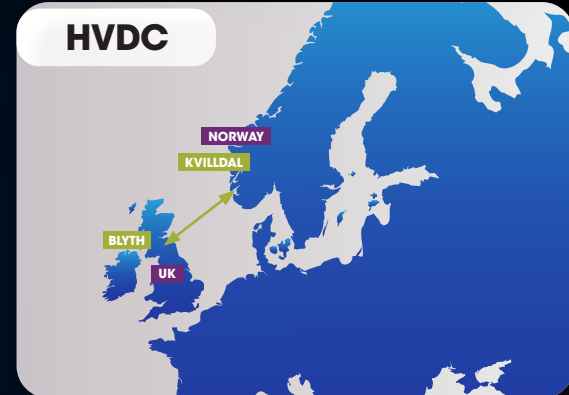


KraftPowercons UMD and DC system secure operation of a >100kW motor drive

NSL

The North Sea Link (NSL) is the longest subsea cable in the world that will enable a bi-directional flow of renewable electricity between the UK and Norway. Construction on the project commenced in March 2015 and the new interconnector was scheduled to be online in 2021.

The NSL project involves the installation of 720km of subsea cables, 10km of onshore cables and the construction of converter stations at both ends.



Challenge

The onshore converter stations for the North Sea Link will be handling the AC to DC and vice versa to feed the national grids. The converter process generates undesirable heat which requires continuous cooling to avoid overheating in the converters. A water-cooling pump system is installed to cool the converters during operation. If a power outage is occurring during operation the pump system needs a seamless power backup. By using KraftPowercon UMD™ system the critical power infrastructure is secured for continuous operation.

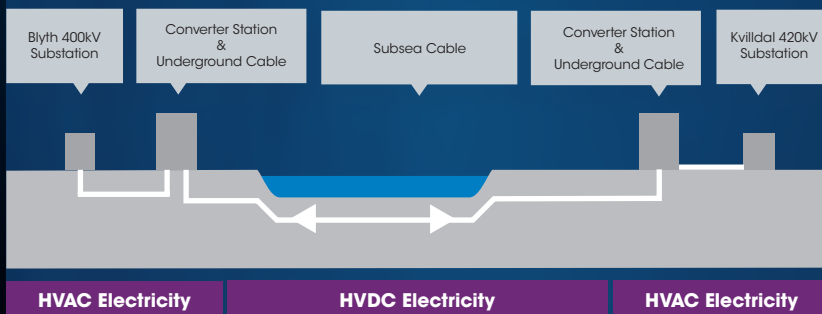
Solution

Scope of supply to converter station in Kvilldal and Blyth

220V battery system including 230V AC output (or UPS)

The DC system is designed to provide uninterrupted power to control system and all other DC supplied equipment in the converter station.

Uninterruptible Motor Drive system for cooling pumps



Case study - North Sea Link



KraftPowercons UMD and DC system secure operation of a >100kW motor drive

Uninterruptible Motor Drive



Electrical configuration for each station:

- Two (2) UMD™ S400.

UMD™ S400 is an inverter system for uninterruptible operation of a standard AC-motor with mains supply and with back-up from a battery system. The transition from mains supply to battery supply is automatic and seamless.

Each UMD™ Feeding: One (1) Cooling pump (>100kW each) with one (1) cooling pump in standby

Benefits

- Standardized, type tested concept for converter cooling
- Highest possible availability
- Eliminates Single Point of Failure

Benefits

- Pre-engineered and factory tested system
- Fulfilling specification and local legislation in Norway & UK



DC-system

Electrical configuration for each station:

- 220V DC system, in total consisting of:
 - 220V DC charger with main distribution cabinet
 - 220V DC batteries (1000Ah)
 - DC distributions
 - 230V AC UPS Inverter system (16kVA)

"With decades of experiences KraftPowercon provides solutions for Uninterruptible Motor Drives. In the North Sea Link project we have customized the solution to meet the high expectations and demands."

**Håkan Rydenborg -
Technical Sales Manager
KraftPowercon**

