Pumping Station at the Danish Wadden Sea

An area at the Danish Wadden Sea, close to the German border, is protected for its outstanding natural beauty by the Danish National Nature Agency. Two DESMI pumps are installed in the Wadden Sea and pump sea water into a big lake. The sea water in the lake contributes to ensuring that birds continue to breed in the area.

JOB RAPPORT

The pumping station is named Margrethe Kog. When the pumps are to be inspected and serviced, it must be done at low tide to enable the service engineers to drive on the road constructed in the Wadden Sea.

The National Nature Agency has entered a service agreement with DESMI and Jens Hjerrild Hansen from the National Nature Agency says: *"I am very pleased with the agreement with DESMI. The pumps fully meet our requirements for a pump solution and service agreement".*

DESMI service engineer and service vehicle at the pumping station in the Wadden Sea

The pumps are pumping approx. 500 litres of water per second from the Wadden Sea into the lake including almost 3,000 m^3 sand a year, which makes heavy demands on the maintenance of the pumps.

The two pumps are sent to Nørresundby in October every year to be overhauled and have all wear parts replaced. The pumps are installed again early in March and are thus ready for a new season.

Frequency converters have recently been installed in connection with the pumping station, which will result in an annual saving of up to DKK 180,000.

The installation is remotely monitored by DESMI's head office so that the operating state of the pumps is always known and faulty operation can be rectified as quickly as possible. This is important to the National Nature Agency as the natural area is sensitive and the fauna of the lake is dependent on sea water being pumped into the lake.

A lake of 260 ha is situated on the other side of the flood defence at the Wadden Sea. At the end of the lake sea water is pumped into the lake from the Wadden Sea.

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37 kW cone pump

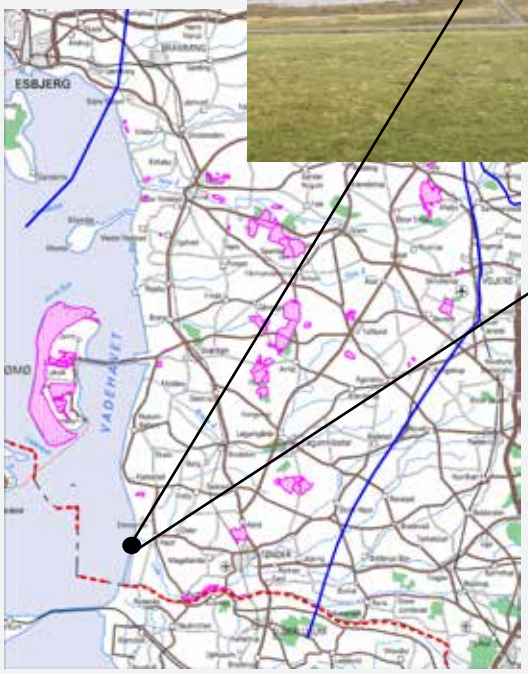
The pumping station is equipped with two 37kW submerged end-suction screw pumps, controlled by two Schneider Electric frequency converters provided with Sinus filter.

The pumps are controlled from a 10” HMI panel showing the current operational status and including operating records and alarm.
The installation is remotely monitored via GPRS and can be accessed via computer, tablet or smartphone.

The frequency converters adjust the pump speed so that only the necessary quantity of sea water is pumped into the lake. The level is monitored via radar, and the system calculates the quantity that is necessary and adjusts the pump frequency accordingly. The pipeline is flushed once an hour to avoid sand from piling up due to the reduced frequency of the pumps.

View from the flood defence over the Wadden Sea and the pumps, pumping sea water into the lake.

View from the flood defence over the lake, where the pumping station and frequence converters are located.



Source: http://naturstyrelsen.dk/media/nst/3912873/VAD.jpg

About the National Nature Agency and the Wadden Sea

The National Nature Agency contributes to projects all over Denmark with a view to protecting the nature and creating the greatest possible value for society in terms of outdoor recreation. Some projects focus on restoring nature resorts to improve the habitats of wild animals and plants as in the Wadden Sea, where the flood defence and the lake protect bird brood in the area.

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