



Case Study

Key Role in Norway Clean-Up Project

NOAH & ABB Offshore Technology, Norway

The Challenge

High viscosities, specific gravities and abrasive fluids

Varying fluid conditions

Low Life Cycle Costs – ie. Low maintenance, high uptime

The Discflo Solution

Disc Pump's unique 'non-contact' laminar flow ideal for viscous, high solids, abrasive fluids

Lowest Life Cycle Costs after ABB conducted analysis

Versatile enough to handle varying fluid conditions



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A landmark environmental clean-up project in Norway has made extensive use of Discflo Disc Pump Technology for handling hazardous waste. The project, costing Norwegian Krona 350 million in total and funded by the Norwegian Government, is run jointly by NOAH and ABB Offshore Technology.

The first part of the project was the construction of a plant for handling inorganic waste on the Norwegian island of Langoya. The solidification facility became operative in 1997 for treating waste by mixing it with specially formulated cement in order to make concrete blocks for disposal in a gypsum crater. Disc pumps are being employed at the facility to handle a wide variety of fluids, including acids, bases, hazardous waste for direct mix with gypsum, petroleum coke and contaminated earth.

These first pumps have proven very successful and have exceeded the customer's expectations. Based on this success, the project managers from NOAH and ABB Offshore Technology, the project contractor, specified Discflo Pumps for the second part of the project.

Part Two involves the building of a treatment facility in Brevik for disposing of organic waste. It uses practically all the organic hazardous waste produced in Norway and converts it to energy at the Norcem cement kiln nearby. The new facility, scheduled for start up at the end of 1998, will be able to treat 30,000 tonnes of hazardous waste a year.

The Discflo system is at the heart of the pumping process. Disc pumps will be used in a number of applications, including tank loading, transfer, circulation and feeding. A wide variety of fluids will be pumped, including waste oil, oil in water/mud, oil emulsions, solvents, paints and glues, tank bottoms, herbicides, and PCBs. Fluid viscosities vary from 1 cP to 500 cP and specific gravities from 0.9 to 1.5. The maximum solids size is 60mm (approximately 2.5") and most of the fluids are abrasive.

Several Disc pump models are used, including the 604-14-2HHD and 402-14-2HHD, for handling flow rates from 20m³/h at 3 Bar to 60m³/h at 4.5 Bar. All the pumps are a maxalloy construction and will be speed controlled to handle fluctuations in viscosity and specific gravity.

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NOAH & ABB Offshore Technology, Norway



Discflo won the contract after fierce competition with several more well known pump manufacturers. The reasons that ABB Technologies and NOAH gave for choosing the unique disc pump technology were as follows:

1. The disc pump was the best solution technically because of its ability to pump difficult fluids and its operation is versatile enough to handle a range of fluid conditions without breaking down.
2. The disc pump was the best solution economically, according to the Life Cycle Cost analysis carried out by the project contractors, ABB Offshore Technology.
3. A number of disc pumps already installed at a cement plant in Brevik provided an excellent reference for the project. The cement plant pumps have been running 24 hours/day since start up in February 1997 without any problems.

The project managers for NOAH considered and rejected centrifugal open impeller type, hose type and membrane type pumps because all fell short in terms of either Life Cycle Costs or technically. The Disc Pumps, on the other hand, are expected to operate trouble-free with little to no maintenance into the foreseeable future.

Call Discflo now to find out how our pumps can solve your problems.



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