

Project Case Study

North Sea Greenfield Project

Client:	Undisclosed
End User:	Undisclosed
Capacity:	2 x 6 m ³ /d
Contract Value:	circa £0.7M
Scope:	Design & Manufacture
Contract Completion:	October 2012 to December 2013



General

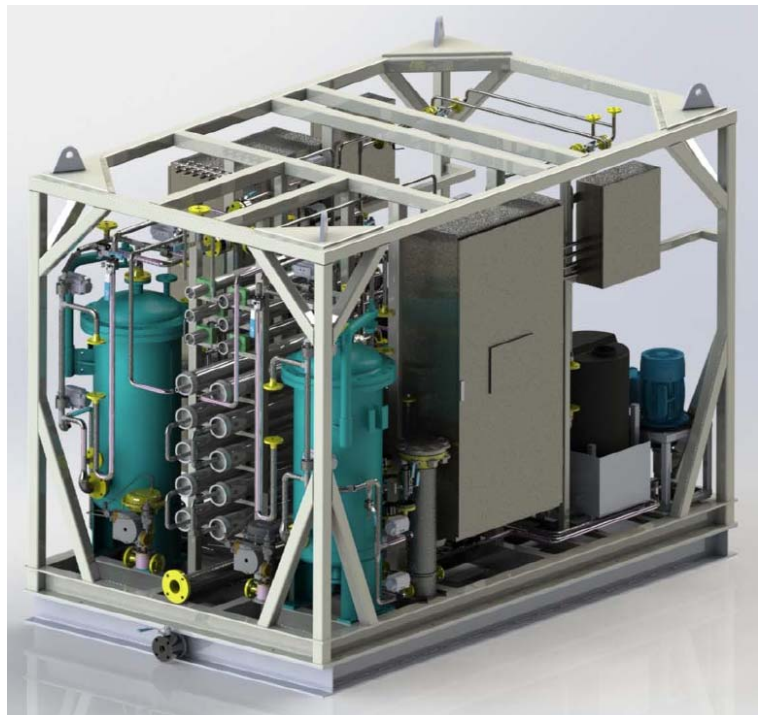
Following a competitive tendering process, Salt Separation Services were awarded a contract from a UKCS offshore operator for a skid mounted Fresh Water Maker Package for a greenfield project in the North Sea.

Project Details

The skid mounted package is required to produce fresh (potable) water and demineralised water from seawater. The Fresh Water Maker Package includes remineralisation and chlorination for potable water production and comprises of two identical duty/standby streams.

The package is suitable for operation in a Zone 2, apparatus group IIB, temperature class T3 hazardous area and conforms with the requirements of ATEX.

The equipment was designed and manufactured to comply with client specifications, including the use of materials suppliers qualified to Norsok M-650.



The package was designed, manufactured and tested at our works, including all Carbon Steel, Stainless Steel and Super Duplex Stainless Steel fabrications.

The innovative solution includes:

- Oversized pre-filtration to improve filtration efficiency and reduce the frequency of disposable filter changes.
- Two pass RO system with only one high pressure pump to reduce package footprint and weight, whilst also simplifying the process and controls.
- Recycling of second pass RO concentrate back into first pass RO feed to dilute the influent seawater and increase the net overall recovery.
- Reduced first pass RO recovery to remove the requirement for antiscalant dosing.
- RO arrays designed at low flux rates to reduce potential fouling.
- No CIP system –reducing package footprint, weight, complexity and cost. Due to the low number of RO membrane elements a cost-benefit exercise identified that RO membrane replacement would be more cost-effective than membrane cleaning.



Prior to despatch, the package was subject to a comprehensive client witnessed Factory Acceptance Test at our Rochdale works.

The plant has been designed to require minimal man power and is highly automated.

Process Flow

