E.ON

Rotterdam, The Netherlands - E.ON delivers demineralized water to the district heating of the city of Rotterdam supplying heat for 95,000 households and businesses.

The previous combined cycle power plant is being converted into a heat station ‘booster’ for (rest) heat coming from the Botlek industrial area to the district heating of Rotterdam.

The Client’s Need

Veolia Mobile Water Services received an enquiry from E.ON Benelux to fill a heat storage facility located at the Galileistraat plant in Rotterdam, with 14,000m³ of high purity water free of dissolved oxygen.

The water was treated to comply with the Dutch guidelines for district heating - DNV KEMA*, along with the European Standard for boiler water VGB-R450L (specification of EGV<0.1 µS/cm and O₂<20ppb)

The Solution

By combining Veolia Mobile Water Services REMOX, MORO and a MODI technologies the customers requirements could not only be met but exceeded:

• REMOX-100C: Mobile oxygen removal system to remove any oxygen from the de-ionised water down to <20 ppb O₂
• MORO-60T: Mobile Reverse Osmosis trailer providing >95% rejection of ions from the town mains feed water
• MODI-15000T: Mobile De Ionisation trailer to further reduce the ion content, providing a conductivity of <0.1 µS/cm

Key Figures

• Headquarters in Dusseldorf Germany
• Annual sales of €39 billion
• 79,000 employees
• Operating sites in over 30 countries globally
• Over 26 million customers
Process Description

De-Gassing:
Oxygen and carbon dioxide gas is removed from water by utilising a «hollow-fibre» membrane process in combination with vacuum and nitrogen as stripping gas. REMOX-100C incorporates a highly efficient design can operate at up to 50 m³/hr per stream, giving a total continuous output of 100 m³/h with < 10ppb O₂, < 0.3 ppm CO₂. The system is housed within a fully air conditioned and insulated 40ft container complete with all the necessary services.

Results

E.ON are pleased with the results:

“We regularly use Mobile Water Services for planned maintenance activities and the trailers always perform to spec. I have a great relationship with the team and no request is too much trouble for them.”

*DNV Kema (Det Norske Veritas, Keuring van Elektrotechnische Materialen te Arnhem) is part of DNV VL, a global certification and consulting firm based in Arnhem, The Netherlands. As one of the three classification and certification companies in the world specialising in energy, their district heating guidelines are a leading industry standard within the country.

Benefits

Process Capacity: a continuous supply of 60 m³/h < 10ppb O₂

Timeliness: required volume is met in just over a week enabling E.ON to meet it’s deadline to end-users

Quality: Stringent process control by Veolia Mobile Water Services ensures high quality of deoxygenated water

To Budget: MWS project is done within E-ON’s budget

Veolia Water Technologies – Mobile Water Services
Celsiusstraat 34, 6716 BZ EDE - NL / PO Box 250, 6710 BG EDE - NL
Tel: +31 (0) 318 691 661 / Mobile: +31 (0) 6 516 180 26
www.mobilewaterservices.com