

Mobile Solutions “Bridge of Water” for Alstom Power, Switzerland

Power | Case Study

The Client

Alstom Power, in Switzerland, is one of the worldwide leaders in power generation and for more than 100 years has offered technical solutions to meet the increasing demand for electricity.

The power station includes the rotors factory, a test station, research and development laboratories and a reconditioning centre.

The in-house test power station is equipped with two dual fuel gas turbines, GT26 and GT8C2, which enables Alstom to test the power station components under field conditions and to optimise the products.



Application:

- Water demineralisation for feeding of gas turbine's cooler circuit
- Silica content: < 20 ppb

Process:

- Treatment: MORO-24C, Reverse Osmosis Container
- Demineralisation: MODI-15000T, Ion exchange-Trailer
- Duration: 5 weeks

The Client's Needs

The gas turbine at the test power station has an output of up to 500 megawatt. The necessary cooling of the air intake for the turbine part of the gas turbine is achieved by a water steam circuit.



The silica content (SiO_2) must not be higher than 20 ppb, otherwise deposits could form and cause damage to the sensitive heat exchanger. For this purpose, the in-plant water treatment plant produces ultrapure water.

When the water treatment plant needed to be modernised Alstom ordered a mobile AQUAMOVE™ water treatment plant for five weeks. This temporary solution had to support two tanks with 1,700 m³ volume each with a constant supply of demineralised water.

The Solution

In only two days later, AQUAMOVE™ mobile solutions from England and the Netherlands arrived on site. A MORO-C24 container with reverse osmosis pre-treatment and a MODI-15000 trailer with a mixed media polisher and a pressure booster station with 100 m³/h 6bar were supplied.

The MORO system removed around 98% of the feed water impurities and contamination. And the MODI with its ion exchangers then demineralised the water to achieve the desired quality.

The Benefits

There is no need to regenerate the ion exchange resin of the mixed-bed polisher on-site. After the resin was exhausted AQUAMOVE™ replaced the MODI truck with an identical and freshly regenerated one with up to 60 tonnes of resin being regenerated per day. The quick response action from AQUAMOVE™ is due to its wide range of mobile solutions across Europe.

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Emergency rental

Continuity for any production cycle is essential. In the case of an emergency, AQUAMOVE™ can mobilise and send to your site a temporary water treatment system within a trailer or container. This can normally be with you in less than 24 hours, freight time dependant. This will either replace or supplement your existing water treatment facility and if required an AQUAMOVE™ engineer will operate the equipment.



In addition, AQUAMOVE™ offers to its customers the PREACT service. This is a comprehensive survey of your water treatment plant to develop a Site Response Pack in the event of an unplanned incident happening. If you are required to call us this ensures the correct equipment and ancillary items are delivered to produce treated water in the fastest possible time.

Planned temporary hire

Planned temporary AQUAMOVE™ services are typically used for new plant commissioning applications such as steam blowing, chemical filling, temporary production of extra water, maintenance outages etc. Mobile operations may be planned in advance of the requirement, typically contracts may last from one week to 12 months.

Long-term contract

Thanks to our full on-site service, temporary hire contracts can move to long term contracts (multiple years) if required.

Veolia Water Solutions & Technologies has developed the AQUAMOVE™ service based upon our experience of the needs within the industrial water treatment market. Our aim is to provide our clients with security of supply of this important resource and to allow them to focus on their core business.



AQUAMOVE™, the VWS brand for Mobile Water Solutions, offers a complete range of technologies and services to meet all emergency, planned or long term treated water needs. Some key features are:

- Large fleet of trailers and containers
- Full assistance and availability
- High flow rates capacity solutions
- Continuous production
- ReAct preventive service
- Pure water production: filtration, softening, reverse osmosis, ion exchange
- Wastewater treatment: clarification, dissolved air flotation, MBR, ultrafiltration, evaporation, etc

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