



Power Plant Exceeded Demineralization Water Requirements Using Mobile Integrated Membrane Systems

The Challenge

A large European power plant was in need of a reliable source of water to feed the existing demineralization unit. The original supply was from conventionally treated groundwater, however that could not provide a stable and high quality treated water source. The plant required a more abundant water source with a treatment technology which was reliable and met stringent water quality requirements. Further, the plant needed a solution in a short turnaround time.

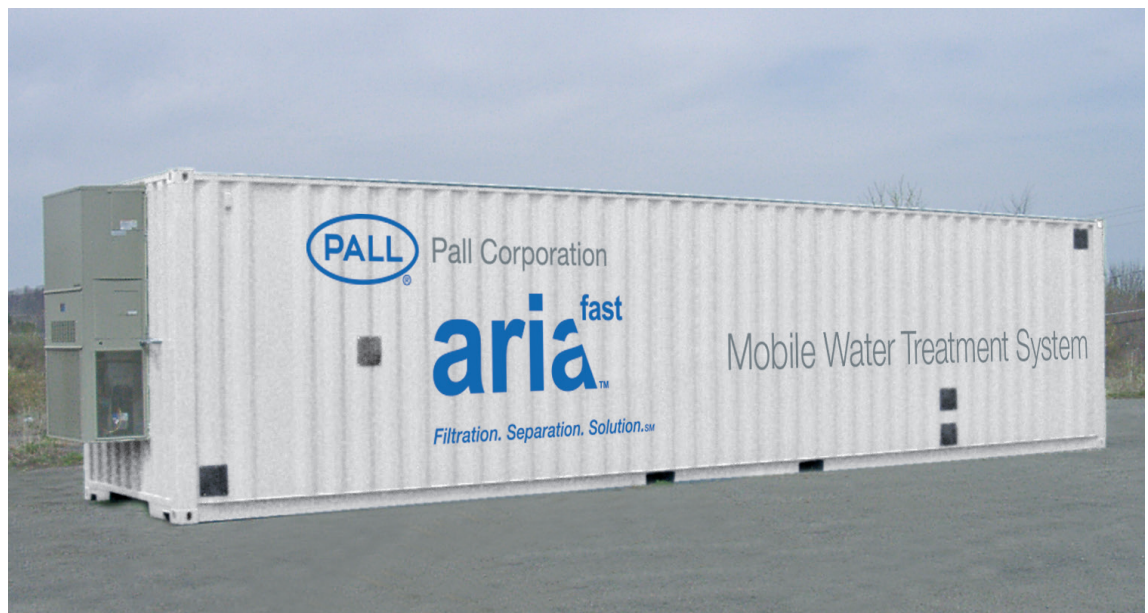
The Solution

In regards to the short supply of water, the resolution was to utilize water from an adjacent river, La Meuse. This source water was characterized as having variable organic load and suspended solids due to seasonal variation. Two

mobile integrated membrane systems consisting of low pressure membranes as well as one reverse osmosis unit provided the solution for stable, high quality treated water.

The systems were provided in containers to minimize installation time and infrastructure costs. The original units were supplied in a short time to meet the need and keep the power plant on-line. Pall Corporation worked closely with the local operator since 2013, to provide the Aria™ FAST membrane systems as a long-term rental solution for a yearly average flow to produce at 130 m³/h.

In 2016, after 3 years of long-term rental, the operator decided to purchase the units. In addition, the operator invested in Aria™ CARE, which extends the Pall service team to the site for annual maintenance and process optimization of the mobile units.



The Result

The fully integrated Aria FAST membrane systems are used for treatment of biological and organic control and the removal of all particulate matter from the river water. Furthermore, the Aria FAST reverse osmosis (RO) containers worked in

conjunction with three other pre-existing RO containers on-site and were used to deliver high quality water with low levels of dissolved salts and organics at a total permeate flow.

The mobile membrane units were delivered in a short amount of time and were able to meet the water quality needs of the power plant. The membrane solution was delivered in February and startup was completed in April. The speed of this deployment saved the customer from a potential costly shutdown procedure. Overall, the Aria FAST operation was able to meet the following requirements:

- Quick deployment of the Aria FAST membrane systems
- Exceeded requirements of pre-existing demineralization water plant
- Reliable source of water
- Zero interruption of plant productivity



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