

# 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, but that could not provide a stable and high-quality treated water source. The plant required a more abundant water source with a treatment technology that was reliable and met stringent water quality requirements. Further, the plant needed a solution in a short turnaround time.

## The solution

Regarding the short supply of water, the resolution was to utilize water from an adjacent river, the 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 (RO) 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 online. Aria Filtra® has 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 cubic meters per hour.

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

## The results

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 RO containers worked in conjunction with three other preexisting RO containers onsite and were used to deliver high-quality water with low levels of dissolved salts and organics at a total permeate flow.



## The benefits

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
- Quality that exceeded requirements of preexisting demineralization water plant
- Reliable source of water
- Zero interruption of plant productivity

## Aria FAST mobile water treatment solutions provide water on demand, when and where you need it most.

- Rapid deployment
- Easy installation
- Robust design
- Temporary or long-term solutions



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