ENSURING A RAPID RESPONSE AND ZERO DOWNTIME AT AN AGEING NUCLEAR POWER PLANT

CASE STUDY I Power I Mobile water services

| The client's needs

The nuclear power plant's water treatment infrastructure is ageing and, as such, has increasingly complex maintenance needs. The water treatment plant provides two critical water feeds which are essential for turbine island steam generation. This requires a reliable supply of precise water quality, to exacting specifications, for safe and efficient operation.

Stream 1 began experiencing issues with mechanical damage, compromising flow rates during water production. In addition, Stream 2 was producing off-spec water quality due to resin age, risking silica slippage and potential for turbine damage.

With the critical nature of the site, a rapid solution was needed. Due to the potential for huge financial losses, there was zero capacity for downtime. Therefore, responsiveness and assurance of business continuity - as well as the reliability of appropriate and proven technical solutions - were a vital requirement.

| The solution

With a long-standing partnership, the site activated its framework agreement with Veolia for a rapid emergency mobile water service.

Prior to these incidents, Veolia's team of mobile water treatment experts had worked with the plant to develop a free, site-specific Emergency Water Plan (EWP), which was activated with immediate effect.

The site's team contacted Veolia's emergency hotline and the EWP provided fast and effective access to critical information about the site, in order to get a suitable mobile water solution deployed rapidly.

> ***Our Emergency Water Plans are a free, no obligation form of security - providing assurance that you'll get a rapid response in the event of an unexpected failure in your critical water process. All of the site detailing work is done upfront with the help of our skilled team. All you need to do is phone our hotline if something goes wrong at your water plant, quote your EWP reference number and we'll take care of the rest.***
>
> ***Lewis Taylor, Sales Director Europe***

| The client

Europe — A major nuclear power plant, serving a large population and generating high volumes of clean energy. The plant is a highly productive pressurised water reactor site, the most common type of nuclear facility in Europe.

This nuclear power plant has been in operation for over 30 years, with another 10 years of operational capability remaining until its estimated decommissioning stage.

Key Result:
Avoided costs
of **€1.2 million per day**
in unplanned downtime

| The benefits

- **Zero plant downtime during repairs.**
- **Successful continuity of plant operations throughout repair period.**
- **Smooth and efficient implementation of mobile water treatment system, due to pre-existing Emergency Water Plan.**

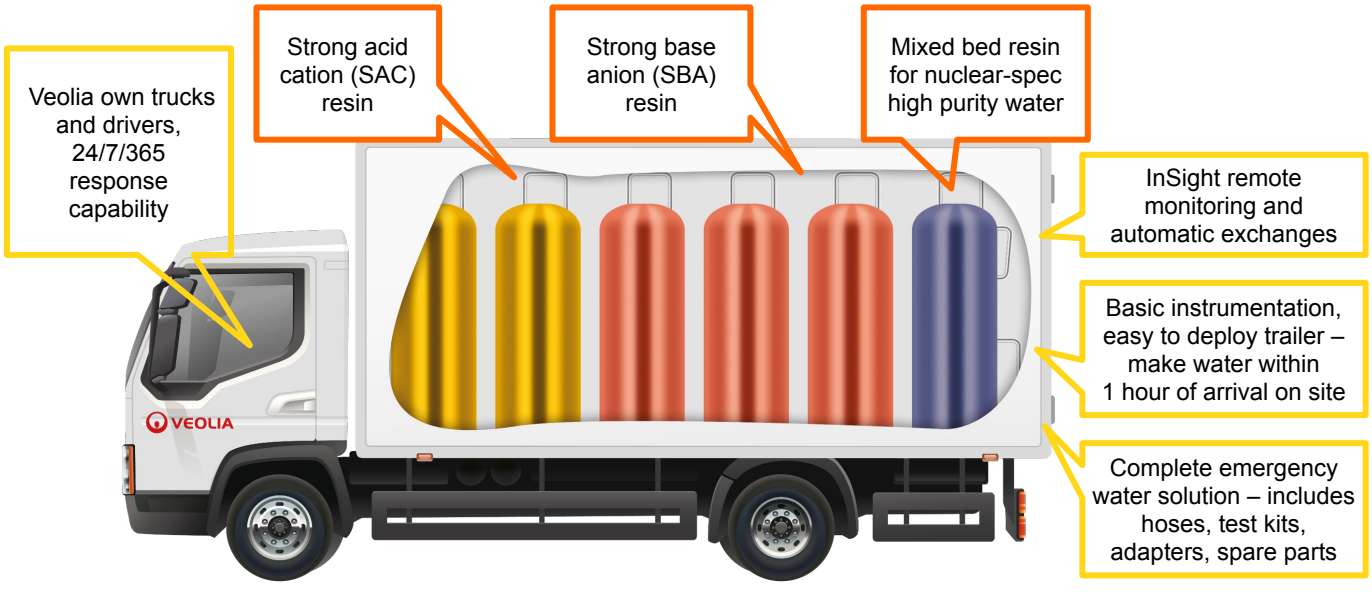
| The solution

This mobile water treatment system used on this site was based on mobile trailer-based ion exchange technology - to provide the required quality and quantity of deionised water. The resin-based ion exchange system has a robust design and straightforward operation, which makes it particularly valuable in challenging industrial environments where reliability and speed of response are of key importance.

For short-term deployments or emergency situations, ion exchange systems are an economical choice for certain applications, particularly when ultra-pure water quality is needed for limited volumes. With a mobile ion exchange demineralisation trailer, product water quality is pure enough for direct feed into high pressure boilers and other demanding applications, with nearly complete removal of dissolved salts and minerals, regardless of variations in feed water quality.

These units were maintained by Veolia's skilled team on-site, until the plant had successfully repaired the issues with both water streams.

Veolia MobileFlow mobile ion exchange trailer



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