

# SUEZ mobile water solution with InSight\* enables power plant to eliminate required maintenance upgrades and gain annual operating cost savings



## background

Constructed in 1970, the Conemaugh Generating Station is a 1,700 MW coal fired power plant located on the Conemaugh River in New Florence, Pennsylvania. The plant is owned by a consortium of five companies: Arclight, Talen Energy, PSEG, UGI and GenOn. It is operated by GenOn, and sells power into PJM. Like many merchant coal plants in the United States, reducing operating costs is a key goal to stay competitive in wholesale markets.

## challenge

While located on a river, the plant utilizes city water for boiler make-up water. The water is relatively clean 'High Ridge Water' with low conductance and can be treated with ion exchange (IX) to meet quality requirements for the supercritical boilers. The aging demineralized (demin) water system on-site had increasing maintenance cost and unpredictable downtime. Water is critical for the coal power plant's operation so the customer evaluated replacing the demin system. At the

estimated cost of \$700,000, funds for required maintenance upgrades were not possible. The plant turned to an outsourcing solution for their boiler feedwater needs, starting with mobile IX trailers for a near term solution. The customer initially selected another service provider to supply IX trailers. The trailers were promoted to give the plant a high run capacity per trailer, reducing the number of trailer exchanges, and therefore costs.

Through water analysis and modeling tools, SUEZ's Services team demonstrated to the customer that they were paying more per gallon of water than they had expected. Each trailer was not producing the total water volumes predicted, so with a fixed cost per trailer, the plant was paying a higher price per gallon of water produced.

## solution

With many years of on-site services for chemical supply to treat the Station's influent supply water, two-unit cooling systems, outfall treatment plant, and wastewater systems, SUEZ had built significant technical credibility and service level confidence within the company through our chemistry offerings and local plant's operators. With the customer confirming their need to further reduce costs for water production, SUEZ was given the opportunity to trial a MobileFlow\* trailer (Fig. 1) at Conemaugh. The trailer is configured with cation, anion, and mixed bed resins to provide high quality water. Once on-site, the trailer effectively demonstrated the water quality and volume models.

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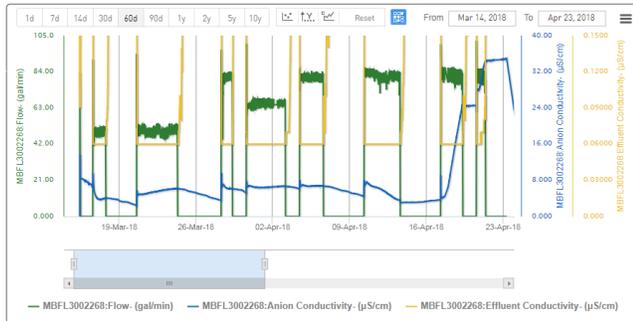
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**Figure 1: SUEZ’s MobileFlow demineralization trailers.**

Additionally, the customer experienced the benefits of SUEZ’s InSight\* Asset Performance Management system that was onboard the MobileFlow\* trailer. Key operating details were collected from the trailer and transmitted into InSight’s cloud-based interface for remote monitoring and analysis. The report included the overall trailer performance with water flow (input, throughput), capacity remaining (in days), feedwater TDS, and effluent and anion conductivity, an indicator of water quality. This data provided the plant piece of mind for system operation and replaced the need for on-site analytical support. InSight allowed the plant to proceed with operation of the unit without needing an additional onsite operator, further reducing costs.



**Figure 2: InSight screenshot showing the operating data of the MobileFlow trailer.**

## results

The supply of high quality DI water with SUEZ’s MobileFlow trailers will deliver \$220,000 net annual operating cost savings for Conemaugh to produce water.

The project will provide additional benefits, including:

- **\$700,000 cost avoidance of a required maintenance upgrade** by using SUEZ’s mobile solution verses doing a required maintenance upgrade
- **Reduction of chemicals handling**– project reduced acid and caustic storage/handling that was previously used for on-site resin regeneration
- **Additional onsite operator not needed**– remotely monitoring water quality and system performance, minimizes on-site analytical work
- **Proactively scheduling trailer exchanges**– data from InSight predicts resin exhaustion and prompts scheduling of driver and asset allocation
- **Simplification of water treatment** needs through single on-site supplier

These added benefits were not anticipated when the customer first evaluated the short-term solution. These final results reinforced the plant’s decision to eliminate the required maintenance upgrade.

Further, the project resulted in a Proof Not Promises (PNP) award for Return on Environmental and was presented to GenOn Conemaugh by SUEZ within the first quarter of operations.

If you would like to know how SUEZ can solve your water treatment needs, contact your local SUEZ representative, or visit us at [suezwatertechnologies.com](http://suezwatertechnologies.com). If you need an emergency response connect by calling:

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