



WHITE PAPER

Power industry update: When temperatures drop, water needs spike.

Severe weather has long been the enemy of the power industry. Hurricanes, temperature shifts, tornadoes and snow storms cause an increased demand for power generation – creating a challenging situation for plant leaders to manage.

In a recent white paper, we provided advice to power operators as they prepped their plants for the winter months – when extreme cold can wreak havoc on operations. However, what happens when planning isn't enough? When the unforeseeable happens?

January 2018 was the busiest month ever recorded in the 35-year history of MPW Industrial Water. Extended, extreme cold hit the U.S. power industry hard – especially in the southeastern region which is often ill-equipped to handle such events. During this period, when emergency water needs were at its peak, MPW delivered a record number of deionization (DI), reverse osmosis (RO) and filtration trailers to customers across the country – and we're predicting even more as the season progresses.

On the heels of a record-breaking cold snap, we're offering tips to help power plant operators meet water demands when the unthinkable occurs.



Prepare to the best of your ability

Most power plants have some sort of emergency plan in place for severe cold, specifically those located in the northeast where winter weather is prevalent. However, oftentimes, it takes a failure to learn where plan deficiencies exist.

At a minimum, larger heating systems and heavy insulation should be installed to protect against freezing temperatures in cold weather climates. Use of electric heat tracing circuits in all pipes and vessels can also help ward against winter temps.

Many plants also develop an annual checklist that they update from year to year with new information based on the previous season. In addition to insulation and heating prep, other common checklist items include verifying the availability of black start units, fuel sources and alternate fuel levels. Checklists may also outline testing procedures for various equipment.

Separate from equipment, several plants also conduct annual exercises with key personnel to ensure staff preparedness in the event of an emergency. All prep efforts are then tracked in an internet-based preventive maintenance tool, so it can be accessible to all parties involved.

Once the season passes, reports should be filed to gauge the plant's overall readiness that season. Any weak areas should then be queued up with a work order during the summer months to improve procedures for the following year.

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When do you need extra help?

Extreme temperatures in either direction can create high demand for power from customers, thereby increasing operational constraints, especially the need for water. But even when the proper procedures are followed, unexpected trouble can still arise. For instance, no one could have predicted that almost half the country would experience subzero temperatures for most of

January 2018. Regardless, power plants must operate either way.

Typically, companies will work with an outside partner during their winterization prep in the summertime, when predicting their needs for the winter months. The problem, however, lies in the unpredictability of weather patterns.

In reviewing overall strengths

and weaknesses from the previous winter, take note of equipment that reaches capacity or requires outside support. Using that data as a guide, look for areas where internal teams have reached their maximum bandwidth. Failing equipment, unplanned outages and frequent production delays are often symptoms of a larger problem.

Find the right emergency water partner

Regardless of their function, all industrial plants require some level of outside support to address unexpected issues when they arise. And when a plant needs additional water support to meet production needs, finding a partner with a wide breadth of available emergency solutions is the key to staying ahead of forecasts.

For instance, when a Virginia power station had an issue with its existing RO process, it called on MPW to supplement its water needs during an excessively cold winter. The plant lost RO functionality at one of its four power-production units, which would severely damage its ability to meet power demand, unless the situation could be hastily remedied. The highest priority of

the operation was to get a quick source of supplemental high-purity water to the customer. Further complicating the issue were the relatively tight restrictions on water quality from Virginia's Department of Environmental Quality.

MPW decided the best solution would include a combination usage of the mobile RO and 10 million grain mobile DI trailer. The customer kept the unit online throughout the winter, allowing production of increased amounts of megawatts which in turn meant increased profitability for the customer. Using the company's 24/7 remote support team, the Virginia station was able to continue operations without any downtime.

It's emergencies like these that

has sparked a host of new developments at MPW and in the industry as a whole. MPW is dedicated to being the best-in-class water service provider in even the most demanding of circumstances, and just like our customers, we need to be as prepared as possible for impending emergencies.

This year, we're increasing our investment in staff across the entire organization, including logistics, drivers, regen plant technicians and field service personnel. Our capital investment in 2018 will include 45 new DI, RO and filtration trailers along with eight new semi-tractors. And we will continue to support system infrastructure with improving remote monitoring, customer data inputs and logistics software.

While no one wants to believe the worst will occur, finding ways to adequately plan for the unexpected can make a world of difference for your operation. This winter, take note of key areas that must be updated for future use, and be sure to source external partners who are just as committed to staying prepared.