

OMNI™

Condenser Performance

Best-in-class monitoring program for the most critical power plant system

Maintaining high condenser efficiency means using the least amount of energy to generate the most amount of power.

Nalco Water's OMNI Condenser Performance technology compares current condenser performance to design criteria simply, easily and faster than any other means.

A unique approach to efficiency monitoring

There are plenty of ways to assess condenser efficiency ... and many of our customers use them. The OMNI approach is different and offers benefits over other approaches.

Better

Most condenser efficiency monitoring and reporting tools require in-depth knowledge of the system and a high degree of computer familiarity to use. Generating an OMNI Condenser Performance report is as simple as sending a file attached to an email. It isn't an engineering study. It's a performance and troubleshooting tool you'll actually use, better than any other condenser performance monitoring tool in the industry.

Faster

Once established, an OMNI report can be on your desk in less than two minutes, any time you need it. Your Nalco Water representative, as part of their routine service, can run a report, review it and understand how the condenser is operating, right now.

Less Costly

There are other condenser performance monitoring tools out there, but OMNI is the only tool available that requires no capital or operating expense to implement and can generate consistently formatted reports in minutes without extensive training.



- SIMPLE
- COST-EFFECTIVE
- RELIABLE



Secure

Fit for use in plants requiring compliance with NERC-CIP



Integrated

Links plant operational data to water system data collected by Nalco Water's 3D TRASAR Technology



Data-Driven

Make decisions based on accurate data



Easy-to-Use

Run reports simply and quickly to get the information you need when you need it.



The condenser has more impact on the economics of a power plant than any other system. Get the data you need, when you need it, fast.



Send your data to the System Assurance Center and receive your report in about two minutes.



Get the data you need, formatted the way you need it, to troubleshoot problems fast.

PacifiCorp Naughton improves condenser performance, reduces costs by \$900,000

Coal-fired power plants operate in a highly competitive market. Electricity demand is growing slowly and that trend is predicted to continue for several years. Natural gas prices are low compared to coal. Labor costs in a coal plant are higher than those in most gas plants. From a regulatory standpoint, coal-fired plants operate in a much more restrictive environment than do other power plants. All of these challenges mean operators of coal-fired power plants need to be mindful of costs and look for any potential opportunities for efficiency gains.



CHALLENGE

At PacifiCorp's Naughton station – a 707 MW coal-fired plant near Kemmerer, WY – make-up water quality varies with the seasons. Make-up water silt and sediment concentrations rise with the spring run-off. Seasonal degradation of condenser performance is an annual event.

SOLUTION

Nalco Water implemented a condenser cleaning program, part of OMNI Condenser Performance, at PacifiCorp's Naughton station. In the month following the condenser cleaning, condenser cleanliness factor and back-pressure degraded almost to the point it was prior to the mechanical cleaning. The engineering staff evaluated a number of options for bringing the unit back up to its design efficiency, including taking the unit offline again. The chosen option: increase cooling tower blowdown, slightly reduce pH and apply a biodispersant.

Within one day of applying the biodispersant, improvement was noted in condenser backpressure and condenser cleanliness factor. Within two weeks, performance had improved almost to the point seen after the mechanical cleaning. Performance continues to improve and there has been no loss of efficiency, like that seen after the mechanical cleaning. A continuous use of the biodispersant is expected to maintain the condenser at its current, high efficiency.

RESULT

Adopting the OMNI bio-dispersant program as a substitute for an offline mechanical cleaning saved PacifiCorp Naughton Station over \$900,000 in maintenance, lost production and fuel costs.

CUSTOMER IMPACT

Prevented microbiologically-induced corrosion, protecting the condenser and ensuring high plant availability.

Clean condenser surfaces during peak generating periods maximizes plant capacity.

eROI™



ASSETS



ENERGY

ECONOMIC RESULTS

Avoidance of unplanned outages and unnecessary derates translates into millions of dollars in generating revenues.

\$900,000 in reduced operating costs, including maintenance and fuel.

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