Kurita Newsletter

Volume 03, November 2009

Latest news !

Online Cooling Water Management

Introduction

By listening to our cooling water customers demands we challenge ourselves every day to improve our products and service. It is a fact, that the biggest tasks today are reduction of costs and increased process reliability.

To match this challenge we have focused on the main cost creators and the weak points of conventional treatment. This led to our new **Online Cooling Water Management.**

Improved treatment technologies

Three main cost factors were figured out:

- consumption of water and chemicals
- manpower to obtain the systems reliability
- shortened operating life of equipment

To reduce these costs we developed new strategies for more efficient cooling water management. The heart of this improvement is a better process monitoring and controlling by a new cooling water control device.

New cooling water control device

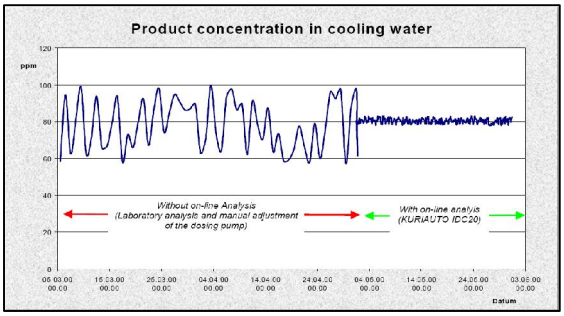
Changes in the cooling water and the make-up water quality are measured and directly used to revise the settings of the treatment. By this higher cycles of concentration can be realized and the water and chemical consumption decreases.

Typical measurement and control parameters are:

- pH and m-alkalinity
- electrical conductivity
- hardness
- turbidity
- iron
- product consumption and stock control
- make-up water and blowdown rate
- scaling and corrosion rate
- residual chlorine

Furthermore we integrated our Kuriauto IDC online polymer analyzer to the controller system for a continuous measurement and control of the product level. With improvement of the product dosing control a better corrosion and scaling inhibition is realized. Along with this comes a significant decrease of product consumption, because the fluctuation of product level in the cooling water is reduced.

In a field trial the product concentration in the cooling water was analyzed regularly by conventional field analysis followed by an adjustment of the dosing pumps. After 2 months a Kuriauto IDC online analyzer was installed to measure and control the product level in the cooling water continuously. To compare both periods the real product concentration in the cooling water was confirmed by regular laboratory analysis. The results are shown in the graph below.



Improved inhibitor dosage

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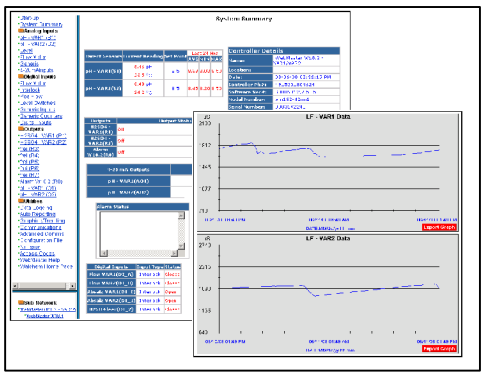
After installation of the Kuriauto IDC analyser the target concentration of 80 ppm was precisely kept and resulted in improved corrosion and scale inhibition. Furthermore we were able to economize the product consumption.

System data storage

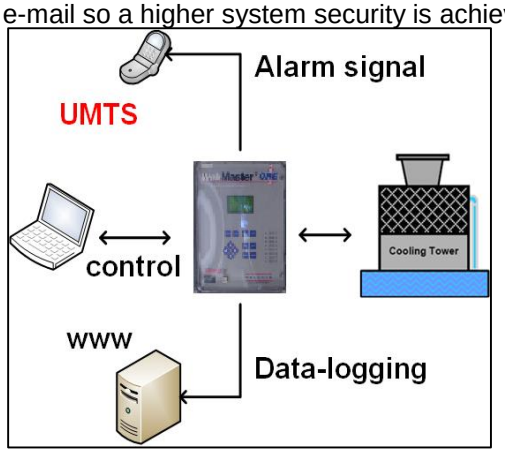
Another big innovation is the extended data logging function. All measured data is stored and can be read out on the controller display or downloaded with a computer.
By this we get additional information how the system runs under normal conditions and how it reacts to upsets. The collected data is used to further optimize the treatment program.



Data Logging and graphing

Online monitoring and control

With new communication technologies coming up, Kurita Europe started using UMTS to make the cooling water controllers accessible via internet connection.
This allows Kurita and the operators to check the most important system parameters and change settings if necessary at anytime and from anywhere. Furthermore alarm signals are sent out by e-mail so a higher system security is achieved.



Online cooling water control

The system also improves the stock management as it is able to figure out the chemical consumption and to predict when the storage tanks have to be refilled.

A significant reduction of workload for our customers is the result of this modern treatment concept.

Your advantages on one view

- Cost reduction by lower water and chemical consumption
- Higher system reliability due to continuous product level control in cooling water
- Reduced workload through optimized process management
- Longer durability of equipment because of stable conditions
- Continuous improvement based on collected system data
- 24/7 monitoring and control

Ensure your advantage now!

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