# WATER TREATMENT TECHNOLOGY FOR INDUSTRIAL, COMMERCIAL & ENVIRONMENTAL APPLICATIONS

AUGUST 2014 - WATER TREATMENT NEWSLETTER

## KWT Promotes a New Treatment for Closed Loops

A new technology for the treatment of closed cooling and heating loops has been developed in Europe and introduced in the United States. BKG, a German water treatment company, which introduced Cetamine, a film forming amine treatment for boilers also introduced a similar product for closed loop systems. KWT is promoting its use in many of the closed loops that it is treating in our market area. The product protects metal surfaces by providing a mono-molecular "Film Forming Amine" (FFA) which prevents corrosion of the metal. The FFA provides corrosion protection of all types of metals including mild steel, stainless steel, copper alloys and aluminum.

The Cetamine treatment for closed loops has advantages over traditional treatment programs such as molybdate, botate/nitrite, and molybdate/nitrite. These advantages include better corrosion protection performance, abilty to maintain corrosion protection in systems susceptible to water losses, and systems with mixed metallurgies.

The technology is particularly applicable in systems where aluminum components require neutral pHs. High efficiency heat generators made from cast aluminum benefit from this treatment approach. Systems which lose loop water (such as plastic blow molding operation during mold changeouts) or systems which are not completely "closed" especially benefit from the new technology.

**CLICK HERE** - For a paper reviewing the development of this closed loop treatment including case histories.

## Not all Membrane Autopsies are Created Equal

A Western Kansas power plant lost 24% of their normalized permeate flow for their 450 GPM RO systems within a few months of installing new membranes. Their CIP procedures were not effective in restoring flow. This same plant had recently reconfigured their "skids" to improve performance (See our newsletter article of Jan 2014) but it was obvious that there were other problems.

A front end element from one of the plant's RO skids was submitted to Avista's San Marcos California laboratory. A complete autopsy was completed on the membrane. The report from this autopsy is found at our website at this link.

Normal autopsy procedures did not identify the problem with the membrane. The Scanning Electron Microscopy (SEM) enhanced with Chromatic Elemental Imaging (CEI) showed only minimal fouling and no explanation for the loss of permeate flux. (Page 22 of the report) ➤

## KWT & RSC has achieved compliance certification with Browz & ISNetworld

Some of our customers use third party compliance companies (ie Browz and ISNetworld) to manage the compliance of their suppliers to their standards. Included are standards of insurance, management of OSHA reporting information, drug and alcohol compliance and development and adherence to safety policy. We have achieved an "A" rating for our compliance to ISNetworld standards. Also both Aaron Terry and Eric Fraser maintain Hazwoper Certification.

KWT/RSC has developed a 40 page safety policy document that we follow to assure that we are following safety policy (include training) that complys with our customers' requirements. Included are safety standards which we need to properly and safely provide our services at our customers facilities.

**CLICK HERE** - For our *new* safety policy.

## VISIT OUR WEBSITE!

KWT

**Kansas Water Tech**
kansaswatertech.com

RSC

**Remediation Services Co.**
remediation-services.com

Coordination of efforts with the Avista's analysts and the plant's chief chemist yielded important information. Additional water samples were obtained for some specialized tests. The Avista analysts used their FTIR (Fourier Transformed Infrared Analyses) to identify organic peaks found in the feedwater and on the surface of the membrane. Those peaks were identified as non-ionic surfactant compound(s) which was(were) in effect "poisoning" the membrane surface. (Pages 18-20 of the report)

This information was the key to understanding the loss of permeate flow. It also shows the importance of a thorough autopsy performed by experienced, knowledgable technicians who have the tools to do both standard and non standard autopsy work. Our experience also showed the importance of coordinating laboratory autopsy results with the personnel at the plant who have insight as to their RO system operation.

**CLICK HERE** - For the Membrane Autopsy Report

## California has become the first state to regulate hexavalent chromate in potable water

California has become the first state to regulate hexavalent chromate in potable water. They have set a MCL (Max Contamination Limit) of 10 ppb for hexavalent chromate. The previous limit for California was 50 ppb of total chrome. The national EPA MCL level for total chrome is 100 ppb.

It is likely that other states will adopt the California model and begin regulation of hexavalent chrome. Those who use chromate for metal finishing or are involved with the remediation of chromate containing waters will likely face lower and lower chromate limits in plant discharges and in remediated waters.

**CLICK HERE** - For a document provided by the National Groundwater Association discussing this issue.

Ha Ha!

**What is the Chemical formula for water?**
*H I J K L M N O (H to O)*

**Why do we try to avoid nitrates?**
*Day rates are cheaper*

**Why do we like working with Caustic Soda?**
*It's pretty basic stuff*

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