THE END POINT

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Message from the President

What Next!

Tom Brandvold
President

Are you winning the technology race? Hey, are you even participating in it? If you are like me you marvel at the pace of technological change going on around us. There is not a week that goes by that I don't read about some development that will eventually affect our business. When I think about the way technology has changed our company just in the last few years, it is amazing. I am sure you have experienced the same phenomenon.

Internally, all of our production scheduling, inventory tracking, quality control, and service completion activities have an "IT" component to them.

Out in the field, we have gone from conductivity bridges, color wheels, slide comparators, and drop count test kits to Total Dissolved Meters, electronic colorimeters and micro-titrators. Notepads and pens have been replaced by PDA's and laptops. And the list could go on and on.

What to do amid all this change is an important consideration. Some sit back and wait for things to slow down and stabilize. Others try to "catch a ride" on the latest trend, whatever that may be.

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INSIDE THIS ISSUE

Edited By: Tracy Staples

A Warm Welcome

Travis Keyes

Please welcome our new Water Treatment Consultant, **Travis Keyes**, to the Premier family. Travis hails from Winter Haven/Haines City, Florida and is a welcome addition to our Central Florida Team! Travis previously worked as a Stationary Engineer at AERCON FLORIDA, LLC, where he was introduced to Water Treatment & Premier by Mr. D.C. "Chuck" Brandvold. He attended college in West Palm Beach and is currently pursuing a B.S. in Organizational Management from Palm Beach Atlantic University.

Travis is very active in his Church and participates in numerous sporting activities including fishing and golf. He is also a NASCAR fan. Welcome aboard, Travis!

Trivia Question

Training Trivia:

Water can exist in three forms. What are they?

Website Trivia:

Browse through our website to find the answer to this question:

Name one of the 10 Commandments of Cooling Systems.

Fax your answer for Website Trivia to 904-268-6851. All responses received by December 15th will be entered in a drawing to win a prize. Be sure to include Your Name, Company, Phone Number, and an answer to the question. Please reference November Trivia Question on your fax.

Answer to May's Trivia Question:

How much does a gallon of fresh water weigh? 8.34 lbs.

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At Premier, we have tried to take a different approach. We make an intentional effort to do some "futuring". This allows us to get ahead of developments we think our industry will be exposed to; but more importantly adopt. We want to be innovative not play catch up. At the same time we are careful not to spend time working on things that we don't see as beneficial to our customers. While not always right, we think this approach is far better than a hap-hazard technique of adopting one technology while passing on another.

Ask your Water Treatment Consultant to tell you about Chiller Check, Cool Calc and Boiler Calc, and Web accessible controllers for Boilers and Cooling Towers for evidence of some technologies we think can help you.

Most recently, we have rolled out the latest version of our on-line service report with features and options we don't think are available ANYWHERE in the industry. It is a product second to none and is sure to become the standard service report tool of the future. Tracy Staples, our Project Manager for this initiative writes more about this below.

What's coming next? Well, we are working on a couple of analytical tools and are trying to help the controller manufacturers with real time treatment monitoring. But what we really would like to know is what would help *you*. At Premier, we know if we focus on the things our customers tell us they need, we can be successful together!

Enjoy the Holiday Season!

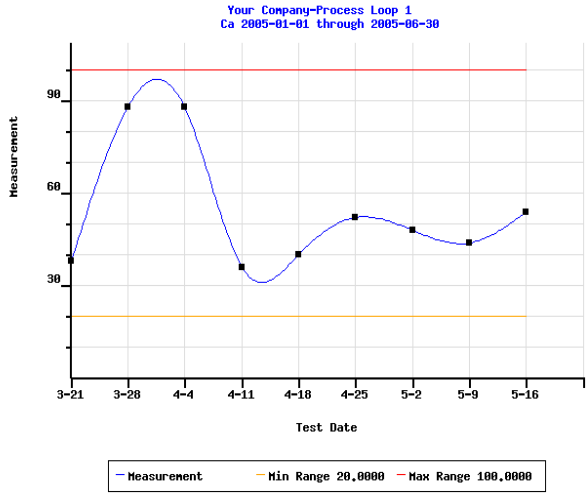

Figure 1

Some of our customers are already benefiting from the archived information in the system. They no longer have to search through several months of handwritten reports to find trends in test results. They can even review service reports when they are out of the office!

If you would like to join our growing list of customers using this service, please contact your Water Treatment Consultant for details on how you can start receiving your service reports electronically.For more information or to take a tour of the Online Service Reporting tool, go to www.premierwater.com and click on the Online Service Reporting link.

Online Service Reporting

The New Way to Track Your Results

Tracy Staples
Online Administrator

Your Water Treatment Consultant now has the ability to create your service reports electronically. Our Online Service Reporting allows you to view current and historic service reports online, and see a list of all dates that your facility was serviced during a specified date range. It also has the capability of graphing the results for any test run at your facility (See Figure 1). With this graph you will can quickly see whether or not your system is within control range.

Benefits to Online Service Reporting

- Reduces the amount of paper in your office
- Easy access to service reports for management outside of the office
- 24-hour access to service reports
- Readily available trend analysis

A New e-Look at Premier

www.premierwater.com

Tracy Staples
Online Administrator

Premier has a new look on the web! We have completely redesigned our website to make it more functional and easier to navigate. You will now be able to go online to view our newsletters and get access to your Online Service Reports (see the article on this page). When searching through www.premierwater.com you can get more information on Pallet Washing, Drift Eliminator Cleaning and Remote Video Inspection. You will also find technical articles on Boilers, Cooling Towers and Water Treatment Equipment. You may even learn something new about Premier! Please visit our website and let us know what you think. Any questions or comments are welcome at any time. You can use the "Contact Us" page on the website to give us your thoughts. We look forward to hearing from you!

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ORP Controllers

What They Are and How They Work

Susan Brooks
Business Development Manager

In your experience in dealing with Water Treatment and Water Treatment related issues that you may have heard of the use of an ORP controller as an addition or enhancement to your Water Treatment program.
WHAT IS ORP?

Oxidation-Reduction Potential (ORP) is a measure of a solution's oxidizing or reducing strength. An oxidizing agent (chlorine for example) has a potential to **acquire** electrons and become reduced while a reducing agent has a potential to **donate** electrons and become oxidized. When electrons are transferred from one species to another in a chemical reaction, the reaction is called an oxidation-reduction reaction. Oxidation – reduction reactions occur together; the electrons generated by a reduction reaction must be acquired by an oxidation reaction. The electron transfer between the two species continues until equilibrium is reached.

ORP measures the **ratio** of the activities of the oxidizing and reducing species in a solution. This indicates the solution's electron activity, i.e. its ability to oxidize or reduce another substance (microbiological material); it does not indicate the concentrations of the predominant oxidizing or reducing agent. The ORP of a solution with 1 ppm oxidant and 5 ppm reductant is the same as a solution with 1000 ppm oxidant and 5000 ppm reductant. The 1000 ppm solution can oxidize a larger quantity of material but its oxidation potential is no stronger that the 1 ppm solution.

HOW IS ORP MEASURED?

The ORP measurement is made up of the ratio of two concentrations: the concentration of the oxidizing agent and its reduced form. In the case of chlorine, the reduced form is the unreactive chloride ion. One limitation of an ORP system is that it does not provide a direct, repeatable correlation to an exact concentration of chlorine. Two factors affect this correlation: the pH of the solution and the chloride (salt) concentration. Changes in pH cause a shift in the form of chlorine in the water. With increasing pH, chlorine in water changes from hypochlorous acid (HOCI) to hypochlorite ion (OCI-). The hypochlorous acid is much more active as an oxidizer (80 to 300 times stronger) than the hypochlorite ion. The result is that as pH increases, the overall oxidizing activity (ORP) of the solution decreases. Therefore, effective monitoring of pH is critical to running an efficient program.

ORP Controller

ORP measures the oxidizing or reducing potential or activity a solution has. Chlorine gas or sodium hypochorite (bleach) are both strong oxidizers that are effectively monitored with an ORP system. In cooling tower applications, the oxidation is the disinfection of bacteria. ORP is generally the best measurement for processes of oxidation or disinfection, because is measures the true oxidizing activity the solution has. If the chlorine (or hypochlorite) is being added for the specific purpose to oxidize or disinfect, ORP is the best method for control because it measures the variable that is most important – the solution's actual ability to perform the oxidation.

ORP is a good choice for any recirculating system. It maintains an oxidizing activity by replacing the oxidizer that has been consumed. Water that is used for spraying foods is often recirculated, and must maintain an oxidation capability to ensure against bacteria in the system or on the food. Cooling towers and air scrubbers will also utilize oxidizers to prevent bacteria in the system. The ORP measurement is able to monitor a drop in oxidation activity (oxidizer that has been consumed) and control the addition of replacement chlorine (hypochlorite).

ORP systems require maintenance. Generally, the system must be calibrated on a monthly basis using standard solutions, and electrode replacement every 1 to 2 years. With proper maintenance, ORP can provide rapid, on-line measurement of a process, and reliable oxidizing/disinfecting control.

PREMIER WATER & ENERGY TECHNOLOGY, INC.™

11481 Columbia Park Drive West
Jacksonville, Florida 32258
904-268-1152
800-741-0984
www.premierwater.com