

# *Process Solutions*

*Water and Process Fluid Purification*

## **Our 20<sup>th</sup> Year!!**

As hard as it is to believe, **Process Solutions, Inc.** is celebrating our 20<sup>th</sup> anniversary this year! It's been an interesting, sometimes wild ride through good times and some not-so-good times (remember 2008-2009?). Through it all, the company has grown and adapted to industry trends and the needs of our customers.

To celebrate, we are planning a series of special events to recognize those who are responsible for our success – our customers! These Customer Appreciation events will take place in various cities throughout the region over the course of 2014. Invitations will be sent out as the details of each event are finalized.

We would like to take this opportunity to thank all of you who have contributed to our success over the last 20 years with your confidence in us and your continued business. We couldn't have done it without you!!

## **Back Again!**

Many of you remember our *free* end-user membrane training seminars, which we offer periodically. *Good to the Last Drop... A User's Guide to Membrane Technology*, will be offered again the week of March 24, 2014. The dates and locations are as follows:

|                |                       |
|----------------|-----------------------|
| March 25, 2014 | Indianapolis, IN      |
| March 26, 2014 | Louisville, KY        |
| March 27, 2014 | Cincinnati/Dayton, OH |

These are hands-on, practical and technical seminars for those trying to get the most productivity from their RO membrane systems. The presentation will focus on optimizing membrane life and system performance, and will address such topics as system operating guidelines, pretreatment, optimizing your cleaning techniques, troubleshooting, and controlling biological contamination in your system.

As we have in the past, *Avista Technologies* and *Dow Water and Process Solutions* will be participating, sharing their insights and expertise in membrane applications.

If you have a particular issue or problem you would like us to address in the seminar, we welcome your suggestions. Please feel free to email your requests to [sales@psiwater.com](mailto:sales@psiwater.com) and we will forward them to our presenters.

Invitations will be going out shortly; in the meantime, if you have questions or want further information, contact your **Process Solutions, Inc.** sales representative for details.

## Green Membrane Chemistries!

The emphasis on green technology and sustainability in the water treatment industry has encouraged the growth of environmentally friendly, sustainable membrane chemicals for sites with discharge restrictions. For membrane applications, this means creating chemical products that are readily biodegradable and free of phosphate, phosphonate and EDTA. In the past, the industry has sacrificed performance to meet this goal, as “green” products proved ineffective.

*Avista Technologies* has formulated a line of green products which demonstrate high levels of performance. *Avista's* green antiscalants and cleaners offer a green solution without sacrificing performance. These products have been extensively tested in the laboratory and have received approvals and certifications from international standards organizations.

The antiscalants in the Vitec 8000 series are membrane compatible biodegradable formulations that are highly effective against scale and colloidal particles across a wide variety of feedwater types and pH levels. The green cleaners are environmentally friendly and contain a blend of additives that yield outstanding results, making them the highest performing green cleaners in the industry.

If you would like additional information on any of these green products, or a cleaning recommendation to replace your current regimen, please contact your **Process Solutions, Inc.** sales representative!



Membrane support chemistries from Avista Technologies

## The New ECO System!

Speaking of green technology, *Dow Water & Process Solutions (Filmtec)* has just introduced a new development in RO membrane technology – the ECO line of reverse osmosis membranes!

By using new membrane chemistry and low pressure differential feed spacers, ECO elements deliver significantly lower energy costs – which means less impact on the environment and less stress on your bottom line.

Offering exceptional rejection and low energy consumption (99.7% rejection at 150 psi), the ECO elements are designed to deliver up to 40% lower salt passage at up to 30% less energy consumption when compared to standard brackish water elements. The ECO elements are offered in ECO-400i and ECO-440i configurations (equipped with Filmtec's iLEC interlocking end cap technology). These elements offer robust performance over a longer element life than standard reverse osmosis elements. The thicker, optimized low D/P feed spacer enhances fouling resistance and cleanability, which reduces energy lost due to pressure loss. In addition, the improved, fouling-resistant membrane chemistry permits less downtime on challenging water supplies with high biological or organic fouling tendencies.

For further information, a performance comparison or evaluation of what the new ECO membranes can do for **your** system, give us a call at **513-791-3338!**



ECO elements are now available from Dow Water & Process Solutions

## Your New Best Friend!

You wouldn't try to change a tire without a jack, or chop down a tree without a chainsaw. You wouldn't mix a pitcher of margaritas without a blender, or water your lawn without a garden hose. While "technically" all of these things could be done another way, it's always easier and the results are usually better (especially the margaritas!) when you use the right tool for the job.

Frequently when we visit a site, we find the system operators relying on the on-line instruments (which may not have been calibrated in a long time) to determine how the system is operating. Perhaps they are trying to troubleshoot with no reliable way of measuring critical parameters. Or they are pulling grab samples and shipping them offsite to be analyzed - and we all know how quickly purified water changes when it's exposed to the atmosphere. These are times when a hand-held monitor is your best friend – easy to use, accurate, and immediate results!

There is a wide variety of hand-held instruments on the market today. There is the basic conductivity or TDS monitor where water is collected in the cup and with the push of a button you get a reading; there are also 4 and 6-parameter instruments that read a combination of conductivity/resistivity, pH, ORP, temperature, chlorine, and LSI. *Hach* now offers a multi-parameter instrument that will run up to 90 different parameters (reagents purchased separately). The cost of handheld instruments ranges from \$200 to \$1,300 depending on how many and which parameters you select – a great value for the money.

If you want to check additional parameters such as hardness, alkalinity, chlorine or silica, there are portable test kits available which use wet chemistry analysis, yet these are very operator-friendly and simple to use. They are great for quick checks across the system, and you can purchase reagents to analyze for a wide variety of parameters.

One word of caution, even the best instruments can yield questionable results if your sampling techniques aren't appropriate for the application. It's important to rinse the sample cup/vial several times with the water to be sampled to be sure there is no contamination from outside sources. This also goes for collecting a sample in a bottle for offline analysis. If your application requires a sterile sample, there are special techniques to assure that the sample does not come into contact with any surface that could contribute bacterial contamination. A procedure for sterile sample collection is available upon request.

For further information, recommendations or a quote on a handheld monitor or test kit, please contact **Process Solutions, Inc.** at **513-791-3338**. We'd be happy to help!



*Basic conductivity monitor*



*Multi-parameter meters*



*Portable test kit*



## Who Says It's Not Easy Being Green ?

If you would prefer to save a tree and receive our newsletter electronically, please email us at [sales@psiwater.com](mailto:sales@psiwater.com) and we'll add you to our electronic distribution list. Thank you!

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We're on the Web!

Visit us at:

[www.psiwater.com](http://www.psiwater.com)

## Brrrrrrr!!

Recently we've had a number of calls from operators struggling with high pressure differentials and their RO systems tripping out. With cold (i.e. more dense) water, this is a fact of nature, and the good news is that the alarms are doing exactly what they're supposed to do. On most RO systems, there is a low suction pressure switch upstream of the high pressure pump, and in most cases, the setting is field-adjustable. However, before you change the setting, **be sure to consult your pump curve** for the NPSH requirement for your particular pump!

Another cold weather adjustment is on the backwash flow rates for your media filters or ion exchange units. With colder water, it takes less flow to achieve the necessary expansion of the bed during backwash. If you're still using the warm water flow rates, you may be in for an unpleasant surprise in the spring....

If you would like some assistance determining proper instrument settings or flow rates, give us a call!



*We know how you  
feel, buddy!*

### **About Our Organization...**

At **Process Solutions, Inc.** we're committed to being your full-service supplier of water treatment products, systems and services. We do this by providing our customers with high quality products, great service and *all at competitive prices*. Please feel free to call us with your feedback and suggestions as to how we can be of service to you.

### **PROCESS SOLUTIONS, INC.**

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