



# MIEX<sup>®</sup> PRESS



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## Letter from OWI President



On behalf of the entire Orica Watercare team, I would like to wish all our customers and partners a warm Season's Greetings.

2011 has been very exciting with six new MIEX<sup>®</sup> systems starting up in the U.S and ten more systems currently under construction. It is inspiring to see the MIEX<sup>®</sup> Technology continue to gain momentum and awareness around the world and to work with people that are

passionate about water.

In this issue you'll find updates on the MIEX<sup>®</sup> Systems in Cedar Key and Coweta as well as information on the residual handling options available with the MIEX<sup>®</sup> System.

Thank you for helping to make 2011 such a success. We wish you and your families a very happy and safe holiday season, and our entire North America team looks forward to working with you in the New Year.

Best Regards,

*Randy D. Cable*  
Randy Cable  
[www.miexresin.com](http://www.miexresin.com)

## Cedar Key, Florida Water Treatment Plant Celebrates 5 Years of MIEX<sup>®</sup> System Operation

Located on the northwest coast of Florida, the community of Cedar Key is well known for being one of the state's oldest port cities, a haven for artists, and a popular tourist destination in the region. In 2003, however, the Cedar Key Water and Sewer District also had the dubious distinction of being in violation of the Stage 1 D/DBP Rule. With water supply wells under the influence of surface water, raw water concentrations of dissolved organic carbon (DOC) could reach as high as 10 mg/L. Due to minimal DOC removal achieved by the plant's existing lime softening and coagulation processes, treated water TTHM and HAA5 concentrations could reach 300 ug/L or higher.

(See [Cedar Key, FL WTP](#) on Pg 2)



Figure 1: MIEX<sup>®</sup> System at Cedar Key Water Treatment Plant

## Orica Watercare's 2012 Conference Preview

The Orica Watercare Commercial team and network of Sales Agents has a busy conference schedule planned for 2012, with plans to participate in many events across North America. We look forward to seeing you this spring at one of the many regional conferences we attend.

Look for members of the Orica Watercare team at the following conferences during the first few months of 2012:

- Manitoba Water and Wastewater Association – January 9-11, Brandon, MB
- Southeast Technology Transfer Conference – January 27-28, Greenville, SC
- AWWA Membrane Conference – February 27-March 1, Glendale, AZ
- South Carolina AWWA – March 12-16, Myrtle Beach, SC
- Illinois AWWA – March 19-22, Springfield, IL
- North Carolina Spring Fling – March 27-29, Wilmington, NC
- Missouri AWWA/WEA – March 25-28, Osage Beach, MO



Conferences are the perfect time for you to get to know your Orica Watercare regional manager, discuss potential water treatment applications, and learn about the latest MIEX® Technology developments, both at the Orica Watercare booth and through technical presentations by consultants, utilities, and Orica Watercare representatives.

Wondering if Orica Watercare is attending a conference near you this spring? Visit our Conference page [www.miexresin.com](http://www.miexresin.com) to view the most up to date schedule.



Figure 2: 250 gpm MagnaPak® System at Cedar Key WTP

### Cedar Key, FL WTP (Continued from page 1)

To bring the utility into DBP compliance, several treatment options were evaluated, including alternative disinfectants, such as chloramines and chlorine dioxide, enhanced coagulation and ultrafiltration, and the MIEX® Process. During pilot scale studies, the MIEX® Process was the only treatment process to achieve results compliant with D/DBP Rule requirements. Ultimately, the MIEX® Process was selected based on its ability to reduce DBP formation and its attractive lifecycle costs. The 250 gpm MagnaPak® System at Cedar Key was commissioned in November 2006 and provides pretreatment to the plant's existing lime softening and coagulation processes.

Since that time, MIEX® Treatment has consistently reduced the treated water DOC concentration to under 3 mg/L and has lowered the water's UV254 absorbance by more than 70%. This has allowed the utility to continue to use free chlorine as a residual disinfectant while maintaining D/DBP Rule compliance. Additionally, plant operators at Cedar Key have observed that MIEX® Pretreatment allows for a reduction in the lime dose required for downstream softening. As small water system operators, the staff at Cedar Key appreciates the minimal maintenance requirements of the MIEX® System and its positive impact on downstream treatment.

Orica Watercare congratulates the staff at the Cedar Key, Florida Water Treatment Plant on 5 Years of successful MIEX® System operation and DBP compliance!

For more information about the Cedar Key Water Treatment Plant, download the case study at [miexresin.com](http://miexresin.com).

Use the QR code to view the latest Case Study on Cedar Key, FL



# Zero Liquid Discharge MIEX® System Debuts in Oklahoma

Orica Watercare has been contracted to supply Oklahoma's first MIEX® System to the City of Coweta. The 4 MGD system will treat water from the Verdigris River to remove color, reduce downstream coagulant demand, and contribute to a significant reduction in disinfection by-product (DBP) formation in the distribution system. Prior evaluations have demonstrated that MIEX® Treatment is an effective means of removing DOC from the city's Verdigris River raw water source, with results indicating a DOC reduction of up to 65% can be achieved on a seasonal basis.

The MIEX® Technology was selected by the city, in conjunction with Professional Engineering Consultants (PEC), after evaluation of several alternatives including conventional treatment, ozone, and advanced oxidation processes. Applied as a pretreatment process to conventional coagulation and filtration, the MIEX® System will allow the city to treat a challenging raw water source to achieve DBP compliance, while continuing to use free chlorine as a residual disinfectant. The DOC removal achieved through MIEX® Treatment also will allow for a substantial reduction in the



City of Coweta

downstream coagulant dose.

Coweta's system will feature zero liquid discharge, Orica Watercare's first MIEX® System to completely eliminate the liquid residual stream from the process. The minimal volume of brine generated by the MIEX® Process will be treated, using a vacuum distillation process, to produce a solid waste for disposal. "This process innovation further demonstrates Orica Watercare's commitment to environmental stewardship and continued focus on developing sustainable solutions for water treatment," states Randy Cable, President of Orica Watercare, "We are happy to be able to offer ZLD as another potential solution for residual handling." Coweta's new water treatment plant, which includes several additional upgrades, is expected to be operational by the end of 2012.

## Residual Handling Options

The volume of residual produced by the MIEX® Process is typically less than 0.05% of the treated water flow for most drinking water applications. Due to the low volume of residual produced, discharge or transport to a wastewater treatment plant can often be a feasible means of disposal. Other options include:

- Sodium bicarbonate regeneration, which produces a less concentrated bicarbonate-based residual stream allowing for expanded disposal options.

- EcoRegen® provides advanced membrane treatment of the residual stream and salt recycling, reducing the volume and salt content of the residual.

- Evaporation, either using ponds or thermal equipment, provides a potential ZLD option.

- In some areas, the residual stream may be reused for road application.

As a 2011 AWWA Green Award winner, Orica Watercare is continuously striving to develop sustainable residual handling and treatment solutions. Contact Orica to learn about the most suitable options for your application.



Regeneration System at the Ocean Shores, WA WTP

# Orica Watercare China Team Participates in Urban Water Sustainability Conference



Figure 1: Opening Ceremony for the China Urban Water Development Conference

The Orica Watercare China Team recently participated in the Sixth International Conference on China Urban Water Development and the Exposition of New Technologies and Facilities, held from September 19-21, 2011 in Ji Nan City, Shan Dong Province.

With China facing the challenges of insufficient water sources and a fragile ecosystem due to an ever increasing population and growth in the economy, there is an increased awareness of water safety and energy conservation in the Country. Recently, over 2000 individuals attended the conference to discuss the current water issues and promote new technologies to support the conference themes of "water supply safety, water conservation and pollution reduction, and harmony

between humans and water".

The Orica Watercare China Team actively participated in the 2011 conference. Rick Yang, Orica Watercare China General Manager, received an exclusive interview with the highly accorded website, China City Water, which is one of the world's leading portals in the water industry. Orica Watercare's exposition booth featured the MagnaPak® System, a preassembled, packaged

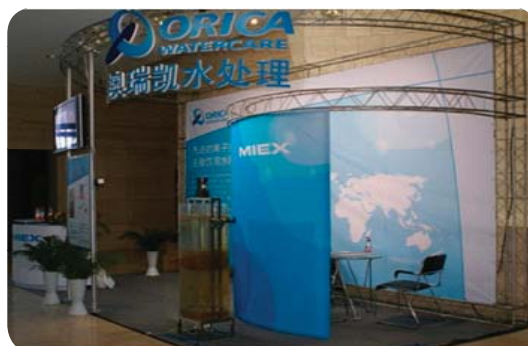


Figure 2: Orica Watercare China Exhibitor Booth

treatment unit which allows for quick, cost-effective installation at small water treatment and industrial processing plants. The MIEX® Technology received attention from both visitors and the exhibitors as a cost effective and environmentally sustainable water treatment solution.

Visit [www.miexresin.com](http://www.miexresin.com) to read "Strong Start to 2011 for Orica Watercare: Johnston County MIEX® System Commissioned, Chinese Contracts Secured", and to learn more about MIEX® Systems under construction in China.



Figure 3: MIEX® System Demo Unit