



Metropolitan Water Reclamation District of Greater Chicago

Press Release

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MWRD testing industry-changing technology for nutrient removal at Egan Plant

In its quest to achieve energy neutrality within a decade, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) is testing an industry-changing approach to removing nitrogen from treated wastewater.

In September, the MWRD installed the DEMON® technology, a “deammonification” process, to remove the ammonia contained in the water generated from the centrifuge flow at the MWRD’s John E. Egan Water Reclamation Plant in Schaumburg. On Dec. 12, more than 60 wastewater treatment professionals from throughout the U.S. and Europe participated in a workshop facilitated by the Water Environment Research Foundation and Water Environment Federation to learn more about the process.

The MWRD is working to pursue new and emerging nutrient removal technologies to prevent nutrients from entering our receiving waters, and this system can aid in this effort. Nutrients are known to have undesirable effects on our waterways as they feed algae and cause algal blooms. Algal blooms deplete oxygen in the water, and low oxygen levels in the water will not sustain aquatic life. Nutrients are also responsible for Gulf hypoxia, which are dead zones in the Gulf of Mexico that cannot support sea life.

This technology will convert the ammonia directly into nitrogen gas which will be released into the atmosphere and not impact air or water quality.

“This will absolutely revolutionize wastewater treatment,” said MWRD Executive Director David St. Pierre. “There are only a handful of cities trying to implement this technology. If we are successful, we will unlock a new level of environmental improvement.”

In addition to preventing nutrients from entering the waterways, the technology reduces the energy footprint in secondary treatment by 60 percent. The primary expense for wastewater utilities is electricity, so the massive reduction in energy use will have far reaching impacts on stabilizing finances and reducing the carbon footprint nationwide.

The MWRD is currently working with other agencies and university researchers on further developing the science of deammonification and other technologies.

Our water environment, Take it personally.

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