



Metropolitan Water Reclamation District of Greater Chicago

Press Release

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100 East Erie Street, Chicago, Illinois 60611

For immediate release
December 17, 2015

MWRD's Egan Water Reclamation Plant celebrates 40 years of service and innovation in enhancing water quality and pioneering technology



Metropolitan Water Reclamation District of Greater Chicago staff and leadership working at the Egan Water Reclamation Plant in Schaumburg celebrate the plant's 40th birthday with a banner and cake.

The John E. Egan Water Reclamation Plant (WRP) in Schaumburg turns 40 this month, and its history of improving local water while setting groundbreaking trends in resource recovery projects make it an asset to the Metropolitan Water Reclamation District of Greater Chicago (MWRD) and residents of the northwest suburbs.

The Egan WRP, which serves the communities of Schaumburg, Arlington Heights, Elk Grove Village, Hoffman Estates, Inverness, Palatine, Rolling Meadows and Roselle, has been in operation since Dec. 16, 1975. Seven years after it came into service, the United States Environmental Protection Agency selected the Egan WRP as the "best operated and maintained" large plant in Region V. Noted for its advances in the art and science of water treatment, the Egan WRP incorporates advanced secondary treatment along with tertiary filtration for the removal of water-borne pollutants. The facility treats on average of 30 million gallons of water per day and can treat as many as 50 million gallons per day at capacity.

Today, the Egan WRP is recovering more than water. Besides the myriads of initiatives the plant has developed in establishing renewable energy resources, the Egan WRP has also developed a way to lessen the impact of phosphorus and nitrogen on waterways by removing ammonia in the treatment process.

"We are proud of 40 years of commitment to transforming and protecting our water quality at the Egan Water Reclamation Plant," said MWRD President Mariyana Spyropoulos. "Every day, our 75 staff members at Egan work hard to meet the demands of treating tens of millions of gallons of water in a most environmentally and efficient way that allows us to reduce our energy usage and create new opportunities through resources collected in the treatment process."

The National Association of Clean Water Agencies awarded the Egan WRP earlier this year with a gold award for meeting 100 percent compliance with National Pollutant Discharge Elimination System (NPDES) permits for an entire calendar year.

At the Egan WRP, water is disinfected using chlorination and dechlorination, and there are tertiary filters made of dual media of sand and anthracite for further polishing of solids. The clean water is released from the Egan WRP into Upper Salt Creek. After only 7.8 hours, the Egan WRP can transform sewage to clean water.

To remove nitrogen and phosphorus during water treatment at the Egan WRP, the MWRD is installing the ANITA™ Mox process that is specially used for treatment of streams highly loaded in ammonia. These streams, also known as centrate, the water remaining at Egan after removal of solids, will be treated onsite at Egan WRP in an energy-efficient manner rather than having it diverted to the O'Brien WRP, roughly 15 miles away, exacerbating odor and corrosion (*continued*)



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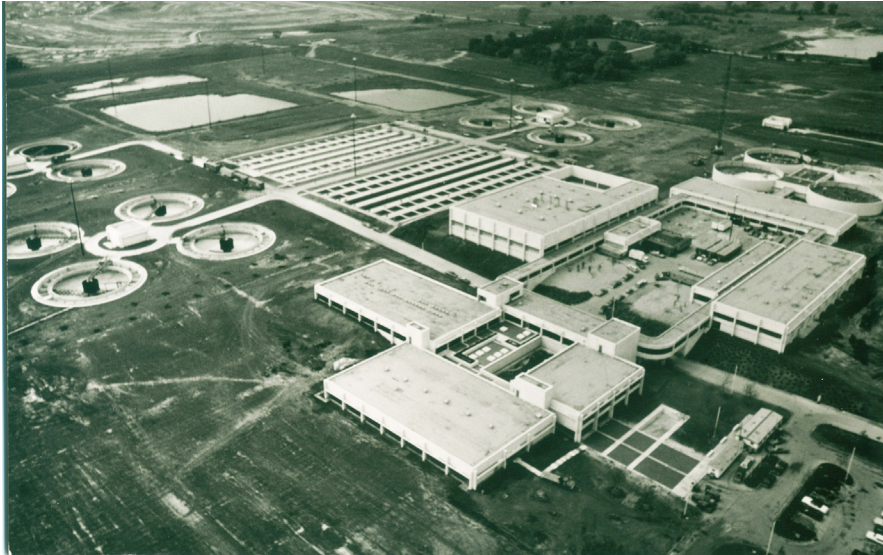
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Egan WRP celebrates 40 years of service *(continued)*



Before and after aerial images of the Metropolitan Water Reclamation District of Greater Chicago's Egan Water Reclamation Plant looking southwest show how the plant has been a staple while the surrounding Schaumburg community sprawled with development between 1975 and 2015. Communities come to rely on water treatment facilities like Egan, and the closer the plant, the quicker the water is cleaned.

in the collection system, as it currently is. This process is being constructed using existing tanks at the Egan WRP.

Energy efficient nitrogen removal is the next step in the of

water quality problems, and traditional removal of nitrogen from wastewater is energy intensive and costly. The ANITA™ Mox process is designed to achieve ammonia removal higher than 90 percent and total nitrogen removal in the range of 75 to 85 percent without external carbon addition and at a very low energy cost compared to conventional nitrification-denitrification. The project aims to reduce oxygen consumption by 60 percent, eliminate all chemical oxygen demand and decrease carbon dioxide emissions. If successful, this process will conservatively reduce energy usage by 40 percent, saving 120 million kilowatts per hour annually, the equivalent energy provided by 15 utility-scale wind turbines or enough energy for 4,500 homes. Following a successful cooperative pilot project at the Egan WRP in Schaumburg and in Denver, Colo., the MWRD is moving forward to install ANITA™ Mox.

In its pursuit of energy neutrality, the MWRD also installed a solar thermal project to convert solar heat into usable hot water at Egan. The MWRD has installed 45 solar panels, donated by the city of Chicago, through an intergovernmental agreement, and installed the panels with grant assistance from the Illinois Department of Commerce and Economic Opportunity. These panels generate 2,040 therms annually. The system provides preheated boiler make-up water and other hot water needs at the plant. As a result, the MWRD can lower natural and digester gas usage in the steam boiler system

and saves non-renewable energy usage and cost; reduces emission of greenhouse gases and pollutants; and serves as a model technology for possible use in other applications.

As part of the water treatment process, the *(continued)*



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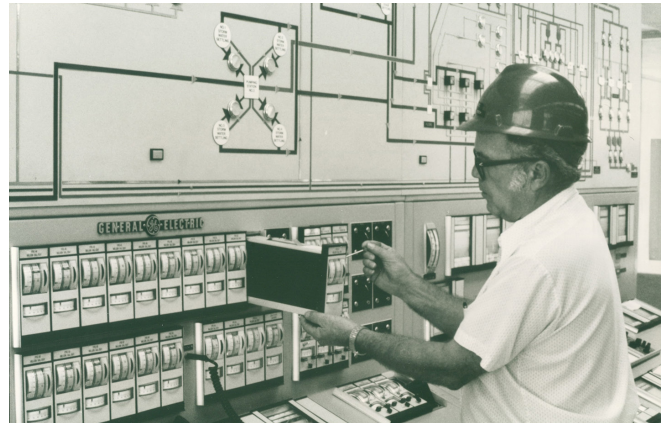
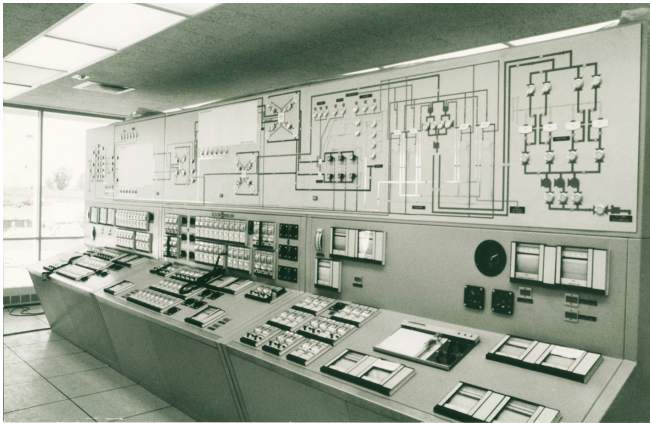
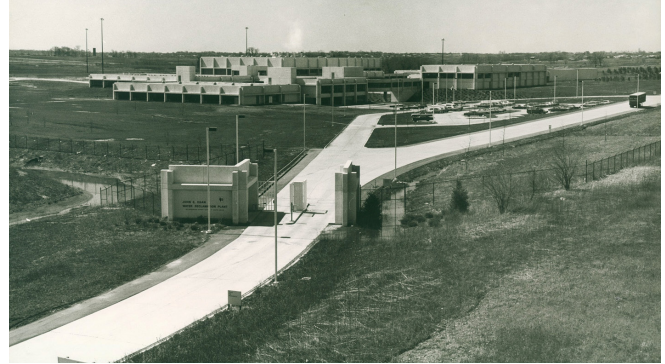
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Like today, the Metropolitan Water Reclamation District of Greater Chicago's Egan Water Reclamation Plant was ahead of its time in the technologies it employed in water treatment when it opened in 1975. The plant serves more than 160,000 residents in the northwest suburbs.

MWRD also upgraded a dewatering facility at the Egan WRP to provide increased storage capacity for biosolids, add a close conveyance system to address odors and improve the system's reliability.

In conjunction with the agency's goals of implementing green infrastructure to meet increasing demands for stormwater management, the MWRD is scheduled to replace the parking lot in 2016 at Egan WRP with new permeable pavement to provide several benefits. The new lot will improve water quality, ground water recharge and delayed discharge of stormwater to the receiving waterway.



The Metropolitan Water Reclamation District of Greater Chicago's Egan Water Reclamation Plant turned 40 this December. Staff at the plant diligently work each day to treat on average 30 million gallons of water.

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Recovering Resources, Transforming Water

Established in 1889, the MWRD (www.mwr.org) is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois.