



# Regional Wastewater Treatment Plant Oxygen Supply Improvements and Electrical Switchgear Project

Clear Answers for Clean Water™

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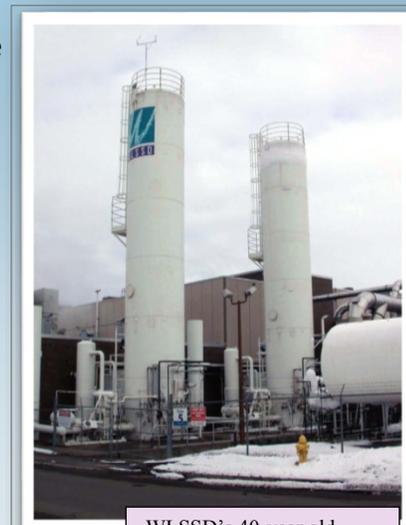
## Oxygen Supply Improvements

WLSSD's wastewater treatment system requires a tremendous amount of pure oxygen to effectively clean dirty water before returning it to the St. Louis River. Most of the pure oxygen WLSSD uses is produced on-site using energy-intensive cryogenic oxygen plants.

WLSSD will replace their obsolete 40-year-old plants with a new oxygen-production facility that will use a process called vacuum swing adsorption (VSA) and will improve its backup liquid oxygen system. The new oxygen production facility will provide WLSSD with the ability to match oxygen production with oxygen needs, significantly reducing electricity use, improving reliability and efficiency, safety and effectiveness.



WLSSD's new, efficient oxygen production system will have a much lower profile than the oxygen towers needed in the existing oxygen system.



WLSSD's 40-year old oxygen-production facility

## Electrical Switchgear Project

WLSSD's Regional Wastewater Treatment Plant cleans nearly 14 billion gallons of wastewater each year from homes, businesses and industrial facilities in 17 communities.

WLSSD will install a new electrical distribution system in portions of the regional treatment plant, replacing its 40-year old "switchgear" (equipment used to distribute high-voltage electricity as it enters the treatment plant).

The modern electrical switchgear and redesigned distribution system will benefit WLSSD through enhanced reliability, safety, efficiency and effectiveness:

- increased reliability in delivery of electricity to critical treatment processes,
- expanded capabilities of WLSSD's emergency generators,
- simplified maintenance with the ability to isolate and shut down equipment requiring attention,
- streamlined connection to future power generation equipment (2019-2020) that will use a methane-rich gas byproduct of wastewater treatment to produce electricity for use on-site.



WLSSD's treatment facility is located in the Lincoln Park neighborhood of Duluth, MN

## WLSSD's Oxygen Supply and Electrical Switchgear Improvements

is a nearly \$20 million project to ensure the reliability of the regional wastewater treatment system into the future, and dramatically reducing the risks of untreated sewage polluting natural waterways, as a result of pipeline failures.

Funding for this project is provided through a loan from Minnesota's Public Facilities Authority, made possible through the Clean Water State Revolving Fund (CWSRF). CWSRF funds are provided through federal legislation, and passed on to states by the U.S. EPA to fund wastewater infrastructure projects.