



Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street
Chicago, IL 60611

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TRANSMITTAL LETTER FOR BOARD MEETING OF JUNE 3, 2010

COMMITTEE ON MAINTENANCE AND OPERATIONS

Mr. Richard Lanyon, Executive Director

Report on the Solar Hot Water Panel Installation at the John E. Egan Water Reclamation Plant

Dear Sir:

On August 7, 2009, the District learned that the City of Chicago Department of the Environment (DOE) had a total of 600 solar thermal panels available at no cost, to heavy hot water industrial users as a way to promote green technology through its Renewable Energy Catalyst Fund. Since a significant amount of thermal energy is used to heat the anaerobic digesters to approximately 95° F for sludge processing operations, it was decided to pursue the possibility of securing a number of these panels for use at the District's Egan WRP.

Egan staff proceeded to contact the DOE to enter into an intergovernmental agreement for the installation of 45 Solargenix Winston Series CPC WS0503 panels, with the City of Chicago. The intergovernmental agreement between the District and the City of Chicago is currently in development.

At the same time, the District pursued an application for a grant from the Illinois Department of Commerce and Economic Opportunity (DCEO) through the American Recovery and Reinvestment Act (ARRA), Community Renewable Energy Program. The criteria for grant qualification under this program included the following:

- The renewable energy project cost should be greater than \$100,000.00;
- The Grantee must contribute a minimum of 25% of the total project cost;
- Project completion by February 2012

The grants would also be awarded based on the cost-effectiveness and amount of energy generated by the project, along with its potential for job creation, business development, and greenhouse gas reduction. The grant application was submitted to the Illinois DCEO on October 26, 2009. On February 11, 2010, the DCEO

notified the District that the application was recommended for funding through the ARRA Community Renewable Energy Program. Grant Agreement No. 09-462029 was signed by the District on March 31, 2010, and the District was notified of award in the amount of \$68,510.00 in a letter dated April 15, 2010.

The District will seek to procure the services of a certified installer to install the solar panels at the Egan WRP with the intention of having a fully functional system implemented by January 31, 2012.

The estimated total cost of the project is \$212,035.00. The District will not be responsible for the full amount however, as the following breakdown shows:

	<u>DCEO Grant</u>	<u>City of Chicago</u>	<u>MWRDGC</u>
45 Solargenix Panels		\$75,015.00	
Equipment, Pumps, Piping, Valves, Tanks, Installation and Testing	\$68,510.00		\$68,510.00
	\$68,510.00	\$75,015.00	\$68,510.00
Total Project Cost	\$212,035.00		

The 45 solar panels are expected to generate a total of approximately 2040 therms annually, and will provide all of the heating needs for the boiler makeup water at a cost savings of approximately \$2,000.00. This project will recoup the District's investment of \$68,510.00 in approximately 20-30 years.

Although this project is not justifiable based solely on economical considerations, there are several expected benefits including a reduction in Egan's use of natural and digester gas with a resultant decrease in its carbon footprint, greenhouse gas emissions, and utility costs. This energy production saves the equivalent of 10.8 metric tons of carbon dioxide that would otherwise be released into the atmosphere, to contribute to climate change and global warming, if it had to be produced through the burning of fossil fuel. The installation of the panels will also create local employment opportunities. Finally and most importantly, this project will serve as a demonstration of this technology for possible use in other applications at the District. Egan staff will document the performance of the system to determine its actual technical and economic effectiveness.

Requested, Manju Prakash Sharma, Acting Director of Maintenance and Operations, MPS:SO'C
Respectfully Submitted, Frank Avila, Chairman Committee on Maintenance and Operations
Disposition of this agenda item will be documented in the official Regular Board Meeting minutes of the Board of Commissioners for June 3, 2010