



## CITY COUNCIL AGENDA ITEMS

**To:** Mayor Graham and City Council  
**From:** Dennis Sullivan, Director of Engineering & Public Works  
Walter Denton, City Administrator  
**Date:** April 19, 2010  
**Subject:** MOTION – Variable Frequency Drive (VFD) Purchase and Installation – Illinois Department of Commerce and Economic Opportunity Green Spring Program

**List of committees that have reviewed:** None

**Background:** Staff and Gonzalez Companies have been working with the Illinois Department of Commerce and Economic Opportunity (DCEO) for about 2 months to maximize the City's benefit under the Green Spring Program (Energy Conservation). 10 VFDs (Council Action March 15, 2010) have already been installed under the program at the WWTP on the oxidation ditch when it was found that additional City equipment qualified under the program. The 4 existing VFDs at the Terminal Lift Station at the WWTP and 2 new VFDs at the Public Works Compound Water Booster Pump Station qualify for replacement and new installations. By combining all 16 VFDs in one submittal, the cost of purchase and installation of all the VFDs will be \$210,000, for which the City will pay no more than \$35,000. (Exact figures are being put together with DCEO at the time of this agenda item's submittal.)

The 10 VFDs were installed on the motors that rotate the oxygen entrainment rotors on the Oxidation Ditch which should save the City approximately \$30,000 per year. 2 of the existing 4 VFDs at the Terminal Lift Station are inoperative and will cost \$19,000 a piece to re-build as they are obsolete as are the 2 remaining operation. The failure rate is more than once a year on these units. The program will allow us to purchase state-of-the-art units for a fraction of the repair cost per year. The 2 VFDs at the Public Works Compound Water Booster Pump Station will go onto motors that currently are on or off. Often when they are running less than 100% is needed; however, there are no controls to allow this. The new VFDs will allow from 10% to 100% operation and all are easily adaptable to our SCADA system.

**Legal Considerations, if any:** None, beyond coordinating efforts with a state agency.

**Budget Impact:** Funding of the City's portion is within existing accounts for operation and maintenance of water and sewer infrastructure, and will be offset by energy savings as well.

**Staff Recommendation:** Staff recommends that the Public Works Operations Utility Superintendent, Frank Shewmaker be allowed to sign as the City's authorized agent for the grant which will result in the City saving approximately \$175,000 in replacement and new installation costs.