



Legislation Text

File #: 09-0212, **Version:** 1

Resolution to Approve the Purchase of Two Allen Bradley, Power Flex 700, Variable Frequency Drives from McNaughton-McKay Electric Co. for Effluent Pump Motors at the Wastewater Treatment Plant (\$45,000.00)

Your approval is requested to authorize a purchase order with McNaughton-McKay Electric Company for the acquisition of two variable frequency drives (VFDs) to replace two failing, obsolete VFDs on effluent pump motors at the Wastewater Treatment Plant (WWTP) in the amount of \$45,000.00.

VFDs are used to improve energy efficiency and maximize operational control of alternating current motors. The WWTP uses Allen Bradley, 1336 Classic, VFDs to control 150 H.P., effluent pump motors in the plant's water reclamation process tertiary treatment. Failure of a VFD at this stage in the process would be detrimental to control of effluent flow to the sand filters and ultra-violet disinfection system. Plant energy utilization would also be adversely impacted by such a failure.

These particular machines were installed 30 years ago and have exceeded their useful life. Over the past five years the VFDs have failed several times for reasons associated with the electronic circuit boards and power transistors. The Allen Bradley, 1336 Classic, VFD is listed by the manufacturer as a discontinued and obsolete product. Since the manufacture of Allen Bradley, 1336 Classic, VFDs has been discontinued, the production of circuit boards for the drive has ceased. No new circuit boards are available. A faulty circuit board has to be returned to the manufacturer for repair at a cost that represents a large fraction of the cost of a new VFD.

WWTP staff has worked with engineers from McNaughton-McKay Electric Co. and Rockwell Automation, the parent company of Allen Bradley, to determine if retrofitting a new VFD into the existing drive enclosure with its associated manual and by-pass control circuits was feasible. After investigation, it was determined that an Allen Bradley, Power Flex 700, VFD could replace, with minor alteration, the 1336 Classic VFD maintaining the plant's existing cabinet, by-pass circuits and manual controls. Rockwell Automation engineers would provide installation drawings, electric schematics and startup support if the drives are purchased.

The Wastewater Treatment Plant has standardized on Allen Bradley VFDs because they are reliable, meet the operational standards required for use with the plant's computerized process control system, allow the plant to purchase and store spare parts cost effectively and train staff more efficiently for the operation and maintenance of this equipment.

After reviewing performance specifications, WWTP staff recommends the purchase of two, Power Flex 700, VFDs from McNaughton-McKay Electric Co at a unit price of \$22,500.00, and a total cost of \$45,000.00.

McNaughton-McKay Electric Co. is the sole distributor of Allen Bradley, variable frequency drives in Michigan; competitive bids were not solicited.

McNaughton-McKay Electric Co. received Human Rights approval on February 2, 2009, and complies with the City's living wage requirements.

Funds to finance this purchase are included in the approved FY09 WWTP Operation and Maintenance Budget for the Sewage Disposal System.

Prepared by: Ed Sajewski, Contract and Project Services Manager, WWT Services

Reviewed by: Sue F. McCormick, Public Services Administrator

Approved by: Roger W. Fraser, City Administrator

Whereas, Variable Frequency Drives (VFD) are used to improve energy efficiency and maximize operational control of alternating current motors;

Whereas, the Wastewater Treatment Plant uses Allen Bradley, 1336 Classic, VFDs to control motors in the tertiary treatment facility and they have exceeded their useful life;

Whereas, retrofitting new Allen Bradley, Power Flex 700, VFDs into the existing enclosures is feasible and recommended by City staff;

Whereas, McNaughton-McKay Electric Co. is the only distributor of Allen Bradley, Power Flex 700, VFDs in Michigan;

Whereas, McNaughton-McKay Electric Co. received Human Rights approval on February 2, 2009, and complies with the City's living wage requirements; and

Whereas, Funds to finance the purchase are included in the approved FY09 WWTP Operation and Maintenance Budget for the Sewage Disposal System;

RESOLVED, That City Council approve the purchase of two Allen Bradley, Power Flex 700, VFDs from McNaughton-McKay Electric Co. in the amount of \$45,000.00, and;

RESOLVED, That the purchase be funded from the approved FY09 Operation and Maintenance Budget for the Sewage Disposal System.