

CASE STUDY

WATERWORKS SOUTHERN INDIANA

PROBLEM: A city waterworks in southern Indiana operated vertical turbine pumps for high and low service using eddy current drives (ECDs) from Dynamatic and another manufacturer. Motors were nominally rated at 200 and 500 HP, operating at 4,160 volts. The pumps, motors and drive units had operated successfully since 1980. After 33 years of service, the city engaged a consulting engineer to evaluate and specify rebuilding the pumps and replacing the motors, drives and motor equipment.



SOLUTION: The engineer evaluated replacing the eddy current drives with new 480 volt variable frequency drives with transformers to reduce the 4,160 volt supply and low voltage motors, versus direct replacement of the ECDs with new units. After considering the costs, energy consumption and equipment longevity, it was a split decision. The 200HP applications were redesigned for low voltage VFDs, while the 500HP high service pump unit received a new Dynamatic® SPMV-8180, equipped with a high efficiency 500HP 4,160 volt motor and EC-2000 controller. To facilitate integration of the ECD with the plant's PCL-based SCADA system, the controller was equipped with an internet IP interface to enable the unit to exchange data and command signals digitally. The project was successful in early 2016 and has operated as designed.

