

**Metropolitan Domestic Water Improvement District
Board of Directors Meeting**

November 14, 2016

**Approval and Award for the Purchase and Installation of
Replacement Variable Frequency Drives for
Tucson National West and Tucson National East**

Synopsis

The Board is being requested to approve the purchase of replacement variable frequency drives (VFD) for the Tucson National West well and the Tucson National East well from 3P Motor Controls, LLC and award the installation work to Sturgeon Electric Company.

Background

The Tucson National West and Tucson National East wells were last modified in 2000. The wells were converted from filling the local Tucson National storage tank to instead feeding directly into the transmission system to fill the Herb Johnson Reservoir. Due to this operational reconfiguration, VFDs were installed on both wells. Since those original well modifications, the VFD models have become obsolete, making replacement parts difficult to find. The Tucson National West well has a faulty keypad interface that is preventing some operations but staff has been unable to locate a replacement. Due to the inability to locate replacement parts; staff is requesting replacement of both VFDs.

Issues

The VFDs at Tucson National West and Tucson National East are the same manufacturer and model; the only difference is horsepower ratings. The Tucson National East VFD is currently operating normal with no issues. The concern is that in the event of a failure, repairs will not be able to be accomplished and the well will be offline until a new VFD can be purchased. The Fiscal Year 2017 Budget approved the VFD replacement for Tucson National West; however, the Tucson National East VFD did not make the budget cutoff line and it is currently at the top of the funding list for the Fiscal Year 2018 Budget.

The VFDs are installed in large enclosures at both sites. Rather than replace the entire enclosure, which would double the costs, staff is proposing to replace only the VFD and related control equipment and still utilize the existing enclosure, air conditioner, and harmonic filters. Other than physical size and site configurations, the work to replace the VFDs is the same. Although both VFDs are not budgeted, staff requested quotes for two VFDs in case prices came back favorably to allow for both, or in case other budget funds became available.

Since the approved budget includes \$24,000 for an election that will no longer be needed this fiscal year, due to the cancellation of the November 2016 Board of Directors Election, funding and budget capacity to replace the additional VFD exists.

Purchase of VFDs - An advertisement was placed in the Daily Territorial on October 11, 2016 notifying potential vendors that the District was requesting sealed bids for the purchase of up to two VFDs. The advertisement ran for four consecutive publications. Requests were also sent out to three distributors of VFDs acceptable to the District. Sealed bid were opened on October 26, 2016. Three bids were received: 3P Motor Controls, Keller Electrical, and Border States Electric.

3P Motor Controls quoted different options in addition to what was requested. Using the line items for what was requested along with shipping and taxes the cost for one site is \$7,378.15. Purchasing VFDs for both sites would total \$14,756.28.

Keller Electrical quoted \$9,990.00 per site or both sites at \$19,980.

Border States Electric quoted \$15,674.50 per site including taxes. The request for bids required that start up services be included. Border States Electric quoted an additional \$2,500.00 for startup services per site, bringing the single site total to \$18,174.50. For both sites the cost would be \$36,349.00. The other two vendors included the startup in their price.

The request for quotes also required available onsite parts and labor warranties to be included in the proposal. All three vendors had the standard manufacturer's warranty included in the costs above. Standard warranties are from 12 to 18 months for manufacturer defects. 3P Motor Controls was the only vendor to provide additional manufacturer warranties and costs.

3P Motor Controls is the low bidder at \$7,378.15 per drive. The cost of the 6-year onsite parts and labor warranty that staff is recommending is the additional 6-year DrivePro-Tection warranty that covers component failures, travel costs, as well as lightning. The cost of the warranty including taxes is \$2,771.58 per VFD. Adding the warranty to the cost of the drive, the total purchase cost per unit is \$10,149.73.

Installation of VFDs - For the installation of the VFDs, staff requested quotes from the two electrical contractors on the District's Emergency Electrical Services and Construction job order contract. For the Tucson National West VFD work Sturgeon Electric quoted \$6,600.00 and Sabino Electric quoted \$11,385.00. For the Tucson National East work Sturgeon quoted \$7,160.00 and Sabino Electric quoted \$11,462.00.

Tucson National West - With the purchase of the VFD from 3P Motor Controls and Sturgeon performing the installation, the total job cost is \$16,749.73.

Tucson National East - With the purchase of the VFD from Sturgeon and Sturgeon performing the installation as well, the total job cost is \$17,309.73.

The current approved budget amount for the Tucson National West VFD replacement is \$17,500.00. Along with the expenditure capacity freed up with the cancellation of the election, funds are available to accomplish both VFD requirements.

Staff Recommendation

Staff is recommending that the Board approve the purchase of two variable frequency drives as recommended by staff from 3P Motor Controls in the amount of \$20,299.46. It is also recommended that the Board award the installation work to Sturgeon Electric Company in the amount of \$13,760.00. Staff is also recommending that Board authorize the General Manager to approve up to an additional \$2,500 for unforeseen issues.

Suggested Motions

Motion #1

I move to approve the purchase of two variable frequency drives as recommended by staff from 3P Motor Controls in the amount of \$20,299.46.

-OR-

I move to approve the purchase of one variable frequency drive at the Tucson National West site as requested in the 2017 Budget from 3P Motor Controls in the amount of \$10,149.73.

Motion #2

I move to award the installation work for two variable frequency drives as recommended by staff to Sturgeon Electric Company in the amount of \$13,760.00.

-OR-

I move to award the installation work for the variable frequency drive at the Tucson National West site as requested in the 2017 Budget to Sturgeon Electric Company in the amount of \$6,600.00.

Motion #3

I move to authorize the General Manager to approve up to an additional \$2,500.00 for any unforeseen issues.

Respectfully submitted,

Steven D. Shepard,
Utility Superintendent

I concur with the above-noted recommendation.

Respectfully submitted,

Joseph Olsen, P.E.
General Manager