



## MEMORANDUM

DATE: September 18, 2019  
TO: Dan Duchniak  
FROM: Kelly Zylstra  
RE: New cable for Well 10 motor

As you may recall, the 700Hp submersible motor in Wolf Road Well No. 10 began experiencing electrical issues on Saturday, November 24<sup>th</sup>. The Commission declared an emergency at the December 2018 meeting, and the well pump/motor failed on December 27, 2018. The previous catastrophic failure of Well No. 10 occurred in November of 2016.

Waukesha Well No. 10 is our largest deep well with treatment, supplying radium compliant water in the capacity of over 3.8mgd to the City.

Municipal Well & Pump pulled the pump and motor on January 2, 2019, and immediately installed the spare pump and spare 350Hp motor that was on-site. During installation the spare motor began to experience electrical readings that indicated there was a problem. The spare pump and motor were removed from the well prior to full installation and the motor shipped to the manufacturer for testing. Within three days, the motor manufacturer provided us with a “spare” motor to the spare motor. The installation of the spare pump and 350 Hp motor continued with a start-up attempted on January 23<sup>rd</sup>. It was at this time, that we once again began to experience phase imbalances on the incoming power. Testing was performed and options evaluated. It was determined that the only reasonable option was to place the temporary well pumping equipment into service on March 28<sup>th</sup> by running outside of the manufacturers acceptable range of electrical imbalance.

Meanwhile, the 700Hp pump and motor, were inspected and it was determined that a rewind of the motor and new pump were needed as the old was irreparable.

Given the continued phase imbalance on the incoming power, we determined we needed to use a larger cable, 250MCM-5k, to help try to protect the new motor from continued phase imbalance. On our behalf, Municipal Well and Pump received four quotes, they were \$49,871.25, \$52,640.00, \$54,862.50, and \$65,917.50. The low price of \$49,871.25 was from SME in Nebraska and they will ship it to us within two days.

The emergency declaration In December of 2018, was for \$325,000. To date we have been invoiced for \$191,568.50. Given the estimated cost yet to be invoiced, (pump \$64,100 and installation \$74,000), when that gets added to the purchase of this cable, we will exceed that declared amount. As a result, we are required to obtain authorization from the commission for this purchase.

**Recommended Motion:** Move to approve the purchase of the cable from SME in Nebraska by Municipal Well & Pump for use in Well 10 for an amount not to exceed \$50,000.