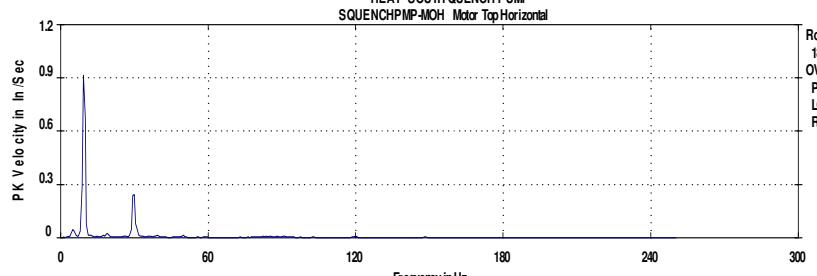
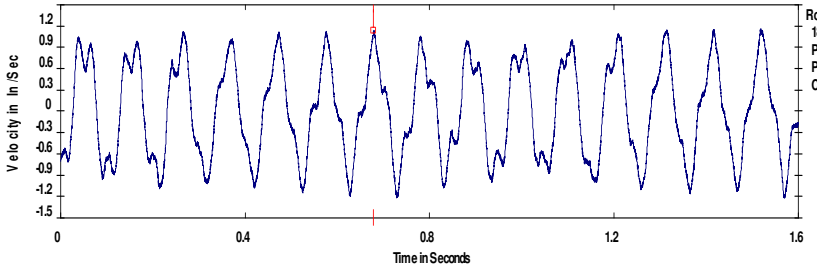
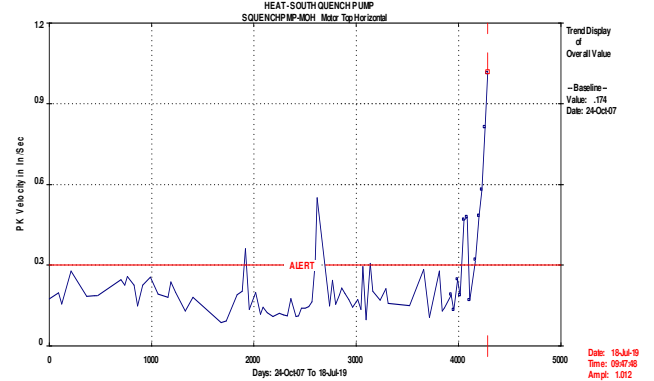




Client	TMK IPSCO	Survey Date	7-18-19
Location	Blytheville, AR	Report Date	7-18-19
Machine	South Quench Pump	QMS No.	140183
Component	Unit	Analyst	DWS

Defect Rating for this machine	CLASS IV
Defect Rating System	
Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue normal monitoring.	Class III: Defect (s) present that may cause failure in short term (less than 2 mos.). Should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.
Class II: Defect (s) present that may cause problem in long term (2-6 mos.). Repair during normal maintenance scheduling. Continue to monitor.	Class IV: Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs.

Vibration Data	Analysis
<p>HEAT-SOUTH QUENCH PUMP SQUENCHPMP-MOH Motor Top Horizontal</p>  <p>Route Spectrum 18-Jul-19 09:47:59 OVERALL=1.01 V-DG PK = 1.01 LOAD = 100.0 RPM = 1785 (29.75 Hz)</p>  <p>Route Waveform 18-Jul-19 09:47:59 PK = .9089 PK(+) = 1.16/1.22 CRESTF= 1.85 Time: .678 Ampl: 1.101</p>	<p>Pump Data appears to be at a single speed with 1 harmonic.</p>

Discussion / Repair recommendations	Trend Data
<p>The vibration appears to have increased again. It is above 1"/sec velocity peak. We recommend a thorough inspection. We expect to see a possible bent shaft, wear in the impeller and wear rings or something stuck in the impeller. Unit needs service as soon as possible.</p> <p>Rated a Class IV Defect.</p>	 <p>Trend Display Overall Value Baseline Value: .774 Date: 24-Oct-17 Date: 18-Jul-19 Time: 09:47:48 Ampl: 1.012</p>