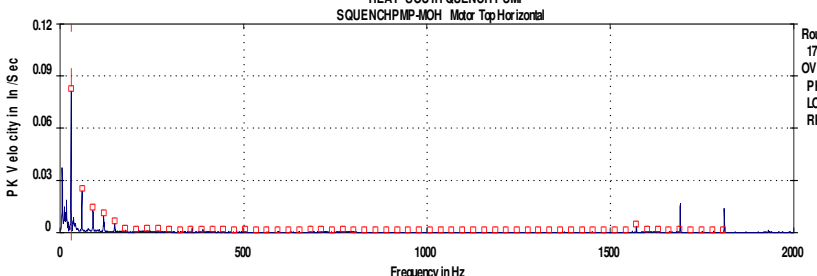
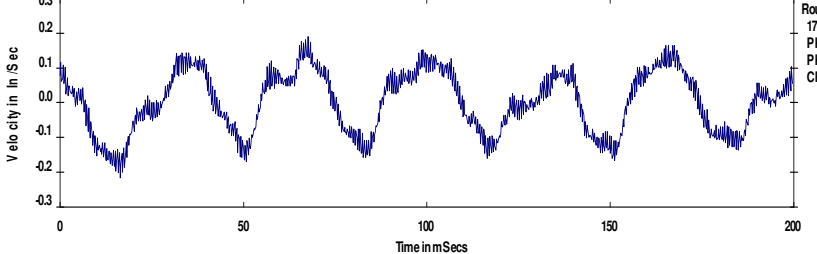
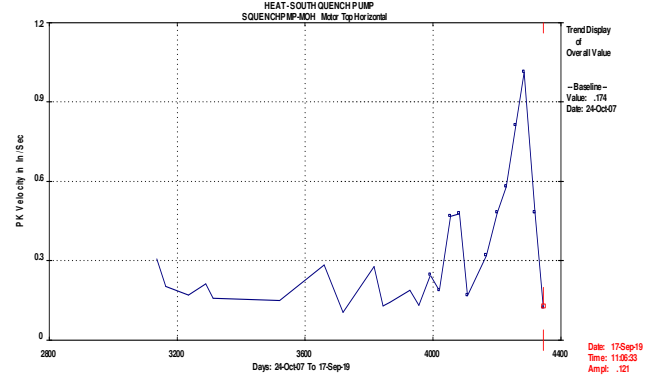




Client	TMK IPSCO	Survey Date	7-20-19
Location	Blytheville, AR	Report Date	8-27-19
Machine	Heat Treat South Quench Pump	QMS No.	140445
Component	Pump	Analyst	DWS

Defect Rating for this machine	
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 17-Sep-19 11:06:42 OVERALL=.1213 V-DG PK = .1207 LOAD = 100.0 RPM = 1785. (29.75 Hz)</p>  <p>Route Waveform 17-Sep-19 11:06:42 PK = .1237 PK(4+) = .1896/2157 CRESTF= 2.47</p> <p>Freq: 29.38 Ord: .987 Spec: .08147</p>	<p>Unit vibrations have dropped to normal after unit replacement.</p>

Discussion / Repair recommendations	Trend Data
<p>Vibrations have dropped to normal after replacement. No further action required.</p>	 <p>Trend Display Overall Value Baseline Value: .174 Date: 24-Oct-07</p> <p>Date: 17-Sep-19 Time: 11:06:53 Ampl: .121</p>