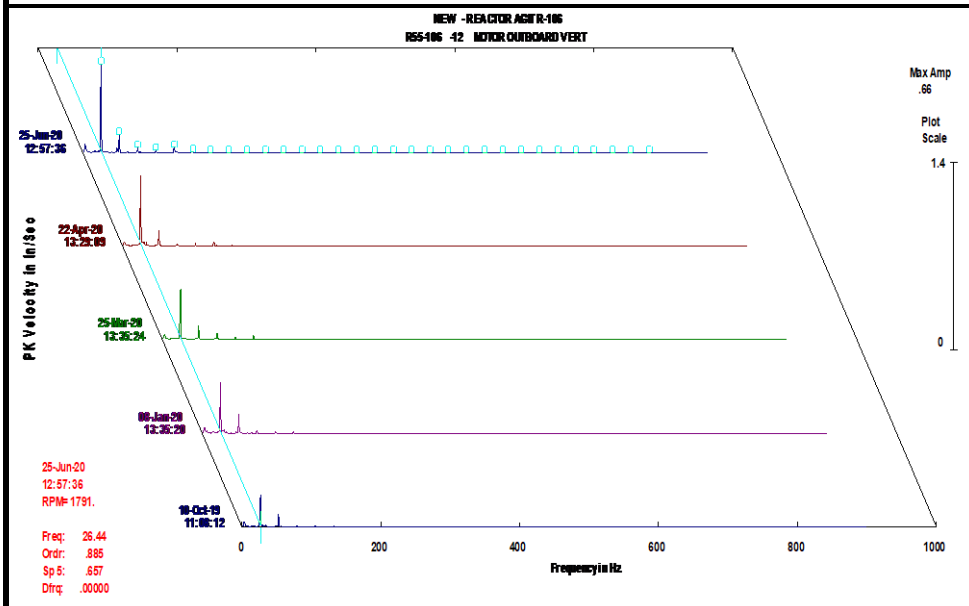
HI-SPEED PREDICTIVE MAINTENANCE

Machinery Vibration Report

Client	Penn A Kem	**Survey Date**	6-25-20
Location	Memphis, TN	**Report Date**	6-30-20
Machine	R55-106 Reactor Agitator Motor Gearbox	**QMS No.**	142734
Component		**Analyst**	DWS

Defect Rating for this machine	**Class III**
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



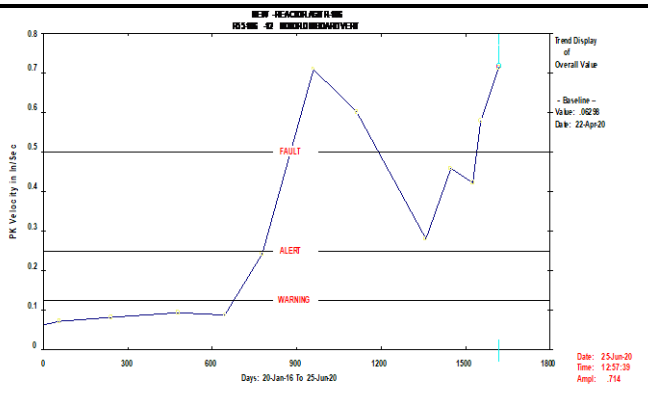
Analysis

Large 1x RPM increase in the outboard motor vertical vibration.

Discussion / Repair recommendations

Large increase in 1x RPM sinusoidal vibration for the outboard vertical of the motor over time. Inspect the motor and coupling for defects that could cause imbalance. Check the motor cooling fan. Loose fasteners can cause similar vibrations as well as shaft run out or eccentricity. **Rated a Class III Defect.**

Trend Data



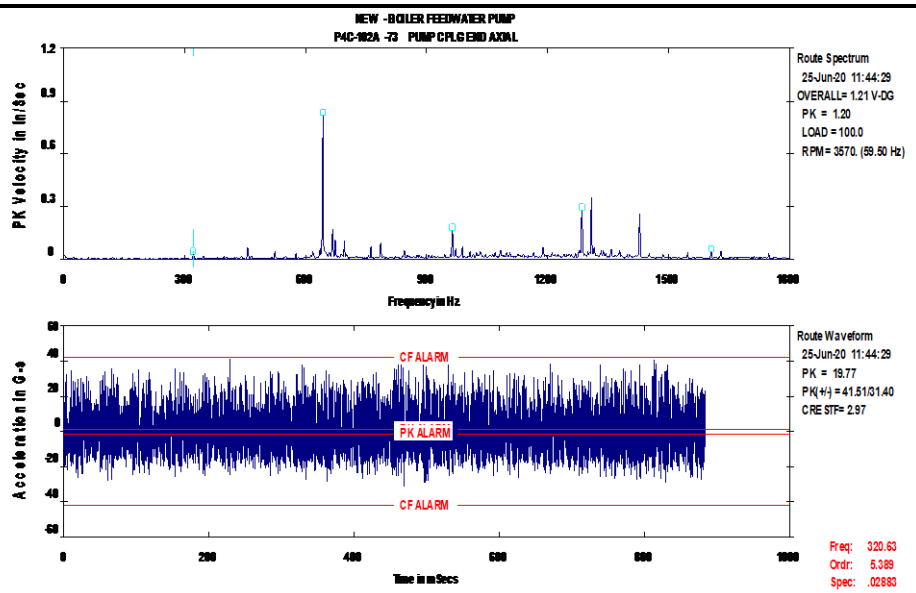
HI-SPEED PREDICTIVE MAINTENANCE

Machinery Vibration Report

Client	Penn A Kem	**Survey Date**	6-25-20
Location	Memphis, TN	**Report Date**	6-30-20
Machine	P4C-102A Boiler Feed Water Pump	**QMS No.**	142734
Component	Pump Bearings	**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

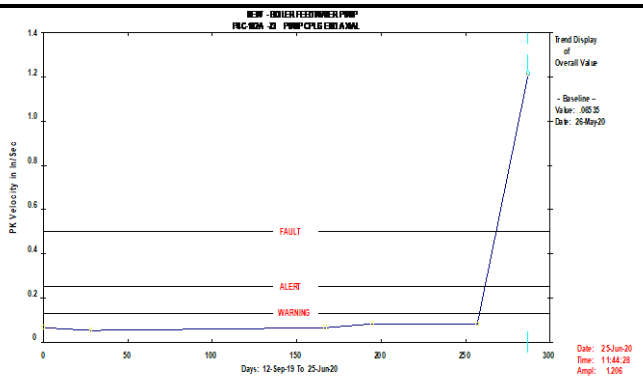
Multiple non-synchronous peaks in the acceleration spectrum and impacting in the time domain.

Discussion / Repair recommendations

The outboard pump bearings are in so much distress that data could not be taken due to over saturation of the accelerometer. Only data from the inboard bearing could be taken. The outboard pump bearings are shot. Inspect the pump and replace any worn or damaged parts.

Rated a Class IV Defect

Trend Data



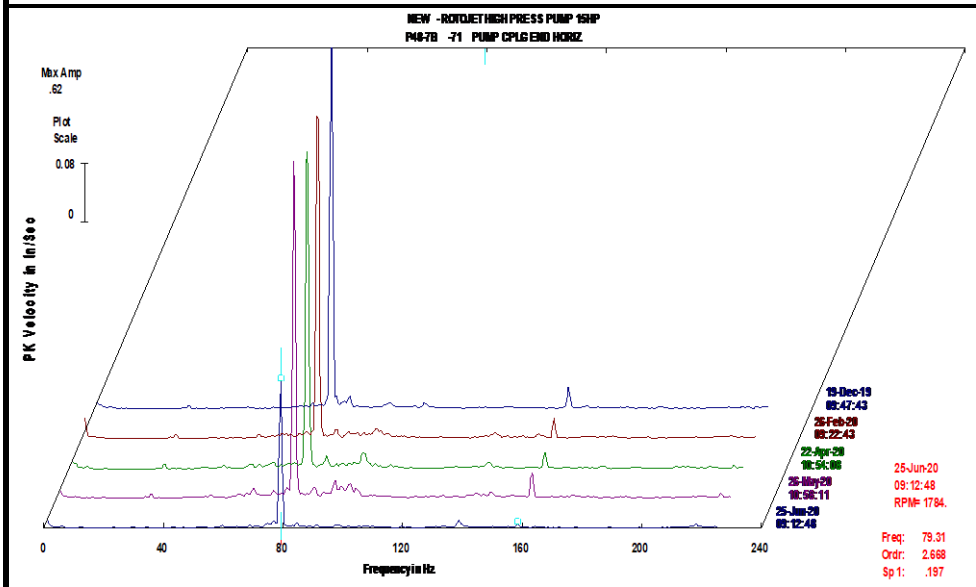
HI-SPEED PREDICTIVE MAINTENANCE

Machinery Vibration Report

Client	Penn A Kem	**Survey Date**	6-25-20
Location	Memphis, TN	**Report Date**	6-30-20
Machine	P48-7B Roto Jet High Pressure Pump	**QMS No.**	142734
Component		**Analyst**	DWS

Defect Rating for this machine	NA
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

Dominant vibration at near 79 HZ has dropped substantially.

Discussion / Repair recommendations

It appears some maintenance was performed on this unit recently. We will remove it from the report for now. No action required.

Trend Data