HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

August 27, 2021

IFF

Subject: MSP Late August Vibration Report

Most of the machines surveyed were found to be in good condition with the exception of the following:

***QualiTest***® uses a four step rating system for defects.

**Class I:** Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

**Class II:** Defect (s) present that may cause problem in long term (2-6 months.). Repair during normal maintenance scheduling. Continue to monitor.

**Class III;** Defect (s) present that may cause failure in short term (less than 2 months.). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

**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

***Hi-Speed*** **Industrial Service** tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

This completes our assessment of your equipment for this survey. Thank you for your business and feel free to call if you have any comments or questions.

Sincerely,

David W Shook

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## MSP

**14-3179 #4 cent 2nd EXT DEFOAM PUMP**
Vibration in the motor vertical have jumped up considerably at shaft speed and needs to be addressed. Inspect the motor, coupling and pump for possible imbalance. Ensure all fasteners are tight and structures are sound. Check for shaft run out and alignment. **Rated a Class II Defect.**

**14-3618 SPRAY DRYER EAST EXHAUST FAN**
Vibrations are up but do not exactly match data speed values for the motor. Please correct shaft speed values to help identify root cause of increase. We see an increase in the drive end bearing horizontal vibration at motor shaft speed. Inspect the drive train components for wear, tension, and alignment. Check all structures and fasteners. Inspect the fan bearings for slight looseness and lubrication. **Rated a Class II Defect.**

**14-3636 SPRAY DRYER WEST EXHAUST FAN**
Fan axial vibration has increased again at shaft speed. Low amplitude harmonics are also present. Still shows some drivetrain issues. Possible alignment or belt issue. Inspect as time allows. **Rated a Class II Defect.**

**14-3828 FEED DRYER RECYCLE BLOWER**
Vibrations are up in the blower axials and verticals in just a few days. The vibrations are dominated by a peak at about 86.5 Hz at close to 3x motor speed. This is possible lobe pass or some resonance. Inspect the unit structure, fasteners, and concrete base. Ensure there is no pipe strain. **Rated a Class II Defect.**

**14-3836 DRY FEED RECEIVER ASP FAN**
Motor vibrations are up substantially for some points. We suspect that they are at motor shaft speed, but the database speeds do not match. Inspect the motor base, fasteners, and structure for defects. Check the drive train components for wear, eccentricity, and alignment. **Rated a Class II Defect. This will be a class III if the vibration level goes higher.**

**14-3844 S BURNER #1 COMBUSTION FAN**
Unit vibrations are still reportable. The dominant vibration peak at 22.21 Hz and we believe it is a shaft speed vibration, but the database speeds do not match. Inspect the base, fasteners, and structure for defects. Check the drive train components for wear, eccentricity, and alignment. Clean and inspect the fan wheel. **Rated a Class I Defect.**

**14-4203 HOT WATER PUMP TO H-HEATER**
Units shows an increase in vibration at 2x shaft speed in the pump. Check the coupling, shaft alignment, fasteners, base, and structures. **Rated a Class II Defect.**

**14-4209 90D PROCESS STANDBY WTR PUMP**

Pump vibration shows 1x, 2x, and 3x RPM vibrations with the 2x dominant. Check and inspect the unit fasteners, coupling, alignment, and base. Pump bearing are also in some distress. Check and inspect the pump bearings for adequate lubrication. **Rated a Class II Defect.**