

January 29, 2021

Solae

Subject: January 29 vibration report

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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 don't hesitate to call if you have any comments or questions.

Sincerely,

David W. Shook  
Senior Reliability Specialists  
**Hi-Speed Industrial Service**  
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### MS2P WET/ 2P CURD

#### **C30 #4**

Slight centrifuge speed vibration in the motor. Inspect drive train components for wear and ensure all fasteners are tight. Make sure belt tension is correct. Rated a Class I Defect.

#### **2P 4453 HEAT RECOVERY PUMP**

Unit looks much better now. Non-rated.

### MS2P WET/ 2P BATCH

No new data

### MS2P-CIP/MS2P-CIP

#### **2P 4050 CIP FEED PUMP #1**

Unit shows 1x RPM vibration in the motor. Inspect the fasteners, coupling and alignment. **Rated a Class II Defect.** Note Code: Leaking water.

#### **2p 4028 CIP FEED PUMP #2**

Elevated motor axial suggests an alignment issue. Raised acceleration noise floor in pump is most always cavitation. Check the alignment and ensure pump runs in the optimal part of the performance curve. **Rated a Class II Defect.**

#### **2P 4027 CIP FEED PUMP #4**

Elevated motor axial suggests an alignment issue. Raised acceleration noise floor in pump is most always cavitation. Check the alignment and ensure pump runs in the optimal part of the performance curve. **Rated a Class II Defect.**

#### **2P 4019 CAUSTIC TANK PUMP**

Large motor axial vibration at near 1"/second velocity peak suggests an alignment issue. Inspect the unit for defects and perform a precision alignment. **Rated a Class III Defect.**

#### **2P 40007 RINSE TANK PUMP**

1x and 2x RPM vibration in the pump inboard bearing indicates an alignment issue. Inspect the unit for defects and perform a precision alignment. **Rated a Class II Defect.**

### **2P4203 HOT WATER PUMP**

There is a high non-synchronous vibration at just over 18 orders of shaft speed with a few harmonics. I'm not exactly sure what this is but it usually turns out to be a bearing problem. The amplitude is very strong at over 7 g's RMS for the inboard motor bearing. Expect to change the motor in the near future.

**Rated a Class III Defect.**

### **MS2P FEED DRYER/ 2P FEED DRYER**

No new data

### **MS2P FEED DRYER/ 2P DRYER**

No new data

### **MSP WET/ MSP CURD**

No new data

### **MSP WET/ MSP BATCH**

No new data

### **MSP CIP/ MSP CIP ROOM**

### **4208 MSP 90° PROCESS WATER PUMP**

Data shows dominant low amplitude vibrations at 2x and 6x RPM in the pump with an elevated noise floor. We suspect slight misalignment, eccentricity, run out, or wear in the pump and drive train and cavitation in the pump. Inspect as time allows, ensure the pump runs in the most efficient part of the curve. **Rated a Class I Defect.**

### **MSP FEED DRYER/ MSP FEED DRYER**

No new data

### **MSP DRYER/ MSP DRYER**

### **3608 COOLING FAN**

Inspect the motor to fan drive train for wear and alignment as time allows. **Rated a Class I Defect.**

### **3636 WEST EXHAUST FAN**

Fan shows high axial vibration. Inspect the motor to fan drive train for wear and alignment. Check fan for process variables. **Rated a Class II Defect.**

### **3618 EAST EXHAUST FAN**

Odd motor vibration near 5 Hz and elevated fan speed vibration in the fan bearings at 25 Hz. We suspect a possible resonance in the motor or some issue in the motor mounting and possibly some wear, run out, eccentricity, or an alignment in the drive train to the fan. Inspect as time allows. **Rated a Class II Defect.**

### **3217 BLENDER EXHAUST FAN**

Check the drive train for wear, run out, eccentricity, and alignment, and looseness in the fan bearings. **Rated a Class I Defect.**

### **5310 AUTOPACK AZO**

Data for the motor drive end vertical shows what looks to be multiple harmonics of a peak at 9.5 Hz. We suspect a belt issue if so equipped. Overall velocity is 0.42"/second velocity peak. **Rated a Class I Defect.**

### **3710 BLENDER**

Vibration near 21 Hz dominates the data. Inspect the drive train for defects, wear and alignment as time allows. **Rated a Class I Defect.**

### **3761 Inlet Fan**

Fan vibration seems to be up in the fan and down in the motor. 10 Hz has been the dominant frequency. There is an elevated noise floor in the inboard fan bearing. Inspect the fan wheel, bearings and drive train components as time allows. **Rated a Class I Defect.**

### **800 T GRINDING/ 800 T MONTHLY**

No new data

### **MS2P GROUND FLAKE/ 2P WET IN**

No new data

### **MSP GROUND FLAKE/ MSP GROUND FLAKE**

No new data

## **MSP-2P UTILITIES/SOUTH PLANT UTILITIES**

### **2P 4112 #2 COOLING TOWER WATER PUMP**

Extremely large jump in motor vibrations. Inspect the unit including the coupling and all fasteners and structures as soon as possible. **Rated a Class IV Defect.**

### **2P 4161 CENTRAL CHILL WATER PUMP**

Motor vibration back up to near 1"/second velocity peak at shaft speed. Inspect the unit including the coupling and all fasteners and structures at the next opportunity. **Rated a Class III Defect.**

### **4161 #2 SUPPLY PUMP**

Motor vibration IS up to near 1"/second velocity peak at shaft speed. Inspect the unit including the coupling and all fasteners and structures at the next opportunity. **Rated a Class III Defect.**