



**QualiTest® Diagnostics**

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Cascades Tissue  
Memphis, TN

The following is a summary of findings from the March 2020 monthly vibration survey of the Paper Machine area. The Paper Machine was operating at around **2900** FPM during this month's survey.

**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

# Defects

## Supply Hood Fan

Fan vibration remains higher than normal in the outboard fan bearing. Fan bearings have 1, 2, and 3 x rpm peaks present in the axial position. An internal inspection of the fan bearings is recommended ensuring that the outboard fan bearing is centered in the housing set to float. Bearing clearances should also be checked as soon as scheduling allows. Rated as a **CLASS II** defect.

## Felt Roll 12

Roll bearing vibration data is showing signs of outer race defects once again. This could be due to loading issue between the rollers and the race, moisture/contamination in the bearing could also be an issue. Rated as a **CLASS II** defect.

## Wire Roll 2

Tending side bearing is starting to show early signs of bearing defects/wear. This issue will be monitored closely. Rated as a **CLASS I** defect.

## Reel Drive Bearings

Reel bearings are starting to show some rpm harmonic vibrations again especially in the drive side bearing. Check bearings for looseness as time allows. Rated as a **CLASS II** defect.

## Refiner

High levels of acceleration are present in the refiner. This is likely due to the new plates inside the refiner. They are generating extreme amounts of synchronous vibrations with a significant amount of sidebands. Plates could be making contact. These high amplitudes are not good for the bearings and should be addressed as soon as practical. Vibration is so high that it is saturating the accelerometer. Amplitudes measured to be over 150g's peak to peak which is extremely high. Inspect unit SOON. Rated as a **CLASS III** defect.

## East Sump Pump

***Pump was not in operation during this survey; however, the following still applies:*** Pump has increased axial vibration. This may be caused by a coupling issue, but also be excessive thrust in the pump. Inspect coupling and pump soon. Rated as a **CLASS II** defect.

## Machine Chest Agitator (Basement)

Motor has an increased 1 x rpm vibration in the inboard axial. This may be due to a sheave issue such as cocked sheave, misalignment. Ensure sheave does not have excessive face run-out and sheaves are properly aligned. Rated as a **CLASS II** defect.

## Roto Jet Pump (Basement)

Motor vibration has decreased slightly while the pump remains to have a high vibration at around 2 x rpm. This may be belt/sheave related, but could also be structural. Ensure sheaves are aligned properly with minimal angularity and offset and check belt for wear/defects. Ensure base is secure and that there are no cracks or other looseness. Pump also has a high 20 x rpm vibration that appears to be related to vane pass frequency of the pump. Ensure that the pump has proper suction and discharge pressures. Rated as a **CLASS II** defect.

## Primary Screen #2

Spectral data of the gearbox is showing an increase in input gear related vibrations. Data indicates signs of a gear issue such wear or excessive backlash. Drive end motor bearing also has excessively high temperature. Motor may also have some misalignment. We will monitor this closely. Rated as a **CLASS II** defect.

### **Hi-Pressure Shower Pump (MOTOR)**

Motor was replaced during the last shutdown. The new motor has a higher than normal electrical vibration at 120 Hz. This typically indicates a connection issue with one phase or an internal connection issue with one phase of winding. A variable air gap can also cause this type of vibration; however, the motor does not have a soft foot condition which would cause the air gap issue. Motor connections should be checked as time allows. Perhaps a PdMA (motor diagnostics) test could be done on the motor to help determine the issue. We can perform this test easily. Rated as a **CLASS II** defect.

### **Seal Tank #2 Pump**

Motor has an increased amount of non-synchronous vibrations. This could be a bearing issue or possible belt issue. Inspect motor and belts as time allows. Rated as a **CLASS II** defect.

### **Uhle Box Vacuum Pump**

Outboard pump bearing spectrum is showing some signs of possible bearing issue or some other type of internal issue in the pump. Pump sheave still has issue causing a high vibration in pump. Inspect pump sheave/bushing as time allows. We will monitor these issues closely. Rated as a **CLASS II** defect.

### **Couch Helper Pump (right pump)**

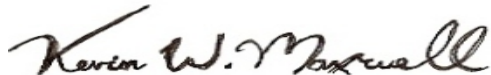
Not sure if this one is A or B, but it is the right-side MOTOR. This pump rarely runs which is most likely the reason why the motor data is showing defects in the motor bearings. Ambient vibration can cause false brinelling in bearings that do not rotate for a long period of time. Motor needs attention in the near future. We will monitor this closely. Rated as a **CLASS II** defect.

### **Yankee Repulper MOTOR**

Motor data is starting to show bearing issue in the motor. Waveform data shows pulsing which is a good indication of inner race and roller element defects. Motor may need attention soon. Rated as a **CLASS II** defect for now.

As always, it has been a pleasure to serve the Cascades Tissue Memphis, TN Plant. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III



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