HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

July 24, 2020

SONOCO

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

Sincerely,

Jess White
Reliability Specialist
Hi-Speed **Industrial Service**
jwhite@gohispeed.com

7030 Ryburn Drive
Millington, TN 38053
P. 901-873-5300
F. 901-873-5301

Observations

Coater Main Exhaust Fan
No Issues.

Coater Zone 1 Fan Unit
1x vibration has increased since last survey. We recommend checking all fasteners are torqued and ensuring that proper belt tension is applied. **Rated as a Class I Defect.**

Coater Zone 2 Fan Unit
No issues.

Coater Zone 3 Fan Unit
Vibrations at 27 HZ in the motor axial have continued to decrease since the last survey. **Rated a Class I Defect.**

Coater Zone 4 Fan Unit
Fan speed dominates the vibration data for the unit. The unit could have worn belts and sheaves, a flimsy structure or possibly, imbalance or loose or missing fasteners. Inspect the unit at the next downtime. **Rated a Class II Defect.**

Coater Zone 5 Fan Unit
No issues.

Coater Zone 6 Fan Unit
Fan speed dominates the vibration data for the unit. The unit could have worn belts and sheaves, a flimsy structure or possibly, imbalance or loose or missing fasteners. Inspect the unit at the next downtime. **Rated a Class II Defect.**

Coater Exhaust Fan Unit
No issues.

Coater Cooling Zone A Fan Unit
No issues.

Coater Cooling Zone B Fan Unit
Unit was not running.

Vacuum pumps 1 & 2
The 1x vibrations for both of these units have remained high for quite some time. **Rated as a Class II Defect.** I discussed with Josh the option of replacing the belts, sheaves, and motor bases and he informed me that might be something that you all would want to do hand in hand with Hi-Speed to give your maintenance crew the opportunity to learn how to do all these steps properly. If this is the case please reach out to me or Andrew Skala and we can get these units taken care of.

Cooling tower pump 1
No issues.

Cooling tower pump 2
No issues.

A Blower
Not running this survey.

B Blower
Not running for survey.

C Blower
No issues.

D Blower
High 1x vibration this month. Ensure that motor is bolted down properly and that blower shroud is secured properly as well. **Rated as a Class I Defect.**

502 Spencer Blower
Not running this survey.

Abbreviated Last Measurement Summary

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Database: sonoco.rbm
Station: COATER
Report Date: 28-Jul-20 17:44

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
MAINXHAUST - MAIN EXHAUST FAN	(23-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.119 In/Sec	.367 G-s
MIH	.108 In/Sec	.307 G-s
MIA	.118 In/Sec	.190 G-s
EIH	.093 In/Sec	.814 G-s
EOH	.096 In/Sec	1.094 G-s
ZONE1FAN - ZONE 1 SUPPLY FAN	(23-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.415 In/Sec	.138 G-s
MIH	.486 In/Sec	.188 G-s
EIH	.112 In/Sec	.700 G-s
EOH	.083 In/Sec	.153 G-s
ZONE2FAN - ZONE 2 SUPPLY FAN	(23-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.166 In/Sec	.369 G-s
MIH	.110 In/Sec	.200 G-s
MIA	.223 In/Sec	.242 G-s
EIH	.189 In/Sec	.719 G-s
EOH	.145 In/Sec	1.436 G-s
ZONE3FAN - ZONE 3 SUPPLY FAN	(23-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.265 In/Sec	.208 G-s
MIH	.190 In/Sec	.229 G-s
MIA	.280 In/Sec	.104 G-s
EIH	.175 In/Sec	.553 G-s
EOH	.158 In/Sec	.256 G-s
ZONE4FAN - ZONE 4 SUPPLY FAN	(23-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.244 In/Sec	.156 G-s
MIH	.194 In/Sec	.205 G-s
MIA	.270 In/Sec	.293 G-s
EIH	.279 In/Sec	.306 G-s
EOH	.141 In/Sec	.156 G-s
ZONE5FAN - ZONE 5 SUPPLY FAN	(23-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.183 In/Sec	.151 G-s
MIH	.109 In/Sec	.113 G-s
MIA	.177 In/Sec	.148 G-s
EIH	.102 In/Sec	.415 G-s
EOH	.058 In/Sec	.151 G-s

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      ZONE6FAN   - ZONE 6 SUPPLY FAN              (23-Jul-20)
                                    OVERALL LEVEL     1 - 20 KHz
            MOH                      .262 In/Sec       .091 G-s
            MIH                      .199 In/Sec       .139 G-s
            MIA                      .275 In/Sec       .039 G-s
            EIH                      .208 In/Sec       .208 G-s
            EOH                      .195 In/Sec       .206 G-s

      COOLFAN B  - COOLING FAN B                 (23-Jul-20)
                                    OVERALL LEVEL     1 - 20 KHz
            MOH                      .138 In/Sec       .335 G-s
            MIH                      .152 In/Sec       .742 G-s
            MIA                      .228 In/Sec       .119 G-s
            EIH                      .123 In/Sec       .328 G-s
            EOH                      .116 In/Sec      1.087 G-s

      COOLFAN A  - COOLING FAN A                 (23-Jul-20)
                                    OVERALL LEVEL     1 - 20 KHz
            MOH                      .130 In/Sec       .098 G-s
            MIH                      .255 In/Sec       .321 G-s
            MIA                      .206 In/Sec       .074 G-s
            EIH                      .245 In/Sec       .166 G-s
            EOH                      .174 In/Sec       .216 G-s

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   Clarification Of Vibration Units:
      Acc      -->  G-s      RMS
      Vel      -->  In/Sec   PK                       Abbreviated Last Measurement
Summary
                  ***********************************

               Database:  sonoco.rbm
               Station:   PRESS
               Report Date:  28-Jul-20   17:44

      MEASUREMENT POINT            OVERALL LEVEL       HFD / VHFD
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            ***  NO DATA Was Found That Meets the Report Specification ***
Abbreviated Last Measurement Summary
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               Database:  sonoco.rbm
               Station:   ULTRASEAL
               Report Date:  28-Jul-20   17:44

      MEASUREMENT POINT            OVERALL LEVEL       HFD / VHFD
      -----------------            -------------       ----------

      CLNESNCBLW - C LINE SPENCER BLOWER         (23-Jul-20)
                                    OVERALL LEVEL     1 - 20 KHz
            MOH                      .106 In/Sec       .132 G-s
            MIV                      .046 In/Sec       .080 G-s

      DLNESNCBLW - D LINE SPENCER BLOWER         (23-Jul-20)
                                    OVERALL LEVEL     1 - 20 KHz
            MOH                      .296 In/Sec       .039 G-s
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            MIH                      .187 In/Sec       .035 G-s
            MIV                      .231 In/Sec       .025 G-s

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   Clarification Of Vibration Units:
      Acc      -->  G-s      RMS
      Vel      -->  In/Sec   PK                        Abbreviated Last Measurement
Summary
                    ************************************

               Database:  sonoco.rbm
               Station:   UTILITIES
               Report Date:  28-Jul-20   17:44

      MEASUREMENT POINT            OVERALL LEVEL       HFD / VHFD
      -----------------            -------------       ----------

      VACPUMP1   - VACUUM PUMP 1                (23-Jul-20)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                     .162 In/Sec       .233 G-s
            MOV                     .237 In/Sec       .546 G-s
            MIH                     .104 In/Sec       .292 G-s
            MIV                     .187 In/Sec       .389 G-s
            MIA                     .427 In/Sec       .204 G-s
            EIH                     .073 In/Sec       .115 G-s
            EIV                     .061 In/Sec       .122 G-s
            EIA                     .036 In/Sec       .090 G-s
            EOH                     .049 In/Sec       .097 G-s
            EOV                     .039 In/Sec       .116 G-s
            EOA                     .037 In/Sec       .085 G-s

      VACPUMP2   - VACUUM PUMP 2                (23-Jul-20)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                     .492 In/Sec       .294 G-s
            MOV                     .835 In/Sec       .472 G-s
            MIH                     .332 In/Sec       .549 G-s
            MIV                     .470 In/Sec       .758 G-s
            MIA                     .666 In/Sec       .195 G-s
            EIH                     .125 In/Sec       .266 G-s
            EIV                     .196 In/Sec       .213 G-s
            EIA                     .089 In/Sec       .246 G-s
            EOH                     .076 In/Sec       .202 G-s
            EOV                     .088 In/Sec       .241 G-s
            EOA                     .090 In/Sec       .474 G-s

      CTPUMP1    - COOLING TOWER PUMP 1         (23-Jul-20)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                     .134 In/Sec       .491 G-s
            MOV                     .175 In/Sec       .534 G-s
            MIH                     .102 In/Sec       .377 G-s
            MIV                     .050 In/Sec       .659 G-s
            MIA                     .192 In/Sec       .098 G-s

      CTPUMP2    - COOLING TOWER PUMP 2         (23-Jul-20)
                                  OVERALL LEVEL     1 - 20 KHz
            MOH                     .111 In/Sec       .216 G-s
            MOV                     .107 In/Sec       .214 G-s
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            MIH                      .108 In/Sec       .246 G-s
            MIV                      .106 In/Sec       .311 G-s
            MIA                      .129 In/Sec       .091 G-s

      EXTRA1     - EXTRA 1                        (23-Jul-20)
                                   OVERALL LEVEL     1 - 20 KHz
            MOH                      .289 In/Sec       .049 G-s
            MIH                      .301 In/Sec       .041 G-s
            MIA                      .535 In/Sec       .029 G-s
            EIH                      .274 In/Sec       .259 G-s
            EOH                      .390 In/Sec       .428 G-s
            EOA                      .235 In/Sec       .258 G-s

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      Vel      -->  In/Sec   PK                        Abbreviated Last Measurement
Summary
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               Database:  sonoco.rbm
               Station:   COATER
               Report Date:  28-Jul-20   17:44

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                                   OVERALL LEVEL     1 - 20 KHz
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            MOH                      .415 In/Sec       .138 G-s
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            EIH                      .189 In/Sec       .719 G-s
            EOH                      .145 In/Sec      1.436 G-s

      ZONE3FAN   - ZONE 3 SUPPLY FAN             (23-Jul-20)
                                   OVERALL LEVEL     1 - 20 KHz
            MOH                      .265 In/Sec       .208 G-s
            MIH                      .190 In/Sec       .229 G-s
            MIA                      .280 In/Sec       .104 G-s
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ZONE4FAN - ZONE 4 SUPPLY FAN (23-Jul-20)

	OVERALL LEVEL	1 - 20 KHz
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MIA	.228 In/Sec	.119 G-s
EIH	.123 In/Sec	.328 G-s
EOH	.116 In/Sec	1.087 G-s

COOLFAN A - COOLING FAN A (23-Jul-20)

	OVERALL LEVEL	1 - 20 KHz
MOH	.130 In/Sec	.098 G-s
MIH	.255 In/Sec	.321 G-s
MIA	.206 In/Sec	.074 G-s
EIH	.245 In/Sec	.166 G-s
EOH	.174 In/Sec	.216 G-s

Clarification Of Vibration Units:
Acc --> G-s RMS
Vel --> In/Sec PK

Abbreviated Last Measurement Summary

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Database: sonoco.rbm
Station: PRESS
Report Date: 28-Jul-20 17:44

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

*** NO DATA Was Found That Meets the Report Specification ***

Abbreviated Last Measurement Summary

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Report Date: 28-Jul-20 17:44

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MOV	.107 In/Sec	.214 G-s
MIH	.108 In/Sec	.246 G-s
MIV	.106 In/Sec	.311 G-s
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MIA	.535 In/Sec	.029 G-s
EIH	.274 In/Sec	.259 G-s
EOH	.390 In/Sec	.428 G-s
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Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK