HI-SPEED INDUSTRIAL SERVICE QualiTest® Diagnostics

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Terry,

The following is a summary of findings from the September 2024 monthly vibration survey at the USG Greenville, MS Plant.

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

Defects

Perlite

#5 Combustion Blower
A high sub-synchronous vibration remains in the motor axial. Amplitude is at 1.3 ips-pk. This is likely 2 x belt frequency. Check belts and sheaves for wear and misalignment soon. DE fan bearing data is also showing signs of bearing defects/wear in the higher frequency range of the spectrum. Check fan bearings also. Rated as a **CLASS III** defect.

#8 Combustion Blower
Machine was not in service during survey; however, the following most likely still applies: 1/3 rpm harmonics are present in the fan spectra. This signifies looseness of the fits l(likely shaft or bearing fit wear). Check fan bearings/shaft for looseness and wear as scheduling allows. Rated as a **CLASS II** defect.

#5 Expander Dust Collector
Motor and fan both have high vibration at fan speed. This may be due to fan imbalance but could also be a sheave or base issue. Check sheave alignment ensuring sheaves are aligned properly for offset and angularity. Check face run-out on motor sheave. There should not be no more than .003" face run-out. Check all fasteners and ensure motor base is not defective. Inspect fan wheel for build-up and signs of damage. Rated as a **CLASS II** defect.

#7 Expander Dust Collector
Machine was not in service during survey; however, the following most likely still applies: Motor has a beat vibration that appears to be near motor/fan rpm. This may be sheave/belt related**.** Check sheaves and belts for wear and misalignment and check all base fasteners. Check angularity and offset alignment. Rated as a **CLASS II** defect.

#8 Expander Dust Collector
Machine was not in service during survey; however, the following most likely still applies: A trim balance was performed earlier this month. We were unable to lower vibration to an acceptable spec. Fan data shows a 1 x and 2 x rpm vibration especially at the fan axial. There are some 3-6 x rpm peaks present as well. We performed shaft run-out checks and also performed lift checks on the fan shaft. We found no signs of shaft looseness or excessive run-out. However, there may be an issue with fan wheel itself. Cracks in the wheel or hub can cause this type of vibration and may explain why we were having issue with the phase angle staying steady during our balance. It is recommended to perform a thorough inspection of the fan wheel/ hub. The inlet piping will likely need to be removed to gain access to the wheel for inspection. Rated as a **CLASS II** defect.

Hydropulper
Gearbox and motor have elevated vibration. Gearbox spectral data shows gear mesh harmonics with sidebands of output rpm indicating wear in the gearbox. There may also be an issue with the fluid coupling assembly. Gearbox and coupling assembly should be inspected as scheduling allows. Rated as a **CLASS II** defect.

Mix-up/Reclaim

#1 White Water Loop Pump
Motor data shows signs of bearing defects. Motor will need attention in the next few months. Rated as a **CLASS II** defect.

Beater Tank Transfer Pump
Motor was not running this survey; however, the following likely still applies: The motor data shows motor to have bearing defects. There are two pumps by the beater. This motor is the newer looking motor with the newer pump. Motor needs to swapped out as time allows. Rated as a **CLASS II** defect.

Fiberglass

#1 Oven Circ. Fan
The motor and fan inboard side has high vibration at fan speed. This may be due to some type of sheave issue and/or structural flexibility. Inspect sheaves and belts soon. Ensure sheaves do not have face run-out and offset and angularity alignment is good. Ensure belts are tensioned properly. Rated as **CLASS II** defect.

#2 Oven Circ Fan
NEW SHAFT GUARD NEEDS TO BE MODIFIED TO GAIN ACCESS TO FAN BEARINGS. Data shows some 1, 2, and 3 x rpm vibrations present in the fan. The motor also has high vibration at 1 x fan rpm. Fan bearing fits may be bad and fan shaft may be bent and or worn. Fan may also have some imbalance due to build-up on fan blades. Rated as a **CLASS II** defect.

Board Line 3

Vacuum Pump MOTORS (2, and 3)
We are still seeing some mid to high frequency noise floor in the motor spectra on the vac pump motors. This issue appears to be stable; however, we suspect possible fluting of the motor bearings may be starting to develop. This is a common issue with AC motors being operated by VFD's that do not having grounding protection. We recommend installing an Aegis Grounding ring inside the motor at the drive end and installing an insulated bearing on the outboard end of the motor. **Rated as CLASS I defect.**

#3 Vacuum Pump
DE pump bearing spectral data continues to show defects are present in the DE pump bearing. We will continue to monitor this closely. Rated as a **CLASS III** defect.

Wet End Combustion Blower
Blower bearings are trending upward on defect frequency vibration. Acceleration has had a steady increase in amplitude. These are signs of bearing defects/wear. Bearings should be scheduled for replacement as soon as scheduling allows**.** Rated as a **CLASS II** defect.

Wet End Circulation Fan
Fan has some slight 1 x rpm vibration likely due to fan imbalance or shaft run out. A trim balance may be needed at some point; however, amplitudes are low at this time. Rated as a **CLASS I** defect.

Finishing

Finishing Grinder #1
Motor and grinder IB bearing has elevated vibration. Spectral data shows looseness likely present in grinder. Check drive end grinder bearing and bearing housing for looseness. Ensure all fasteners are tight. Rated as a **CLASS II** defect.

Blue Oven 1 Zone 1 Circulation Fan 1
Fan end fan bearing (outboard) data is showing signs of defects/wear. Motor and fan also have some 1 x rpm vibrations. Fan bearings will need attention soon. Also, ensure sheaves are aligned properly and belts are in good shape and properly tightened. Rated as a **CLASS II** defect.

Blue Oven 1 Zone 1 Circulation Fan 2
Fan end fan bearing (outboard) data is showing signs of defects/wear. Motor and fan also have some 1 x rpm vibrations. Fan bearings will need attention soon. Also, ensure sheaves are aligned properly and belts are in good shape and properly tightened. Rated as a **CLASS II** defect.

Blue Oven 1 Zone 2 Circulation Fan 1 and 2
Motor and fan vibrations remain high at well over 1.2 inches/second peak velocity. Vibration is at fan speed in the motor and fan. This may be due to build-up on the fan. Inspect fan wheel for build- up and damage ASAP. Inspect sheaves and belts as well. Ensure fan bearings have adequate grease. Rated as a **CLASS III** defect.

#1 Finishing Baghouse Dust Collector
Overall vibration was lower this survey. Fana data still shows some 1 x rpm vibration with a small 2 and 3 x rpm vibration. Fan bearing fits and or shaft may have some wear. Fan still may have imbalance as well. Rated as a **CLASS II** defect.

#3 Finishing Baghouse Dust Collector
Vertical data of the motor and fan also indicate some possible drivetrain issues such as sheave misalignment and or belt issues. For now, inspect, sheaves and belts as scheduling allows. Ensure sheaves do not have face run-out and are aligned to spec. Check base springs to ensure they are in good shape and set properly. Rated as a **CLASS II** defect.

Abbreviated Last Measurement Summary

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Database: USG.rbm
Area: PERLITE

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
B2EXD02FAN - #5 COMBUSTION BLOWER	(08-Oct-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.212 In/Sec	.347 G-s
MOV	.889 In/Sec	.067 G-s
MIH	.109 In/Sec	.210 G-s
MIV	.246 In/Sec	.048 G-s
MIA	1.305 In/Sec	.033 G-s
BIH	.247 In/Sec	3.024 G-s
BIV	.116 In/Sec	.749 G-s
BIA	.367 In/Sec	.278 G-s
BOH	.224 In/Sec	.747 G-s
BOV	.222 In/Sec	.090 G-s
B2EXD06FAN - #6 COMBUSTION BLOWER	(08-Oct-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.069 In/Sec	.212 G-s
MOV	.231 In/Sec	.033 G-s
MIH	.103 In/Sec	.360 G-s
MIV	.241 In/Sec	.047 G-s
MIA	.202 In/Sec	.068 G-s
BIH	.326 In/Sec	1.714 G-s
BIV	.116 In/Sec	.264 G-s
BIA	.209 In/Sec	.127 G-s
BOH	.159 In/Sec	1.131 G-s
BOV	.070 In/Sec	.171 G-s
B2EXD02-5 - #5 EXPANDER DUST COLLECTOR	(08-Oct-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.785 In/Sec	.477 G-s
MOV	.747 In/Sec	.127 G-s
MIH	.712 In/Sec	.727 G-s
MIV	.582 In/Sec	.103 G-s
MIA	.078 In/Sec	.123 G-s
FIH	.421 In/Sec	.622 G-s
FIV	.187 In/Sec	.243 G-s
FIA	.206 In/Sec	.154 G-s
FOH	.430 In/Sec	.900 G-s
FOV	.242 In/Sec	.589 G-s
B2EXD0306 - #6 EXPANDER DUST COLLECTOR	(08-Oct-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.063 In/Sec	.972 G-s
MOV	.076 In/Sec	.349 G-s
MIH	.070 In/Sec	1.052 G-s
MIV	.068 In/Sec	.305 G-s
MIA	.055 In/Sec	.344 G-s
FIH	.140 In/Sec	1.998 G-s
FIV	.191 In/Sec	.496 G-s
FIA	.199 In/Sec	.301 G-s
FOH	.130 In/Sec	1.791 G-s
FOV	.131 In/Sec	.476 G-s
B2PUP02GEA - HYDRAPULPER	(08-Oct-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.482 In/Sec	.302 G-s
MOV	.379 In/Sec	.078 G-s
MIH	.562 In/Sec	.513 G-s
MIV	.184 In/Sec	.166 G-s
MIA	.211 In/Sec	.140 G-s
GIH	.515 In/Sec	2.290 G-s

GIV	.205 In/Sec	.603 G-s
GIA	.221 In/Sec	.414 G-s
GOH	.519 In/Sec	1.508 G-s
GOV	.270 In/Sec	.820 G-s
GOA	.260 In/Sec	.685 G-s

Area: MIX UP/RECLAIM

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

B2-PUP-04 - HYDRO PULPER PRESSURE SCREEN (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOV	.137 In/Sec	.090 G-s

B2-PUP-05 - ULTRA SORTER SCREEN (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.060 In/Sec	.181 G-s
MOV	.120 In/Sec	.056 G-s
MIH	.069 In/Sec	.548 G-s
MIV	.243 In/Sec	.116 G-s
MIA	.130 In/Sec	.089 G-s
SIH	.082 In/Sec	.453 G-s
SIV	.080 In/Sec	.493 G-s
SIA	.101 In/Sec	.108 G-s
SOH	.087 In/Sec	.124 G-s
SOV	.054 In/Sec	.099 G-s

B2PUP03AGT - DUMP CHEST AGITATOR (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.186 In/Sec	.292 G-s
MOV	.126 In/Sec	.123 G-s
MIH	.110 In/Sec	.221 G-s
MIV	.166 In/Sec	.061 G-s
MIA	.123 In/Sec	.050 G-s
AIH	.057 In/Sec	.223 G-s
AIV	.081 In/Sec	.047 G-s
AIA	.027 In/Sec	.047 G-s
AOH	.072 In/Sec	.145 G-s
AOV	.072 In/Sec	.072 G-s

REFNCHSTAG - REFINED CHEST AGITATOR (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.094 In/Sec	.244 G-s
MOV	.141 In/Sec	.052 G-s
MIH	.089 In/Sec	.277 G-s
MIV	.134 In/Sec	.046 G-s
MIA	.096 In/Sec	.059 G-s
AIH	.036 In/Sec	.175 G-s
AIV	.051 In/Sec	.060 G-s
AIA	.034 In/Sec	.045 G-s
AOH	.063 In/Sec	.124 G-s
AOV	.055 In/Sec	.075 G-s

1WWLOOPPMP - #1 WHITE WATER LOOP PUMP (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.841 In/Sec	.799 G-s
MOV	.486 In/Sec	.424 G-s
MIH	.947 In/Sec	2.470 G-s
MIV	.622 In/Sec	.458 G-s
MIA	.229 In/Sec	.516 G-s
PIH	.184 In/Sec	.165 G-s
PIV	.079 In/Sec	.071 G-s
PIA	.212 In/Sec	.097 G-s
POH	.193 In/Sec	.138 G-s
POV	.130 In/Sec	.054 G-s

WWMIXUPPMP - WHITE WATER MIX-UP PUMP (08-Oct-24)

	OVERALL LEVEL	1K-20KHz

MOH	.364 In/Sec	.694 G-s
MOV	.224 In/Sec	.212 G-s
MIH	.246 In/Sec	.771 G-s
MIV	.303 In/Sec	.226 G-s
MIA	.329 In/Sec	.184 G-s
PIH	.100 In/Sec	.302 G-s
PIV	.145 In/Sec	.072 G-s
PIA	.102 In/Sec	.064 G-s
POH	.100 In/Sec	.234 G-s
POV	.117 In/Sec	.078 G-s

B2WEL1PMP1 - #1 EAST WELL WATER PUMP (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.190 In/Sec	.301 G-s
MOV	.160 In/Sec	.125 G-s
MIH	.291 In/Sec	1.338 G-s
MIV	.426 In/Sec	.311 G-s
MIA	.280 In/Sec	.377 G-s
PIH	.055 In/Sec	.815 G-s
PIV	.046 In/Sec	.241 G-s
PIA	.164 In/Sec	.191 G-s
POH	.143 In/Sec	1.302 G-s
POV	.105 In/Sec	.177 G-s

Area: FIBERGLASS

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

F1T1DCRFAN - FIBERGLASS DC FAN NEW LINE (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.074 In/Sec	.283 G-s
MOV	.077 In/Sec	.073 G-s
MIH	.085 In/Sec	.298 G-s
MIV	.068 In/Sec	.057 G-s
MIA	.094 In/Sec	.055 G-s
FIH	.061 In/Sec	.320 G-s
FIV	.070 In/Sec	.209 G-s
FIA	.129 In/Sec	.134 G-s
FOH	.082 In/Sec	.401 G-s
FOV	.093 In/Sec	.368 G-s

1PPDEF - 1ST PASS PAINT DRY EXH FAN (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.063 In/Sec	.120 G-s
MOV	.051 In/Sec	.015 G-s
MIH	.058 In/Sec	.113 G-s
MIV	.053 In/Sec	.027 G-s
MIA	.041 In/Sec	.019 G-s
FIH	.073 In/Sec	.404 G-s
FIV	.056 In/Sec	.105 G-s
FIA	.225 In/Sec	.143 G-s
FOH	.060 In/Sec	.158 G-s
FOV	.072 In/Sec	.077 G-s

F1T1EDG41M - 2ND PASS PAINT DRYING EX FAN (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.115 In/Sec	.100 G-s
MOV	.214 In/Sec	.028 G-s
MIH	.147 In/Sec	.159 G-s
MIV	.236 In/Sec	.036 G-s
MIA	.131 In/Sec	.049 G-s
FIH	.060 In/Sec	.360 G-s
FIV	.079 In/Sec	.135 G-s
FIA	.263 In/Sec	.126 G-s
FOH	.064 In/Sec	.325 G-s
FOV	.094 In/Sec	.124 G-s

1FOCF - #1 OVEN CIRC FAN (08-Oct-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.116 In/Sec	.136 G-s
	MOV	.862 In/Sec	.044 G-s
	MIH	.290 In/Sec	.310 G-s
	MIV	1.225 In/Sec	.108 G-s
	MIA	.369 In/Sec	.073 G-s
	FIH	.175 In/Sec	.601 G-s
	FIV	1.090 In/Sec	.121 G-s
	FIA	.581 In/Sec	.136 G-s
	FOH	.129 In/Sec	1.099 G-s
	FOV	.410 In/Sec	.176 G-s

1FOEF - #1 OVEN EXH FAN (08-Oct-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.072 In/Sec	.125 G-s
	MOV	.042 In/Sec	.032 G-s
	MIH	.067 In/Sec	.287 G-s
	MIV	.062 In/Sec	.042 G-s
	MIA	.046 In/Sec	.043 G-s
	FIH	.134 In/Sec	.016 G-s
	FIV	.064 In/Sec	.013 G-s
	FIA	.105 In/Sec	.0092 G-s
	FOH	.152 In/Sec	.018 G-s
	FOV	.104 In/Sec	.025 G-s

2FOCF - #2 OVEN CIRC FAN (08-Oct-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.199 In/Sec	.148 G-s
	MOV	.535 In/Sec	.055 G-s
	MIH	.159 In/Sec	.441 G-s
	MIV	.708 In/Sec	.179 G-s
	MIA	.240 In/Sec	.119 G-s

2FOEF - #2 OVEN EXH FAN (08-Oct-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.051 In/Sec	.167 G-s
	MOV	.075 In/Sec	.044 G-s
	MIH	.046 In/Sec	.158 G-s
	MIV	.053 In/Sec	.029 G-s
	MIA	.035 In/Sec	.027 G-s
	FIH	.092 In/Sec	.017 G-s
	FIV	.062 In/Sec	.098 G-s
	FIA	.091 In/Sec	.015 G-s
	FOH	.130 In/Sec	.043 G-s
	FOV	.090 In/Sec	.107 G-s

Area: BOARD LINE 3

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

B3TFM05PMP - #3 MACHINE WHITE WATER PUMP (07-Oct-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.339 In/Sec	1.067 G-s
	MOV	.288 In/Sec	.287 G-s
	MIH	.603 In/Sec	.747 G-s
	MIV	.711 In/Sec	.145 G-s
	MIA	.450 In/Sec	.261 G-s
	PIH	.145 In/Sec	.555 G-s
	PIV	.190 In/Sec	.104 G-s
	PIA	.148 In/Sec	.084 G-s
	POH	.096 In/Sec	.282 G-s
	POV	.107 In/Sec	.069 G-s

B3TFM3PMPA - MACHINE CHEST PUMP 3A (07-Oct-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.291 In/Sec	.557 G-s

MOV	.126 In/Sec	.238 G-s
MIH	.293 In/Sec	1.053 G-s
MIV	.122 In/Sec	.278 G-s
MIA	.174 In/Sec	.316 G-s
PIH	.062 In/Sec	.246 G-s
PIV	.060 In/Sec	.044 G-s
PIA	.036 In/Sec	.046 G-s
POH	.056 In/Sec	.271 G-s
POV	.042 In/Sec	.057 G-s

B3-VAC-01 - LINE 3 VACUUM PUMP #1 (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.105 In/Sec	1.266 G-s
MOV	.117 In/Sec	.559 G-s
MIH	.094 In/Sec	1.265 G-s
MIV	.102 In/Sec	.305 G-s
MIA	.056 In/Sec	.302 G-s
PIH	.192 In/Sec	.223 G-s
PIV	.353 In/Sec	.088 G-s
PIA	.127 In/Sec	.118 G-s
POH	.796 In/Sec	.286 G-s
POV	.471 In/Sec	.057 G-s

B3-VAC-02 - LINE 3 VACUUM PUMP #2 (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.130 In/Sec	3.460 G-s
MOV	.081 In/Sec	.761 G-s
MIH	.088 In/Sec	.990 G-s
MIV	.107 In/Sec	.215 G-s
MIA	.080 In/Sec	.365 G-s
PIH	.086 In/Sec	.137 G-s
PIV	.123 In/Sec	.048 G-s
PIA	.093 In/Sec	.042 G-s
POH	.311 In/Sec	.075 G-s
POV	.103 In/Sec	.013 G-s

B3-VAC-03 - LINE 3 VACUUM PUMP #3 (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.137 In/Sec	2.391 G-s
MOV	.149 In/Sec	1.223 G-s
MIH	.134 In/Sec	3.120 G-s
MIV	.098 In/Sec	.282 G-s
MIA	.061 In/Sec	.698 G-s
PIH	.133 In/Sec	.341 G-s
PIV	.101 In/Sec	.144 G-s
PIA	.175 In/Sec	.131 G-s
POH	.237 In/Sec	.072 G-s
POV	.108 In/Sec	.035 G-s

LOWVACFAN - LOW VACUUM FAN (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.215 In/Sec	.762 G-s
MOV	.468 In/Sec	.190 G-s
MIH	.156 In/Sec	1.575 G-s
MIV	.266 In/Sec	.184 G-s
MIA	.169 In/Sec	.167 G-s
FIH	.122 In/Sec	.907 G-s
FIV	.259 In/Sec	.199 G-s
FIA	.084 In/Sec	.128 G-s
FOH	.056 In/Sec	.702 G-s
FOV	.108 In/Sec	.232 G-s

B3-VAC-06B - #1 FORMER WHITE WTR PIT PMP (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.147 In/Sec	.354 G-s
MOV	.208 In/Sec	.071 G-s
MIH	.140 In/Sec	.474 G-s
MIV	.145 In/Sec	.214 G-s
MIA	.140 In/Sec	.153 G-s
PIH	.036 In/Sec	.067 G-s

PIV	.054 In/Sec	.017 G-s
PIA	.151 In/Sec	.020 G-s
POH	.090 In/Sec	.062 G-s
POV	.076 In/Sec	.048 G-s

B3-VAC-10 - SEAL WATER RETURN PUMP (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.031 In/Sec	.789 G-s
MOV	.025 In/Sec	.130 G-s
MIH	.027 In/Sec	.488 G-s
MIV	.022 In/Sec	.151 G-s
MIA	.040 In/Sec	.154 G-s
PIH	.025 In/Sec	.128 G-s
PIV	.023 In/Sec	.049 G-s
PIA	.022 In/Sec	.047 G-s
POH	.019 In/Sec	.078 G-s
POV	.017 In/Sec	.039 G-s

B3FRM7SHW - HIGH PRESSURE SHOWER PUMP (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.048 In/Sec	.536 G-s
MOV	.121 In/Sec	.215 G-s
MIH	.055 In/Sec	.624 G-s
MIV	.195 In/Sec	.162 G-s
MIA	.038 In/Sec	.222 G-s
PIH	.153 In/Sec	.943 G-s
PIV	.274 In/Sec	.549 G-s
PIA	.098 In/Sec	.495 G-s
POH	.106 In/Sec	.837 G-s
POV	.178 In/Sec	.398 G-s

WECTAGIT - WET END COATING TANK AGIT (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.083 In/Sec	.146 G-s
MOV	.065 In/Sec	.051 G-s
MIH	.059 In/Sec	.202 G-s
MIV	.060 In/Sec	.025 G-s
MIA	.037 In/Sec	.031 G-s
AIH	.021 In/Sec	.095 G-s
AIV	.018 In/Sec	.050 G-s
AIA	.026 In/Sec	.021 G-s
AOH	.018 In/Sec	.093 G-s
AOV	.017 In/Sec	.048 G-s

MSHTAGIT - MACHINE STOCK HOLDING TNK AG (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.030 In/Sec	.110 G-s
MOV	.052 In/Sec	.021 G-s
MIH	.025 In/Sec	.180 G-s
MIV	.035 In/Sec	.014 G-s
MIA	.042 In/Sec	.020 G-s
AIH	.012 In/Sec	.034 G-s
AIV	.011 In/Sec	.0088 G-s
AIA	.023 In/Sec	.0088 G-s
AOH	.015 In/Sec	.032 G-s
AOV	.017 In/Sec	.0068 G-s

WWAGIT - WHITE WATER AGITATOR (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.088 In/Sec	.139 G-s
MOV	.085 In/Sec	.031 G-s
MIH	.074 In/Sec	.158 G-s
MIV	.071 In/Sec	.051 G-s
MIA	.041 In/Sec	.039 G-s
AIH	.021 In/Sec	.148 G-s
AIV	.021 In/Sec	.028 G-s
AIA	.024 In/Sec	.058 G-s
AOH	.021 In/Sec	.085 G-s
AOV	.032 In/Sec	.040 G-s

3 - #3 TOP PRESS ROLL DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.112 In/Sec	.201 G-s
MOV	.207 In/Sec	.059 G-s
MIH	.054 In/Sec	.951 G-s
MIV	.330 In/Sec	.244 G-s
MIA	.249 In/Sec	.199 G-s
GIH	.058 In/Sec	.042 G-s
GIV	.322 In/Sec	.017 G-s
GIA	.052 In/Sec	.011 G-s
GOH	.031 In/Sec	.026 G-s
GOV	.201 In/Sec	.0092 G-s
GOA	.038 In/Sec	.0087 G-s

3b - #3 BOTTOM PRESS ROLL DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.061 In/Sec	.287 G-s
MOV	.273 In/Sec	.090 G-s
MIH	.073 In/Sec	.701 G-s
MIV	.164 In/Sec	.110 G-s
MIA	.170 In/Sec	.163 G-s
GIH	.074 In/Sec	.016 G-s
GIV	.031 In/Sec	.0083 G-s
GIA	.032 In/Sec	.0062 G-s
GOH	.033 In/Sec	.011 G-s
GOV	.027 In/Sec	.0039 G-s
GOA	.038 In/Sec	.0046 G-s

B3FRM8ROLA - #2 TOP PRESS ROLL DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.165 In/Sec	.245 G-s
MOV	.112 In/Sec	.042 G-s
MIH	.089 In/Sec	.300 G-s
MIV	.085 In/Sec	.077 G-s
MIA	.103 In/Sec	.050 G-s
GIH	.048 In/Sec	.067 G-s
GIV	.045 In/Sec	.015 G-s
GIA	.035 In/Sec	.025 G-s
GOH	.031 In/Sec	.064 G-s
GOV	.040 In/Sec	.017 G-s
GOA	.036 In/Sec	.023 G-s

B3FRM8ROLB - #2 BOTTOM PRESS ROLL DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.044 In/Sec	.142 G-s
MOV	.119 In/Sec	.051 G-s
MIH	.055 In/Sec	.219 G-s
MIV	.119 In/Sec	.079 G-s
MIA	.080 In/Sec	.069 G-s
GIH	.032 In/Sec	.021 G-s
GIV	.037 In/Sec	.0086 G-s
GIA	.019 In/Sec	.0085 G-s
GOH	.034 In/Sec	.014 G-s
GOV	.029 In/Sec	.0053 G-s
GOA	.018 In/Sec	.0053 G-s

1 - #1 TOP PRESS ROLL DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.076 In/Sec	.399 G-s
MOV	.077 In/Sec	.059 G-s
MIH	.074 In/Sec	.522 G-s
MIV	.065 In/Sec	.117 G-s
MIA	.134 In/Sec	.130 G-s
GIH	.072 In/Sec	.057 G-s
GIV	.029 In/Sec	.015 G-s
GIA	.036 In/Sec	.035 G-s
GOH	.036 In/Sec	.052 G-s
GOV	.023 In/Sec	.014 G-s
GOA	.031 In/Sec	.0068 G-s

1b - #1 BOTTOM PRESS ROLL DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.303 In/Sec	.268 G-s
MOV	.088 In/Sec	.069 G-s
MIH	.062 In/Sec	.501 G-s
MIV	.100 In/Sec	.178 G-s
MIA	.610 In/Sec	.137 G-s
GIH	.023 In/Sec	.070 G-s
GIV	.039 In/Sec	.043 G-s
GIA	.025 In/Sec	.021 G-s
GOH	.027 In/Sec	.049 G-s
GOV	.039 In/Sec	.020 G-s
GOA	.029 In/Sec	.012 G-s

B3-FRM-11 - #3 BOARD LINE DRIVE (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.064 In/Sec	.773 G-s
MOV	.062 In/Sec	.249 G-s
MIH	.068 In/Sec	.445 G-s
MIV	.133 In/Sec	.187 G-s
MIA	.077 In/Sec	.202 G-s
G1I	.018 In/Sec	.076 G-s
GIV	.018 In/Sec	.035 G-s
G1A	.015 In/Sec	.022 G-s
G1O	.014 In/Sec	.042 G-s
G2O	.0083 In/Sec	.033 G-s
GOV	.031 In/Sec	.040 G-s
G2I	.017 In/Sec	.053 G-s
G2A	.027 In/Sec	.019 G-s

B3-KBS-02 - WET END CIRCULATION FAN (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.100 In/Sec	.538 G-s
MOV	.034 In/Sec	.102 G-s
MIH	.096 In/Sec	.395 G-s
MIV	.022 In/Sec	.074 G-s
MIA	.038 In/Sec	.104 G-s
FIH	.117 In/Sec	.028 G-s
FIV	.031 In/Sec	.019 G-s
FIA	.144 In/Sec	.016 G-s
FOH	.080 In/Sec	.018 G-s
FOV	.050 In/Sec	.0079 G-s
FOA	.044 In/Sec	.0078 G-s

B3KBS01BLW - WET END COMBUSTION BLOWER (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.057 In/Sec	.369 G-s
MOV	.069 In/Sec	.104 G-s
MIH	.083 In/Sec	.664 G-s
MIV	.257 In/Sec	.183 G-s
MIA	.094 In/Sec	.099 G-s
BIH	.113 In/Sec	1.213 G-s
BIV	.087 In/Sec	.758 G-s
BIA	.107 In/Sec	.565 G-s
BOH	.111 In/Sec	1.844 G-s
BOV	.189 In/Sec	.724 G-s

B3-KBS-05 - DRY END CIRCULATION FAN (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.088 In/Sec	.465 G-s
MOV	.136 In/Sec	.084 G-s
MIH	.069 In/Sec	.563 G-s
MIV	.111 In/Sec	.055 G-s
MIA	.085 In/Sec	.091 G-s
FIH	.055 In/Sec	.096 G-s
FIV	.017 In/Sec	.110 G-s
FIA	.034 In/Sec	.055 G-s
FOH	.045 In/Sec	.043 G-s
FOV	.018 In/Sec	.039 G-s
FOA	.032 In/Sec	.026 G-s

B3KBS04BLW - DRY END COMBUSTION BLOWER (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.041 In/Sec	.335 G-s
MOV	.094 In/Sec	.154 G-s
MIH	.057 In/Sec	.653 G-s
MIV	.091 In/Sec	.150 G-s
MIA	.066 In/Sec	.184 G-s
BIH	.118 In/Sec	.692 G-s
BIV	.050 In/Sec	.119 G-s
BIA	.164 In/Sec	.063 G-s
BOH	.090 In/Sec	.574 G-s
BOV	.117 In/Sec	.085 G-s

B3-KBS-07 - LINE 3 KILN EXHAUST FAN (07-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.044 In/Sec	.665 G-s
MOV	.075 In/Sec	.227 G-s
MIH	.056 In/Sec	.796 G-s
MIV	.072 In/Sec	.143 G-s
MIA	.046 In/Sec	.318 G-s
FIH	.016 In/Sec	.0034 G-s
FIV	.011 In/Sec	.0032 G-s
FIA	.021 In/Sec	.0035 G-s
FOH	.018 In/Sec	.0014 G-s
FOV	.017 In/Sec	.0036 G-s
FOA	.018 In/Sec	.0037 G-s

Area: LINE 3 FINISHING

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

HIPRSWTRP - HI-PRESSURE WATER PUMP (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.146 In/Sec	2.642 G-s
MOV	.347 In/Sec	1.139 G-s
MIH	.135 In/Sec	1.326 G-s
MIV	.233 In/Sec	.286 G-s
MIA	.207 In/Sec	.519 G-s
P1H	.265 In/Sec	.605 G-s
P1V	.463 In/Sec	.409 G-s
P1A	.527 In/Sec	.165 G-s
P2H	.209 In/Sec	1.238 G-s
P2V	.463 In/Sec	.495 G-s
P2A	.236 In/Sec	.313 G-s

FINSHSHRD - FINISHING SHEDDER (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.076 In/Sec	.575 G-s
MOV	.083 In/Sec	.228 G-s
MIH	.051 In/Sec	.750 G-s
MIV	.074 In/Sec	.132 G-s
MIA	.049 In/Sec	.072 G-s
GH	.067 In/Sec	.165 G-s
GV	.070 In/Sec	.052 G-s
GA	.047 In/Sec	.040 G-s
SH	.046 In/Sec	.106 G-s
SV	.057 In/Sec	.046 G-s
SA	.041 In/Sec	.102 G-s

F3-GRD-01 - LINE 3 FINISH GRINDER #1 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.613 In/Sec	.535 G-s
MOV	.657 In/Sec	.079 G-s
MIH	.288 In/Sec	.344 G-s
MIV	.169 In/Sec	.121 G-s
MIA	.149 In/Sec	.110 G-s
GIH	.076 In/Sec	.176 G-s

	GIV	.103 In/Sec	.043 G-s
	GIA	.104 In/Sec	.052 G-s

F3-GRD-02 - LINE 3 FINISH GRINDER #2 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.281 In/Sec	.984 G-s
MOV	.204 In/Sec	.253 G-s
MIH	.143 In/Sec	.386 G-s
MIV	.124 In/Sec	.113 G-s
MIA	.053 In/Sec	.089 G-s
GIH	.097 In/Sec	.308 G-s
GIV	.066 In/Sec	.137 G-s
GIA	.047 In/Sec	.095 G-s

F3-GRD-03 - LINE 3 FINISH GRINDER #3 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.221 In/Sec	1.555 G-s
MOV	.237 In/Sec	.479 G-s
MIH	.225 In/Sec	.466 G-s
MIV	.133 In/Sec	.182 G-s
MIA	.156 In/Sec	.193 G-s
GIH	.053 In/Sec	.166 G-s
GIV	.053 In/Sec	.071 G-s
GIA	.087 In/Sec	.053 G-s

F3-GRD-05 - LINE 3 GRINDER DRIVE (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.072 In/Sec	.725 G-s
MOV	.158 In/Sec	.228 G-s
MIH	.072 In/Sec	1.009 G-s
MIV	.231 In/Sec	.312 G-s
MIA	.108 In/Sec	.207 G-s
G1I	.094 In/Sec	1.254 G-s
GIV	.109 In/Sec	.327 G-s
G1A	.067 In/Sec	.590 G-s
G2O	.114 In/Sec	.419 G-s
GOV	.124 In/Sec	.151 G-s
G2A	.055 In/Sec	.396 G-s

B3-KFS-04 - LINE 3 KILN DRIVE (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.028 In/Sec	.197 G-s
MIH	.023 In/Sec	.427 G-s
MIA	.027 In/Sec	.265 G-s
G1I	.073 In/Sec	.157 G-s
G1A	.062 In/Sec	.080 G-s
G2O	.063 In/Sec	.180 G-s
G2A	.075 In/Sec	.229 G-s

B3KFS4LUBP - L3 KILN GEARBOX LUBE OIL PMP (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.124 In/Sec	.275 G-s
MOV	.114 In/Sec	.179 G-s
MIH	.064 In/Sec	.675 G-s
MIV	.077 In/Sec	.096 G-s
MIA	.035 In/Sec	.209 G-s
GH	.065 In/Sec	.531 G-s
GV	.093 In/Sec	.135 G-s
GA	.070 In/Sec	.156 G-s
PH	.157 In/Sec	.257 G-s
PV	.176 In/Sec	.158 G-s
PA	.255 In/Sec	.192 G-s

F3-PAD-06 - BLUE OVEN 1 ZONE1 CIRC FAN 1 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.370 In/Sec	.534 G-s
MOV	.245 In/Sec	.207 G-s
MIH	.825 In/Sec	.677 G-s
MIV	.392 In/Sec	.218 G-s
MIA	.702 In/Sec	.222 G-s

FIH	.651 In/Sec	.709 G-s
FIV	.568 In/Sec	.363 G-s
FIA	.346 In/Sec	.223 G-s
FOH	.261 In/Sec	2.070 G-s
FOV	.329 In/Sec	.589 G-s

OVN1ZNE1F2 - BLUE OVEN 1 ZONE1 CIRC FAN 2 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.174 In/Sec	.878 G-s
MOV	.215 In/Sec	.132 G-s
MIH	.266 In/Sec	.971 G-s
MIV	.400 In/Sec	.074 G-s
MIA	.346 In/Sec	.076 G-s
FIH	.365 In/Sec	2.462 G-s
FIV	.435 In/Sec	.671 G-s
FIA	.356 In/Sec	.243 G-s
FOH	.137 In/Sec	.758 G-s
FOV	.203 In/Sec	.305 G-s

OVN1ZNE2F1 - BLUE OVEN 1 ZONE2 CIRC FAN 1 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.902 In/Sec	1.304 G-s
MOV	.817 In/Sec	.274 G-s
MIH	1.119 In/Sec	.560 G-s
MIV	.997 In/Sec	.197 G-s
MIA	1.914 In/Sec	.193 G-s
FIH	1.148 In/Sec	1.998 G-s
FIV	1.272 In/Sec	.581 G-s
FIA	.609 In/Sec	.426 G-s
FOH	.233 In/Sec	1.274 G-s
FOV	.169 In/Sec	.230 G-s

OVN1ZNE2F2 - BLUE OVEN 1 ZONE2 CIRC FAN 2 (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.357 In/Sec	.849 G-s
MOV	1.061 In/Sec	.256 G-s
MIH	.382 In/Sec	.706 G-s
MIV	1.780 In/Sec	.160 G-s
MIA	.312 In/Sec	.268 G-s
FIH	.626 In/Sec	1.079 G-s
FIV	1.498 In/Sec	.198 G-s
FIA	.908 In/Sec	.171 G-s
FOH	.395 In/Sec	4.681 G-s
FOV	.200 In/Sec	.563 G-s

D1DCR02EXH - #1 GRINDER BAGHOUSE DC FAN (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.150 In/Sec	.157 G-s
MOV	.330 In/Sec	.140 G-s
MIH	.174 In/Sec	.604 G-s
MIV	.337 In/Sec	.121 G-s
MIA	.246 In/Sec	.089 G-s
FIH	.437 In/Sec	.350 G-s
FIV	.385 In/Sec	1.714 G-s
FIA	.791 In/Sec	.281 G-s
FOH	.410 In/Sec	.383 G-s
FOV	.256 In/Sec	1.982 G-s

D1DCR03EXH - #2 FINISHING DUST COLLECTOR (08-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.213 In/Sec	.822 G-s
MOV	.186 In/Sec	.230 G-s
MIH	.162 In/Sec	1.560 G-s
MIV	.318 In/Sec	.487 G-s
MIA	.288 In/Sec	.304 G-s
FIH	.254 In/Sec	4.332 G-s
FIV	.249 In/Sec	1.112 G-s
FIA	.306 In/Sec	.598 G-s
FOH	.135 In/Sec	1.247 G-s
FOV	.168 In/Sec	.365 G-s

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D1DCR01EXH - #3 FINISHING DUST COLLECTOR   (08-Oct-24)
                                OVERALL LEVEL     1K-20KHz
        MOH                      .298 In/Sec      1.271 G-s
        MOV                      .885 In/Sec       .674 G-s
        MIH                      .165 In/Sec      1.346 G-s
        MIV                      .930 In/Sec       .348 G-s
        MIA                      .162 In/Sec       .379 G-s
        FIH                      .447 In/Sec      1.273 G-s
        FIV                      .324 In/Sec       .132 G-s
        FIA                      .529 In/Sec       .243 G-s
        FOH                      .342 In/Sec       .753 G-s
        FOV                      .173 In/Sec       .280 G-s

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   Clarification Of Vibration Units:
      Acc       -->  G-s      RMS
      Vel       -->  In/Sec   PK
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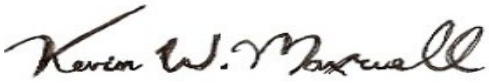
As always, it has been a pleasure to serve USG Greenville, MS. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



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