HI-SPEED INDUSTRIAL SERVICE QualiTest® Diagnostics

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Terry,

The following is a summary of findings from the December 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
Fan bearing data shows excessive fit looseness especially in ODE bearing. Check fan bearings for looseness and ensure shaft does not have wear. A high sub-synchronous vibration also remains in the motor axial. Check belts and sheaves for wear and misalignment soon. 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.

#6 Expander Dust Collector
New fan bearing data shows a strange high amplitude axial vibration in the DE fan bearing. There is a dominant vibration at 315 Hz. or 11.4 orders of fan rpm. This frequency is non-synchronous to shaft speed which may indicate bearing issues. There may also be some axial loading if bearing isn't centered in housing. For now, ensure that the drive end fan bearing is centered in housing to allow for thermal expansion. Also, keep an eye on fan bearing temps for now. Because of the high amplitude of the non-synchronous vibration in the FIA, this is rated as a **CLASS III** defect.

#7 Expander Dust Collector
New fan bearing/shaft guard needs holes cut in sides of guard to allow for vibration sensor placement. Data cannot be obtained on the new fan because of the guard.

Hydropulper
Motor has elevated 1 x rpm vibration and may indicate an issue with the fluid coupling assembly such as imbalance of the assembly. Gearbox spectral data shows gear mesh harmonics with sidebands of output rpm indicating some slight wear in the gearbox. Monitoring these issues closely. 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.

Well Pump 1
Motor data is showing an increase in G's. Data indicates lube issue/bearing defects possible. For now ensure motor bearings are lubed properly. 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.**

Vacuum Pump 1 and 3
Both new pumps have elevated vane pass frequency vibration in the pumps. For now, ensure pump parameters are normal. Rated as a **CLASS I** defect.

Hi-Pressure Shower Pump
Motor has signs of bearing defects according to spectral data. Seems low level at this time. Check motor as time allows. Rated as a **CLASS II** 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

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 III** 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
Fan data shows some 1-4 x rpm harmonic vibration. Fan bearing fits and or shaft likely have wear. Fan likely has imbalance as well. Impacting can be seem in fan bearing data especially in the outboard bearing. Rated as a **CLASS III** 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. Fan also has some 1 x rpm vibration and likely has some imbalance. 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	(12-Dec-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.506 In/Sec	.288 G-s
MOV	.621 In/Sec	.035 G-s
MIH	.144 In/Sec	.199 G-s
MIV	.521 In/Sec	.052 G-s
MIA	1.100 In/Sec	.046 G-s
BIH	.550 In/Sec	1.551 G-s
BIV	.299 In/Sec	.210 G-s
BIA	.383 In/Sec	.177 G-s
BOH	.573 In/Sec	1.288 G-s
BOV	.649 In/Sec	.428 G-s
B2EXD06FAN - #6 COMBUSTION BLOWER	(12-Dec-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.077 In/Sec	.229 G-s
MOV	.140 In/Sec	.059 G-s
MIH	.088 In/Sec	.443 G-s
MIV	.188 In/Sec	.054 G-s
MIA	.275 In/Sec	.085 G-s
BIH	.259 In/Sec	.835 G-s
BIV	.125 In/Sec	.165 G-s
BIA	.232 In/Sec	.085 G-s
BOH	.143 In/Sec	.882 G-s
BOV	.087 In/Sec	.161 G-s
B2EXD07FAN - #7 COMBUSTION BLOWER	(12-Dec-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.083 In/Sec	.261 G-s
MOV	.460 In/Sec	.045 G-s
MIH	.093 In/Sec	.245 G-s
MIV	.469 In/Sec	.041 G-s
MIA	.132 In/Sec	.035 G-s
BIH	.353 In/Sec	.779 G-s
BIV	.180 In/Sec	.232 G-s
BIA	.180 In/Sec	.200 G-s
BOH	.179 In/Sec	1.651 G-s
BOV	.131 In/Sec	.458 G-s
B2EXD02-5 - #5 EXPANDER DUST COLLECTOR	(12-Dec-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.441 In/Sec	.572 G-s
MOV	.656 In/Sec	.228 G-s
MIH	.515 In/Sec	1.203 G-s
MIV	.383 In/Sec	.188 G-s
MIA	.080 In/Sec	.204 G-s
FIH	.329 In/Sec	.572 G-s
FIV	.165 In/Sec	.253 G-s
FIA	.336 In/Sec	.145 G-s
FOH	.360 In/Sec	.827 G-s
FOV	.274 In/Sec	.278 G-s
B2EXD0306 - #6 EXPANDER DUST COLLECTOR	(12-Dec-24)	
	OVERALL LEVEL	1K-20KHz
MOH	.066 In/Sec	.498 G-s
MOV	.104 In/Sec	.292 G-s
MIH	.073 In/Sec	.757 G-s
MIV	.066 In/Sec	.209 G-s

MIA	.066 In/Sec	.297 G-s
FIH	.191 In/Sec	1.982 G-s
FIV	.224 In/Sec	.220 G-s
FIA	.832 In/Sec	.355 G-s
FOH	.141 In/Sec	2.257 G-s
FOV	.175 In/Sec	.562 G-s

B2EXD04-7 - #7 EXPANDER DUST COLLECTOR (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.155 In/Sec	.425 G-s
MOV	.148 In/Sec	.128 G-s
MIH	.102 In/Sec	.706 G-s
MIV	.159 In/Sec	.143 G-s
MIA	.103 In/Sec	.080 G-s

B2PUP02GEA - HYDRAPULPER (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.495 In/Sec	.946 G-s
MOV	.364 In/Sec	.706 G-s
MIH	.658 In/Sec	.689 G-s
MIV	.252 In/Sec	.222 G-s
MIA	.298 In/Sec	.148 G-s
GIH	.398 In/Sec	2.365 G-s
GIV	.245 In/Sec	1.076 G-s
GIA	.255 In/Sec	.926 G-s
GOH	.309 In/Sec	.900 G-s
GOV	.290 In/Sec	1.002 G-s

Area: MIX UP/RECLAIM

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

B2-PUP-05 - ULTRA SORTER SCREEN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.072 In/Sec	.151 G-s
MOV	.141 In/Sec	.084 G-s
MIH	.077 In/Sec	.554 G-s
MIV	.227 In/Sec	.058 G-s
MIA	.164 In/Sec	.072 G-s
SIH	.121 In/Sec	2.502 G-s
SIV	.145 In/Sec	1.346 G-s
SIA	.135 In/Sec	.347 G-s
SOH	.103 In/Sec	.233 G-s
SOV	.078 In/Sec	.213 G-s

REFNCHSTAG - REFINED CHEST AGITATOR (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.098 In/Sec	.186 G-s
MOV	.129 In/Sec	.052 G-s
MIH	.086 In/Sec	.307 G-s
MIV	.137 In/Sec	.052 G-s
MIA	.089 In/Sec	.055 G-s
AIH	.045 In/Sec	.111 G-s
AIV	.062 In/Sec	.072 G-s
AIA	.037 In/Sec	.038 G-s
AOH	.082 In/Sec	.133 G-s
AOV	.061 In/Sec	.072 G-s

1WWLOOPPMP - #1 WHITE WATER LOOP PUMP (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.571 In/Sec	1.742 G-s
MOV	.545 In/Sec	.412 G-s
MIH	.815 In/Sec	2.881 G-s
MIV	.622 In/Sec	.730 G-s
MIA	.758 In/Sec	.671 G-s
PIH	.163 In/Sec	.204 G-s
PIV	.102 In/Sec	.075 G-s
PIA	.300 In/Sec	.044 G-s

POH	.204 In/Sec	.119 G-s
POV	.161 In/Sec	.058 G-s

WWMIXUPPMP - WHITE WATER MIX-UP PUMP (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.662 In/Sec	.647 G-s
MOV	.273 In/Sec	.214 G-s
MIH	.619 In/Sec	.747 G-s
MIV	.677 In/Sec	.182 G-s
MIA	.525 In/Sec	.134 G-s
PIH	.102 In/Sec	.419 G-s
PIV	.124 In/Sec	.067 G-s
PIA	.123 In/Sec	.064 G-s
POH	.098 In/Sec	.277 G-s
POV	.086 In/Sec	.111 G-s

B2WEL1PMP1 - #1 EAST WELL WATER PUMP (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.231 In/Sec	.465 G-s
MOV	.229 In/Sec	.196 G-s
MIH	.291 In/Sec	1.190 G-s
MIV	.467 In/Sec	.281 G-s
MIA	.353 In/Sec	.363 G-s
PIH	.045 In/Sec	.704 G-s
PIV	.048 In/Sec	.138 G-s
PIA	.182 In/Sec	.228 G-s
POH	.147 In/Sec	1.096 G-s
POV	.109 In/Sec	.184 G-s

B2BTR1AGIT - BEATER AGITATOR (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.081 In/Sec	.270 G-s
MOV	.058 In/Sec	.103 G-s
MIH	.069 In/Sec	.377 G-s
MIV	.071 In/Sec	.169 G-s
MIA	.074 In/Sec	.076 G-s
AIH	.068 In/Sec	.103 G-s
AIV	.030 In/Sec	.022 G-s
AIA	.051 In/Sec	.027 G-s
AOH	.036 In/Sec	.128 G-s
AOV	.026 In/Sec	.025 G-s

Area: FIBERGLASS

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

F1T1DCRFAN - FIBERGLASS DC FAN NEW LINE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.075 In/Sec	.348 G-s
MOV	.095 In/Sec	.138 G-s
MIH	.080 In/Sec	.375 G-s
MIV	.088 In/Sec	.075 G-s
MIA	.100 In/Sec	.055 G-s
FIH	.052 In/Sec	.330 G-s
FIV	.065 In/Sec	.207 G-s
FIA	.138 In/Sec	.127 G-s
FOH	.079 In/Sec	.272 G-s
FOV	.086 In/Sec	.259 G-s

1FOCF - #1 OVEN CIRC FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.113 In/Sec	.164 G-s
MOV	.906 In/Sec	.060 G-s
MIH	.307 In/Sec	.335 G-s
MIV	1.359 In/Sec	.107 G-s
MIA	.365 In/Sec	.057 G-s
FIH	.448 In/Sec	.685 G-s
FIV	.915 In/Sec	.096 G-s

FIA	.766 In/Sec	.137 G-s
FOH	.172 In/Sec	1.197 G-s
FOV	.484 In/Sec	.124 G-s

1FOEF - #1 OVEN EXH FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.087 In/Sec	.127 G-s
MOV	.047 In/Sec	.033 G-s
MIH	.082 In/Sec	.275 G-s
MIV	.056 In/Sec	.051 G-s
MIA	.067 In/Sec	.060 G-s
FIH	.156 In/Sec	.013 G-s
FIV	.075 In/Sec	.011 G-s
FIA	.110 In/Sec	.0097 G-s
FOH	.179 In/Sec	.014 G-s
FOV	.115 In/Sec	.059 G-s

2FOCF - #2 OVEN CIRC FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.238 In/Sec	.142 G-s
MOV	.620 In/Sec	.054 G-s
MIH	.191 In/Sec	.341 G-s
MIV	.728 In/Sec	.138 G-s
MIA	.353 In/Sec	.084 G-s

2FOEF - #2 OVEN EXH FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.046 In/Sec	.147 G-s
MOV	.042 In/Sec	.042 G-s
MIH	.043 In/Sec	.156 G-s
MIV	.045 In/Sec	.047 G-s
MIA	.033 In/Sec	.029 G-s
FIH	.076 In/Sec	.019 G-s
FIV	.050 In/Sec	.097 G-s
FIA	.081 In/Sec	.015 G-s
FOH	.115 In/Sec	.052 G-s
FOV	.067 In/Sec	.118 G-s

Area: BOARD LINE 3

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

B3TFM05PMP - #3 MACHINE WHITE WATER PUMP (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.304 In/Sec	.848 G-s
MOV	.272 In/Sec	.136 G-s
MIH	.400 In/Sec	.741 G-s
MIV	.411 In/Sec	.222 G-s
MIA	.421 In/Sec	.248 G-s
PIH	.169 In/Sec	.495 G-s
PIV	.082 In/Sec	.133 G-s
PIA	.086 In/Sec	.132 G-s
POH	.133 In/Sec	.417 G-s
POV	.124 In/Sec	.055 G-s

B3TFM3PMPA - MACHINE CHEST PUMP 3A (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.062 In/Sec	.990 G-s
MOV	.045 In/Sec	.302 G-s
MIH	.098 In/Sec	.940 G-s
MIV	.164 In/Sec	.210 G-s
MIA	.063 In/Sec	.156 G-s
PIH	.031 In/Sec	.173 G-s
PIV	.021 In/Sec	.025 G-s
PIA	.022 In/Sec	.041 G-s
POH	.021 In/Sec	.168 G-s
POV	.021 In/Sec	.028 G-s

B3-VAC-01 - LINE 3 VACUUM PUMP #1 (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.056 In/Sec	.647 G-s
MOV	.072 In/Sec	.229 G-s
MIH	.067 In/Sec	1.628 G-s
MIV	.072 In/Sec	.298 G-s
MIA	.041 In/Sec	.416 G-s
PIH	.151 In/Sec	.067 G-s
PIV	.154 In/Sec	.050 G-s
PIA	.095 In/Sec	.017 G-s
POH	.502 In/Sec	.128 G-s
POV	.222 In/Sec	.050 G-s

B3-VAC-02 - LINE 3 VACUUM PUMP #2 (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.094 In/Sec	2.106 G-s
MOV	.091 In/Sec	.420 G-s
MIH	.097 In/Sec	1.321 G-s
MIV	.114 In/Sec	.434 G-s
MIA	.091 In/Sec	.383 G-s
PIH	.097 In/Sec	.135 G-s
PIV	.121 In/Sec	.029 G-s
PIA	.129 In/Sec	.038 G-s
POH	.252 In/Sec	.072 G-s
POV	.208 In/Sec	.042 G-s

B3-VAC-03 - LINE 3 VACUUM PUMP #3 (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.119 In/Sec	2.172 G-s
MOV	.209 In/Sec	.792 G-s
MIH	.100 In/Sec	.946 G-s
MIV	.081 In/Sec	.267 G-s
MIA	.067 In/Sec	.299 G-s
PIH	.296 In/Sec	.164 G-s
PIV	.613 In/Sec	.116 G-s
PIA	.238 In/Sec	.095 G-s
POH	.593 In/Sec	.203 G-s
POV	.173 In/Sec	.041 G-s

LOWVACFAN - LOW VACUUM FAN (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.311 In/Sec	.356 G-s
MOV	.548 In/Sec	.419 G-s
MIH	.208 In/Sec	1.107 G-s
MIV	.472 In/Sec	.407 G-s
MIA	.173 In/Sec	.303 G-s
FIH	.148 In/Sec	2.090 G-s
FIV	.184 In/Sec	.272 G-s
FIA	.139 In/Sec	.130 G-s
FOH	.106 In/Sec	.831 G-s
FOV	.099 In/Sec	.245 G-s

B3-VAC-06B - #1 FORMER WHITE WTR PIT PMP (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.131 In/Sec	.390 G-s
MOV	.171 In/Sec	.120 G-s
MIH	.158 In/Sec	.562 G-s
MIV	.168 In/Sec	.142 G-s
MIA	.147 In/Sec	.102 G-s
PIH	.055 In/Sec	.081 G-s
PIV	.079 In/Sec	.028 G-s
PIA	.087 In/Sec	.036 G-s
POH	.087 In/Sec	.048 G-s
POV	.102 In/Sec	.014 G-s

B3-VAC-10 - SEAL WATER RETURN PUMP (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.032 In/Sec	.433 G-s
MOV	.028 In/Sec	.102 G-s
MIH	.027 In/Sec	.252 G-s

	MIV	.057 In/Sec	.027 G-s
	MIA	.094 In/Sec	.035 G-s
	PIH	.025 In/Sec	.076 G-s
	PIV	.030 In/Sec	.029 G-s
	PIA	.017 In/Sec	.026 G-s
	POH	.019 In/Sec	.046 G-s
	POV	.020 In/Sec	.018 G-s

B3FRM7SHW - HIGH PRESSURE SHOWER PUMP (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.105 In/Sec	.663 G-s
MOV	.231 In/Sec	.245 G-s
MIH	.089 In/Sec	.841 G-s
MIV	.259 In/Sec	.236 G-s
MIA	.150 In/Sec	.180 G-s
PIH	.159 In/Sec	.737 G-s
PIV	.274 In/Sec	.396 G-s
PIA	.128 In/Sec	.237 G-s
POH	.154 In/Sec	.731 G-s
POV	.221 In/Sec	.169 G-s

WECTAGIT - WET END COATING TANK AGIT (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.065 In/Sec	.144 G-s
MOV	.047 In/Sec	.052 G-s
MIH	.049 In/Sec	.178 G-s
MIV	.050 In/Sec	.027 G-s
MIA	.040 In/Sec	.031 G-s
AIH	.023 In/Sec	.056 G-s
AIV	.017 In/Sec	.022 G-s
AIA	.024 In/Sec	.018 G-s
AOH	.020 In/Sec	.063 G-s
AOV	.016 In/Sec	.046 G-s

MSHTAGIT - MACHINE STOCK HOLDING TNK AG (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.027 In/Sec	.092 G-s
MOV	.045 In/Sec	.030 G-s
MIH	.016 In/Sec	.023 G-s
MIV	.014 In/Sec	.0056 G-s
MIA	.023 In/Sec	.0069 G-s
AIH	.017 In/Sec	.020 G-s
AIV	.013 In/Sec	.0096 G-s
AIA	.024 In/Sec	.0056 G-s

WWAGIT - WHITE WATER AGITATOR (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.087 In/Sec	.784 G-s
MOV	.113 In/Sec	.196 G-s
MIH	.091 In/Sec	.470 G-s
MIV	.133 In/Sec	.176 G-s
MIA	.093 In/Sec	.223 G-s
AIH	.020 In/Sec	.102 G-s
AIV	.039 In/Sec	.038 G-s
AIA	.033 In/Sec	.041 G-s
AOH	.019 In/Sec	.114 G-s
AOV	.035 In/Sec	.043 G-s

3 - #3 TOP PRESS ROLL DRIVE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.203 In/Sec	.364 G-s
MOV	.247 In/Sec	.108 G-s
MIH	.118 In/Sec	.879 G-s
MIV	.258 In/Sec	.295 G-s
MIA	.193 In/Sec	.160 G-s
GIH	.085 In/Sec	.032 G-s
GIV	.266 In/Sec	.015 G-s
GIA	.042 In/Sec	.0098 G-s
GOH	.061 In/Sec	.018 G-s
GOV	.167 In/Sec	.0069 G-s

	GOA	.045 In/Sec	.0074 G-s

3b - #3 BOTTOM PRESS ROLL DRIVE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.047 In/Sec	.607 G-s
MOV	.119 In/Sec	.084 G-s
MIH	.073 In/Sec	.819 G-s
MIV	.099 In/Sec	.179 G-s
MIA	.122 In/Sec	.256 G-s
GIH	.038 In/Sec	.026 G-s
GIV	.022 In/Sec	.0043 G-s
GIA	.014 In/Sec	.0058 G-s
GOH	.028 In/Sec	.028 G-s
GOV	.016 In/Sec	.0039 G-s
GOA	.012 In/Sec	.0053 G-s

B3FRM8ROLA - #2 TOP PRESS ROLL DRIVE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.071 In/Sec	.232 G-s
MOV	.059 In/Sec	.055 G-s
MIH	.076 In/Sec	.278 G-s
MIV	.078 In/Sec	.064 G-s
MIA	.071 In/Sec	.058 G-s
GIH	.036 In/Sec	.069 G-s
GIV	.036 In/Sec	.014 G-s
GIA	.016 In/Sec	.013 G-s
GOH	.020 In/Sec	.073 G-s
GOV	.024 In/Sec	.0084 G-s
GOA	.019 In/Sec	.011 G-s

B3FRM8ROLB - #2 BOTTOM PRESS ROLL DRIVE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.066 In/Sec	.363 G-s
MOV	.115 In/Sec	.076 G-s
MIH	.064 In/Sec	.546 G-s
MIV	.137 In/Sec	.124 G-s
MIA	.114 In/Sec	.111 G-s
GIH	.049 In/Sec	.032 G-s
GIV	.029 In/Sec	.0086 G-s
GIA	.020 In/Sec	.0088 G-s
GOH	.038 In/Sec	.043 G-s
GOV	.031 In/Sec	.0074 G-s
GOA	.023 In/Sec	.0082 G-s

1 - #1 TOP PRESS ROLL DRIVE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.063 In/Sec	.447 G-s
MOV	.108 In/Sec	.075 G-s
MIH	.069 In/Sec	.909 G-s
MIV	.073 In/Sec	.254 G-s
MIA	.123 In/Sec	.202 G-s
GIH	.039 In/Sec	.045 G-s
GIV	.036 In/Sec	.023 G-s
GIA	.021 In/Sec	.024 G-s
GOH	.019 In/Sec	.032 G-s
GOV	.027 In/Sec	.011 G-s
GOA	.019 In/Sec	.0092 G-s

1b - #1 BOTTOM PRESS ROLL DRIVE (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.154 In/Sec	.283 G-s
MOV	.087 In/Sec	.072 G-s
MIH	.068 In/Sec	.471 G-s
MIV	.089 In/Sec	.131 G-s
MIA	.413 In/Sec	.129 G-s
GIH	.019 In/Sec	.141 G-s
GIV	.022 In/Sec	.036 G-s
GIA	.015 In/Sec	.040 G-s
GOH	.013 In/Sec	.054 G-s
GOV	.020 In/Sec	.024 G-s

GOA		.017 In/Sec	.024 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.137 In/Sec	1.032 G-s
MOV	.158 In/Sec	.235 G-s
MIH	.074 In/Sec	.543 G-s
MIV	.185 In/Sec	.266 G-s
MIA	.098 In/Sec	.307 G-s
G1I	.022 In/Sec	.107 G-s
GIV	.043 In/Sec	.028 G-s
G1A	.019 In/Sec	.041 G-s
G1O	.020 In/Sec	.100 G-s
G2O	.022 In/Sec	.048 G-s
GOV	.050 In/Sec	.021 G-s
G2I	.023 In/Sec	.055 G-s
G2A	.033 In/Sec	.018 G-s

B3-KBS-02 - WET END CIRCULATION FAN (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.115 In/Sec	.347 G-s
MOV	.025 In/Sec	.078 G-s
MIH	.112 In/Sec	.500 G-s
MIV	.041 In/Sec	.129 G-s
MIA	.029 In/Sec	.103 G-s
FIH	.112 In/Sec	.102 G-s
FIV	.030 In/Sec	.027 G-s
FIA	.120 In/Sec	.013 G-s
FOH	.087 In/Sec	.011 G-s
FOV	.040 In/Sec	.0054 G-s
FOA	.063 In/Sec	.0050 G-s

B3KBS01BLW - WET END COMBUSTION BLOWER (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.058 In/Sec	.538 G-s
MOV	.065 In/Sec	.078 G-s
MIH	.093 In/Sec	.643 G-s
MIV	.244 In/Sec	.099 G-s
MIA	.069 In/Sec	.111 G-s
BIH	.089 In/Sec	1.137 G-s
BIV	.078 In/Sec	.403 G-s
BIA	.067 In/Sec	.284 G-s
BOH	.081 In/Sec	1.958 G-s
BOV	.137 In/Sec	.898 G-s

B3-KBS-05 - DRY END CIRCULATION FAN (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.089 In/Sec	.568 G-s
MOV	.069 In/Sec	.085 G-s
MIH	.075 In/Sec	.558 G-s
MIV	.066 In/Sec	.143 G-s
MIA	.049 In/Sec	.123 G-s
FIH	.046 In/Sec	.122 G-s
FIV	.016 In/Sec	.167 G-s
FIA	.021 In/Sec	.088 G-s
FOH	.042 In/Sec	.078 G-s
FOV	.020 In/Sec	.041 G-s
FOA	.031 In/Sec	.018 G-s

B3KBS04BLW - DRY END COMBUSTION BLOWER (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.056 In/Sec	.413 G-s
MOV	.123 In/Sec	.137 G-s
MIH	.087 In/Sec	.471 G-s
MIV	.118 In/Sec	.155 G-s
MIA	.089 In/Sec	.135 G-s
BIH	.185 In/Sec	.739 G-s
BIV	.064 In/Sec	.127 G-s
BIA	.203 In/Sec	.122 G-s
BOH	.157 In/Sec	.456 G-s

BOV	.080 In/Sec	.104 G-s

B3-KBS-07 - LINE 3 KILN EXHAUST FAN (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.027 In/Sec	.973 G-s
MOV	.073 In/Sec	.264 G-s
MIH	.034 In/Sec	.797 G-s
MIV	.059 In/Sec	.242 G-s
MIA	.046 In/Sec	.240 G-s
FIH	.016 In/Sec	.0052 G-s
FIV	.014 In/Sec	.0040 G-s
FIA	.022 In/Sec	.0027 G-s
FOH	.012 In/Sec	.0015 G-s
FOV	.014 In/Sec	.0028 G-s
FOA	.023 In/Sec	.0023 G-s

Database: USG.rbm
Area: LINE 3 FINISHING

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

HIPRSWTRP - HI-PRESSURE WATER PUMP (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.122 In/Sec	1.661 G-s
MOV	.342 In/Sec	.285 G-s
MIH	.073 In/Sec	.873 G-s
MIV	.121 In/Sec	.244 G-s
MIA	.083 In/Sec	.347 G-s
P1H	.482 In/Sec	1.360 G-s
P1V	.288 In/Sec	.260 G-s
P1A	.160 In/Sec	.205 G-s
P2H	.178 In/Sec	1.429 G-s
P2V	.242 In/Sec	.380 G-s
P2A	.211 In/Sec	.354 G-s

FINSHSHRD - FINISHING SHEDDER (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.147 In/Sec	.678 G-s
MOV	.183 In/Sec	.299 G-s
MIH	.123 In/Sec	.791 G-s
MIV	.170 In/Sec	.123 G-s
MIA	.090 In/Sec	.098 G-s
GH	.065 In/Sec	.254 G-s
GV	.105 In/Sec	.057 G-s
GA	.071 In/Sec	.065 G-s
SH	.064 In/Sec	.140 G-s
SV	.087 In/Sec	.026 G-s
SA	.050 In/Sec	.077 G-s

F3-GRD-01 - LINE 3 FINISH GRINDER #1 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.632 In/Sec	.523 G-s
MOV	.219 In/Sec	.098 G-s
MIH	.181 In/Sec	.473 G-s
MIV	.205 In/Sec	.126 G-s
MIA	.162 In/Sec	.135 G-s
GIH	.131 In/Sec	.288 G-s
GIV	.093 In/Sec	.108 G-s
GIA	.079 In/Sec	.102 G-s

F3-GRD-02 - LINE 3 FINISH GRINDER #2 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.680 In/Sec	.621 G-s
MOV	.746 In/Sec	.216 G-s
MIH	.220 In/Sec	.504 G-s
MIV	.320 In/Sec	.113 G-s
MIA	.123 In/Sec	.117 G-s
GIH	.135 In/Sec	.253 G-s

GIV	.175 In/Sec	.136 G-s
GIA	.067 In/Sec	.073 G-s

F3-GRD-04 - LINE 3 FINISH GRINDER #4 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.332 In/Sec	.312 G-s
MOV	.396 In/Sec	.102 G-s
MIH	.252 In/Sec	.272 G-s
MIV	.239 In/Sec	.105 G-s
MIA	.163 In/Sec	.047 G-s
GIH	.076 In/Sec	.173 G-s
GIV	.077 In/Sec	.050 G-s
GIA	.138 In/Sec	.029 G-s

F3-GRD-05 - LINE 3 GRINDER DRIVE (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.049 In/Sec	.497 G-s
MOV	.112 In/Sec	.227 G-s
MIH	.073 In/Sec	.696 G-s
MIV	.102 In/Sec	.304 G-s
MIA	.070 In/Sec	.234 G-s
G1I	.085 In/Sec	.931 G-s
GIV	.080 In/Sec	.307 G-s
G1A	.047 In/Sec	.620 G-s
G2O	.063 In/Sec	.465 G-s
GOV	.076 In/Sec	.115 G-s
G2A	.037 In/Sec	.269 G-s

B3-KFS-04 - LINE 3 KILN DRIVE (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.023 In/Sec	.096 G-s
MOV	.031 In/Sec	.450 G-s
MIH	.025 In/Sec	.299 G-s
MIV	.056 In/Sec	.216 G-s
MIA	.027 In/Sec	.192 G-s
G1I	.199 In/Sec	.100 G-s
GIV	.124 In/Sec	.122 G-s
G1A	.111 In/Sec	.094 G-s
G2O	.120 In/Sec	.080 G-s
GOV	.082 In/Sec	.100 G-s
G2A	.130 In/Sec	.127 G-s

B3KFS4LUBP - L3 KILN GEARBOX LUBE OIL PMP (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.099 In/Sec	.573 G-s
MOV	.087 In/Sec	.193 G-s
MIH	.066 In/Sec	.380 G-s
MIV	.098 In/Sec	.086 G-s
MIA	.084 In/Sec	.102 G-s
GH	.078 In/Sec	.593 G-s
GV	.075 In/Sec	.158 G-s
GA	.069 In/Sec	.141 G-s
PH	.125 In/Sec	.481 G-s
PV	.080 In/Sec	.140 G-s
PA	.106 In/Sec	.388 G-s

F3-PAD-06 - BLUE OVEN 1 ZONE1 CIRC FAN 1 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.378 In/Sec	.491 G-s
MOV	.297 In/Sec	.218 G-s
MIH	.682 In/Sec	.641 G-s
MIV	.300 In/Sec	.344 G-s
MIA	.561 In/Sec	.265 G-s
FIH	.587 In/Sec	.797 G-s
FIV	.558 In/Sec	.254 G-s
FIA	.205 In/Sec	.187 G-s
FOH	.243 In/Sec	2.521 G-s
FOV	.258 In/Sec	.699 G-s

OVN1ZNE1F2 - BLUE OVEN 1 ZONE1 CIRC FAN 2 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.138 In/Sec	.855 G-s
MOV	.208 In/Sec	.134 G-s
MIH	.185 In/Sec	.857 G-s
MIV	.165 In/Sec	.115 G-s
MIA	.300 In/Sec	.114 G-s
FIH	.252 In/Sec	2.113 G-s
FIV	.386 In/Sec	.469 G-s
FIA	.353 In/Sec	.255 G-s
FOH	.118 In/Sec	.699 G-s
FOV	.112 In/Sec	.218 G-s

OVN1ZNE2F1 - BLUE OVEN 1 ZONE2 CIRC FAN 1 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.413 In/Sec	1.051 G-s
MOV	.457 In/Sec	.387 G-s
MIH	1.338 In/Sec	.717 G-s
MIV	.889 In/Sec	.182 G-s
MIA	1.928 In/Sec	.268 G-s
FIH	.766 In/Sec	2.823 G-s
FIV	1.335 In/Sec	.246 G-s
FIA	.724 In/Sec	.312 G-s
FOH	.254 In/Sec	.647 G-s
FOV	.158 In/Sec	.171 G-s

OVN1ZNE2F2 - BLUE OVEN 1 ZONE2 CIRC FAN 2 (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.626 In/Sec	.784 G-s
MOV	.999 In/Sec	.128 G-s
MIH	.823 In/Sec	.716 G-s
MIV	1.957 In/Sec	.238 G-s
MIA	.316 In/Sec	.336 G-s
FIH	.949 In/Sec	1.139 G-s
FIV	1.678 In/Sec	.173 G-s
FIA	.803 In/Sec	.214 G-s
FOH	.378 In/Sec	5.226 G-s
FOV	.184 In/Sec	.540 G-s

OVEN2Z1FAN - BLUE OVEN 2 ZONE1 CIRC FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.191 In/Sec	.293 G-s
MOV	.585 In/Sec	.071 G-s
MIH	.223 In/Sec	.388 G-s
MIV	.663 In/Sec	.078 G-s
MIA	.265 In/Sec	.100 G-s
FIH	.152 In/Sec	.715 G-s
FIV	.430 In/Sec	.232 G-s
FIA	.239 In/Sec	.124 G-s
FOH	.171 In/Sec	.997 G-s
FOV	.193 In/Sec	.291 G-s

OVEN2Z2FAN - BLUE OVEN 2 ZONE2 CIRC FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.224 In/Sec	.815 G-s
MOV	.360 In/Sec	.157 G-s
MIH	.665 In/Sec	.949 G-s
MIV	.434 In/Sec	.166 G-s
MIA	.603 In/Sec	.300 G-s
FIH	.747 In/Sec	1.085 G-s
FIV	.401 In/Sec	.196 G-s
FIA	.566 In/Sec	.185 G-s
FOH	.081 In/Sec	.590 G-s
FOV	.088 In/Sec	.235 G-s

IHEI FAN - IHEI OVEN EXHAUST FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.200 In/Sec	.204 G-s
MOV	.227 In/Sec	.043 G-s
MIH	.229 In/Sec	.306 G-s

	MIV	.235 In/Sec	.093 G-s
	MIA	.144 In/Sec	.071 G-s
	FIH	.102 In/Sec	.045 G-s
	FIV	.151 In/Sec	.242 G-s
	FIA	.126 In/Sec	.193 G-s
	FOH	.068 In/Sec	.027 G-s
	FOV	.169 In/Sec	.190 G-s

D1DCR02EXH - #1 GRINDER BAGHOUSE DC FAN (12-Dec-24)

	OVERALL LEVEL	1K-20KHz
* MOH	.301 In/Sec	.369 G-s
* MOV	.719 In/Sec	.140 G-s
* MIH	.315 In/Sec	.966 G-s
* MIV	.412 In/Sec	.163 G-s
* MIA	.286 In/Sec	.146 G-s
FIH	.638 In/Sec	.312 G-s
FIV	.239 In/Sec	1.724 G-s
FIA	.800 In/Sec	.391 G-s
FOH	.573 In/Sec	.342 G-s
FOV	.364 In/Sec	2.464 G-s

D1DCR03EXH - #2 FINISHING DUST COLLECTOR (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.181 In/Sec	.878 G-s
MOV	.176 In/Sec	.275 G-s
MIH	.135 In/Sec	1.906 G-s
MIV	.222 In/Sec	.453 G-s
MIA	.287 In/Sec	.489 G-s
FIH	.252 In/Sec	2.758 G-s
FIV	.233 In/Sec	.573 G-s
FIA	.338 In/Sec	.438 G-s
FOH	.186 In/Sec	1.370 G-s
FOV	.144 In/Sec	.502 G-s

D1DCR01EXH - #3 FINISHING DUST COLLECTOR (11-Dec-24)

	OVERALL LEVEL	1K-20KHz
MOH	.379 In/Sec	.877 G-s
MOV	.833 In/Sec	.649 G-s
MIH	.240 In/Sec	.799 G-s
MIV	.763 In/Sec	.213 G-s
MIA	.293 In/Sec	.190 G-s
FIH	.471 In/Sec	.369 G-s
FIV	.282 In/Sec	.142 G-s
FIA	.448 In/Sec	.203 G-s
FOH	.368 In/Sec	.759 G-s
FOV	.188 In/Sec	.252 G-s

Clarification Of Vibration Units:

Acc --> G-s RMS

Vel --> In/Sec PK

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,

Senior Reliability Specialist
ISO Certified Vibration Analyst, Category III

HI-SPEED INDUSTRIAL SERVICE

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