HI-SPEED INDUSTRIAL SERVICE QualiTest® Diagnostics

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April 30, 2025

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Greenville, MS

Terry,

The following is a summary of findings from the April 2025 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 also remains in the motor axial. Check belts and sheaves for wear and misalignment soon. Ensure fan shaft does not have run out. Rated as a **CLASS II** defect.

#5 Expander Dust Collector
Need to cut holes in top of bearing cover to allow for data collection on fan bearings. Vib seemed much lower after balancing fan again; however we do not have current data on fan due to no access.

#6 Expander Dust Collector
Fan data shows non-synchronous peaks throughout spectra. This appears to be rolling element defects. For now, ensure bearings have adequate grease. Bearings will likely need attention in the next few months. Rated as a **CLASS II** defect.

#8 Expander Dust Collector
Motor data suggests defects are forming in the motor bearings. Also, fan data shows increase in 1 x rpm vibration. Inpsect fan wheel for build up. A field balance may be needed. Inpsect motor and inspect fan wheel. Rated as a **CLASS III** defect.

Hydropulper
Motor and DE of gearbox have elevated 1 x rpm vibration and may indicate an issue with the fluid coupling assembly such as imbalance or internal wear 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.

Fiberglass

#1 Oven Circ. Fan
Unit was down; however the following may still apply: **Belts were off of the motor sheave. Motor was running but fan was not turning. Check belts and sheaves asap.** Personnel was notified while on site last week. Previous data showed that 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
Unit was down; however the following may still apply: **NEW SHAFT GUARD NEEDS TO BE MODIFIED TO GAIN ACCESS TO FAN BEARINGS.** Previous data showed 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.

#2 Oven Exhaust Fan
Unit was down; however the following may still apply: Outboard (ODE) fan bearing data shows some rpm harmonics in the mid-frequency of the spectrum. This may be some fit looseness starting to progress. We are monitoring this closely. Rated as a **CLASS I** defect.

Board Line 3

Vacuum Pump MOTORS 1, 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.

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

Grinder Drive
Motor and geardrive data both shows signs of defects/wear of the bearing and geardrive shows signs of gear wear as well .Unit will likely need attention in the near future. Watching this closely. 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 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

Data shows high amplitude at the motor outboard vertical and inboard (DE) fan axial. Amplitude is over 1 ips -pk which is high compared to the average for this machine. Fan bearing data shows noise floor. Check fan bearings for defects and ensure lube is good. Fan wheel may have imbalance. Fan shaft may also have run out, sheave eccentricity or sheave run out. Check fan, fan bearings, fan shaft and sheave for these issues soon. Rated as a **CLASS III** defect.

#2 Finishing Baghouse Dust Collector

Fan was not running; however, the following still applies: Motor DE vibration data shows some peaks in spectral data that are very likely associated with bearing cage frequency. This is very concerning. For now, ensure belts are not too tight and motor bearing is greased properly. DE motor bearing likely has bearing defects due to appearance of cage modulation. 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. Fan also has some 1 x rpm vibration and likely has some imbalance. Rated as a **CLASS II** defect.

Abbreviated Last Measurement Summary

Database: USG.rbm
Area: PERLITE

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
B2EXD02FAN - #5 COMBUSTION BLOWER	**(24-Apr-25)**	
	OVERALL LEVEL	1K-20KHz
MOH	.096 In/Sec	.289 G-s
MOV	.601 In/Sec	.076 G-s
MIH	.087 In/Sec	.241 G-s
MIV	.261 In/Sec	.060 G-s
MIA	1.045 In/Sec	.052 G-s
BIH	.174 In/Sec	1.257 G-s
BIV	.136 In/Sec	.222 G-s
BIA	.374 In/Sec	.204 G-s
BOH	.208 In/Sec	1.155 G-s
BOV	.158 In/Sec	.193 G-s
B2EXD06FAN - #6 COMBUSTION BLOWER	**(24-Apr-25)**	
	OVERALL LEVEL	1K-20KHz
MOH	.097 In/Sec	.262 G-s
MOV	.211 In/Sec	.093 G-s
MIH	.098 In/Sec	.324 G-s
MIV	.189 In/Sec	.042 G-s
MIA	.173 In/Sec	.045 G-s
BIH	.391 In/Sec	1.301 G-s
BIV	.180 In/Sec	.182 G-s
BIA	.196 In/Sec	.111 G-s
BOH	.150 In/Sec	1.131 G-s
BOV	.111 In/Sec	.194 G-s

B2EXD07FAN - #7 COMBUSTION BLOWER (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.154 In/Sec	.224 G-s
MOV	.542 In/Sec	.039 G-s
MIH	.128 In/Sec	.202 G-s
MIV	.461 In/Sec	.054 G-s
MIA	.463 In/Sec	.036 G-s
BIH	.252 In/Sec	2.955 G-s
BIV	.117 In/Sec	.348 G-s
BIA	.159 In/Sec	.293 G-s
BOH	.129 In/Sec	2.217 G-s
BOV	.098 In/Sec	.653 G-s

B2EXD08FAN - #8 COMBUSTION BLOWER (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.226 In/Sec	.227 G-s
MOV	.314 In/Sec	.054 G-s
MIH	.163 In/Sec	.285 G-s
MIV	.316 In/Sec	.087 G-s
MIA	.206 In/Sec	.087 G-s
BIH	.185 In/Sec	.659 G-s
BIV	.147 In/Sec	.124 G-s
BIA	.151 In/Sec	.134 G-s
BOH	.093 In/Sec	.535 G-s
BOV	.059 In/Sec	.169 G-s

B2EXD02-5 - #5 EXPANDER DUST COLLECTOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.160 In/Sec	.776 G-s
MOV	.232 In/Sec	.278 G-s
MIH	.089 In/Sec	2.087 G-s
MIV	.136 In/Sec	.416 G-s
MIA	.161 In/Sec	.435 G-s
* FIH	1.043 In/Sec	1.496 G-s
* FIV	.864 In/Sec	.752 G-s
* FIA	3.147 In/Sec	.366 G-s
* FOH	.802 In/Sec	.943 G-s
* FOV	1.710 In/Sec	.399 G-s

B2EXD0306 - #6 EXPANDER DUST COLLECTOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.060 In/Sec	.300 G-s
MOV	.072 In/Sec	.174 G-s
MIH	.056 In/Sec	.706 G-s
MIV	.055 In/Sec	.167 G-s
MIA	.047 In/Sec	.156 G-s
FIH	.359 In/Sec	2.067 G-s
FIV	.294 In/Sec	.527 G-s
FIA	.612 In/Sec	.336 G-s
FOH	.214 In/Sec	1.240 G-s
FOV	.201 In/Sec	.354 G-s

B2EXD04-7 - #7 EXPANDER DUST COLLECTOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.150 In/Sec	.696 G-s
MOV	.114 In/Sec	.141 G-s
MIH	.086 In/Sec	.770 G-s
MIV	.125 In/Sec	.192 G-s
MIA	.074 In/Sec	.183 G-s
FIH	.161 In/Sec	1.616 G-s
FIV	.209 In/Sec	.344 G-s
FIA	.282 In/Sec	.240 G-s
FOH	.153 In/Sec	2.176 G-s
FOV	.198 In/Sec	.421 G-s

B2EXD05-8 - #8 EXPANDER DUST COLLECTOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.324 In/Sec	1.407 G-s
MOV	.684 In/Sec	.505 G-s
MIH	.213 In/Sec	3.419 G-s

MIV	.294 In/Sec	.747 G-s
MIA	.319 In/Sec	.608 G-s
FIH	.841 In/Sec	1.247 G-s
FIV	.665 In/Sec	.348 G-s
FIA	.340 In/Sec	.234 G-s
FOH	.694 In/Sec	1.313 G-s
FOV	.583 In/Sec	.460 G-s

B2PUP02GEA - HYDRAPULPER (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.340 In/Sec	.194 G-s
MOV	.203 In/Sec	.169 G-s
* MIH	.583 In/Sec	.363 G-s
* MIV	.207 In/Sec	.198 G-s
* MIA	.121 In/Sec	.159 G-s
* GIH	.432 In/Sec	2.688 G-s
* GIV	.364 In/Sec	.631 G-s
* GIA	.120 In/Sec	.625 G-s
* GOH	.428 In/Sec	2.568 G-s
* GOV	.173 In/Sec	.637 G-s
* GOA	.271 In/Sec	.277 G-s

Area: MIX UP/RECLAIM

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

B2PUP03AGT - DUMP CHEST AGITATOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.130 In/Sec	.179 G-s
MOV	.104 In/Sec	.073 G-s
MIH	.087 In/Sec	.285 G-s
MIV	.157 In/Sec	.096 G-s
MIA	.080 In/Sec	.064 G-s
AIH	.040 In/Sec	.195 G-s
AIV	.030 In/Sec	.090 G-s
AIA	.026 In/Sec	.061 G-s
AOH	.070 In/Sec	.168 G-s
AOV	.041 In/Sec	.058 G-s

REFNCHSTAG - REFINED CHEST AGITATOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.124 In/Sec	.217 G-s
MOV	.173 In/Sec	.035 G-s
MIH	.155 In/Sec	.292 G-s
MIV	.175 In/Sec	.051 G-s
MIA	.171 In/Sec	.051 G-s
AIH	.122 In/Sec	.136 G-s
AIV	.083 In/Sec	.104 G-s
AIA	.130 In/Sec	.032 G-s
AOH	.120 In/Sec	.143 G-s
AOV	.064 In/Sec	.088 G-s

1WWLOOPPMP - #1 WHITE WATER LOOP PUMP (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.306 In/Sec	.678 G-s
MOV	.320 In/Sec	.220 G-s
MIH	.465 In/Sec	.894 G-s
MIV	.512 In/Sec	.224 G-s
MIA	.491 In/Sec	.198 G-s
PIH	.304 In/Sec	.881 G-s
PIV	.317 In/Sec	.162 G-s
PIA	.364 In/Sec	.174 G-s
POH	.233 In/Sec	.305 G-s
POV	.267 In/Sec	.092 G-s

WWMIXUPPMP - WHITE WATER MIX-UP PUMP (24-Apr-25)

	OVERALL LEVEL	1K-20KHz

MOH	.514 In/Sec	.821 G-s
MOV	.378 In/Sec	.216 G-s
MIH	.478 In/Sec	.651 G-s
MIV	.434 In/Sec	.336 G-s
MIA	.370 In/Sec	.332 G-s
PIH	.161 In/Sec	.265 G-s
PIV	.060 In/Sec	.058 G-s
PIA	.139 In/Sec	.064 G-s
POH	.199 In/Sec	.663 G-s
POV	.153 In/Sec	.110 G-s

B2WEL1PMP2 - #2 EAST WELL WATER PUMP (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.264 In/Sec	1.306 G-s
MOV	.256 In/Sec	.628 G-s
MIH	.280 In/Sec	1.113 G-s
MIV	.250 In/Sec	.280 G-s
MIA	.208 In/Sec	.391 G-s
PIH	.161 In/Sec	1.412 G-s
PIV	.085 In/Sec	.359 G-s
PIA	.232 In/Sec	.333 G-s
POH	.203 In/Sec	.737 G-s
POV	.349 In/Sec	.137 G-s

B2BTR1AGIT - BEATER AGITATOR (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.266 In/Sec	.455 G-s
MOV	.143 In/Sec	.200 G-s
MIH	.253 In/Sec	.857 G-s
MIV	.173 In/Sec	.159 G-s
MIA	.098 In/Sec	.150 G-s
AIH	.081 In/Sec	.223 G-s
AIV	.035 In/Sec	.061 G-s
AIA	.071 In/Sec	.042 G-s
AOH	.038 In/Sec	.106 G-s
AOV	.035 In/Sec	.017 G-s

B3MIX1PMPA - #3 MIX TANK DISCHARGE PUMP (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.375 In/Sec	1.036 G-s
MOV	.128 In/Sec	.197 G-s
MIH	.169 In/Sec	1.103 G-s
MIV	.117 In/Sec	.149 G-s
MIA	.202 In/Sec	.162 G-s
PIH	.072 In/Sec	.117 G-s
PIV	.042 In/Sec	.039 G-s
PIA	.055 In/Sec	.022 G-s
POH	.052 In/Sec	.136 G-s
POV	.041 In/Sec	.065 G-s

Area: FIBERGLASS

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

F1-DCR - FIBERGLASS DC FAN OLD LINE (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.408 In/Sec	1.022 G-s
MOV	.551 In/Sec	.245 G-s
MIH	.469 In/Sec	2.029 G-s
MIV	.381 In/Sec	.338 G-s
MIA	.341 In/Sec	.344 G-s
FIH	.220 In/Sec	.442 G-s
FIV	.146 In/Sec	.218 G-s
FIA	.147 In/Sec	.091 G-s
FOH	.205 In/Sec	.375 G-s
FOV	.143 In/Sec	.087 G-s

Area: BOARD LINE 3

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
B3TFM3PMPA - MACHINE CHEST PUMP 3A	**(23-Apr-25)**	
	OVERALL LEVEL	**1K-20KHz**
MOH	.078 In/Sec	.633 G-s
MOV	.056 In/Sec	.150 G-s
MIH	.092 In/Sec	.794 G-s
MIV	.081 In/Sec	.152 G-s
MIA	.096 In/Sec	.182 G-s
PIH	.033 In/Sec	.229 G-s
PIV	.021 In/Sec	.065 G-s
PIA	.025 In/Sec	.039 G-s
POH	.029 In/Sec	.211 G-s
POV	.021 In/Sec	.071 G-s
B3-VAC-01 - LINE 3 VACUUM PUMP #1	**(23-Apr-25)**	
	OVERALL LEVEL	**1K-20KHz**
MOH	.076 In/Sec	1.136 G-s
MOV	.078 In/Sec	.291 G-s
MIH	.073 In/Sec	1.531 G-s
MIV	.090 In/Sec	.353 G-s
MIA	.039 In/Sec	.313 G-s
PIH	.108 In/Sec	.077 G-s
PIV	.089 In/Sec	.052 G-s
PIA	.105 In/Sec	.040 G-s
POH	.196 In/Sec	.082 G-s
POV	.136 In/Sec	.016 G-s
B3-VAC-02 - LINE 3 VACUUM PUMP #2	**(23-Apr-25)**	
	OVERALL LEVEL	**1K-20KHz**
MOH	.080 In/Sec	1.530 G-s
MOV	.083 In/Sec	.423 G-s
MIH	.076 In/Sec	1.059 G-s
MIV	.104 In/Sec	.170 G-s
MIA	.041 In/Sec	.269 G-s
PIH	.043 In/Sec	.070 G-s
PIV	.042 In/Sec	.025 G-s
PIA	.045 In/Sec	.038 G-s
POH	.050 In/Sec	.082 G-s
POV	.071 In/Sec	.041 G-s
B3-VAC-03 - LINE 3 VACUUM PUMP #3	**(23-Apr-25)**	
	OVERALL LEVEL	**1K-20KHz**
MOH	.104 In/Sec	2.238 G-s
MOV	.135 In/Sec	.716 G-s
MIH	.092 In/Sec	1.802 G-s
MIV	.090 In/Sec	.323 G-s
MIA	.063 In/Sec	.603 G-s
PIH	.257 In/Sec	.165 G-s
PIV	.186 In/Sec	.076 G-s
PIA	.137 In/Sec	.092 G-s
POH	.199 In/Sec	.163 G-s
POV	.288 In/Sec	.051 G-s
LOWVACFAN - LOW VACUUM FAN	**(23-Apr-25)**	
	OVERALL LEVEL	**1K-20KHz**
MOH	.263 In/Sec	1.007 G-s
MOV	.461 In/Sec	.331 G-s
MIH	.214 In/Sec	1.046 G-s
MIV	.220 In/Sec	.182 G-s
MIA	.146 In/Sec	.413 G-s
FIH	.177 In/Sec	.587 G-s
FIV	.310 In/Sec	.218 G-s
FIA	.085 In/Sec	.081 G-s
FOH	.064 In/Sec	.700 G-s
FOV	.130 In/Sec	.129 G-s
B3-VAC-06B - #1 FORMER WHITE WTR PIT PMP	**(23-Apr-25)**	

	OVERALL LEVEL	1K-20KHz
MOH	.218 In/Sec	.317 G-s
MOV	.309 In/Sec	.066 G-s
MIH	.261 In/Sec	.394 G-s
MIV	.227 In/Sec	.086 G-s
MIA	.120 In/Sec	.154 G-s
PIH	.026 In/Sec	.078 G-s
PIV	.037 In/Sec	.028 G-s
PIA	.171 In/Sec	.022 G-s
POH	.090 In/Sec	.054 G-s
POV	.170 In/Sec	.021 G-s

B3-VAC-10 - SEAL WATER RETURN PUMP (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.031 In/Sec	.366 G-s
MOV	.032 In/Sec	.121 G-s
MIH	.029 In/Sec	.941 G-s
MIV	.034 In/Sec	.205 G-s
MIA	.038 In/Sec	.156 G-s
PIH	.035 In/Sec	.144 G-s
PIV	.038 In/Sec	.066 G-s
PIA	.027 In/Sec	.062 G-s
POH	.020 In/Sec	.042 G-s
POV	.034 In/Sec	.018 G-s

B3FRM7SHW - HIGH PRESSURE SHOWER PUMP (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.074 In/Sec	.458 G-s
MOV	.119 In/Sec	.151 G-s
MIH	.069 In/Sec	.519 G-s
MIV	.155 In/Sec	.167 G-s
MIA	.057 In/Sec	.186 G-s
PIH	.095 In/Sec	.776 G-s
PIV	.223 In/Sec	.379 G-s
PIA	.077 In/Sec	.241 G-s
POH	.092 In/Sec	.777 G-s
POV	.128 In/Sec	.343 G-s

WECTAGIT - WET END COATING TANK AGIT (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.057 In/Sec	.120 G-s
MOV	.055 In/Sec	.046 G-s
MIH	.048 In/Sec	.195 G-s
MIV	.038 In/Sec	.028 G-s
MIA	.030 In/Sec	.037 G-s
AIH	.019 In/Sec	.083 G-s
AIV	.018 In/Sec	.035 G-s
AIA	.023 In/Sec	.022 G-s
AOH	.017 In/Sec	.064 G-s
AOV	.021 In/Sec	.033 G-s

MSHTAGIT - MACHINE STOCK HOLDING TNK AG (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.026 In/Sec	.111 G-s
MOV	.064 In/Sec	.029 G-s
MIH	.027 In/Sec	.159 G-s
MIV	.053 In/Sec	.035 G-s
MIA	.040 In/Sec	.0095 G-s
AIH	.013 In/Sec	.026 G-s
AIV	.014 In/Sec	.0066 G-s
AIA	.023 In/Sec	.0072 G-s
AOH	.014 In/Sec	.021 G-s
AOV	.014 In/Sec	.0081 G-s

WWAGIT - WHITE WATER AGITATOR (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.056 In/Sec	.105 G-s
MOV	.114 In/Sec	.027 G-s
MIH	.044 In/Sec	.099 G-s
MIV	.078 In/Sec	.021 G-s

	MIA	.089 In/Sec	.043 G-s
	AIH	.014 In/Sec	.086 G-s
	AIV	.021 In/Sec	.016 G-s
	AIA	.019 In/Sec	.022 G-s
	AOH	.016 In/Sec	.062 G-s
	AOV	.025 In/Sec	.029 G-s

3 - #3 TOP PRESS ROLL DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.963 In/Sec	.582 G-s
MOV	.287 In/Sec	.257 G-s
MIH	.245 In/Sec	.730 G-s
MIV	.210 In/Sec	.207 G-s
MIA	.349 In/Sec	.169 G-s
GIH	.334 In/Sec	.055 G-s
GIV	.153 In/Sec	.028 G-s
GIA	.109 In/Sec	.028 G-s
GOH	.168 In/Sec	.021 G-s
GOV	.145 In/Sec	.019 G-s
GOA	.153 In/Sec	.012 G-s

3b - #3 BOTTOM PRESS ROLL DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.091 In/Sec	.764 G-s
MOV	.062 In/Sec	.263 G-s
MIH	.136 In/Sec	.726 G-s
MIV	.118 In/Sec	.192 G-s
MIA	.172 In/Sec	.206 G-s
GIH	.060 In/Sec	.042 G-s
GIV	.057 In/Sec	.0072 G-s
GIA	.035 In/Sec	.0080 G-s
GOH	.052 In/Sec	.013 G-s
GOV	.036 In/Sec	.0076 G-s
GOA	.037 In/Sec	.0057 G-s

B3FRM8ROLA - #2 TOP PRESS ROLL DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.129 In/Sec	.333 G-s
MOV	.110 In/Sec	.090 G-s
MIH	.112 In/Sec	.423 G-s
MIV	.114 In/Sec	.075 G-s
MIA	.150 In/Sec	.066 G-s
GIH	.065 In/Sec	.041 G-s
GIV	.058 In/Sec	.019 G-s
GIA	.029 In/Sec	.017 G-s
GOH	.038 In/Sec	.026 G-s
GOV	.042 In/Sec	.010 G-s
GOA	.032 In/Sec	.011 G-s

B3FRM8ROLB - #2 BOTTOM PRESS ROLL DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.224 In/Sec	.241 G-s
MOV	.245 In/Sec	.107 G-s
MIH	.114 In/Sec	.291 G-s
MIV	.146 In/Sec	.100 G-s
MIA	.094 In/Sec	.083 G-s
GIH	.117 In/Sec	.028 G-s
GIV	.060 In/Sec	.013 G-s
GIA	.022 In/Sec	.0072 G-s
GOH	.092 In/Sec	.031 G-s
GOV	.041 In/Sec	.0089 G-s
GOA	.036 In/Sec	.0081 G-s

1 - #1 TOP PRESS ROLL DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.114 In/Sec	.718 G-s
MOV	.067 In/Sec	.097 G-s
MIH	.067 In/Sec	.806 G-s
MIV	.078 In/Sec	.110 G-s
MIA	.096 In/Sec	.149 G-s

	GIH	.059 In/Sec	.052 G-s
	GIV	.071 In/Sec	.022 G-s
	GIA	.034 In/Sec	.032 G-s
	GOH	.030 In/Sec	.031 G-s
	GOV	.040 In/Sec	.016 G-s
	GOA	.029 In/Sec	.014 G-s

1b - #1 BOTTOM PRESS ROLL DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.129 In/Sec	.473 G-s
MOV	.230 In/Sec	.080 G-s
MIH	.130 In/Sec	.266 G-s
MIV	.190 In/Sec	.077 G-s
MIA	.181 In/Sec	.043 G-s
GIH	.055 In/Sec	.060 G-s
GIV	.097 In/Sec	.019 G-s
GIA	.029 In/Sec	.026 G-s
GOH	.039 In/Sec	.020 G-s
GOV	.037 In/Sec	.017 G-s
GOA	.042 In/Sec	.019 G-s

B3-FRM-11 - #3 BOARD LINE DRIVE (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.102 In/Sec	1.927 G-s
MOV	.075 In/Sec	.347 G-s
MIH	.124 In/Sec	.696 G-s
MIV	.159 In/Sec	.220 G-s
MIA	.096 In/Sec	.235 G-s
G1I	.039 In/Sec	.691 G-s
GIV	.157 In/Sec	.179 G-s
G1A	.055 In/Sec	.104 G-s
G1O	.033 In/Sec	.284 G-s
G2O	.034 In/Sec	.207 G-s
GOV	.071 In/Sec	.181 G-s
G2I	.048 In/Sec	.288 G-s
G2A	.071 In/Sec	.111 G-s

B3-KBS-02 - WET END CIRCULATION FAN (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.098 In/Sec	.379 G-s
MOV	.027 In/Sec	.034 G-s
MIH	.086 In/Sec	.507 G-s
MIV	.024 In/Sec	.101 G-s
MIA	.032 In/Sec	.066 G-s
FIH	.096 In/Sec	.072 G-s
FIV	.029 In/Sec	.035 G-s
FIA	.111 In/Sec	.019 G-s
FOH	.085 In/Sec	.026 G-s
FOV	.045 In/Sec	.012 G-s
FOA	.054 In/Sec	.014 G-s

B3KBS01BLW - WET END COMBUSTION BLOWER (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.046 In/Sec	.316 G-s
MOV	.060 In/Sec	.081 G-s
MIH	.070 In/Sec	.592 G-s
MIV	.230 In/Sec	.101 G-s
MIA	.085 In/Sec	.083 G-s
BIH	.097 In/Sec	1.414 G-s
BIV	.064 In/Sec	.546 G-s
BIA	.098 In/Sec	.259 G-s
BOH	.082 In/Sec	1.765 G-s
BOV	.113 In/Sec	.737 G-s

B3-KBS-05 - DRY END CIRCULATION FAN (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.094 In/Sec	.551 G-s
MOV	.085 In/Sec	.129 G-s
MIH	.101 In/Sec	.644 G-s
MIV	.076 In/Sec	.139 G-s

MIA	.110 In/Sec	.121 G-s
FIH	.057 In/Sec	.079 G-s
FIV	.016 In/Sec	.063 G-s
FIA	.039 In/Sec	.084 G-s
FOH	.053 In/Sec	.042 G-s
FOV	.020 In/Sec	.020 G-s
FOA	.034 In/Sec	.017 G-s

B3KBS04BLW - DRY END COMBUSTION BLOWER (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.034 In/Sec	.338 G-s
MOV	.080 In/Sec	.175 G-s
MIH	.057 In/Sec	.643 G-s
MIV	.099 In/Sec	.184 G-s
MIA	.061 In/Sec	.156 G-s
BIH	.116 In/Sec	.708 G-s
BIV	.041 In/Sec	.122 G-s
BIA	.182 In/Sec	.068 G-s
BOH	.096 In/Sec	.631 G-s
BOV	.126 In/Sec	.130 G-s

B3-KBS-07 - LINE 3 KILN EXHAUST FAN (23-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.043 In/Sec	.884 G-s
MOV	.087 In/Sec	.200 G-s
MIH	.053 In/Sec	.576 G-s
MIV	.077 In/Sec	.260 G-s
MIA	.035 In/Sec	.187 G-s
FIH	.012 In/Sec	.015 G-s
FIV	.011 In/Sec	.0089 G-s
FIA	.020 In/Sec	.0032 G-s
FOH	.012 In/Sec	.0020 G-s
FOV	.0098 In/Sec	.0034 G-s
FOA	.020 In/Sec	.0030 G-s

Area: LINE 3 FINISHING

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

HIPRSWTRP - HI-PRESSURE WATER PUMP (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.149 In/Sec	1.645 G-s
MOV	.467 In/Sec	.232 G-s
MIH	.129 In/Sec	1.231 G-s
MIV	.439 In/Sec	.262 G-s
MIA	.135 In/Sec	.475 G-s
P1H	.377 In/Sec	1.115 G-s
P1V	.422 In/Sec	.317 G-s
P1A	.505 In/Sec	.341 G-s
P2H	.194 In/Sec	1.751 G-s
P2V	.441 In/Sec	.608 G-s
P2A	.300 In/Sec	.354 G-s

FINSHSHRD - FINISHING SHEDDER (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.107 In/Sec	.520 G-s
MOV	.184 In/Sec	.237 G-s
MIH	.087 In/Sec	.563 G-s
MIV	.158 In/Sec	.094 G-s
MIA	.093 In/Sec	.146 G-s
GH	.064 In/Sec	.196 G-s
GV	.108 In/Sec	.062 G-s
GA	.068 In/Sec	.055 G-s
SH	.061 In/Sec	.096 G-s
SV	.112 In/Sec	.070 G-s
SA	.061 In/Sec	.108 G-s

F3-GRD-01 - LINE 3 FINISH GRINDER #1 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.373 In/Sec	.358 G-s
MOV	.745 In/Sec	.093 G-s
MIH	.174 In/Sec	.329 G-s
MIV	.266 In/Sec	.066 G-s
MIA	.190 In/Sec	.173 G-s
GIH	.071 In/Sec	.132 G-s
GIV	.200 In/Sec	.030 G-s
GIA	.182 In/Sec	.033 G-s

F3-GRD-02 - LINE 3 FINISH GRINDER #2 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.158 In/Sec	.528 G-s
MOV	.465 In/Sec	.189 G-s
MIH	.188 In/Sec	.393 G-s
MIV	.144 In/Sec	.067 G-s
MIA	.046 In/Sec	.101 G-s
GIH	.097 In/Sec	.197 G-s
GIV	.082 In/Sec	.053 G-s
GIA	.025 In/Sec	.054 G-s

F3-GRD-04 - LINE 3 FINISH GRINDER #4 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.301 In/Sec	.436 G-s
MOV	.201 In/Sec	.121 G-s
MIH	.145 In/Sec	.269 G-s
MIV	.071 In/Sec	.134 G-s
MIA	.084 In/Sec	.102 G-s
GIH	.055 In/Sec	.178 G-s
GIV	.079 In/Sec	.071 G-s
GIA	.106 In/Sec	.084 G-s

F3-GRD-05 - LINE 3 GRINDER DRIVE (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.063 In/Sec	.793 G-s
MOV	.146 In/Sec	.265 G-s
MIH	.077 In/Sec	1.255 G-s
MIV	.182 In/Sec	.209 G-s
MIA	.101 In/Sec	.149 G-s
G1I	.075 In/Sec	1.182 G-s
GIV	.084 In/Sec	.324 G-s
G1A	.072 In/Sec	.438 G-s
G2O	.078 In/Sec	.814 G-s
GOV	.109 In/Sec	.204 G-s
G2A	.057 In/Sec	.389 G-s

B3KFS4LUBP - L3 KILN GEARBOX LUBE OIL PMP (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.115 In/Sec	.358 G-s
MOV	.123 In/Sec	.161 G-s
MIH	.060 In/Sec	.416 G-s
MIV	.097 In/Sec	.116 G-s
MIA	.066 In/Sec	.133 G-s
GH	.093 In/Sec	.536 G-s
GV	.065 In/Sec	.175 G-s
GA	.055 In/Sec	.235 G-s
PH	.179 In/Sec	.256 G-s
PV	.102 In/Sec	.131 G-s
PA	.269 In/Sec	.183 G-s

F3-PAD-06 - BLUE OVEN 1 ZONE1 CIRC FAN 1 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.257 In/Sec	.564 G-s
MOV	.178 In/Sec	.176 G-s
MIH	.571 In/Sec	.855 G-s
MIV	.348 In/Sec	.163 G-s
MIA	.559 In/Sec	.308 G-s
FIH	.591 In/Sec	.638 G-s
FIV	.364 In/Sec	.177 G-s
FIA	.374 In/Sec	.132 G-s

FOH	.207 In/Sec	2.149 G-s
FOV	.261 In/Sec	.610 G-s

OVN1ZNE1F2 - BLUE OVEN 1 ZONE1 CIRC FAN 2 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.127 In/Sec	.585 G-s
MOV	.199 In/Sec	.101 G-s
MIH	.144 In/Sec	.483 G-s
MIV	.224 In/Sec	.052 G-s
MIA	.290 In/Sec	.048 G-s
FIH	.256 In/Sec	.811 G-s
FIV	.366 In/Sec	.152 G-s
FIA	.221 In/Sec	.185 G-s
FOH	.100 In/Sec	.593 G-s
FOV	.140 In/Sec	.186 G-s

OVN1ZNE2F1 - BLUE OVEN 1 ZONE2 CIRC FAN 1 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.197 In/Sec	1.371 G-s
MOV	.600 In/Sec	.355 G-s
MIH	1.040 In/Sec	.592 G-s
MIV	.958 In/Sec	.165 G-s
MIA	2.104 In/Sec	.222 G-s
FIH	.645 In/Sec	.919 G-s
FIV	1.311 In/Sec	.175 G-s
FIA	.960 In/Sec	.126 G-s
FOH	.248 In/Sec	.946 G-s
FOV	.159 In/Sec	.315 G-s

OVN1ZNE2F2 - BLUE OVEN 1 ZONE2 CIRC FAN 2 (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.438 In/Sec	.738 G-s
MOV	1.040 In/Sec	.221 G-s
MIH	.736 In/Sec	1.043 G-s
MIV	1.950 In/Sec	.355 G-s
MIA	.317 In/Sec	.295 G-s
FIH	1.014 In/Sec	.595 G-s
FIV	1.627 In/Sec	.103 G-s
FIA	.908 In/Sec	.136 G-s
FOH	.307 In/Sec	4.079 G-s
FOV	.545 In/Sec	.430 G-s

OVEN2Z1FAN - BLUE OVEN 2 ZONE1 CIRC FAN (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.235 In/Sec	.305 G-s
MOV	.656 In/Sec	.117 G-s
MIH	.481 In/Sec	.550 G-s
MIV	.740 In/Sec	.056 G-s
MIA	.483 In/Sec	.110 G-s
FIH	.420 In/Sec	.530 G-s
FIV	.548 In/Sec	.265 G-s
FIA	.392 In/Sec	.151 G-s
FOH	.162 In/Sec	2.464 G-s
FOV	.199 In/Sec	.581 G-s

OVEN2Z2FAN - BLUE OVEN 2 ZONE2 CIRC FAN (24-Apr-25)

	OVERALL LEVEL	1K-20KHz
MOH	.253 In/Sec	.698 G-s
MOV	.284 In/Sec	.171 G-s
MIH	.715 In/Sec	.752 G-s
MIV	.445 In/Sec	.172 G-s
MIA	.632 In/Sec	.262 G-s
FIH	.592 In/Sec	.647 G-s
FIV	.372 In/Sec	.145 G-s
FIA	.526 In/Sec	.172 G-s
FOH	.155 In/Sec	.406 G-s
FOV	.111 In/Sec	.137 G-s

D1DCR02EXH - #1 GRINDER BAGHOUSE DC FAN (24-Apr-25)

	OVERALL LEVEL	1K-20KHz

MOH	.435	In/Sec	.512 G-s
MOV	1.364	In/Sec	.155 G-s
MIH	.260	In/Sec	.757 G-s
MIV	.524	In/Sec	.143 G-s
MIA	.252	In/Sec	.083 G-s
FIH	.448	In/Sec	.561 G-s
FIV	.295	In/Sec	2.608 G-s
FIA	.707	In/Sec	.451 G-s
FOH	.536	In/Sec	.758 G-s
FOV	.384	In/Sec	3.259 G-s

D1DCR01EXH - #3 FINISHING DUST COLLECTOR (24-Apr-25)

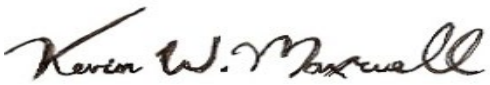
	OVERALL LEVEL		1K-20KHz
MOH	.293	In/Sec	.617 G-s
MOV	.806	In/Sec	.292 G-s
MIH	.193	In/Sec	.761 G-s
MIV	.587	In/Sec	.233 G-s
MIA	.325	In/Sec	.147 G-s
FIH	.440	In/Sec	1.290 G-s
FIV	.442	In/Sec	.449 G-s
FIA	.264	In/Sec	.203 G-s
FOH	.351	In/Sec	.868 G-s
FOV	.231	In/Sec	.330 G-s

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,



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