



MILLINGTON, TN

March 10, 2021

Lucite

Subject: March vibration report

Most of the machines surveyed were found to be in good condition with the exception of the following:

**QualiTTest®** 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,

David W. Shook  
Senior Reliability Specialists  
**Hi-Speed Industrial Service**  
[dshook@gohispeed.com](mailto:dshook@gohispeed.com)

## Detailed Defects

### **SAR 03 Turbine Compressor Main Blower**

Proximity probe 12 data shows a dominant shaft speed vibration in the data. The vibration amplitude continues to slowly increase in amplitude. A motion amplification survey might be helpful in determining the root cause of the vibration. **Rated a Class II Defect.**

### **SAR 137A Containment Pit Pump North**

This unit runs infrequently; however, it has an extremely large resonant sub-synchronous vibration over 1.1"/second velocity peak overall at 12.46 Hz. Inspect the unit for defects in structure or fasteners soon. **Rated a Class III Defect.**

### **SAR 63 EM Spent Acid Feed Pump E**

The inboard pump 1x RPM vibration has jumped up considerably since the last survey. Inspect the coupling, unit fasteners and the alignment at the next opportunity. **Rated a Class III Defect due to the large increase in amplitude.**

## Observations

### **SAR55A Neutralization Pump North**

The data continues to indicate distress in the inboard motor bearing; however, the vibrations have dropped in vibration amplitude. We only see about 1.3 g's RMS overall for the horizontal measurement. We will keep an eye on this unit in the future. **Rated a Class I Defect.**

### **SAR55B Neutralization Pump South**

The data continues to show signs of early distress in the inboard motor bearing. We only see about 1.4 g's RMS overall for the horizontal measurement. We will keep an eye on this unit in the future. **Rated a Class I Defect.**

### **SAR 39A N.W. Boiler Feed Water Pump**

The data continues to show signs of early outer race distress in the inboard motor bearing and a dominant 2x RPM vibration. We only see about 2.1 g's RMS overall for the inboard horizontal measurement. Recommend checking the alignment as time allows. We will keep an eye on this unit going forward. **Rated a Class I Defect.**

### **SAR 14 Combustion Air Fan West**

The data indicates distress in the inboard motor bearing as well as the outboard fan bearing; however, the vibrations are low in amplitude. We only see about 1.6 and 2.2 g's RMS overall respectfully for the horizontal measurements. We will keep an eye on this unit in the future. **Rated a Class I Defect.**

### **SAR 12 MMA Recycle Fan E**

Harmonics are still present and are indicative of excessive clearances (looseness) or structure/fastener issue. We will watch for changes. **Rated a Class II Defect.**

### **SAR 10 Process Air Fan E**

The fan bearings still have a raised noise floor in the acceleration spectrum. This could be distress in the bearings and/or a lubrication issue. Inspect the bearings as time allows. **Rated a Class II Defect.**

### **SAR 38 Drying Tower Pump**

Last data was August 2020. The Pump has an elevated vibration at the inboard horizontal position at about 0.4"/second velocity peak. Inspect the coupling, fasteners and alignment as time allows. **Rated a Class I Defect.**

### **SAR 66A, B, C Vertical Cooling Tower Pumps**

These 3 units have high vibrations at about  $\frac{1}{2}$ " per second velocity overall. Vertical pumps are susceptible to resonance. Inspect units for fastener and structure issues. Trim balancing might help. **Rated a Class I Defect.**

### **SAR 222 Oleum Tower Drain Pump**

The last pump data was in August. The pump has over 6 g's overall acceleration in the inboard bearing. The bearing looks to be in distress and the pump might be worn too. Inspect the unit at the next opportunity. The whole unit should be examined. **Rated a Class III Defect.**

### **SAR 231A Final Tower Circulation Pump N**

The motor axial vibration shows 1x and 2x RPM vibration peaks with the overall at about 0.35"/second velocity peak. Check the coupling, fasteners and alignment as time allows. **Rated a Class I Defect.**

### **ACN 14 ACH Off Grade Pump**

The data shows signs of slight distress in the motor bearings. We see 2 to 3 g's RMS overall for the horizontal measurements. There seems to be long intervals between collected data, and the defects seem to have been there for some time. We also see an elevated axial vibration in the motor at shaft speed above 0.4:/second velocity peak. Inspect the coupling and fasteners and have the alignment checked and adjusted if needed. **Rated a Class II Defect due to the long time span between data.**

### **ACN 07C ACH Product Feed Pump South**

Data still indicates possible bearing cage defects as well as outer race defects present in the inboard motor bearing. Be prepared to change out the motor in the future. **Rated a Class II Defect.**

### **ACN29C ACN Cooling Tower Pump South**

Pump bearing data shows non-synchronous harmonic peaks in the spectrum. Vibrations are most likely low amplitude bearing defect frequencies. A more detailed analysis could be provided if we had the bearing numbers in the database. **Rated a Class I Defect.**

### **ACN13B #2 Kettle Circulation Pump**

Motor bearing data shows outer race defects in the inboard bearing. The vibrations have not changed much recently. We will watch this carefully going forward; however, it might be prudent to change this unit out as time allows. **Rated a Class II Defect.**

### **MON 63W LBS Side Stream Pump West**

Vibration data shows an increase in non-synchronous peaks in the spectrum for the outboard motor bearing. We suspect early bearing defect frequencies are present. Ensure adequate bearing lubrication if applicable. **Rated a Class I Defect.**

### **MON 65 Amide Reactor Circulation Primary**

The motor outboard vertical overall is showing a shaft speed vibration at about 0.4"/second peak. Check the fasteners, motor fan and alignment as time allows. **Rated a Class I Defect.**

### **ACN 08 ACH Blend Tank Pump**

The outboard motor vertical vibration is now just below 0.3"/sec velocity peak at the speed of the shaft. Still recommend inspecting the unit for loose fasteners and possible coupling issues. Check the shaft alignment as time allows. **Rated a Class I Defect.**

### **ACN 36 ACH Neutralizer Tank Circulation Pump**

Pump vibration at 4x RPM has dropped below 0.3"/sec velocity peak. We suspect process variables affect the values. The motor bearing noise floor has decreased also. We will watch for changes. Non-rated.

### **MON51 WCM Tails Swing/Spare Pump**

The motor inboard bearing noise floor in the acceleration spectrum has decreased. We will watch for changes. Non-rated.

March 2021 data

Abbreviated Last Measurement Summary  
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Database: Lucite Memphis MMA.rbm  
Area: MMA  
Report Date: 10-Mar-21 08:51

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	EQUIPMENT SPEED
<hr/>			
0126 - Carrier Ref Unit	(28-Sep-20)		
	OVERALL LEVEL	1K-20kHz	
MOH	.025 In/Sec	.358 G-s	1780.0 RPM
MOP	.026 G-s		
MOV	.028 In/Sec	.091 G-s	
MOA	.028 In/Sec	.045 G-s	
MIH	.031 In/Sec	.396 G-s	
MIP	.031 G-s		
MIV	.022 In/Sec	.188 G-s	
MIA	.015 In/Sec	.123 G-s	
IIH	.176 In/Sec		
IIP	1.505 G-s		
IIV	.160 In/Sec		
IIA	.098 In/Sec		
OOH	.166 In/Sec		
OOP	2.072 G-s		
OOV	.196 In/Sec		
OOA	.098 In/Sec		
CIH	.085 In/Sec		
CIP	.622 G-s		
CIV	.088 In/Sec		
CIA	.063 In/Sec		
COH	.041 In/Sec		
COP	.245 G-s		
COV	.043 In/Sec		
COA	.048 In/Sec		
<hr/>			
ACN04 - Topping Col Circ Pump	(04-Mar-21)		
	OVERALL LEVEL	1K-20kHz	
MOH	.036 In/Sec	.205 G-s	1175.0 RPM
MOP	.106 G-s		
MOV	.034 In/Sec	.067 G-s	
MOA	.024 In/Sec	.030 G-s	
MIH	.029 In/Sec	.280 G-s	
MIP	.179 G-s		
MIV	.027 In/Sec	.110 G-s	
MIA	.021 In/Sec	.073 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.139 In/Sec	.424 G-s	
PIP	.231 G-s		
PIV	.064 In/Sec	.297 G-s	
PIA	.061 In/Sec	.298 G-s	
POH	.052 In/Sec	.508 G-s	

POP	.294 G-s	
POV	.045 In/Sec	.248 G-s
POA	.074 In/Sec	.225 G-s

ACN05B	- Topp Column Xfer Pmp E	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.068 In/Sec	.549 G-s	3575.0 RPM
MOP	.069 G-s		
MOV	.047 In/Sec	.153 G-s	
MOA	.032 In/Sec	.112 G-s	
MIH	.060 In/Sec	.630 G-s	
MIP	.215 G-s		
MIV	.047 In/Sec	.109 G-s	
MIA	.036 In/Sec	.066 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.116 In/Sec	.639 G-s	
PIP	.208 G-s		
PIV	.134 In/Sec	.420 G-s	
PIA	.098 In/Sec	.156 G-s	

ACN07A	- ACH Prod Feed Pump N	(08-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.033 In/Sec	.073 G-s	3575.0 RPM
MOP	.0080 G-s		
MOV	.064 In/Sec	.022 G-s	
MOA	.039 In/Sec	.027 G-s	
MIH	.031 In/Sec	.200 G-s	
MIP	.099 G-s		
MIV	.038 In/Sec	.036 G-s	
MIA	.029 In/Sec	.056 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.082 In/Sec	.239 G-s	
PIP	.020 G-s		
PIV	.036 In/Sec	.211 G-s	
PIA	.053 In/Sec	.257 G-s	

ACN07C	- ACH Prod Feed Pump S	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.088 In/Sec	1.159 G-s	3575.0 RPM
MOP	.182 G-s		
MOV	.105 In/Sec	.593 G-s	
MOA	.072 In/Sec	.256 G-s	
MIH	.072 In/Sec	2.190 G-s	
MIP	.485 G-s		
MIV	.076 In/Sec	.514 G-s	
MIA	.067 In/Sec	.421 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.160 In/Sec	2.102 G-s	
PIP	.206 G-s		
PIV	.209 In/Sec	1.334 G-s	
PIA	.206 In/Sec	.981 G-s	

ACN08	- ACH Blend Tank	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.127 In/Sec	.277 G-s	3575.0 RPM
MOP	.016 G-s		
MOV	.298 In/Sec	.128 G-s	

MOA	.131 In/Sec	.078 G-s
MIH	.100 In/Sec	.524 G-s
MIP	.058 G-s	
MIV	.221 In/Sec	.187 G-s
MIA	.180 In/Sec	.085 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.063 In/Sec	.522 G-s
PIP	.200 G-s	
PIV	.097 In/Sec	.129 G-s
PIA	.078 In/Sec	.173 G-s

ACN09 - ACH Flash Tank Pump (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.085 In/Sec	.566 G-s
MOP	.016 G-s	
MOV	.117 In/Sec	.184 G-s
MOA	.089 In/Sec	.101 G-s
* MIV	.068 In/Sec	.831 G-s
* MIA	.108 In/Sec	1.139 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.054 In/Sec	.259 G-s
PIP	.019 G-s	
PIV	.067 In/Sec	.080 G-s
PIA	.059 In/Sec	.100 G-s

ACN10 - #1 Kettle Circ Pmp (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.023 In/Sec	.318 G-s
MOP	.130 G-s	
MOV	.033 In/Sec	.147 G-s
MOA	.038 In/Sec	.083 G-s
MIH	.023 In/Sec	.531 G-s
MIP	.286 G-s	
MIV	.026 In/Sec	.224 G-s
MIA	.026 In/Sec	.159 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.040 In/Sec	.092 G-s
PIP	.050 G-s	
PIV	.045 In/Sec	.068 G-s
PIA	.031 In/Sec	.047 G-s

ACN11 - #2 Kettle Circ Pump (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.021 In/Sec	.319 G-s
MOP	.104 G-s	
MOV	.039 In/Sec	.136 G-s
MOA	.034 In/Sec	.110 G-s
MIH	.021 In/Sec	.664 G-s
MIP	.340 G-s	
MIV	.040 In/Sec	.128 G-s
MIA	.029 In/Sec	.080 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.039 In/Sec	.273 G-s
PIP	.157 G-s	
PIV	.084 In/Sec	.204 G-s
PIA	.028 In/Sec	.195 G-s
* POV	.104 In/Sec	.200 G-s

* POA	.038 In/Sec	.253 G-s	
ACN12	- #1 Kettle Xfer Pump	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.049 In/Sec	.304 G-s	3575.0 RPM
MOP	.040 G-s		
MOV	.081 In/Sec	.128 G-s	
MOA	.063 In/Sec	.118 G-s	
MIH	.049 In/Sec	.544 G-s	
MIP	.080 G-s		
MIV	.076 In/Sec	.267 G-s	
MIA	.051 In/Sec	.103 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.058 In/Sec	.084 G-s	
PIP	.0068 G-s		
PIV	.064 In/Sec	.194 G-s	
PIA	.042 In/Sec	.169 G-s	
ACN13B	- #2 Kettle Xfer Pump S	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.046 In/Sec	1.571 G-s	3575.0 RPM
MOP	.147 G-s		
MOV	.050 In/Sec	.374 G-s	
MOA	.037 In/Sec	.357 G-s	
MIH	.069 In/Sec	3.215 G-s	
MIP	1.013 G-s		
MIV	.058 In/Sec	.647 G-s	
MIA	.045 In/Sec	.467 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.052 In/Sec	.677 G-s	
PIP	.179 G-s		
PIV	.062 In/Sec	.153 G-s	
PIA	.049 In/Sec	.067 G-s	
ACN14	- ACH Off Grade Pump	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.181 In/Sec	2.764 G-s	3575.0 RPM
MOP	.699 G-s		
MOV	.095 In/Sec	.348 G-s	
MOA	.463 In/Sec	.471 G-s	
MIH	.247 In/Sec	3.422 G-s	
MIP	.418 G-s		
MIV	.318 In/Sec	1.250 G-s	
MIA	.459 In/Sec	.492 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.139 In/Sec	.603 G-s	
PIP	.048 G-s		
PIV	.216 In/Sec	.377 G-s	
PIA	.173 In/Sec	.274 G-s	
ACN16	- ACH Scrb Circ PumpN	(06-Jan-21)	
	OVERALL LEVEL	1K-20kHz	
* POV	.132 In/Sec	.412 G-s	1780.0 RPM
* POA	.202 In/Sec	.396 G-s	
AC17	- Carrier Ref Unit	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	

MOH	.018 In/Sec	.139 G-s	1780.0 RPM
MOP	.025 G-s		
MOV	.028 In/Sec	.067 G-s	
MOA	.015 In/Sec	.073 G-s	
MIH	.028 In/Sec	.229 G-s	
MIP	.036 G-s		
MIV	.027 In/Sec	.092 G-s	
MIA	.022 In/Sec	.054 G-s	
IIH	.162 In/Sec		
IIP	1.280 G-s		
III	.174 In/Sec		
IIA	.083 In/Sec		
OOH	.158 In/Sec		
OOP	2.092 G-s		
OOV	.179 In/Sec		
OOA	.079 In/Sec		
CIH	.093 In/Sec		
CIP	.390 G-s		
CIV	.177 In/Sec		
CIA	.309 In/Sec		
COH	.036 In/Sec		
COP	.245 G-s		
COV	.044 In/Sec		
COA	.117 In/Sec		

ACN17DP - DP Comp (08-Mar-21)

	OVERALL LEVEL	
21	.029 Mils	1775.0 RPM
22	.134 Mils	
27	.013 Mils	
23	.059 Mils	
24	.031 Mils	

ACN23 - ACH Scrb Circ Pump S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.021 In/Sec	.300 G-s	1780.0 RPM
MOP	.144 G-s		
MOV	.040 In/Sec	.361 G-s	
MOA	.032 In/Sec	.270 G-s	
MIH	.019 In/Sec	.397 G-s	
MIP	.238 G-s		
MIV	.043 In/Sec	.335 G-s	
MIA	.029 In/Sec	.127 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.083 In/Sec	.312 G-s	
PIP	.251 G-s		
PIV	.094 In/Sec	.175 G-s	
PIA	.064 In/Sec	.123 G-s	

ACN28A - ACN Fan W (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.132 In/Sec	.581 G-s	1775.0 RPM
MOP	.195 G-s		
MOV	.189 In/Sec	.265 G-s	
MOA	.213 In/Sec	.088 G-s	
MIH	.220 In/Sec	1.134 G-s	
MIP	.267 G-s		

MIV	.156 In/Sec	.477 G-s	
MIA	.186 In/Sec	.290 G-s	
ACN28BDP	- Cooling Twr Fan E	(08-Mar-21)	
	OVERALL LEVEL		
26	.049 Mils		1775.0 RPM
ACN28ADP	- Cooling Twr Fan W	(08-Mar-21)	
	OVERALL LEVEL		
28	.267 Mils		1775.0 RPM
ACN29B	- ACN Cool Twr Pump M	(04-Mar-21)	
	OVERALL LEVEL		
MOH	.043 In/Sec	1.089 G-s	1775.0 RPM
MOP	.350 G-s		
MOV	.053 In/Sec	.328 G-s	
MOA	.049 In/Sec	.268 G-s	
MIH	.055 In/Sec	1.800 G-s	
MIP	.568 G-s		
MIV	.046 In/Sec	1.117 G-s	
MIA	.054 In/Sec	.449 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.104 In/Sec	.521 G-s	
PIP	.371 G-s		
PIV	.068 In/Sec	.253 G-s	
PIA	.068 In/Sec	.144 G-s	
POH	.063 In/Sec	.654 G-s	
POP	.382 G-s		
POV	.071 In/Sec	.314 G-s	
POA	.062 In/Sec	.227 G-s	
ACN29C	- ACN Cool Twr Pump S	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.049 In/Sec	.765 G-s	1775.0 RPM
MOP	.276 G-s		
MOV	.103 In/Sec	.164 G-s	
MOA	.036 In/Sec	.158 G-s	
MIH	.037 In/Sec	.499 G-s	
MIP	.226 G-s		
MIV	.079 In/Sec	.286 G-s	
MIA	.034 In/Sec	.234 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.088 In/Sec	1.224 G-s	
PIP	.653 G-s		
PIV	.248 In/Sec	1.649 G-s	
PIA	.144 In/Sec	2.096 G-s	
POH	.089 In/Sec	2.254 G-s	
POP	.450 G-s		
POV	.075 In/Sec	.543 G-s	
POA	.075 In/Sec	.397 G-s	
ACN30	- ACH Scrubber Xfer Pmp	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.056 In/Sec	.331 G-s	1780.0 RPM
MOP	.171 G-s		
MOV	.076 In/Sec	.338 G-s	
MOA	.125 In/Sec	.057 G-s	

MIH	.077 In/Sec	.520 G-s
MIP	.365 G-s	
MIV	.111 In/Sec	.307 G-s
MIA	.105 In/Sec	.250 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.066 In/Sec	.097 G-s
PIP	.076 G-s	
PIV	.071 In/Sec	.088 G-s
PIA	.049 In/Sec	.046 G-s
POH	.054 In/Sec	.103 G-s
POP	.020 G-s	
POV	.061 In/Sec	.032 G-s
POA	.049 In/Sec	.017 G-s
ACN36	- ACH Neut Tank Circ Pmp	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MIH	.081 In/Sec	.342 G-s
MIP	.070 G-s	3575.0 RPM
MIV	.098 In/Sec	.135 G-s
MIA	.135 In/Sec	.154 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.345 In/Sec	.151 G-s
PIP	.012 G-s	
PIV	.242 In/Sec	.180 G-s
PIA	.223 In/Sec	.167 G-s
ACN44	- ACN Ref Unit Booster #3	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.102 In/Sec	1.672 G-s
MOP	.047 G-s	3575.0 RPM
MOV	.109 In/Sec	.530 G-s
MOA	.082 In/Sec	.328 G-s
MIH	.107 In/Sec	.391 G-s
MIP	.027 G-s	
MIV	.099 In/Sec	.192 G-s
MIA	.083 In/Sec	.163 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.100 In/Sec	1.091 G-s
PIP	.437 G-s	
PIV	.114 In/Sec	.448 G-s
PIA	.111 In/Sec	.382 G-s
POH	.055 In/Sec	.412 G-s
POP	.107 G-s	
POV	.186 In/Sec	.261 G-s
POA	.120 In/Sec	.117 G-s
MON 32A	- ARC Reflux Pmp N	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
M1V	.073 In/Sec	.196 G-s
M1A	.063 In/Sec	.060 G-s
M2H	.059 In/Sec	.305 G-s
M2P	.060 G-s	
M2V	.081 In/Sec	.179 G-s
M2A	.063 In/Sec	.061 G-s
	OVERALL LEVEL	1K-20KHz
P1H	.059 In/Sec	.610 G-s
P1P	.148 G-s	

P1V	.110 In/Sec	.377 G-s
P1A	.100 In/Sec	.190 G-s
P2H	.088 In/Sec	.503 G-s
P2P	.115 G-s	
P2V	.101 In/Sec	.299 G-s
P2A	.090 In/Sec	.291 G-s
	OVERALL LEVEL	1K-20kHz
M1H	.082 In/Sec	.294 G-s
M1P	.054 G-s	

MON 32B - ARC Reflux Pmp S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
M1H	.075 In/Sec	.216 G-s
M1P	.039 G-s	3520.0 RPM
M1V	.083 In/Sec	.214 G-s
M1A	.065 In/Sec	.085 G-s
M2H	.052 In/Sec	.393 G-s
M2P	.065 G-s	
M2V	.116 In/Sec	.116 G-s
M2A	.127 In/Sec	.063 G-s
	OVERALL LEVEL	1K-20KHz
P1H	.196 In/Sec	.240 G-s
P1P	.028 G-s	
P1V	.154 In/Sec	.407 G-s
P1A	.121 In/Sec	.187 G-s
P2H	.176 In/Sec	.309 G-s
P2P	.030 G-s	
P2V	.174 In/Sec	.496 G-s
P2A	.204 In/Sec	.306 G-s

MON36 - Irganox Mix/Feed Pump (08-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.067 In/Sec	.189 G-s
MOP	.057 G-s	1750.0 RPM
MOV	.048 In/Sec	.108 G-s
MOA	.053 In/Sec	.169 G-s
* MIH	.059 In/Sec	.263 G-s
* MIP	.185 G-s	
* MIV	.050 In/Sec	.388 G-s
* MIA	.053 In/Sec	.378 G-s
IIH	.066 In/Sec	
IIP	.204 G-s	
IIV	.040 In/Sec	
IIA	.057 In/Sec	
	OVERALL LEVEL	1K-20KHz
POH	.056 In/Sec	.438 G-s
POP	.305 G-s	
POV	.062 In/Sec	.622 G-s
POA	.099 In/Sec	.916 G-s

MON38A - LBS Reflux Pmp S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.050 In/Sec	.209 G-s
MOP	.021 G-s	3575.0 RPM
MOV	.035 In/Sec	.107 G-s
MOA	.050 In/Sec	.054 G-s
MIH	.033 In/Sec	.555 G-s

MIP	.079 G-s	
MIV	.069 In/Sec	.103 G-s
MIA	.052 In/Sec	.069 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.055 In/Sec	.800 G-s
PIP	.118 G-s	
PIV	.060 In/Sec	.487 G-s
PIA	.070 In/Sec	.419 G-s

MON38B	- LBS Reflux Pmp N	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.180 In/Sec	.523 G-s
MOP	.129 G-s	
MOV	.117 In/Sec	.131 G-s
MOA	.107 In/Sec	.133 G-s
MIH	.131 In/Sec	.399 G-s
MIP	.079 G-s	
MIV	.162 In/Sec	.075 G-s
MIA	.094 In/Sec	.078 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.134 In/Sec	.960 G-s
PIP	.083 G-s	
PIV	.135 In/Sec	.542 G-s
PIA	.124 In/Sec	.327 G-s

MON38CNM	- LBS Tails Pump N	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.040 In/Sec	.286 G-s
MOP	.024 G-s	
MOV	.173 In/Sec	.130 G-s
MOA	.076 In/Sec	.065 G-s
MIH	.070 In/Sec	.580 G-s
MIP	.034 G-s	
MIV	.105 In/Sec	.220 G-s
MIA	.107 In/Sec	.141 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.114 In/Sec	1.074 G-s
PIP	.110 G-s	
PIV	.090 In/Sec	.578 G-s
PIA	.067 In/Sec	.380 G-s

MON38CSM	- LBS Tails Pump S	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.037 In/Sec	.262 G-s
MOP	.018 G-s	
MOV	.041 In/Sec	.078 G-s
MOA	.044 In/Sec	.094 G-s
MIH	.047 In/Sec	.561 G-s
MIP	.072 G-s	
MIV	.042 In/Sec	.104 G-s
MIA	.035 In/Sec	.047 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.076 In/Sec	.357 G-s
PIP	.051 G-s	
PIV	.062 In/Sec	.224 G-s
PIA	.057 In/Sec	.204 G-s

MON40	- Acetone Pump	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.032 In/Sec	.809 G-s
MOP	.103 G-s	3575.0 RPM
MOV	.037 In/Sec	.236 G-s
MOA	.040 In/Sec	.150 G-s
MIH	.025 In/Sec	1.314 G-s
MIP	.291 G-s	
MIV	.039 In/Sec	.227 G-s
MIA	.042 In/Sec	.134 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.121 In/Sec	.905 G-s
PIP	.224 G-s	
PIV	.083 In/Sec	.694 G-s
PIA	.070 In/Sec	.498 G-s
MON43A	- Amide Reactor Circ Pmp #1N	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.104 In/Sec	.349 G-s
MOP	.058 G-s	1785.0 RPM
MOV	.061 In/Sec	.142 G-s
MOA	.115 In/Sec	.070 G-s
MIH	.078 In/Sec	.442 G-s
MIP	.040 G-s	
MIV	.095 In/Sec	.248 G-s
MIA	.110 In/Sec	.299 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.245 In/Sec	.439 G-s
PIP	.111 G-s	
PIV	.179 In/Sec	.163 G-s
PIA	.188 In/Sec	.221 G-s
MON43B	- Amide Reactor Circ Pmp #2S	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.099 In/Sec	.240 G-s
MOP	.013 G-s	1785.0 RPM
MOV	.097 In/Sec	.053 G-s
MOA	.072 In/Sec	.146 G-s
MIH	.098 In/Sec	.126 G-s
MIP	.016 G-s	
MIV	.141 In/Sec	.032 G-s
MIA	.067 In/Sec	.053 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.256 In/Sec	.274 G-s
PIP	.130 G-s	
PIV	.166 In/Sec	.396 G-s
PIA	.181 In/Sec	.165 G-s
MON45EM	- ACH Ref Brine Pump E	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.073 In/Sec	.977 G-s
MOP	.602 G-s	1750.0 RPM
MOV	.135 In/Sec	.998 G-s
MOA	.070 In/Sec	.553 G-s
MIH	.064 In/Sec	1.040 G-s
MIP	.499 G-s	
MIV	.111 In/Sec	.927 G-s

MIA	.060 In/Sec	.312 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.114 In/Sec	.637 G-s
PIP	.382 G-s	
PIV	.113 In/Sec	.270 G-s
PIA	.066 In/Sec	.141 G-s
POH	.094 In/Sec	.941 G-s
POP	.514 G-s	
POV	.094 In/Sec	.337 G-s
POA	.070 In/Sec	.348 G-s

MON50	- Decanter Feed Pump	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.043 In/Sec	.445 G-s
MOP	.048 G-s	3575.0 RPM
MOV	.114 In/Sec	.303 G-s
MOA	.107 In/Sec	.079 G-s
MIH	.050 In/Sec	.480 G-s
MIP	.039 G-s	
MIV	.092 In/Sec	.164 G-s
MIA	.102 In/Sec	.120 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.248 In/Sec	.577 G-s
PIP	.200 G-s	
PIV	.192 In/Sec	.189 G-s
PIA	.192 In/Sec	.163 G-s

MON 51	- WCM Tails Swing/Spare Pmp	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
M1H	.087 In/Sec	.311 G-s
M1P	.142 G-s	3530.0 RPM
M1V	.074 In/Sec	.067 G-s
M1A	.091 In/Sec	.038 G-s
M2H	.088 In/Sec	.662 G-s
M2P	.333 G-s	
M2V	.080 In/Sec	.085 G-s
M2A	.072 In/Sec	.068 G-s
	OVERALL LEVEL	1K-20KHz
P1H	.071 In/Sec	.151 G-s
P1P	.015 G-s	
P1V	.110 In/Sec	.148 G-s
P1A	.131 In/Sec	.054 G-s
P2H	.089 In/Sec	.160 G-s
P2P	.027 G-s	
P2V	.078 In/Sec	.077 G-s
P2A	.153 In/Sec	.041 G-s

MON55NM	- HUT Pump N	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.028 In/Sec	.618 G-s
MOP	.382 G-s	1775.0 RPM
MOV	.043 In/Sec	.099 G-s
MOA	.029 In/Sec	.060 G-s
MIH	.032 In/Sec	.490 G-s
MIP	.325 G-s	
MIV	.042 In/Sec	.114 G-s
MIA	.030 In/Sec	.068 G-s

	OVERALL LEVEL	1K-20KHZ
PIH	.171 In/Sec	.302 G-s
PIP	.172 G-s	
PIV	.101 In/Sec	.093 G-s
PIA	.105 In/Sec	.115 G-s
POH	.115 In/Sec	.499 G-s
POP	.289 G-s	
POV	.084 In/Sec	.100 G-s
POA	.114 In/Sec	.102 G-s

MON55SM - HUT Pump S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.091 In/Sec	3.006 G-s
MOP	1.277 G-s	1775.0 RPM
MOV	.109 In/Sec	1.428 G-s
MOA	.057 In/Sec	.901 G-s
MIH	.094 In/Sec	2.296 G-s
MIP	1.155 G-s	
MIV	.095 In/Sec	.526 G-s
MIA	.046 In/Sec	.286 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.241 In/Sec	.458 G-s
PIP	.272 G-s	
PIV	.116 In/Sec	.320 G-s
PIA	.153 In/Sec	.101 G-s
POH	.141 In/Sec	.206 G-s
POP	.109 G-s	
POV	.086 In/Sec	.086 G-s
POA	.166 In/Sec	.122 G-s

MON 63E - LBS Side Stream Pump E (08-Mar-21)

	OVERALL LEVEL	1K-20kHz
M1H	.113 In/Sec	.793 G-s
M1P	.013 G-s	3515.0 RPM
M1V	.211 In/Sec	.252 G-s
M1A	.091 In/Sec	.186 G-s
M2H	.105 In/Sec	1.022 G-s
M2P	.058 G-s	
M2V	.150 In/Sec	.321 G-s
M2A	.095 In/Sec	.327 G-s
	OVERALL LEVEL	1K-20KHz
P1H	.235 In/Sec	.537 G-s
P1P	.049 G-s	
P1V	.137 In/Sec	.349 G-s
P1A	.106 In/Sec	.164 G-s

MON 63W - LBS Side Stream Pump W (08-Mar-21)

	OVERALL LEVEL	1K-20kHz
M1H	.091 In/Sec	1.334 G-s
M1P	.020 G-s	3515.0 RPM
M1V	.076 In/Sec	.273 G-s
M1A	.082 In/Sec	.313 G-s
M2H	.087 In/Sec	1.280 G-s
M2P	.044 G-s	
M2V	.138 In/Sec	.703 G-s
M2A	.093 In/Sec	.574 G-s
	OVERALL LEVEL	1K-20KHz

P1H	.262 In/Sec	.488 G-s
P1P	.151 G-s	
P1V	.111 In/Sec	.476 G-s
P1A	.189 In/Sec	.163 G-s

MON65 - Amide Reactor Circ Primary (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.219 In/Sec	.485 G-s	1180.0 RPM
MOP	.265 G-s		
MOV	.414 In/Sec	.175 G-s	
MOA	.117 In/Sec	.119 G-s	
MIH	.193 In/Sec	.979 G-s	
MIP	.573 G-s		
MIV	.364 In/Sec	.199 G-s	
MIA	.113 In/Sec	.136 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.147 In/Sec	.519 G-s	
PIP	.400 G-s		
PIV	.175 In/Sec	.153 G-s	
PIA	.078 In/Sec	.078 G-s	

MON67SM - PTZ Xfer Pump S (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.117 In/Sec	.414 G-s	3575.0 RPM
MOP	.025 G-s		
MOV	.098 In/Sec	.151 G-s	
MOA	.064 In/Sec	.105 G-s	
MIH	.128 In/Sec	.709 G-s	
MIP	.055 G-s		
MIV	.059 In/Sec	.185 G-s	
MIA	.074 In/Sec	.165 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.042 In/Sec	.464 G-s	
PIP	.025 G-s		
PIV	.042 In/Sec	.347 G-s	
PIA	.044 In/Sec	.344 G-s	

MON68A - #1 Reactor H2O Circ Pump (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.057 In/Sec	.384 G-s	1180.0 RPM
MOP	.127 G-s		
MOV	.037 In/Sec	.094 G-s	
MOA	.058 In/Sec	.047 G-s	
MIH	.053 In/Sec	.363 G-s	
MIP	.058 G-s		
MIV	.047 In/Sec	.140 G-s	
MIA	.049 In/Sec	.023 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.047 In/Sec	.163 G-s	
PIP	.090 G-s		
PIV	.039 In/Sec	.283 G-s	
PIA	.042 In/Sec	.159 G-s	

MON73W - Skim Tub Xfer Pmp W (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.208 In/Sec	.485 G-s	1150.0 RPM
MOP	.194 G-s		

MOV	.086 In/Sec	.410 G-s
MOA	.118 In/Sec	.162 G-s
MIH	.203 In/Sec	.623 G-s
MIP	.266 G-s	
MIV	.090 In/Sec	.429 G-s
MIA	.130 In/Sec	.481 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.261 In/Sec	.165 G-s
PIP	.111 G-s	
PIV	.108 In/Sec	.118 G-s
PIA	.065 In/Sec	.084 G-s

MON81 - Uninhibited Mon Tank Pump S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.050 In/Sec	.144 G-s
MOP	.0072 G-s	
MOV	.040 In/Sec	.061 G-s
MOA	.027 In/Sec	.036 G-s
MIH	.057 In/Sec	.245 G-s
MIP	.026 G-s	
MIV	.052 In/Sec	.063 G-s
MIA	.056 In/Sec	.047 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.160 In/Sec	.751 G-s
PIP	.076 G-s	
PIV	.154 In/Sec	.660 G-s
PIA	.130 In/Sec	.241 G-s
POH	.118 In/Sec	.392 G-s
POP	.036 G-s	
POV	.169 In/Sec	.190 G-s
POA	.105 In/Sec	.078 G-s

MON80 - Uninhibited Mon Tank Pump N (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.058 In/Sec	.125 G-s
MOP	.013 G-s	
MOV	.055 In/Sec	.341 G-s
MOA	.141 In/Sec	.201 G-s
MIH	.152 In/Sec	.203 G-s
MIP	.0048 G-s	
MIV	.143 In/Sec	.114 G-s
MIA	.134 In/Sec	.033 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.168 In/Sec	.092 G-s
PIP	.0075 G-s	
PIV	.053 In/Sec	.109 G-s
PIA	.074 In/Sec	.049 G-s
POH	.079 In/Sec	.092 G-s
POP	.0086 G-s	
POV	.041 In/Sec	.048 G-s
POA	.050 In/Sec	.016 G-s

MON84 - WCM Tails Pump S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.034 In/Sec	.407 G-s
MOP	.016 G-s	
MOV	.079 In/Sec	.068 G-s

MOA	.077 In/Sec	.045 G-s
MIH	.042 In/Sec	.621 G-s
MIP	.024 G-s	
MIV	.060 In/Sec	.205 G-s
MIA	.061 In/Sec	.034 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.107 In/Sec	.644 G-s
PIP	.154 G-s	
PIV	.131 In/Sec	.348 G-s
PIA	.132 In/Sec	.324 G-s

MON85E - Water Treatment Pmp E (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.153 In/Sec	.385 G-s
MOP	.096 G-s	
MOV	.083 In/Sec	.226 G-s
MOA	.135 In/Sec	.061 G-s
MIH	.133 In/Sec	.428 G-s
MIP	.227 G-s	
MIV	.137 In/Sec	.208 G-s
MIA	.077 In/Sec	.282 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.399 In/Sec	.670 G-s
PIP	.363 G-s	
PIV	.096 In/Sec	.369 G-s
PIA	.160 In/Sec	.377 G-s
POH	.229 In/Sec	.366 G-s
POP	.210 G-s	
POV	.083 In/Sec	.349 G-s
POA	.067 In/Sec	.202 G-s

MON85W - Water Treatment Pmp W (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.095 In/Sec	.167 G-s
MOP	.066 G-s	
MOV	.127 In/Sec	.105 G-s
MOA	.132 In/Sec	.048 G-s
MIH	.072 In/Sec	.449 G-s
MIP	.271 G-s	
MIV	.118 In/Sec	.154 G-s
MIA	.075 In/Sec	.180 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.122 In/Sec	.846 G-s
PIP	.489 G-s	
PIV	.131 In/Sec	.392 G-s
PIA	.078 In/Sec	.339 G-s
POH	.104 In/Sec	.828 G-s
POP	.582 G-s	
POV	.102 In/Sec	.527 G-s
POA	.079 In/Sec	.266 G-s

MON118 - Tempered H2O Pmp (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.059 In/Sec	.208 G-s
MOP	.124 G-s	
MOV	.035 In/Sec	.088 G-s
MOA	.061 In/Sec	.018 G-s

MIH	.050 In/Sec	.130 G-s
MIP	.070 G-s	
MIV	.030 In/Sec	.150 G-s
MIA	.044 In/Sec	.047 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.044 In/Sec	.045 G-s
PIP	.030 G-s	
PIV	.029 In/Sec	.021 G-s
PIA	.036 In/Sec	.021 G-s
POH	.041 In/Sec	.078 G-s
POP	.049 G-s	
POV	.025 In/Sec	.028 G-s
POA	.036 In/Sec	.017 G-s

SAR03 - Turb Comp Main Blower (08-Mar-21)

	OVERALL LEVEL	
5	.395 Mils	3905.0 RPM
6	.376 Mils	
7	.169 Mils	
8	.246 Mils	
9	.583 Mils	
10	.375 Mils	
11	1.765 Mils	
12	1.883 Mils	
15	.062 Mils	
16	.070 Mils	

SAR10 - Process Air Fan E (09-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.264 In/Sec	.616 G-s
MOP	.356 G-s	1775.0 RPM
MOV	.086 In/Sec	.333 G-s
MOA	.137 In/Sec	.161 G-s
MIH	.191 In/Sec	1.740 G-s
MIP	1.086 G-s	
MIV	.141 In/Sec	.262 G-s
MIA	.106 In/Sec	.226 G-s
	OVERALL LEVEL	1K-20kHz
FIH	.280 In/Sec	3.551 G-s
FIP	1.934 G-s	
FIV	.178 In/Sec	1.646 G-s
FIA	.144 In/Sec	.538 G-s
FOH	.253 In/Sec	3.779 G-s
FOP	2.161 G-s	
FOV	.132 In/Sec	1.330 G-s
FOA	.141 In/Sec	1.024 G-s

SAR11 - Recycle Fan W (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.033 In/Sec	.615 G-s
MOP	.257 G-s	1775.0 RPM
MOV	.043 In/Sec	.171 G-s
MOA	.046 In/Sec	.139 G-s
MIH	.029 In/Sec	.651 G-s
MIP	.277 G-s	
MIV	.057 In/Sec	.460 G-s
MIA	.041 In/Sec	.161 G-s

	OVERALL LEVEL	1K-20KHZ	
FIH	.020 In/Sec	.013 G-s	
FIP	.0061 G-s		
FIV	.013 In/Sec	.021 G-s	
FIA	.015 In/Sec	.017 G-s	
FOH	.020 In/Sec	.015 G-s	
FOP	.0079 G-s		
FOV	.012 In/Sec	.021 G-s	
FOA	.019 In/Sec	.0032 G-s	
SAR12	- Recycle Fan E	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.135 In/Sec	.471 G-s	1775.0 RPM
MOP	.083 G-s		
MOV	.097 In/Sec	.079 G-s	
MOA	.119 In/Sec	.071 G-s	
MIH	.129 In/Sec	1.446 G-s	
MIP	.875 G-s		
MIV	.117 In/Sec	.688 G-s	
MIA	.114 In/Sec	.260 G-s	
	OVERALL LEVEL	1K-20KHz	
FIH	.145 In/Sec	.264 G-s	
FIP	.207 G-s		
FIV	.151 In/Sec	.487 G-s	
FIA	.171 In/Sec	.125 G-s	
FOH	.187 In/Sec	.407 G-s	
FOP	.270 G-s		
FOV	.217 In/Sec	.355 G-s	
FOA	.139 In/Sec	.223 G-s	
SAR13	- Combustion Air Fan E	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.084 In/Sec	.710 G-s	1180.0 RPM
MOP	.373 G-s		
MOV	.070 In/Sec	.265 G-s	
MOA	.069 In/Sec	.152 G-s	
MIH	.100 In/Sec	.328 G-s	
MIP	.169 G-s		
MIV	.072 In/Sec	.186 G-s	
MIA	.082 In/Sec	.206 G-s	
	OVERALL LEVEL	1K-20KHz	
FIH	.109 In/Sec	.395 G-s	
FIP	.183 G-s		
FIV	.124 In/Sec	.537 G-s	
FIA	.093 In/Sec	.097 G-s	
FOH	.090 In/Sec	.550 G-s	
FOP	.228 G-s		
FOV	.117 In/Sec	.366 G-s	
FOA	.231 In/Sec	.164 G-s	
SAR14	- Combustion Air Fan W	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.105 In/Sec	1.036 G-s	1100.0 RPM
MOP	.451 G-s		
MOV	.052 In/Sec	.454 G-s	
MOA	.052 In/Sec	.143 G-s	
MIH	.101 In/Sec	1.588 G-s	

MIP	.860 G-s	
MIV	.056 In/Sec	1.024 G-s
MIA	.038 In/Sec	.528 G-s
	OVERALL LEVEL	1K-20KHz
FIH	.104 In/Sec	1.381 G-s
FIP	.726 G-s	
FIV	.047 In/Sec	.390 G-s
FIA	.046 In/Sec	.135 G-s
FOH	.122 In/Sec	2.220 G-s
FOP	1.365 G-s	
FOV	.063 In/Sec	.691 G-s
FOA	.056 In/Sec	.240 G-s

SAR15 - Process Air Fan W (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.060 In/Sec	.652 G-s	1180.0 RPM
MOP	.302 G-s		
MOV	.093 In/Sec	.543 G-s	
MOA	.104 In/Sec	.571 G-s	
MIH	.065 In/Sec	1.421 G-s	
MIP	.505 G-s		
MIV	.057 In/Sec	.537 G-s	
MIA	.060 In/Sec	.492 G-s	
	OVERALL LEVEL	1K-20KHz	
FIH	.072 In/Sec	.602 G-s	
FIP	.376 G-s		
FIV	.076 In/Sec	.760 G-s	
FIA	.047 In/Sec	.465 G-s	
FOH	.076 In/Sec	2.342 G-s	
FOP	1.460 G-s		
FOV	.075 In/Sec	1.014 G-s	
FOA	.053 In/Sec	.645 G-s	

SAR37A - Interpass Twr Circ Pump N (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.054 In/Sec	.416 G-s	1775.0 RPM
MOP	.227 G-s		
MOV	.055 In/Sec	.218 G-s	
MOA	.065 In/Sec	.119 G-s	
MIH	.050 In/Sec	.495 G-s	
MIP	.198 G-s		
MIV	.052 In/Sec	.201 G-s	
MIA	.055 In/Sec	.225 G-s	

SAR38 - Drying Tower Pumpout (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.128 In/Sec	.161 G-s	3575.0 RPM
MOP	.0087 G-s		
MOV	.150 In/Sec	.035 G-s	
MOA	.087 In/Sec	.044 G-s	
MIH	.233 In/Sec	.260 G-s	
MIP	.063 G-s		
MIV	.224 In/Sec	.113 G-s	
MIA	.132 In/Sec	.060 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.441 In/Sec	.303 G-s	
PIP	.070 G-s		

PIV	.331 In/Sec	.273 G-s
PIA	.266 In/Sec	.188 G-s

SAR39A	- Boiler Feed H2O Pmp NW	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.314 In/Sec	.421 G-s
MOP	.0057 G-s	3575.0 RPM
MOV	.112 In/Sec	.177 G-s
MOA	.338 In/Sec	.076 G-s
MIH	.279 In/Sec	2.113 G-s
MIP	.091 G-s	
MIV	.126 In/Sec	.265 G-s
MIA	.270 In/Sec	.218 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.335 In/Sec	.495 G-s
PIP	.127 G-s	
PIV	.128 In/Sec	.189 G-s
PIA	.103 In/Sec	.294 G-s
POH	.305 In/Sec	.731 G-s
POP	.189 G-s	
POV	.221 In/Sec	.452 G-s
POA	.131 In/Sec	.205 G-s

SAR39B	- Boiler Feed H2O Pmp SW	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.052 In/Sec	.423 G-s
MOP	.049 G-s	3575.0 RPM
MOV	.045 In/Sec	.295 G-s
MOA	.050 In/Sec	.117 G-s
MIH	.029 In/Sec	.477 G-s
MIP	.031 G-s	
MIV	.031 In/Sec	.138 G-s
MIA	.049 In/Sec	.103 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.038 In/Sec	.404 G-s
PIP	.151 G-s	
PIV	.086 In/Sec	.303 G-s
PIA	.081 In/Sec	.223 G-s
POH	.019 In/Sec	.391 G-s
POP	.172 G-s	
POV	.075 In/Sec	.354 G-s
POA	.088 In/Sec	.175 G-s

SAR39C	- Boiler Feed H2O Pmp NE	(27-Feb-21)
	OVERALL LEVEL	1K-20kHz
MOH	.178 In/Sec	.621 G-s
MOP	.034 G-s	3575.0 RPM
MOV	.081 In/Sec	.554 G-s
MOA	.073 In/Sec	.204 G-s
MIH	.101 In/Sec	.608 G-s
MIP	.055 G-s	
MIV	.092 In/Sec	.607 G-s
MIA	.063 In/Sec	.252 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.102 In/Sec	.290 G-s
PIP	.023 G-s	
PIV	.140 In/Sec	.106 G-s

PIA	.054 In/Sec	.145 G-s	
POH	.152 In/Sec	1.620 G-s	
POP	.396 G-s		
POV	.094 In/Sec	.616 G-s	
POA	.062 In/Sec	.367 G-s	
SAR39D	- Boiler Feed H2O Pmp SE	(08-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.210 In/Sec	.568 G-s	3575.0 RPM
MOP	.024 G-s		
MOV	.067 In/Sec	.252 G-s	
MOA	.080 In/Sec	.348 G-s	
MIH	.109 In/Sec	.363 G-s	
MIP	.052 G-s		
MIV	.075 In/Sec	.275 G-s	
MIA	.069 In/Sec	.180 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.087 In/Sec	.518 G-s	
PIP	.030 G-s		
PIV	.122 In/Sec	.182 G-s	
PIA	.050 In/Sec	.170 G-s	
POH	.160 In/Sec	.977 G-s	
POP	.096 G-s		
POV	.068 In/Sec	.504 G-s	
POA	.076 In/Sec	.268 G-s	
SAR50A	- Drying Tower Circ Pump W	(08-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.218 In/Sec	.678 G-s	1775.0 RPM
MOP	.064 G-s		
MOV	.111 In/Sec	.105 G-s	
MOA	.152 In/Sec	.045 G-s	
MIH	.166 In/Sec	1.079 G-s	
MIP	.108 G-s		
MIV	.123 In/Sec	.649 G-s	
MIA	.121 In/Sec	.112 G-s	
	OVERALL LEVEL	1K-20KHz	
* PIV	.129 In/Sec	.0021 G-s	
	OVERALL LEVEL	1K-20kHz	
* PIA	.783 In/Sec	.0024 G-s	
SAR50B	- Drying Tower Circ Pump E	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	
MOH	.117 In/Sec	1.367 G-s	1775.0 RPM
MOP	.803 G-s		
MOV	.146 In/Sec	.391 G-s	
MOA	.225 In/Sec	.240 G-s	
MIH	.087 In/Sec	.701 G-s	
MIP	.333 G-s		
MIV	.166 In/Sec	.124 G-s	
MIA	.158 In/Sec	.089 G-s	
	OVERALL LEVEL	1K-20KHz	
* POV	.108 In/Sec	.283 G-s	
* POA	.192 In/Sec	.208 G-s	
SAR55A	- Neutralization Pump N	(04-Mar-21)	
	OVERALL LEVEL	1K-20kHz	

MOH	.125 In/Sec	.190 G-s	3575.0 RPM
MOP	.035 G-s		
MOV	.185 In/Sec	.046 G-s	
MOA	.097 In/Sec	.109 G-s	
MIH	.141 In/Sec	1.350 G-s	
MIP	.574 G-s		
MIV	.145 In/Sec	.227 G-s	
MIA	.114 In/Sec	.344 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.184 In/Sec	.372 G-s	
PIP	.071 G-s		
PIV	.125 In/Sec	.166 G-s	
PIA	.104 In/Sec	.200 G-s	

SAR55B - Neutralization Pump S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.085 In/Sec	1.082 G-s	3575.0 RPM
MOP	.111 G-s		
MOV	.296 In/Sec	.302 G-s	
MOA	.161 In/Sec	.333 G-s	
MIH	.148 In/Sec	1.435 G-s	
MIP	.218 G-s		
MIV	.195 In/Sec	.288 G-s	
MIA	.144 In/Sec	.195 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.194 In/Sec	.685 G-s	
PIP	.142 G-s		
PIV	.184 In/Sec	1.323 G-s	
PIA	.165 In/Sec	.581 G-s	

SAR59A - Scrub Twr Circ Pmp W (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.028 In/Sec	.414 G-s	1775.0 RPM
MOP	.220 G-s		
MOV	.039 In/Sec	.121 G-s	
MOA	.027 In/Sec	.136 G-s	
MIH	.030 In/Sec	.512 G-s	
MIP	.264 G-s		
MIV	.045 In/Sec	.324 G-s	
MIA	.032 In/Sec	.076 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.118 In/Sec	.342 G-s	
PIP	.225 G-s		
PIV	.087 In/Sec	.221 G-s	
PIA	.105 In/Sec	.124 G-s	
POH	.082 In/Sec	.327 G-s	
POP	.172 G-s		
POV	.110 In/Sec	.173 G-s	
POA	.120 In/Sec	.082 G-s	

SAR59C - Scrub Twr Circ Pmp E (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.026 In/Sec	.383 G-s	1775.0 RPM
MOP	.048 G-s		
MOV	.047 In/Sec	.119 G-s	
MOA	.032 In/Sec	.075 G-s	
MIH	.030 In/Sec	.614 G-s	

MIP	.259 G-s	
MIV	.040 In/Sec	.106 G-s
MIA	.023 In/Sec	.072 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.107 In/Sec	.508 G-s
PIP	.300 G-s	
PIV	.076 In/Sec	.188 G-s
PIA	.057 In/Sec	.193 G-s
POH	.125 In/Sec	.239 G-s
POP	.104 G-s	
POV	.061 In/Sec	.078 G-s
POA	.052 In/Sec	.070 G-s

SAR54C - Weak Acid Xfer Pump S (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.199 In/Sec	.178 G-s
MOP	.0080 G-s	
MOV	.073 In/Sec	.077 G-s
MOA	.174 In/Sec	.036 G-s
MIH	.192 In/Sec	.177 G-s
MIP	.030 G-s	
MIV	.165 In/Sec	.080 G-s
MIA	.147 In/Sec	.049 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.211 In/Sec	.499 G-s
PIP	.016 G-s	
PIV	.108 In/Sec	.300 G-s
PIA	.109 In/Sec	.165 G-s

SAR54B - Weak Acid Xfer Pump N (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.073 In/Sec	.416 G-s
MOP	.138 G-s	
MOV	.082 In/Sec	.238 G-s
MOA	.077 In/Sec	.205 G-s
MIH	.110 In/Sec	.339 G-s
MIP	.072 G-s	
MIV	.111 In/Sec	.090 G-s
MIA	.117 In/Sec	.068 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.170 In/Sec	.621 G-s
PIP	.273 G-s	
PIV	.079 In/Sec	1.105 G-s
PIA	.151 In/Sec	.945 G-s

SAR 56B - M Oleum Storage Tank Feed (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
M1H	.076 In/Sec	.216 G-s
M1P	.069 G-s	
M1V	.119 In/Sec	.065 G-s
M1A	.066 In/Sec	.037 G-s
M2H	.062 In/Sec	.213 G-s
M2P	.080 G-s	
M2V	.079 In/Sec	.049 G-s
M2A	.062 In/Sec	.029 G-s
	OVERALL LEVEL	1K-20KHz
P1H	.073 In/Sec	.188 G-s

P1P	.120 G-s	
P1V	.035 In/Sec	.029 G-s
P1A	.045 In/Sec	.019 G-s
P2H	.068 In/Sec	.128 G-s
P2P	.090 G-s	
P2V	.030 In/Sec	.024 G-s
P2A	.047 In/Sec	.021 G-s

SAR 56C - S Oleum Storage Tank Feed (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
M1H	.035 In/Sec	.179 G-s	1775.0 RPM
M1P	.061 G-s		
M1V	.043 In/Sec	.180 G-s	
M1A	.025 In/Sec	.048 G-s	
M2H	.052 In/Sec	.275 G-s	
M2P	.228 G-s		
M2V	.035 In/Sec	.154 G-s	
M2A	.042 In/Sec	.083 G-s	
	OVERALL LEVEL	1K-20KHz	
P1H	.059 In/Sec	.112 G-s	
P1P	.049 G-s		
P1V	.036 In/Sec	.107 G-s	
P1A	.028 In/Sec	.053 G-s	
P2H	.076 In/Sec	.141 G-s	
P2P	.072 G-s		
P2V	.043 In/Sec	.134 G-s	
P2A	.028 In/Sec	.096 G-s	

SAR57B - Oleum Twr Circ Pump E (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.040 In/Sec	.231 G-s	1775.0 RPM
MOP	.165 G-s		
MOV	.058 In/Sec	.063 G-s	
MOA	.054 In/Sec	.037 G-s	
MIH	.042 In/Sec	.330 G-s	
MIP	.137 G-s		
MIV	.064 In/Sec	.300 G-s	
MIA	.053 In/Sec	.108 G-s	

SAR61NM - Spent Acid Circ Pmp N (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MIH	.023 In/Sec	.175 G-s	1775.0 RPM
MIP	.066 G-s		
MIV	.082 In/Sec	.133 G-s	
MIA	.056 In/Sec	.051 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.016 In/Sec	.071 G-s	
PIP	.067 G-s		
PIV	.021 In/Sec	.063 G-s	
PIA	.021 In/Sec	.034 G-s	

SAR63EM - Spent Acid Feed Pmp E (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.090 In/Sec	.290 G-s	3575.0 RPM
MOP	.131 G-s		
MOV	.199 In/Sec	.111 G-s	
MOA	.098 In/Sec	.042 G-s	

MIH	.043 In/Sec	.351 G-s
MIP	.122 G-s	
MIV	.200 In/Sec	.099 G-s
MIA	.062 In/Sec	.082 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.433 In/Sec	.126 G-s
PIP	.0044 G-s	
PIV	.219 In/Sec	.043 G-s
PIA	.068 In/Sec	.052 G-s
POH	.388 In/Sec	.876 G-s
POP	.054 G-s	
POV	.124 In/Sec	.369 G-s
POA	.133 In/Sec	.315 G-s

SAR63WM	- Spent Acid Feed Pmp W	(04-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.025 In/Sec	.313 G-s
MOP	.010 G-s	3575.0 RPM
MOV	.034 In/Sec	.050 G-s
MOA	.030 In/Sec	.049 G-s
MIH	.036 In/Sec	.296 G-s
MIP	.026 G-s	
MIV	.026 In/Sec	.060 G-s
MIA	.033 In/Sec	.062 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.060 In/Sec	.544 G-s
PIP	.118 G-s	
PIV	.047 In/Sec	.353 G-s
PIA	.056 In/Sec	.147 G-s

SAR66A	- Vertical Cool Twr Pump #1	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.523 In/Sec	.177 G-s
MOP	.107 G-s	1195.0 RPM
MOV	.223 In/Sec	.125 G-s
MOA	.567 In/Sec	.123 G-s
MIH	.225 In/Sec	.113 G-s
MIP	.059 G-s	
MIV	.292 In/Sec	.134 G-s
MIA	.168 In/Sec	.056 G-s

SAR66B	- Vertical Cool Twr Pump #2	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.234 In/Sec	.120 G-s
MOP	.068 G-s	1195.0 RPM
MOV	.135 In/Sec	.122 G-s
MOA	.449 In/Sec	.100 G-s
MIH	.136 In/Sec	.169 G-s
MIP	.100 G-s	
MIV	.189 In/Sec	.110 G-s
MIA	.192 In/Sec	.064 G-s

SAR66C	- Vertical Cool Twr Pump #3	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.394 In/Sec	.089 G-s
MOP	.046 G-s	1195.0 RPM
MOV	.110 In/Sec	.038 G-s

MOA	.256 In/Sec	.038 G-s
MIH	.182 In/Sec	.053 G-s
MIP	.026 G-s	
MIV	.137 In/Sec	.037 G-s
MIA	.089 In/Sec	.038 G-s

SAR66D - Vertical Cool Twr Pump #4 (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.154 In/Sec	.108 G-s	1195.0 RPM
MOP	.050 G-s		
MOV	.066 In/Sec	.076 G-s	
MOA	.126 In/Sec	.055 G-s	
MIH	.068 In/Sec	.056 G-s	
MIP	.030 G-s		
MIV	.077 In/Sec	.042 G-s	
MIA	.048 In/Sec	.030 G-s	

SAR127 - Final Twr Pumpout Drain Pmp (08-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.016 In/Sec	.453 G-s	1775.0 RPM
MOP	.270 G-s		
MOV	.023 In/Sec	.128 G-s	
MOA	.027 In/Sec	.121 G-s	
MIH	.020 In/Sec	.337 G-s	
MIP	.118 G-s		
MIV	.022 In/Sec	.169 G-s	
MIA	.019 In/Sec	.130 G-s	
	OVERALL LEVEL	1K-20KHz	
PIH	.053 In/Sec	.054 G-s	
PIP	.023 G-s		
PIV	.023 In/Sec	.153 G-s	
PIA	.035 In/Sec	.044 G-s	

SAR128 - Oleum Fume Scrub Blwr (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MIH	.076 In/Sec	.231 G-s	3575.0 RPM
MIP	.012 G-s		
MIV	.046 In/Sec	.103 G-s	
MIA	.042 In/Sec	.053 G-s	
	OVERALL LEVEL	1K-20KHz	
FIH	.078 In/Sec	.336 G-s	
FIP	.020 G-s		
FIV	.037 In/Sec	.152 G-s	
FIA	.047 In/Sec	.114 G-s	
FOH	.091 In/Sec	.499 G-s	
FOP	.052 G-s		
FOV	.086 In/Sec	.142 G-s	
FOA	.107 In/Sec	.075 G-s	

SAR135 - Spent Acid Circ Pmp E (04-Mar-21)

	OVERALL LEVEL	1K-20kHz	
MOH	.027 In/Sec	.224 G-s	1775.0 RPM
MOP	.094 G-s		
MOV	.035 In/Sec	.089 G-s	
MOA	.058 In/Sec	.030 G-s	
MIH	.033 In/Sec	.346 G-s	
MIP	.161 G-s		

MIV	.047 In/Sec	.052 G-s
MIA	.042 In/Sec	.027 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.031 In/Sec	.162 G-s
PIP	.105 G-s	
PIV	.025 In/Sec	.086 G-s
PIA	.021 In/Sec	.097 G-s
POH	.024 In/Sec	.222 G-s
POP	.022 G-s	
POV	.033 In/Sec	.089 G-s
POA	.027 In/Sec	.042 G-s

SAR137A - Contain Pit Pump N (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.887 In/Sec	.239 G-s
MOP	.123 G-s	1775.0 RPM
MOV	.384 In/Sec	.188 G-s
MOA	1.174 In/Sec	.067 G-s

SAR137B - Contain Pit PumpS (08-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.066 In/Sec	.302 G-s
MOP	.159 G-s	1775.0 RPM
MOV	.061 In/Sec	.136 G-s
MOA	.101 In/Sec	.115 G-s
* MIH	.050 In/Sec	.217 G-s
* MIP	.116 G-s	
* MIV	.147 In/Sec	.087 G-s
* MIA	.079 In/Sec	.128 G-s

SAR156 - Spent Acid Feed Booster N (04-Mar-21)

	OVERALL LEVEL	1K-20kHz
MIH	.031 In/Sec	.223 G-s
MIP	.103 G-s	1176.0 RPM
MIV	.041 In/Sec	.136 G-s
MIA	.040 In/Sec	.181 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.080 In/Sec	.034 G-s
PIP	.019 G-s	
PIV	.033 In/Sec	.041 G-s
PIA	.055 In/Sec	.028 G-s

SAR222 - Oleum Twr Drain Pmp (08-Mar-21)

	OVERALL LEVEL	1K-20kHz
MOH	.066 In/Sec	.550 G-s
MOP	.0022 G-s	3575.0 RPM
MOV	.077 In/Sec	.361 G-s
MOA	.052 In/Sec	.305 G-s
MIH	.050 In/Sec	.384 G-s
MIP	.014 G-s	
MIV	.103 In/Sec	.677 G-s
MIA	.061 In/Sec	.226 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.339 In/Sec	6.163 G-s
PIP	.0076 G-s	
PIV	.115 In/Sec	1.522 G-s
* POH	.157 In/Sec	2.925 G-s

* POP	.018 G-s
* POV	.150 In/Sec
	2.260 G-s

SAR231A	- Final Twr Circ Pump N	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.285 In/Sec	.987 G-s
MOP	.490 G-s	1775.0 RPM
MOV	.068 In/Sec	.422 G-s
MOA	.354 In/Sec	.301 G-s
MIH	.142 In/Sec	.896 G-s
MIP	.390 G-s	
MIV	.061 In/Sec	.688 G-s
MIA	.241 In/Sec	.359 G-s
SAR233	- Interpass Twr Drain Pmp1	(08-Mar-21)
	OVERALL LEVEL	1K-20kHz
MOH	.043 In/Sec	.097 G-s
MOP	.0015 G-s	3575.0 RPM
MOV	.077 In/Sec	.301 G-s
MOA	.042 In/Sec	.115 G-s
MIH	.042 In/Sec	.136 G-s
MIP	.011 G-s	
MIV	.045 In/Sec	.181 G-s
MIA	.032 In/Sec	.082 G-s
	OVERALL LEVEL	1K-20KHz
PIH	.037 In/Sec	.041 G-s
PIP	.0020 G-s	
PIV	.034 In/Sec	.178 G-s
PIA	.041 In/Sec	.043 G-s
* POH	.034 In/Sec	.181 G-s
* POP	.015 G-s	
* POV	.030 In/Sec	.202 G-s

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Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK
Dsp	-->	Mils	P-P

\* - Indicates Data Has Date/Time Different From Equipment Date/Time