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December 17, 2024

South Shelby RNG
Memphis, TN

The following is a summary of findings from the December 2024 monthly vibration survey that was performed on December 10, 2024.

QualiTest® uses a four-step rating system for defects.

Class I: Defect is present, but effect on reliability is not clear; no immediate action is required.
Continue to normally monitor.

Class II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

Class III: Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

Class IV: Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Hi-Speed **Industrial Service** tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

Defects

C-551A Vacuum Compressor A
Compressor amplitudes are somewhat higher than normal when compressor is under load. Harmonics of 4 x rpm can be seen. Data indicates some internal wear of the compressor may be present. Monitoring this closely. Rated as a **CLASS II** defect.

C-0600 A Feed Gas Compressor
Compressor data is shows some high 1 x input rpm vibration especially in the vertical direction. Check compressor fasteners and ensure compressor does not have a soft foot or piping strain. Rated as a **CLASS II** defect.

C-0600 B Feed Gas Compressor
There is some 4 x rpm (lobe pass) and harmonics of 4 x in the compressor spectra. We will continue to monitor this closely. Rated as a **CLASS I** defect.

BLR-0200 A, Blower MOTOR
Motor data is showing non-synchronous vibration, noise floor, and 1-20 kHz. amplitude. There are all indications of bearing issues in the motor. This could be a lube issue, but is more likely to be caused by defective motor bearings. Motor should be inspected as scheduling allows. Rated as a **CLASS II** defect.

C-1300 Sales Gas Compressor Stage 1
Compressor drive end data shows some high frequency vibration peaks in the spectra that may be related to gear mesh frequency of the internal mating gears. Amplitude is slightly lower this survey, but these peaks are still present. We would need more internal information such as gear ratio and number of gear teeth to confirm issue. Rated as a **CLASS I** defect for now.

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                  Abbreviated Last Measurement Summary
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          Database:  South Shelby RNG.rbm
          Area:      SOUTH SHELBY PLANT

MEASUREMENT POINT             OVERALL LEVEL       HFD / VHFD
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C-551B     - C-551B VACUUM COMPRESSOR B    (10-Dec-24)
                               OVERALL LEVEL     1K-20KHz
       MOH                      .067 In/Sec      1.320 G-s
       MOV                      .053 In/Sec       .414 G-s
       MIH                      .130 In/Sec      2.347 G-s
       MIV                      .112 In/Sec       .274 G-s
       MIA                      .070 In/Sec       .283 G-s
       CIA                      .187 In/Sec       .889 G-s
       CIH                      .150 In/Sec      3.007 G-s
       CIV                      .248 In/Sec       .779 G-s
       COH                      .304 In/Sec      3.584 G-s
       COV                      .342 In/Sec      1.085 G-s
       COA                      .251 In/Sec      1.007 G-s

C-551A     - C-551A VACUUM COMPRESSOR A    (10-Dec-24)
                               OVERALL LEVEL     1K-20KHz
       MOH                      .050 In/Sec      2.533 G-s
       MOV                      .060 In/Sec       .274 G-s
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	MIH	.110 In/Sec	1.580 G-s
	MIV	.084 In/Sec	.445 G-s
	MIA	.063 In/Sec	.542 G-s
	CIA	.213 In/Sec	.653 G-s
	CIH	.178 In/Sec	2.791 G-s
	CIV	.256 In/Sec	.650 G-s
	COH	.354 In/Sec	4.798 G-s
	COV	.337 In/Sec	1.033 G-s
	COA	.215 In/Sec	1.271 G-s

C-601B - C-601B N2 RECYCLE COMP B (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.118 In/Sec	1.141 G-s
	MOV	.047 In/Sec	.348 G-s
	MIH	.110 In/Sec	.594 G-s
	MIV	.058 In/Sec	.116 G-s
	MIA	.058 In/Sec	.105 G-s
	CIA	.116 In/Sec	.572 G-s
	CIH	.120 In/Sec	1.596 G-s
	CIV	.153 In/Sec	.356 G-s
	COH	.181 In/Sec	1.989 G-s
	COV	.115 In/Sec	.939 G-s
	COA	.095 In/Sec	.883 G-s

C-601A - C-601A N2 RECYCLE COMP A (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.037 In/Sec	.656 G-s
	MOV	.022 In/Sec	.430 G-s
	MIH	.074 In/Sec	.912 G-s
	MIV	.032 In/Sec	.460 G-s
	MIA	.038 In/Sec	.291 G-s
	CIA	.107 In/Sec	.765 G-s
	CIH	.103 In/Sec	2.013 G-s
	CIV	.155 In/Sec	.302 G-s
	COH	.085 In/Sec	2.160 G-s
	COV	.105 In/Sec	.649 G-s
	COA	.108 In/Sec	.963 G-s

C-0600A - C-0600A FEED GAS COMP A (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.117 In/Sec	.483 G-s
	MOV	.100 In/Sec	.147 G-s
	MIH	.097 In/Sec	.395 G-s
	MIV	.062 In/Sec	.093 G-s
	MIA	.049 In/Sec	.244 G-s
	CIA	.260 In/Sec	.449 G-s
	CIH	.338 In/Sec	1.688 G-s
	CIV	.727 In/Sec	.475 G-s
	COH	.230 In/Sec	1.649 G-s
	COV	.396 In/Sec	.717 G-s
	COA	.332 In/Sec	.645 G-s

C-0600B - C-0600B FEED GAS COMP B (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.128 In/Sec	.621 G-s
	MOV	.063 In/Sec	.116 G-s
	MIH	.170 In/Sec	.457 G-s
	MIV	.119 In/Sec	.087 G-s
	MIA	.102 In/Sec	.207 G-s
	CIA	.337 In/Sec	1.274 G-s
	CIH	.470 In/Sec	2.392 G-s
	CIV	.496 In/Sec	1.220 G-s
	COH	.490 In/Sec	2.425 G-s
	COV	.601 In/Sec	.617 G-s
	COA	.316 In/Sec	.958 G-s

C-0600C - C-0600C FEED GAS COMP C (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.160 In/Sec	.314 G-s
	MOV	.096 In/Sec	.139 G-s

	MIH	.203 In/Sec	.400 G-s
	MIV	.097 In/Sec	.053 G-s
	MIA	.043 In/Sec	.158 G-s
	CIA	.241 In/Sec	.877 G-s
	CIH	.466 In/Sec	4.607 G-s
	CIV	.448 In/Sec	.413 G-s
	COH	.275 In/Sec	2.714 G-s
	COV	.601 In/Sec	.197 G-s
	COA	.254 In/Sec	.468 G-s

BLR-0200A - BLR-0200A LFG BLOWER A (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.138 In/Sec	1.842 G-s
	MOV	.084 In/Sec	.397 G-s
	MIH	.137 In/Sec	3.069 G-s
	MIV	.134 In/Sec	.397 G-s
	MIA	.060 In/Sec	1.005 G-s
	BIA	.072 In/Sec	.640 G-s
	BIH	.117 In/Sec	4.226 G-s
	BIV	.397 In/Sec	.572 G-s
	BOH	.111 In/Sec	3.389 G-s
	BOV	.265 In/Sec	.801 G-s
	BOA	.064 In/Sec	.646 G-s

BLR-0200C - BLR-0200C LFG BLOWER C (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.093 In/Sec	.933 G-s
	MOV	.164 In/Sec	.205 G-s
	MIH	.096 In/Sec	1.140 G-s
	MIV	.197 In/Sec	.186 G-s
	MIA	.278 In/Sec	.298 G-s
	BIA	.290 In/Sec	3.339 G-s
	BIH	.675 In/Sec	17.47 G-s
	BIV	.471 In/Sec	3.023 G-s
	BOH	.613 In/Sec	14.83 G-s
	BOV	.399 In/Sec	2.232 G-s
	BOA	.344 In/Sec	3.122 G-s

BLR-0200D - BLR-0200D LFG BLOWER D (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.101 In/Sec	.893 G-s
	MOV	.084 In/Sec	.306 G-s
	MIH	.084 In/Sec	1.117 G-s
	MIV	.243 In/Sec	.162 G-s
	MIA	.074 In/Sec	.296 G-s
	BIA	.167 In/Sec	2.057 G-s
	BIH	.479 In/Sec	14.85 G-s
	BIV	.364 In/Sec	1.953 G-s
	BOH	.419 In/Sec	10.24 G-s
	BOV	.357 In/Sec	2.158 G-s
	BOA	.244 In/Sec	1.964 G-s

C-1300 - C-1300 SALES GAS COMP STG 1 (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.080 In/Sec	.464 G-s
	MOV	.154 In/Sec	.106 G-s
	MIH	.059 In/Sec	.262 G-s
	MIV	.262 In/Sec	.127 G-s
	MIA	.192 In/Sec	.254 G-s
	CIA	.214 In/Sec	.592 G-s
	CIH	.218 In/Sec	3.959 G-s
	CIV	.381 In/Sec	.884 G-s
	COH	.161 In/Sec	2.347 G-s
	COV	.253 In/Sec	.382 G-s
	COA	.203 In/Sec	1.185 G-s

C-1304 - C-1304 SALES GAS COMP STG 2 (10-Dec-24)

		OVERALL LEVEL	1K-20KHz
	MOH	.316 In/Sec	.763 G-s
	MOV	.083 In/Sec	.503 G-s

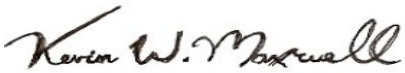
MIH	.349 In/Sec	1.001 G-s
MIV	.107 In/Sec	.565 G-s
MIA	.196 In/Sec	.236 G-s
CIA	.174 In/Sec	.219 G-s
CIH	.185 In/Sec	.597 G-s
CIV	.112 In/Sec	.198 G-s
COH	.186 In/Sec	.486 G-s
COV	.136 In/Sec	.189 G-s
COA	.139 In/Sec	.144 G-s
1SH	.232 In/Sec	.603 G-s
1SV	.179 In/Sec	.134 G-s
1SA	.263 In/Sec	.151 G-s
2SH	.224 In/Sec	.574 G-s
2SV	.250 In/Sec	.177 G-s
2SA	.264 In/Sec	.215 G-s

Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK

As always, it has been a pleasure to serve South Shelby RNG. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

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