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June 10th, 2025

South Shelby RNG
Memphis, TN

The following is a summary of findings from the June 2025 monthly vibration survey that was performed on June 9th, 2025.

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

C-551A Vacuum Compressor A
Compressor amplitudes are still slightly 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. We remain to monitor this closely. Rated as a **CLASS II** defect.

C-0600 A Feed Gas Compressor
Compressor data remains to show 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 I** defect.

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

C-0600 C Feed Gas Compressor
Overall compressor vibration remains lower than previously; however, data still shows a 1 x input rpm (drive side rotor 1800 rpm) vibration in the compressor. Overall amplitude is lower than last month, but still well above 1 ips-pk overall in the vertical direction. The compressor shaft could have excessive deflection due to bent shaft or excessive shaft movement. Imbalance of the compressor rotor could also be suspect of the high 1 x rpm vibration. The 1 x rpm vibration could be caused by some type of piping strain or compressor soft foot. Also check compressor fasteners asap as this high vibration could loosen the foot bolts. Rated as a **CLASS III** defect.

BLR-0200 A and B, LFG Blower MOTORS
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.

BLR-0200 C and D LFG BLOWERS
Blower data indicates possible internal wear of the blowers. A and B have much less acceleration amplitudes and much less noise floor in spectral data. C and D have high acceleration amplitudes and high noise floor in spectra. Blowers may need attention in the next few months. Monitoring this closely. 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.

Abbreviated Last Measurement Summary

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Database: South Shelby RNG.rbm
Area: SOUTH SHELBY PLANT

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD
C-551B	- C-551B VACUUM COMPRESSOR B	(09-Jun-25)	
		OVERALL LEVEL	1K-20KHz
MOH		.080 In/Sec	3.933 G-s
MOV		.084 In/Sec	.471 G-s
MIH		.110 In/Sec	1.481 G-s
MIV		.091 In/Sec	.495 G-s
MIA		.075 In/Sec	.270 G-s
CIA		.180 In/Sec	.614 G-s
CIH		.106 In/Sec	1.847 G-s
CIV		.179 In/Sec	.596 G-s
COH		.190 In/Sec	3.766 G-s
COV		.196 In/Sec	.969 G-s
COA		.179 In/Sec	1.000 G-s
C-551A	- C-551A VACUUM COMPRESSOR A	(09-Jun-25)	
		OVERALL LEVEL	1K-20KHz
MOH		.067 In/Sec	1.496 G-s
MOV		.075 In/Sec	.300 G-s
MIH		.115 In/Sec	1.346 G-s
MIV		.067 In/Sec	.266 G-s
MIA		.053 In/Sec	.319 G-s
CIA		.276 In/Sec	.784 G-s
CIH		.195 In/Sec	2.902 G-s
CIV		.357 In/Sec	.674 G-s
COH		.288 In/Sec	6.941 G-s
COV		.252 In/Sec	1.240 G-s
COA		.228 In/Sec	1.452 G-s
C-601B	- C-601B N2 RECYCLE COMP B	(09-Jun-25)	
		OVERALL LEVEL	1K-20KHz
MOH		.082 In/Sec	.496 G-s
MOV		.026 In/Sec	.193 G-s
MIH		.087 In/Sec	1.028 G-s
MIV		.040 In/Sec	.274 G-s
MIA		.054 In/Sec	.203 G-s
CIA		.099 In/Sec	.703 G-s
CIH		.076 In/Sec	2.159 G-s
CIV		.135 In/Sec	.373 G-s
COH		.141 In/Sec	2.107 G-s
COV		.114 In/Sec	.683 G-s
COA		.092 In/Sec	.873 G-s
C-601A	- C-601A N2 RECYCLE COMP A	(09-Jun-25)	
		OVERALL LEVEL	1K-20KHz
MOH		.042 In/Sec	.544 G-s
MOV		.027 In/Sec	.185 G-s
MIH		.077 In/Sec	.892 G-s
MIV		.035 In/Sec	.203 G-s
MIA		.035 In/Sec	.240 G-s
CIA		.144 In/Sec	.645 G-s
CIH		.105 In/Sec	1.509 G-s
CIV		.117 In/Sec	.323 G-s
COH		.100 In/Sec	1.281 G-s
COV		.135 In/Sec	.449 G-s
COA		.101 In/Sec	.623 G-s
C-0600A	- C-0600A FEED GAS COMP A	(09-Jun-25)	
		OVERALL LEVEL	1K-20KHz
MOH		.131 In/Sec	.440 G-s
MOV		.109 In/Sec	.048 G-s

MIH	.144 In/Sec	.484 G-s
MIV	.076 In/Sec	.118 G-s
MIA	.048 In/Sec	.153 G-s
CIA	.375 In/Sec	.765 G-s
CIH	.226 In/Sec	1.512 G-s
CIV	.493 In/Sec	.503 G-s
COH	.245 In/Sec	1.387 G-s
COV	.524 In/Sec	.447 G-s
COA	.401 In/Sec	.711 G-s

C-0600B - C-0600B FEED GAS COMP B (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.061 In/Sec	.426 G-s
MOV	.086 In/Sec	.320 G-s
MIH	.046 In/Sec	.574 G-s
MIV	.046 In/Sec	.202 G-s
MIA	.052 In/Sec	.190 G-s
CIA	.237 In/Sec	.478 G-s
CIH	.309 In/Sec	2.335 G-s
CIV	.590 In/Sec	.917 G-s
COH	.308 In/Sec	3.132 G-s
COV	.454 In/Sec	.777 G-s
COA	.149 In/Sec	1.028 G-s

C-0600C - C-0600C FEED GAS COMP C (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.200 In/Sec	.218 G-s
MOV	.152 In/Sec	.049 G-s
MIH	.238 In/Sec	.490 G-s
MIV	.137 In/Sec	.186 G-s
MIA	.078 In/Sec	.157 G-s
CIA	.934 In/Sec	1.167 G-s
CIH	1.079 In/Sec	6.873 G-s
CIV	.846 In/Sec	.597 G-s
COH	.597 In/Sec	2.599 G-s
COV	.626 In/Sec	.447 G-s
COA	.920 In/Sec	.843 G-s

BLR-0200A - BLR-0200A LFG BLOWER A (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.108 In/Sec	1.946 G-s
MOV	.091 In/Sec	.466 G-s
MIH	.162 In/Sec	3.446 G-s
MIV	.153 In/Sec	.562 G-s
MIA	.086 In/Sec	1.122 G-s
BIA	.079 In/Sec	1.035 G-s
BIH	.147 In/Sec	5.013 G-s
BIV	.305 In/Sec	.981 G-s
BOH	.115 In/Sec	4.841 G-s
BOV	.284 In/Sec	.926 G-s
BOA	.076 In/Sec	1.029 G-s

BLR-0200B - BLR-0200B LFG BLOWER B (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.139 In/Sec	2.381 G-s
MOV	.098 In/Sec	.330 G-s
MIH	.168 In/Sec	3.843 G-s
MIV	.193 In/Sec	.626 G-s
MIA	.078 In/Sec	.944 G-s
BIA	.118 In/Sec	.903 G-s
BIH	.164 In/Sec	4.580 G-s
BIV	.377 In/Sec	1.190 G-s
BOH	.130 In/Sec	3.208 G-s
BOV	.461 In/Sec	.649 G-s
BOA	.127 In/Sec	1.160 G-s

BLR-0200C - BLR-0200C LFG BLOWER C (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.068 In/Sec	.924 G-s
MOV	.074 In/Sec	.195 G-s

MIH	.077 In/Sec	1.032 G-s
MIV	.087 In/Sec	.259 G-s
MIA	.068 In/Sec	.289 G-s
BIA	.222 In/Sec	2.903 G-s
BIH	.573 In/Sec	14.85 G-s
BIV	.251 In/Sec	3.065 G-s
BOH	.635 In/Sec	14.30 G-s
BOV	.317 In/Sec	2.297 G-s
BOA	.197 In/Sec	1.701 G-s

BLR-0200D - BLR-0200D LFG BLOWER D (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.101 In/Sec	1.464 G-s
MOV	.121 In/Sec	.368 G-s
MIH	.115 In/Sec	2.181 G-s
MIV	.294 In/Sec	.365 G-s
MIA	.104 In/Sec	.757 G-s
BIA	.166 In/Sec	2.396 G-s
BIH	.396 In/Sec	16.71 G-s
BIV	.337 In/Sec	2.644 G-s
BOH	.304 In/Sec	17.29 G-s
BOV	.323 In/Sec	2.658 G-s
BOA	.160 In/Sec	2.474 G-s

C-1300 - C-1300 SALES GAS COMP STG 1 (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.078 In/Sec	.387 G-s
MOV	.089 In/Sec	.077 G-s
MIH	.045 In/Sec	.533 G-s
MIV	.272 In/Sec	.155 G-s
MIA	.257 In/Sec	.108 G-s
CIA	.221 In/Sec	.454 G-s
CIH	.246 In/Sec	2.717 G-s
CIV	.353 In/Sec	.598 G-s
COH	.153 In/Sec	1.809 G-s
COV	.246 In/Sec	.542 G-s
COA	.192 In/Sec	.856 G-s

C-1304 - C-1304 SALES GAS COMP STG 2 (09-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.105 In/Sec	.859 G-s
MOV	.098 In/Sec	.649 G-s
MIH	.138 In/Sec	.977 G-s
MIV	.077 In/Sec	.584 G-s
MIA	.079 In/Sec	.243 G-s
CIA	.168 In/Sec	.174 G-s
CIH	.235 In/Sec	.629 G-s
CIV	.119 In/Sec	.198 G-s
COH	.228 In/Sec	.519 G-s
COV	.179 In/Sec	.202 G-s
COA	.163 In/Sec	.249 G-s
1SH	.196 In/Sec	.532 G-s
1SV	.219 In/Sec	.127 G-s
1SA	.235 In/Sec	.123 G-s
2SH	.338 In/Sec	.835 G-s
2SV	.224 In/Sec	.218 G-s
2SA	.257 In/Sec	.261 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

HI-SPEED INDUSTRIAL SERVICE
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