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May 13th, 2025

South Shelby RNG
Memphis, TN

The following is a summary of findings from the May 2025 monthly vibration survey that was performed on May 13th, 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 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 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 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 is lower this survey; 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 (13-May-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.068 In/Sec	3.447 G-s
MOV	.056 In/Sec	.320 G-s
MIH	.090 In/Sec	1.100 G-s
MIV	.092 In/Sec	.179 G-s
MIA	.049 In/Sec	.309 G-s
CIA	.277 In/Sec	.846 G-s
CIH	.148 In/Sec	2.204 G-s
CIV	.234 In/Sec	.733 G-s
COH	.199 In/Sec	4.389 G-s
COV	.215 In/Sec	.881 G-s
COA	.163 In/Sec	1.525 G-s
C-551A - C-551A VACUUM COMPRESSOR A (13-May-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.073 In/Sec	3.442 G-s
MOV	.093 In/Sec	.311 G-s
MIH	.106 In/Sec	.748 G-s
MIV	.097 In/Sec	.315 G-s
MIA	.089 In/Sec	.321 G-s
CIA	.408 In/Sec	.551 G-s
CIH	.226 In/Sec	1.816 G-s
CIV	.352 In/Sec	.515 G-s
COH	.335 In/Sec	5.534 G-s
COV	.350 In/Sec	.934 G-s
COA	.175 In/Sec	1.506 G-s
C-601B - C-601B N2 RECYCLE COMP B (13-May-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.118 In/Sec	1.368 G-s
MOV	.027 In/Sec	.298 G-s
MIH	.111 In/Sec	.794 G-s
MIV	.071 In/Sec	.339 G-s
MIA	.055 In/Sec	.186 G-s
CIA	.104 In/Sec	.712 G-s
CIH	.066 In/Sec	1.341 G-s
CIV	.154 In/Sec	.362 G-s
COH	.153 In/Sec	2.310 G-s
COV	.181 In/Sec	.626 G-s
COA	.141 In/Sec	.869 G-s
C-601A - C-601A N2 RECYCLE COMP A (13-May-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.034 In/Sec	.906 G-s
MOV	.033 In/Sec	.267 G-s
MIH	.074 In/Sec	1.246 G-s
MIV	.037 In/Sec	.292 G-s
MIA	.034 In/Sec	.330 G-s
CIA	.127 In/Sec	.657 G-s
CIH	.076 In/Sec	1.721 G-s
CIV	.154 In/Sec	.340 G-s
COH	.079 In/Sec	2.105 G-s
COV	.102 In/Sec	.645 G-s
COA	.090 In/Sec	.622 G-s

C-0600A - C-0600A FEED GAS COMP A (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.133 In/Sec	.530 G-s
MOV	.110 In/Sec	.135 G-s
MIH	.128 In/Sec	.434 G-s
MIV	.075 In/Sec	.096 G-s
MIA	.044 In/Sec	.189 G-s
CIA	.331 In/Sec	.460 G-s
CIH	.345 In/Sec	1.486 G-s
CIV	.623 In/Sec	.502 G-s
COH	.262 In/Sec	1.821 G-s
COV	.541 In/Sec	.511 G-s
COA	.278 In/Sec	.915 G-s

C-0600B - C-0600B FEED GAS COMP B (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.073 In/Sec	.531 G-s
MOV	.109 In/Sec	.226 G-s
MIH	.073 In/Sec	.605 G-s
MIV	.053 In/Sec	.373 G-s
MIA	.058 In/Sec	.209 G-s
CIA	.252 In/Sec	.449 G-s
CIH	.307 In/Sec	2.405 G-s
CIV	.627 In/Sec	.635 G-s
COH	.334 In/Sec	3.611 G-s
COV	.474 In/Sec	.743 G-s
COA	.223 In/Sec	1.278 G-s

C-0600C - C-0600C FEED GAS COMP C (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.231 In/Sec	.241 G-s
MOV	.167 In/Sec	.203 G-s
MIH	.261 In/Sec	.429 G-s
MIV	.134 In/Sec	.359 G-s
MIA	.099 In/Sec	.258 G-s
CIA	.368 In/Sec	1.315 G-s
CIH	.754 In/Sec	3.899 G-s
CIV	1.107 In/Sec	.735 G-s
COH	.581 In/Sec	2.627 G-s
COV	.646 In/Sec	.471 G-s
COA	.689 In/Sec	.844 G-s

BLR-0200A - BLR-0200A LFG BLOWER A (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.084 In/Sec	2.129 G-s
MOV	.123 In/Sec	.434 G-s
MIH	.168 In/Sec	2.652 G-s
MIV	.278 In/Sec	.492 G-s
MIA	.188 In/Sec	.723 G-s
BIA	.154 In/Sec	.454 G-s
BIH	.141 In/Sec	1.939 G-s
BIV	.285 In/Sec	.429 G-s
BOH	.133 In/Sec	2.139 G-s
BOV	.257 In/Sec	.396 G-s
BOA	.086 In/Sec	.462 G-s

BLR-0200B - BLR-0200B LFG BLOWER B (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.193 In/Sec	1.869 G-s
MOV	.207 In/Sec	.344 G-s
MIH	.237 In/Sec	3.009 G-s
MIV	.219 In/Sec	.412 G-s
MIA	.117 In/Sec	.891 G-s
BIA	.238 In/Sec	.411 G-s
BIH	.209 In/Sec	1.436 G-s
BIV	.422 In/Sec	.402 G-s
BOH	.106 In/Sec	1.276 G-s
BOV	.464 In/Sec	.246 G-s
BOA	.253 In/Sec	.448 G-s

BLR-0200C - BLR-0200C LFG BLOWER C (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.175 In/Sec	1.063 G-s
MOV	.150 In/Sec	.187 G-s
MIH	.137 In/Sec	.949 G-s
MIV	.154 In/Sec	.228 G-s
MIA	.062 In/Sec	.332 G-s
BIA	.156 In/Sec	1.718 G-s
BIH	.285 In/Sec	8.830 G-s
BIV	.294 In/Sec	2.210 G-s
BOH	.326 In/Sec	8.278 G-s
BOV	.324 In/Sec	2.572 G-s
BOA	.154 In/Sec	1.835 G-s

BLR-0200D - BLR-0200D LFG BLOWER D (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.131 In/Sec	1.398 G-s
MOV	.122 In/Sec	.421 G-s
MIH	.169 In/Sec	1.972 G-s
MIV	.113 In/Sec	.285 G-s
MIA	.091 In/Sec	.426 G-s
BIA	.176 In/Sec	1.552 G-s
BIH	.267 In/Sec	7.696 G-s
BIV	.329 In/Sec	1.808 G-s
BOH	.212 In/Sec	9.782 G-s
BOV	.245 In/Sec	1.730 G-s
BOA	.148 In/Sec	2.025 G-s

C-1300 - C-1300 SALES GAS COMP STG 1 (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.080 In/Sec	.503 G-s
MOV	.106 In/Sec	.063 G-s
MIH	.060 In/Sec	.379 G-s
MIV	.273 In/Sec	.089 G-s
MIA	.144 In/Sec	.272 G-s
CIA	.256 In/Sec	.439 G-s
CIH	.223 In/Sec	2.527 G-s
CIV	.346 In/Sec	.446 G-s
COH	.203 In/Sec	2.173 G-s
COV	.245 In/Sec	.631 G-s
COA	.225 In/Sec	.826 G-s

C-1304 - C-1304 SALES GAS COMP STG 2 (13-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.185 In/Sec	.802 G-s
MOV	.088 In/Sec	.712 G-s
MIH	.222 In/Sec	1.020 G-s
MIV	.079 In/Sec	.491 G-s
MIA	.128 In/Sec	.200 G-s
CIA	.157 In/Sec	.114 G-s
CIH	.154 In/Sec	.443 G-s
CIV	.118 In/Sec	.262 G-s
COH	.213 In/Sec	.351 G-s
COV	.143 In/Sec	.214 G-s
COA	.162 In/Sec	.183 G-s
1SH	.210 In/Sec	.474 G-s
1SV	.159 In/Sec	.128 G-s
1SA	.212 In/Sec	.127 G-s
2SH	.242 In/Sec	.623 G-s
2SV	.141 In/Sec	.161 G-s
2SA	.239 In/Sec	.186 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
QualiTest® Diagnostics

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