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October 21, 2024

South Shelby RNG
Memphis, TN

The following is a summary of findings from the monthly vibration survey that was performed on October 15, 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

Defects

C-551A Vacuum Compressor A
Compressor remains higher than normal under load. Harmonics of 4 x rpm can be seen. Compressor also seems noisier than usual. 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 have a soft foot. Ensure compressor adapter blocks aren't bowed and are flush with the main base. 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 an increase in 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 soon. Rated as a **CLASS II** defect.

C-1300 Sales Gas Compressor Stage 1
Compressor drive end data still shows some high frequency vibration 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 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 (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.074 In/Sec	.869 G-s
MOV	.052 In/Sec	.297 G-s
MIH	.116 In/Sec	2.021 G-s
MIV	.089 In/Sec	.497 G-s
MIA	.080 In/Sec	.479 G-s
CIA	.159 In/Sec	.737 G-s
CIH	.146 In/Sec	2.330 G-s
CIV	.189 In/Sec	.800 G-s
COH	.186 In/Sec	4.977 G-s
COV	.147 In/Sec	.856 G-s
COA	.122 In/Sec	1.460 G-s

C-551A - C-551A VACUUM COMPRESSOR A (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.063 In/Sec	2.225 G-s
MOV	.070 In/Sec	.365 G-s
MIH	.106 In/Sec	.973 G-s
MIV	.070 In/Sec	.431 G-s
MIA	.058 In/Sec	.366 G-s
CIA	.299 In/Sec	.617 G-s
CIH	.242 In/Sec	2.680 G-s
CIV	.378 In/Sec	.861 G-s
COH	.290 In/Sec	6.165 G-s
COV	.347 In/Sec	1.557 G-s
COA	.204 In/Sec	1.281 G-s

C-601B - C-601B N2 RECYCLE COMP B (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.088 In/Sec	.541 G-s
MOV	.024 In/Sec	.249 G-s
MIH	.090 In/Sec	.697 G-s
MIV	.047 In/Sec	.286 G-s
MIA	.047 In/Sec	.166 G-s
CIA	.100 In/Sec	.690 G-s
CIH	.120 In/Sec	2.059 G-s
CIV	.140 In/Sec	.439 G-s
COH	.113 In/Sec	2.687 G-s
COV	.122 In/Sec	.576 G-s
COA	.092 In/Sec	.822 G-s

C-601A - C-601A N2 RECYCLE COMP A (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.036 In/Sec	.501 G-s
MOV	.024 In/Sec	.245 G-s
MIH	.076 In/Sec	.898 G-s
MIV	.043 In/Sec	.217 G-s
MIA	.036 In/Sec	.161 G-s
CIA	.137 In/Sec	.592 G-s
CIH	.088 In/Sec	1.525 G-s
CIV	.171 In/Sec	.295 G-s
COH	.109 In/Sec	1.751 G-s
COV	.123 In/Sec	.598 G-s
COA	.116 In/Sec	.736 G-s

C-0600A - C-0600A FEED GAS COMP A (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.092 In/Sec	.431 G-s
MOV	.054 In/Sec	.199 G-s

MIH	.096 In/Sec	.380 G-s
MIV	.081 In/Sec	.057 G-s
MIA	.045 In/Sec	.141 G-s
CIA	.326 In/Sec	.501 G-s
CIH	.315 In/Sec	1.779 G-s
CIV	.572 In/Sec	.454 G-s
COH	.250 In/Sec	2.216 G-s
COV	.417 In/Sec	.460 G-s
COA	.263 In/Sec	.769 G-s

C-0600B - C-0600B FEED GAS COMP B (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.145 In/Sec	.571 G-s
MOV	.082 In/Sec	.105 G-s
MIH	.160 In/Sec	.557 G-s
MIV	.082 In/Sec	.189 G-s
MIA	.052 In/Sec	.343 G-s
CIA	.303 In/Sec	.633 G-s
CIH	.442 In/Sec	2.429 G-s
CIV	.629 In/Sec	.581 G-s
COH	.455 In/Sec	2.298 G-s
COV	.716 In/Sec	.462 G-s
COA	.272 In/Sec	.965 G-s

BLR-0200A - BLR-0200A LFG BLOWER A (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.121 In/Sec	1.963 G-s
MOV	.050 In/Sec	.440 G-s
MIH	.131 In/Sec	2.960 G-s
MIV	.197 In/Sec	.457 G-s
MIA	.164 In/Sec	.816 G-s
BIA	.052 In/Sec	.312 G-s
BIH	.114 In/Sec	1.792 G-s
BIV	.374 In/Sec	.304 G-s
BOH	.082 In/Sec	1.521 G-s
BOV	.294 In/Sec	.399 G-s
BOA	.099 In/Sec	.365 G-s

BLR-0200C - BLR-0200C LFG BLOWER C (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.112 In/Sec	.942 G-s
MOV	.103 In/Sec	.202 G-s
MIH	.173 In/Sec	1.091 G-s
MIV	.174 In/Sec	.180 G-s
MIA	.080 In/Sec	.269 G-s
BIA	.153 In/Sec	2.276 G-s
BIH	.395 In/Sec	10.58 G-s
BIV	.279 In/Sec	2.020 G-s
BOH	.329 In/Sec	7.644 G-s
BOV	.302 In/Sec	1.899 G-s
BOA	.193 In/Sec	1.951 G-s

BLR-0200D - BLR-0200D LFG BLOWER D (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.110 In/Sec	.866 G-s
MOV	.086 In/Sec	.335 G-s
MIH	.119 In/Sec	1.578 G-s
MIV	.148 In/Sec	.209 G-s
MIA	.075 In/Sec	.315 G-s
BIA	.154 In/Sec	2.211 G-s
BIH	.242 In/Sec	12.80 G-s
BIV	.265 In/Sec	2.493 G-s
BOH	.271 In/Sec	12.82 G-s
BOV	.272 In/Sec	2.427 G-s
BOA	.151 In/Sec	1.961 G-s

C-1300 - C-1300 SALES GAS COMP STG 1 (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.073 In/Sec	.452 G-s
MOV	.170 In/Sec	.131 G-s

MIH	.063 In/Sec	.464 G-s
MIV	.251 In/Sec	.119 G-s
MIA	.176 In/Sec	.113 G-s
CIA	.247 In/Sec	.704 G-s
CIH	.266 In/Sec	5.762 G-s
CIV	.274 In/Sec	1.122 G-s
COH	.197 In/Sec	1.734 G-s
COV	.261 In/Sec	.871 G-s
COA	.192 In/Sec	.976 G-s

C-1304 - C-1304 SALES GAS COMP STG 2 (15-Oct-24)

	OVERALL LEVEL	1K-20KHz
MOH	.097 In/Sec	2.230 G-s
MOV	.060 In/Sec	.762 G-s
MIH	.100 In/Sec	2.158 G-s
MIV	.087 In/Sec	1.028 G-s
MIA	.088 In/Sec	.400 G-s
CIA	.070 In/Sec	.136 G-s
CIH	.091 In/Sec	.485 G-s
CIV	.079 In/Sec	.069 G-s
COH	.203 In/Sec	.478 G-s
COV	.142 In/Sec	.107 G-s
COA	.125 In/Sec	.156 G-s
1SH	.118 In/Sec	.580 G-s
1SV	.110 In/Sec	.139 G-s
1SA	.133 In/Sec	.182 G-s
2SH	.228 In/Sec	.591 G-s
2SV	.245 In/Sec	.202 G-s
2SA	.177 In/Sec	.300 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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