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November 15, 2024

South Shelby RNG
Memphis, TN

The following is a summary of findings from the monthly vibration survey that was performed on November 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 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. 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 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 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    (15-Nov-24)
                              OVERALL LEVEL     1K-20KHz
       MOH                     .061 In/Sec      1.696 G-s
       MOV                     .049 In/Sec       .380 G-s
       MIH                     .109 In/Sec      4.740 G-s
       MIV                     .088 In/Sec       .926 G-s
       MIA                     .069 In/Sec       .811 G-s
       CIA                     .179 In/Sec       .796 G-s
       CIH                     .240 In/Sec      2.489 G-s
       CIV                     .333 In/Sec      1.052 G-s
       COH                     .165 In/Sec      5.357 G-s
       COV                     .167 In/Sec       .762 G-s
       COA                     .121 In/Sec      1.404 G-s
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C-551A - C-551A VACUUM COMPRESSOR A (15-Nov-24)

	OVERALL LEVEL	1K-20KHz
MOH	.071 In/Sec	1.658 G-s
MOV	.078 In/Sec	.247 G-s
MIH	.098 In/Sec	1.420 G-s
MIV	.088 In/Sec	.593 G-s
MIA	.069 In/Sec	.453 G-s
CIA	.338 In/Sec	.719 G-s
CIH	.287 In/Sec	2.888 G-s
CIV	.440 In/Sec	.419 G-s
COH	.351 In/Sec	5.525 G-s
COV	.336 In/Sec	.945 G-s
COA	.172 In/Sec	1.243 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.070 In/Sec	.583 G-s
MOV	.035 In/Sec	.214 G-s
MIH	.105 In/Sec	.685 G-s
MIV	.064 In/Sec	.250 G-s
MIA	.052 In/Sec	.149 G-s
CIA	.091 In/Sec	.832 G-s
CIH	.117 In/Sec	2.328 G-s
CIV	.104 In/Sec	.329 G-s
COH	.111 In/Sec	2.651 G-s
COV	.128 In/Sec	.676 G-s
COA	.084 In/Sec	.643 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.058 In/Sec	1.124 G-s
MOV	.040 In/Sec	.714 G-s
MIH	.064 In/Sec	.938 G-s
MIV	.026 In/Sec	.328 G-s
MIA	.025 In/Sec	.174 G-s
CIA	.135 In/Sec	.669 G-s
CIH	.085 In/Sec	1.858 G-s
CIV	.145 In/Sec	.353 G-s
COH	.143 In/Sec	1.380 G-s
COV	.147 In/Sec	.598 G-s
COA	.114 In/Sec	.654 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.110 In/Sec	.489 G-s
MOV	.089 In/Sec	.202 G-s
MIH	.105 In/Sec	.453 G-s
MIV	.075 In/Sec	.113 G-s
MIA	.039 In/Sec	.261 G-s
CIA	.217 In/Sec	.543 G-s
CIH	.352 In/Sec	1.988 G-s
CIV	.602 In/Sec	.585 G-s
COH	.261 In/Sec	1.955 G-s
COV	.419 In/Sec	.730 G-s
COA	.298 In/Sec	.778 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.146 In/Sec	.789 G-s
MOV	.087 In/Sec	.138 G-s
MIH	.168 In/Sec	.960 G-s
MIV	.088 In/Sec	.244 G-s
MIA	.048 In/Sec	.261 G-s
CIA	.345 In/Sec	1.016 G-s
CIH	.512 In/Sec	3.637 G-s
CIV	.568 In/Sec	1.001 G-s
COH	.462 In/Sec	2.672 G-s
COV	.643 In/Sec	.467 G-s
COA	.230 In/Sec	1.122 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.114 In/Sec	1.786 G-s
MOV	.070 In/Sec	.473 G-s
MIH	.130 In/Sec	2.402 G-s
MIV	.159 In/Sec	.424 G-s
MIA	.149 In/Sec	.830 G-s
BIA	.059 In/Sec	.333 G-s
BIH	.129 In/Sec	1.517 G-s
BIV	.360 In/Sec	.340 G-s
BOH	.100 In/Sec	1.459 G-s
BOV	.314 In/Sec	.263 G-s
BOA	.060 In/Sec	.295 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.203 In/Sec	.823 G-s
MOV	.173 In/Sec	.201 G-s
MIH	.158 In/Sec	.870 G-s
MIV	.183 In/Sec	.225 G-s
MIA	.109 In/Sec	.195 G-s
BIA	.200 In/Sec	1.968 G-s
BIH	.407 In/Sec	9.744 G-s
BIV	.331 In/Sec	2.036 G-s
BOH	.408 In/Sec	9.108 G-s
BOV	.333 In/Sec	2.268 G-s
BOA	.271 In/Sec	1.539 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.128 In/Sec	.913 G-s
MOV	.121 In/Sec	.321 G-s
MIH	.153 In/Sec	1.258 G-s
MIV	.150 In/Sec	.220 G-s
MIA	.141 In/Sec	.370 G-s
BIA	.155 In/Sec	2.367 G-s
BIH	.244 In/Sec	11.77 G-s
BIV	.244 In/Sec	2.440 G-s
BOH	.452 In/Sec	14.64 G-s
BOV	.258 In/Sec	2.306 G-s
BOA	.163 In/Sec	1.834 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.071 In/Sec	.421 G-s
MOV	.199 In/Sec	.082 G-s
MIH	.068 In/Sec	.924 G-s
MIV	.235 In/Sec	.136 G-s
MIA	.234 In/Sec	.187 G-s
CIA	.258 In/Sec	.637 G-s
CIH	.214 In/Sec	2.670 G-s
CIV	.357 In/Sec	.654 G-s
COH	.146 In/Sec	2.465 G-s
COV	.242 In/Sec	.994 G-s
COA	.164 In/Sec	1.110 G-s

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

	OVERALL LEVEL	1K-20KHz
MOH	.089 In/Sec	.990 G-s
MOV	.081 In/Sec	1.065 G-s
MIH	.149 In/Sec	.898 G-s
MIV	.102 In/Sec	.600 G-s
MIA	.096 In/Sec	.146 G-s
CIA	.147 In/Sec	.144 G-s
CIH	.164 In/Sec	.563 G-s
CIV	.103 In/Sec	.324 G-s
COH	.132 In/Sec	.516 G-s
COV	.121 In/Sec	.175 G-s
COA	.089 In/Sec	.139 G-s
1SH	.155 In/Sec	.494 G-s

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            1SV                     .122 In/Sec       .119 G-s
            1SA                     .156 In/Sec       .141 G-s
            2SH                     .203 In/Sec       .574 G-s
            2SV                     .282 In/Sec       .157 G-s
            2SA                     .219 In/Sec       .271 G-s

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   Clarification Of Vibration Units:
      Acc       -->  G-s      RMS
      Vel       -->  In/Sec   PK
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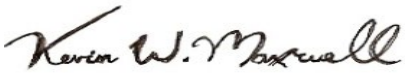
As always, it has been a pleasure to serve South Shelby RNG. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

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