



**QualiTest® Diagnostics**

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July 30<sup>th</sup>, 2025

Fred Callaway  
Southern Illinois Regional Plant  
De Soto, IL

Fred,

The following is a summary of findings from the July 2025 monthly vibration survey at the Southern Illinois Regional site.

**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.

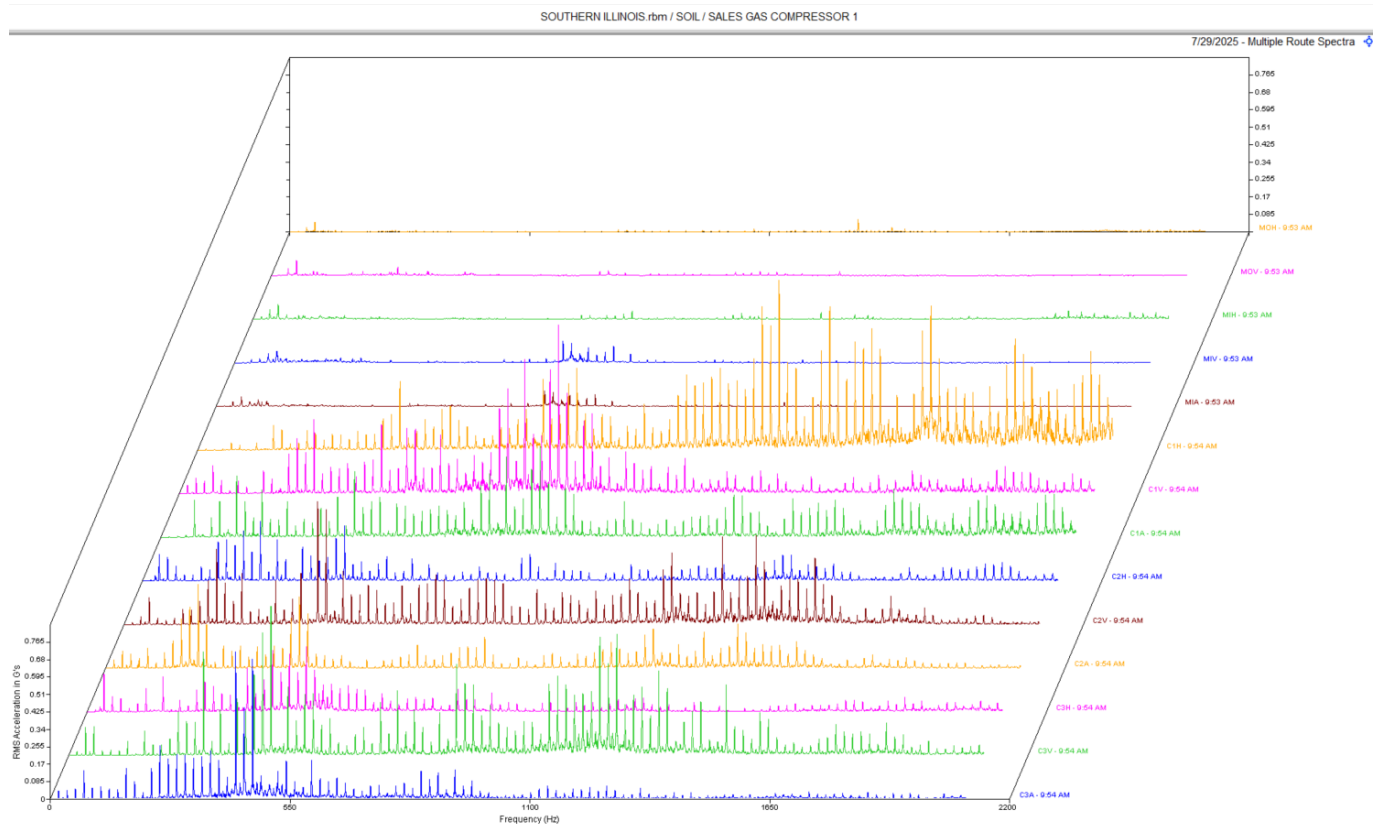
**Class III:** Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

**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

## Sales Gas Compressor 1 CLASS I



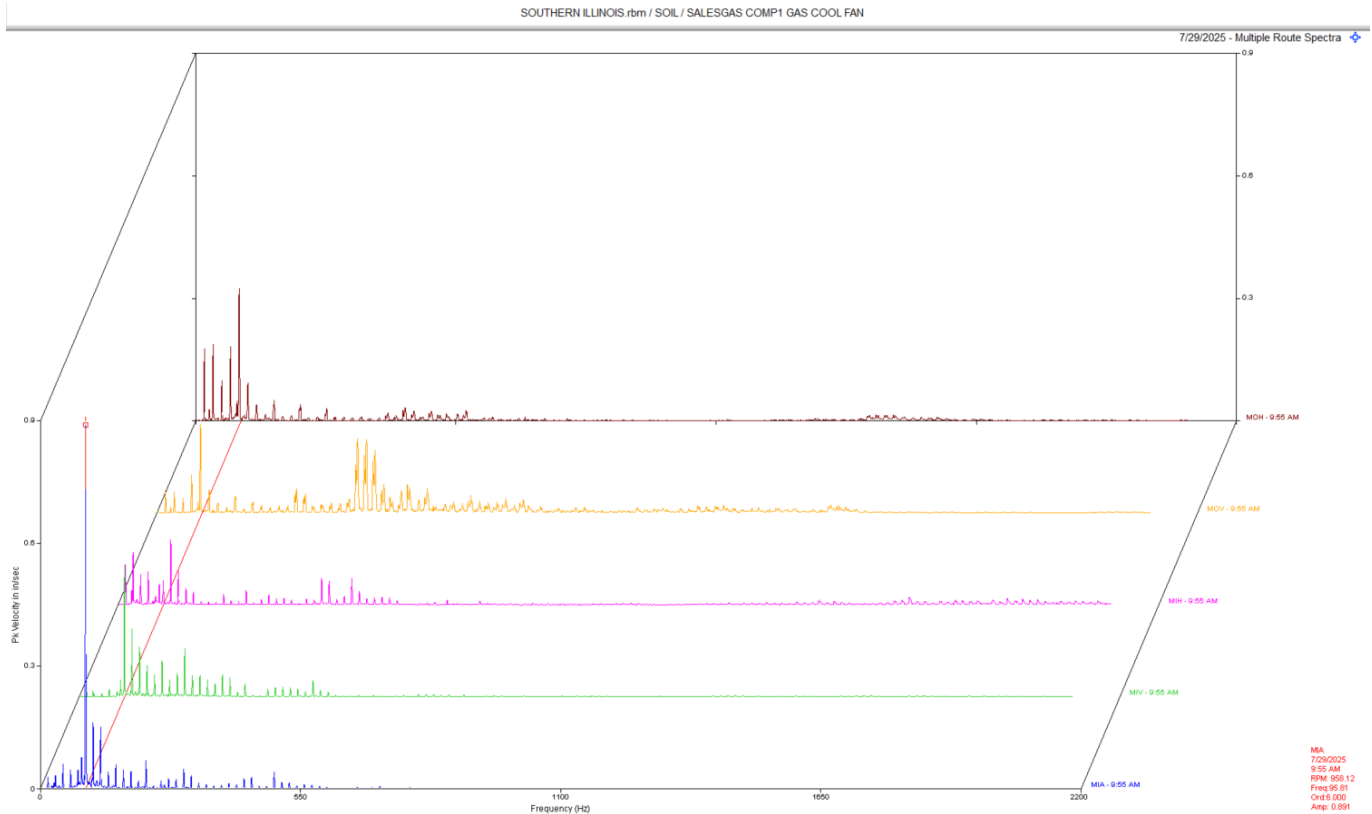
### Observations:

Data above is the motor/compressor multi-point spectral waterfall. There appear to be several compressor rpm harmonics present in the compressor data (C1H-C3A).

### Recommendations:

Compressor data shows increased amplitude and increased harmonic vibration this survey. This may be indicative of internal wear beginning to occur in compressor. We will monitor this closely.

## Sales Gas Comp1 Gas Cooler Fan **CLASS II**



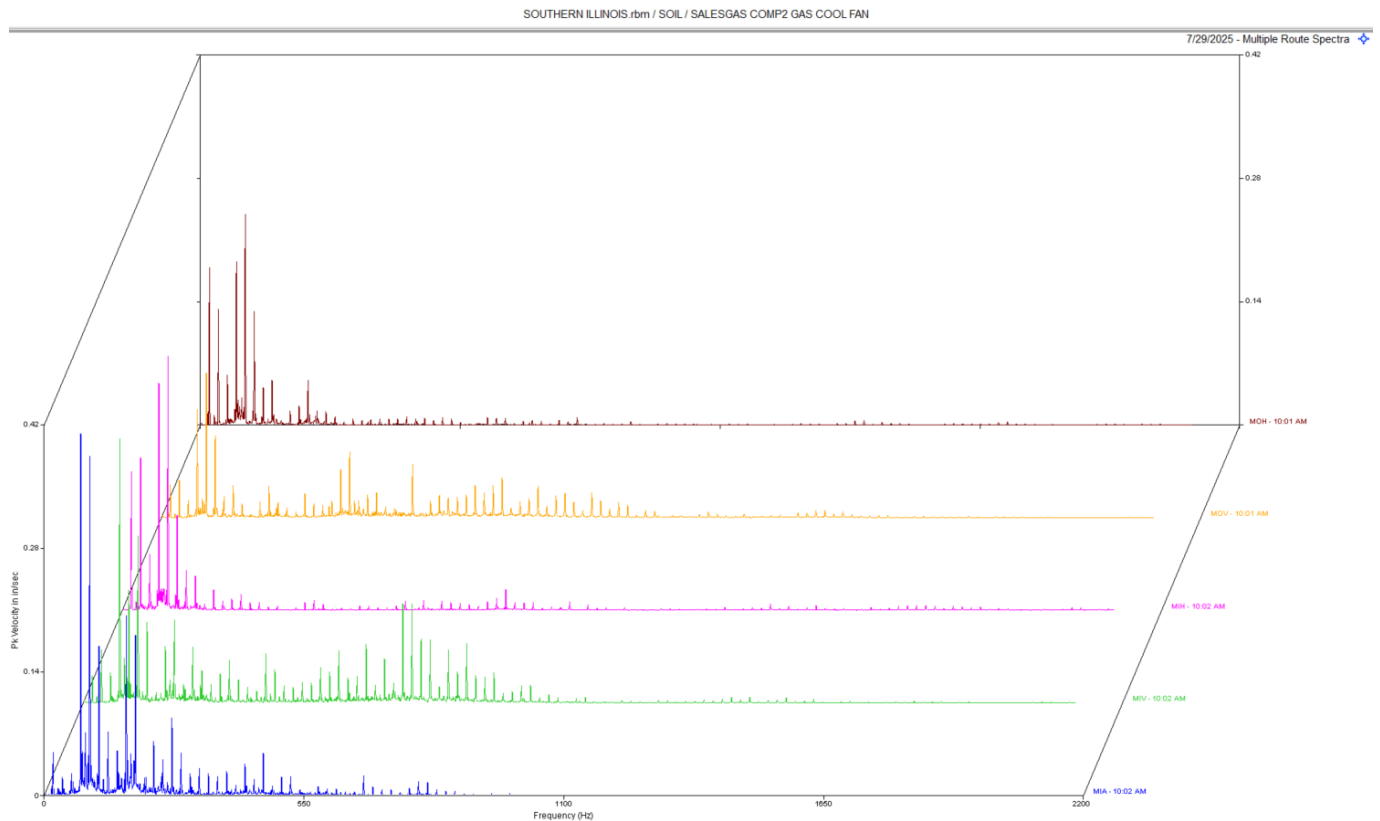
### Observations:

Data above is the motor multi-point spectral waterfall. There appear to be several motor rpm harmonics and a dominant peak that appears to be 6 x rpm in the motor axial (MIA) data

### Recommendations:

The high motor axial vibration may be related to blade pass vibration of the cooling fan. We need to confirm the number of blades on the cooling fan. Inspect fan and fan hub. Inspect fan cone also. We will monitor this closely next survey.

## Sales Gas Comp2 Gas Cooler Fan **CLASS II**



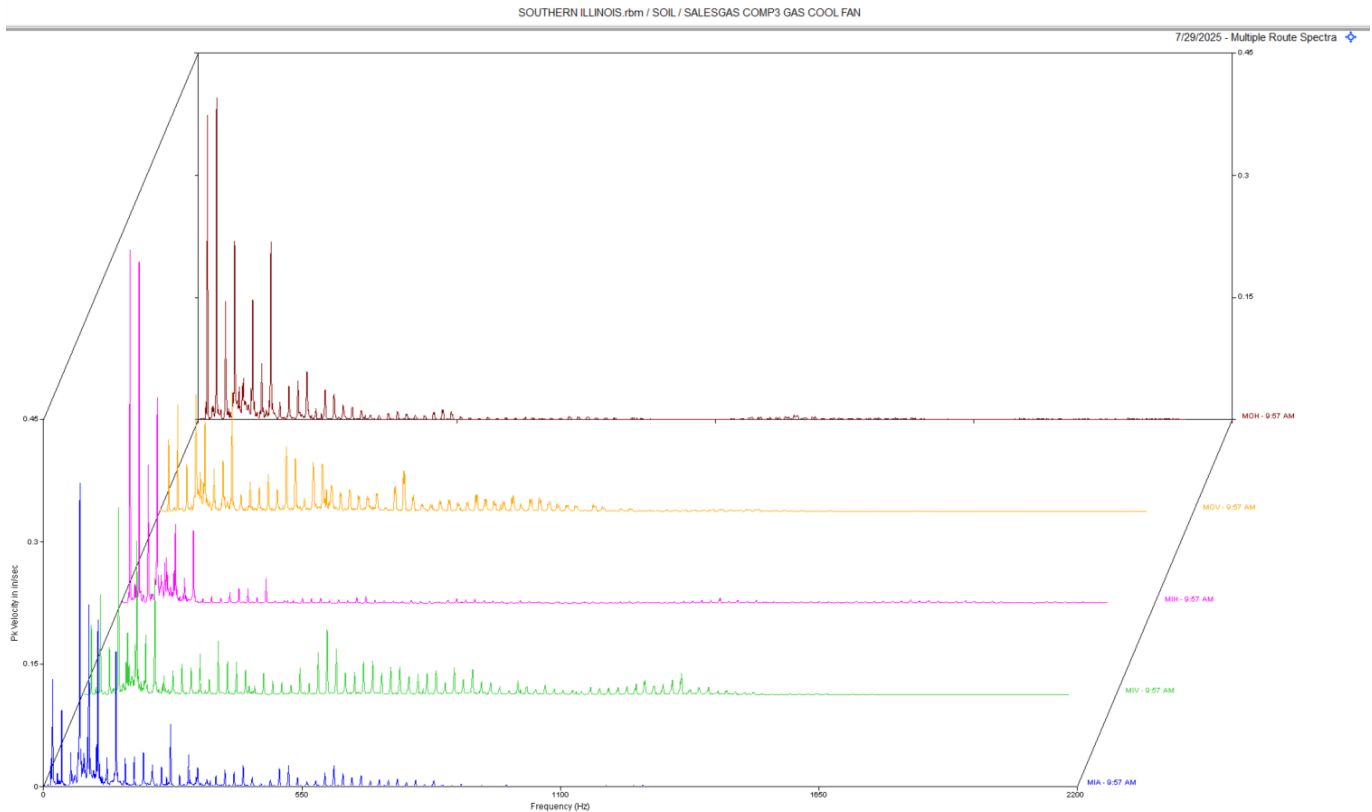
### Observations:

Data above is the motor multi-point spectral waterfall. There appear to be several harmonics present in the motor data. Highest amplitude is at the motor axial (MIA).

### Recommendations:

The presence of harmonics indicates possible mechanical looseness in the motor and or fan bearings depending on speed. We also cannot collect data on the housings due to guarding, therefore amplitudes are likely higher at the bearings. Check motor and fan for signs of looseness.

## Sales Gas Comp3 Gas Cooler Fan **CLASS II**



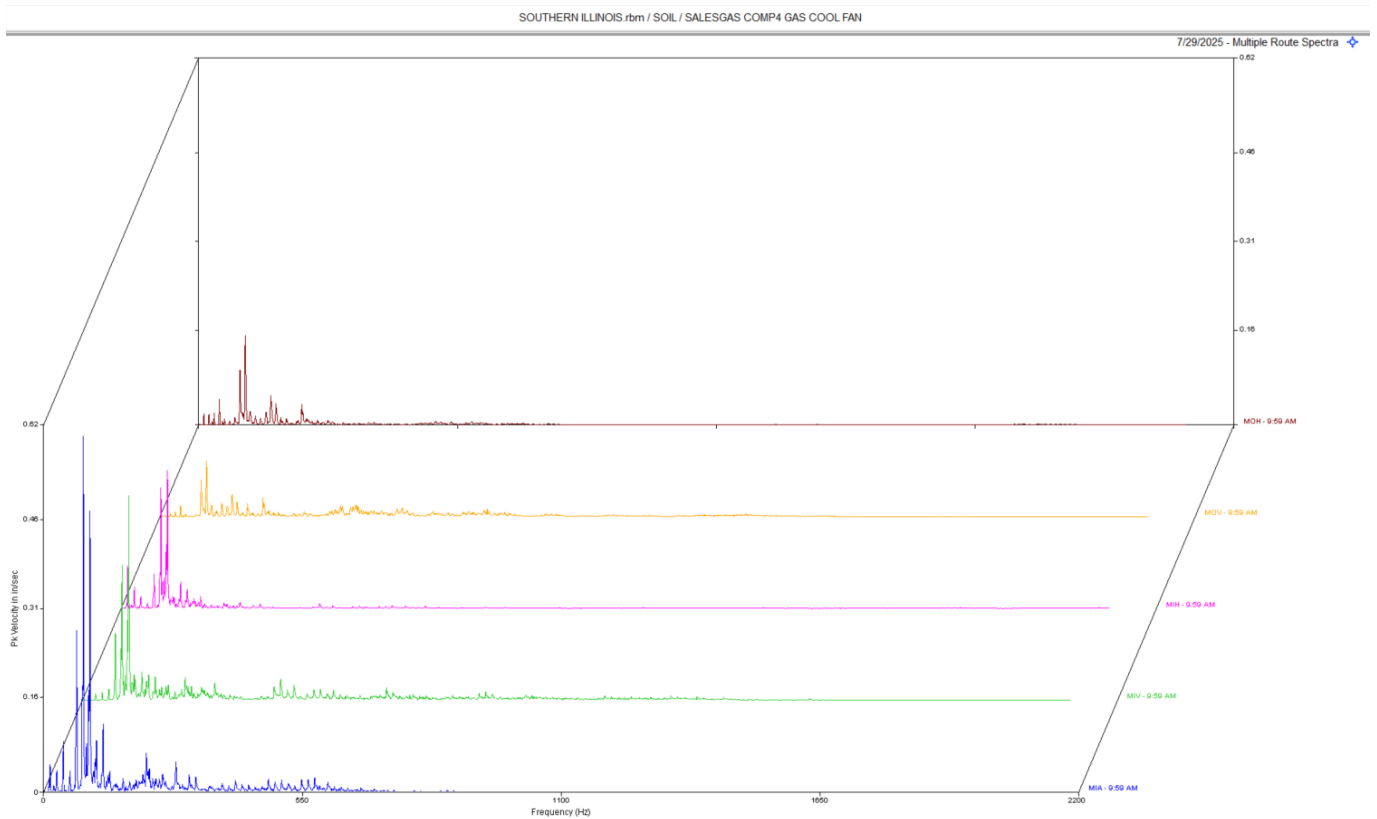
### **Observations:**

Data above is the motor multi-point spectral waterfall. There appear to be several harmonics present in the motor data. Overall amplitude is considered high.

### **Recommendations:**

The presence of harmonics indicates possible mechanical looseness in the motor and or fan bearings depending on speed. We also cannot collect data on the housings due to guarding, therefore amplitudes are likely higher at the bearings. Check motor and fan for signs of looseness.

## Sales Gas Comp4 Gas Cooler Fan **CLASS II**



### **Observations:**

Data above is the motor multi-point spectral waterfall. There appear to be several motor rpm harmonics and a dominant peak that appears to be 6 x rpm in the motor axial (MIA) data

### **Recommendations:**

The high motor axial vibration may be related to blade pass vibration of the cooling fan. We need to confirm the number of blades on the cooling fan. Inspect fan bearings for looseness/wear. Inspect fan and cone ensuring no signs of rub. We will monitor this closely next survey.

Abbreviated Last Measurement Summary  
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Database: SOUTHERN ILLINOIS.rbm  
Area: SOUTHERN ILLINOIS

MEASUREMENT POINT -----	OVERALL LEVEL -----	HFD / VHFD -----
VRCOMP601 - VAC/RINSECOMP601 OIL PMP MTR (24-Jun-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.054 In/Sec	.570 G-s
MOP	.0096 In/Sec	
MOV	.165 In/Sec	.307 G-s
MIH	.046 In/Sec	.732 G-s
MIP	.012 In/Sec	
MIV	.095 In/Sec	.176 G-s
MIA	.076 In/Sec	.213 G-s
VRCOCFM - V/R COMP601 OILCOOLFAN MTR (24-Jun-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.190 In/Sec	.347 G-s
MOP	.0063 In/Sec	
MOV	.136 In/Sec	.197 G-s
MIH	.024 In/Sec	.913 G-s
MIP	.017 In/Sec	
MIV	.079 In/Sec	.146 G-s
MIA	.164 In/Sec	.135 G-s
VACCOMP601 - VAC COMPRESSOR 601 (24-Jun-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.034 In/Sec	.610 G-s
MOP	.0046 In/Sec	
MOV	.041 In/Sec	.122 G-s
MIH	.071 In/Sec	.731 G-s
MIP	.0083 In/Sec	
MIV	.076 In/Sec	.254 G-s
MIA	.054 In/Sec	.189 G-s
1IH	.041 In/Sec	.274 G-s
1IP	.0028 In/Sec	
1IV	.127 In/Sec	.111 G-s
1IA	.066 In/Sec	.139 G-s
1OH	.069 In/Sec	.893 G-s
1OP	.0089 In/Sec	
1OV	.116 In/Sec	.292 G-s
1OA	.058 In/Sec	.239 G-s
2IH	.046 In/Sec	.210 G-s
2IP	.0017 In/Sec	
2IV	.105 In/Sec	.145 G-s
2IA	.048 In/Sec	.101 G-s
2OH	.065 In/Sec	.328 G-s
2OP	.0024 In/Sec	
2OV	.156 In/Sec	.208 G-s
2OA	.050 In/Sec	.224 G-s
RNSCOMP601 - RINSE COMPRESSOR 601 (24-Jun-25)		
	OVERALL LEVEL	1K-20KHz
MOH	.069 In/Sec	1.288 G-s
MOP	.018 In/Sec	
MOV	.275 In/Sec	.212 G-s
MIH	.084 In/Sec	1.646 G-s
MIP	.016 In/Sec	
MIV	.151 In/Sec	.333 G-s
MIA	.042 In/Sec	.256 G-s
1IH	.093 In/Sec	.517 G-s
1IP	.0049 In/Sec	

1IV	.226 In/Sec	.066 G-s
1IA	.113 In/Sec	.268 G-s
1OH	.124 In/Sec	1.300 G-s
1OP	.015 In/Sec	
1OV	.241 In/Sec	.371 G-s
1OA	.166 In/Sec	.426 G-s
2IH	.115 In/Sec	1.257 G-s
2IP	.016 In/Sec	
2IV	.117 In/Sec	.179 G-s
2IA	.126 In/Sec	.157 G-s
2OH	.111 In/Sec	.809 G-s
2OP	.014 In/Sec	
2OV	.165 In/Sec	.168 G-s
2OA	.122 In/Sec	.182 G-s

STG2IFCOC - STG2 INLETFEEDCOMP OILCOOLER (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.123 In/Sec	.540 G-s
MOP	.010 In/Sec	
MOV	.242 In/Sec	.313 G-s
MIH	.031 In/Sec	.321 G-s
MIP	.0054 In/Sec	
MIV	.039 In/Sec	.097 G-s
MIA	.099 In/Sec	.243 G-s

STG2IFCOMP - STG2 INLET FEED COMPRESSOR (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.030 In/Sec	.911 G-s
MOP	.020 In/Sec	
MOV	.059 In/Sec	.176 G-s
MIH	.036 In/Sec	.976 G-s
MIP	.014 In/Sec	
MIV	.079 In/Sec	.221 G-s
MIA	.033 In/Sec	.106 G-s
1IH	.043 In/Sec	.311 G-s
1IP	.0045 In/Sec	
1IV	.117 In/Sec	.136 G-s
1IA	.079 In/Sec	.165 G-s
1OH	.092 In/Sec	1.658 G-s
1OP	.017 In/Sec	
1OV	.161 In/Sec	.504 G-s
1OA	.083 In/Sec	.254 G-s
2IH	.045 In/Sec	1.264 G-s
2IP	.024 In/Sec	
2IV	.105 In/Sec	.210 G-s
2IA	.047 In/Sec	.181 G-s
2OH	.050 In/Sec	.803 G-s
2OP	.0085 In/Sec	
2OV	.109 In/Sec	.335 G-s
2OA	.048 In/Sec	.165 G-s

STG1IFCOC - STG1 INLETFEEDCOMP OILCOOLER (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.021 In/Sec	.201 G-s
MOP	.0031 In/Sec	
MOV	.018 In/Sec	.153 G-s
MIH	.011 In/Sec	.220 G-s
MIP	.0037 In/Sec	
MIV	.019 In/Sec	.061 G-s
MIA	.032 In/Sec	.110 G-s

STG1IFCOMP - STG1 INLET FEED COMPRESSOR (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.064 In/Sec	1.529 G-s
MOP	.020 In/Sec	
MOV	.040 In/Sec	.385 G-s
MIH	.061 In/Sec	2.089 G-s
MIP	.026 In/Sec	
MIV	.048 In/Sec	.434 G-s
MIA	.022 In/Sec	.208 G-s



1IH	.030 In/Sec	.225 G-s
1IP	.0021 In/Sec	
1IV	.095 In/Sec	.067 G-s
1IA	.047 In/Sec	.104 G-s
1OH	.069 In/Sec	1.655 G-s
1OP	.024 In/Sec	
1OV	.057 In/Sec	.352 G-s
1OA	.042 In/Sec	.291 G-s
2IH	.050 In/Sec	.695 G-s
2IP	.010 In/Sec	
2IV	.082 In/Sec	.129 G-s
2IA	.051 In/Sec	.189 G-s
2OH	.068 In/Sec	1.206 G-s
2OP	.014 In/Sec	
2OV	.106 In/Sec	.175 G-s
2OA	.051 In/Sec	.213 G-s

SLSGSCMP1 - SALES GAS COMPRESSOR 1 (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.203 In/Sec	.895 G-s
MOP	.017 In/Sec	
MOV	.275 In/Sec	.334 G-s
MIH	.208 In/Sec	1.459 G-s
MIP	.028 In/Sec	
MIV	.105 In/Sec	.248 G-s
MIA	.135 In/Sec	.564 G-s
C1H	.317 In/Sec	2.240 G-s
C1V	.234 In/Sec	.407 G-s
C1A	.339 In/Sec	1.918 G-s
C2H	.349 In/Sec	.953 G-s
C2V	.372 In/Sec	.813 G-s
C2A	.407 In/Sec	.153 G-s
C3H	.433 In/Sec	1.274 G-s
C3V	.578 In/Sec	1.074 G-s
C3A	.322 In/Sec	.334 G-s

SGC1GSCLFN - SALESGAS COMP1 GAS COOL FAN (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.356 In/Sec	.500 G-s
MOP	.020 In/Sec	
MOV	.308 In/Sec	.603 G-s
MIH	.367 In/Sec	.834 G-s
MIP	.019 In/Sec	
MIV	.523 In/Sec	.347 G-s
MIA	.874 In/Sec	.272 G-s

SLSGSCMP2 - SALES GAS COMPRESSOR 2 (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.147 In/Sec	1.125 G-s
MOP	.016 In/Sec	
MOV	.097 In/Sec	.291 G-s
MIH	.245 In/Sec	1.555 G-s
MIP	.024 In/Sec	
MIV	.451 In/Sec	.198 G-s
MIA	.163 In/Sec	.379 G-s
C1H	.121 In/Sec	.352 G-s
C1V	.106 In/Sec	.139 G-s
C1A	.117 In/Sec	.219 G-s
C2H	.191 In/Sec	.109 G-s
C2V	.116 In/Sec	.173 G-s
C2A	.160 In/Sec	.056 G-s
C3H	.334 In/Sec	.296 G-s
C3V	.144 In/Sec	.376 G-s
C3A	.152 In/Sec	.241 G-s

SGC2GSCLFN - SALESGAS COMP2 GAS COOL FAN (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.215 In/Sec	.427 G-s
MOP	.0067 In/Sec	
MOV	.155 In/Sec	.273 G-s

MIH	.277 In/Sec	.287 G-s
MIP	.0028 In/Sec	
MIV	.232 In/Sec	.091 G-s
MIA	.299 In/Sec	.069 G-s

AIRCOMP A - AIR COMPRESSOR A (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.073 In/Sec	.367 G-s
MOP	.0031 In/Sec	
MOV	.114 In/Sec	.218 G-s
MIH	.055 In/Sec	.248 G-s
MIP	.0027 In/Sec	
MIV	.114 In/Sec	.260 G-s
MIA	.108 In/Sec	.230 G-s
1IH	.056 In/Sec	.337 G-s
1IP	.0044 In/Sec	
1IV	.084 In/Sec	.351 G-s
1IA	.087 In/Sec	.221 G-s
1OH	.052 In/Sec	.540 G-s
1OP	.0074 In/Sec	
1OV	.076 In/Sec	.275 G-s
1OA	.094 In/Sec	.222 G-s
2IH	.061 In/Sec	.499 G-s
2IP	.0055 In/Sec	
2IV	.077 In/Sec	.170 G-s
2IA	.097 In/Sec	.183 G-s
2OH	.088 In/Sec	.558 G-s
2OP	.0069 In/Sec	
2OV	.083 In/Sec	.479 G-s
2OA	.109 In/Sec	.158 G-s

AIRCMPADRY - AIR COMPRESSOR A DRYER (24-Jun-25)

	OVERALL LEVEL	1K-20KHz
MOH	.073 In/Sec	.450 G-s
MOV	.030 In/Sec	.039 G-s
MIH	.016 In/Sec	.233 G-s
MIV	.020 In/Sec	.028 G-s
MIA	.045 In/Sec	.050 G-s

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Clarification Of Vibration Units:

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

As always, it has been a pleasure to serve Southern Illinois Regional-Archaea Energy. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III



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