HI-SPEED INDUSTRIAL SERVICE

QualiTest® Diagnostics

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June 10th, 2025

North Shelby Plant
Millington, TN

The following is a summary of findings from the June 2025 monthly vibration survey at the North Shelby 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.

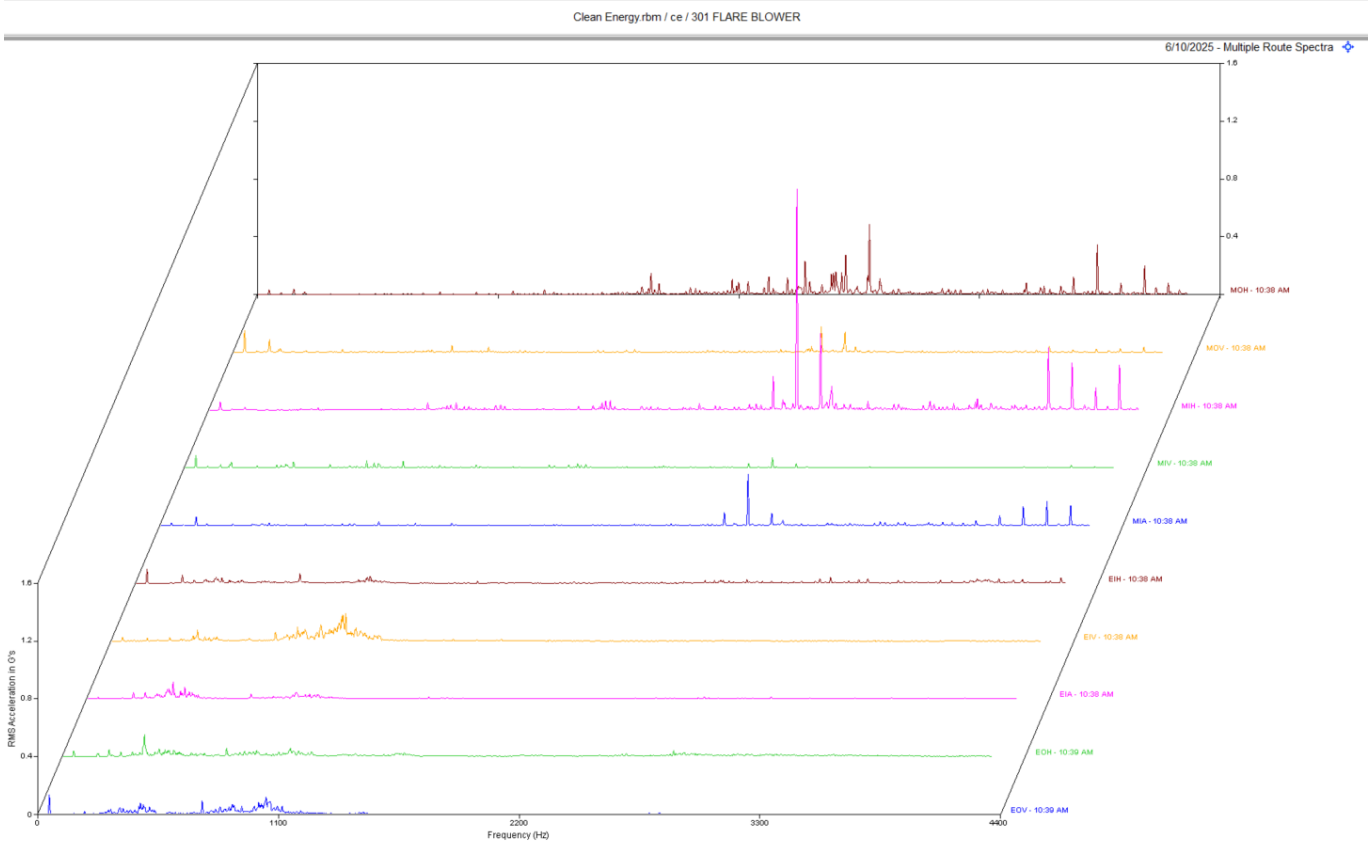
Class II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

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

Defects

301 Flare Blower CLASS I



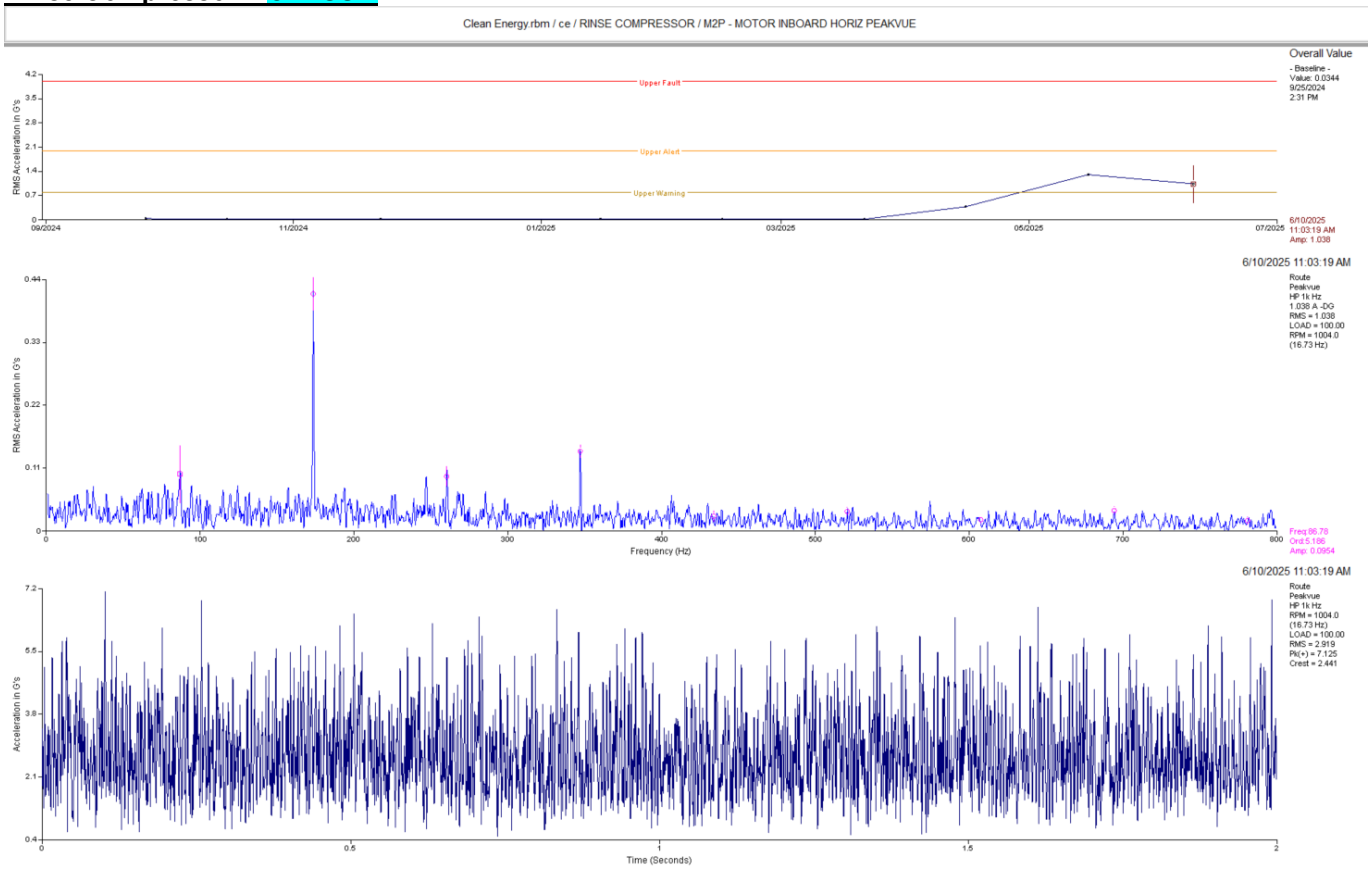
Observations:

Data above is the waterfall spectra of the motor and blower. There appears to be some non-synchronous peaks present in the motor spectra.

Recommendations:

Data is indicative of motor bearing defects. This issue appears to be at a low level at this time. We are monitoring this closely.

Rinse Compressor CLASS II



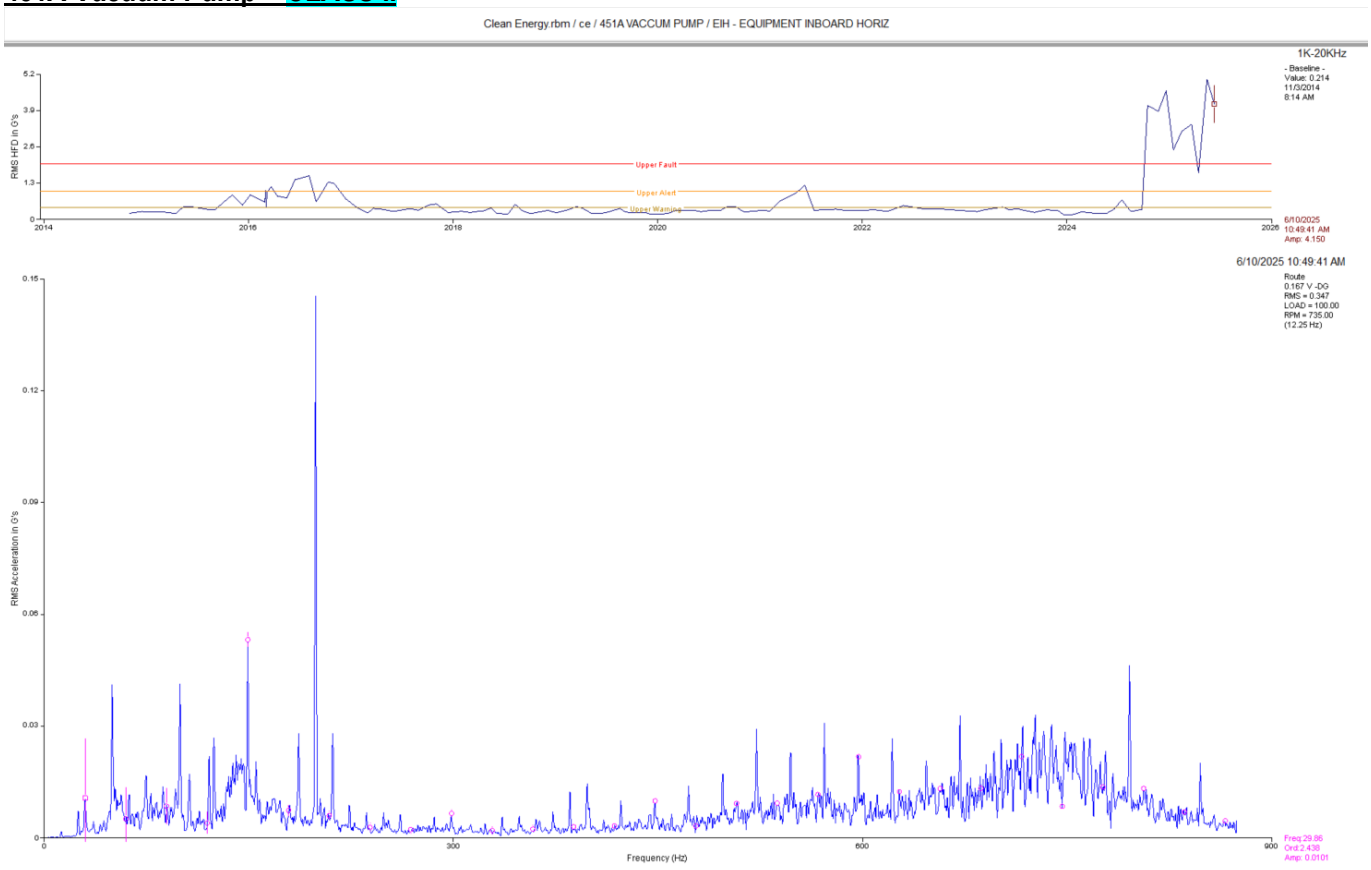
Observations:

Drive motor data shows some high frequency vibration. Motor is also making a squealing type noise. Peakvue data shows some harmonics at 5.1 orders of rpm which is likely a bearing defect fundamental. MIH data also shows waveform peak amplitude is around 7 g's.

Recommendations:

Vibration characteristics indicate a lube issue or bearing wear. Motor likely needs attention during next extended shutdown. We are monitoring this closely. Rated as a **CLASS II** defect for now.

451A Vacuum Pump CLASS II



Observations:

Data above is the pump inboard (drive end) horizontal . There appears to be some non-synchronous peaks present in the spectra. 1-20 Khz amplitude is also trending upward according to trend data.

Recommendations:

Data is indicative of pump bearing defects. Pump may also have some internal impeller wear. We are monitoring this closely.

Abbreviated Last Measurement Summary

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Database: Clean Energy.rbm
Area: millington plant

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
301 FLARE - 301 FLARE BLOWER	(15-May-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.091 In/Sec	1.057 G-s
MOV	.280 In/Sec	.286 G-s
MIH	.133 In/Sec	1.859 G-s
MIV	.178 In/Sec	.129 G-s
MIA	.040 In/Sec	.393 G-s
EIH	.188 In/Sec	.312 G-s
EIV	.088 In/Sec	.419 G-s
EIA	.067 In/Sec	.133 G-s
EOH	.141 In/Sec	.608 G-s
EOV	.167 In/Sec	.133 G-s
RINSE COMP - RINSE COMPRESSOR	(15-May-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.125 In/Sec	2.172 G-s
M1P	1.223 G-s	
MIH	.102 In/Sec	1.692 G-s
M2P	1.305 G-s	
MIA	.109 In/Sec	.195 G-s
IIH	.074 In/Sec	.728 G-s
IIA	.115 In/Sec	.203 G-s
IOH	.099 In/Sec	.663 G-s
OIH	.079 In/Sec	1.000 G-s
OIA	.128 In/Sec	.136 G-s
OOH	.097 In/Sec	.797 G-s
VAC COMP - VACUUM COMPRESSOR	(15-May-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.124 In/Sec	1.093 G-s
MIH	.101 In/Sec	1.287 G-s
MIA	.058 In/Sec	.283 G-s
IIH	.051 In/Sec	.562 G-s
IIA	.071 In/Sec	.103 G-s
IOH	.170 In/Sec	.807 G-s
OIH	.084 In/Sec	.527 G-s
OIA	.120 In/Sec	.144 G-s
OOH	.086 In/Sec	1.341 G-s
COOLFAN1 - COOLING FAN 1	(15-May-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.065 In/Sec	1.113 G-s
MOV	.209 In/Sec	.228 G-s
MIH	.033 In/Sec	.890 G-s
MIV	.033 In/Sec	.157 G-s
MIA	.051 In/Sec	.133 G-s
COOLFAN2 - COOLING FAN 2	(15-May-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.049 In/Sec	.632 G-s
MOV	.062 In/Sec	.104 G-s
MIH	.048 In/Sec	.271 G-s
MIV	.064 In/Sec	.128 G-s
MIA	.068 In/Sec	.081 G-s
EIH	.049 In/Sec	.331 G-s
EIV	.068 In/Sec	.119 G-s
EIA	.095 In/Sec	.091 G-s
EOH	.059 In/Sec	.139 G-s

EOV	.059 In/Sec	.077 G-s

101A COMP - 101A FEED COMPRESSOR (15-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.186 In/Sec	.299 G-s
MIH	.165 In/Sec	.245 G-s
MIA	.081 In/Sec	.243 G-s
IIH	.240 In/Sec	1.373 G-s
IIA	.215 In/Sec	1.248 G-s
IOH	.286 In/Sec	.762 G-s
OIH	.147 In/Sec	1.083 G-s
OIA	.338 In/Sec	.736 G-s
OOH	.109 In/Sec	2.563 G-s

HX132A FAN - HX132A GAS OIL COOLER FAN (15-May-25)

	OVERALL LEVEL	1K-20KHz
EIH	.040 In/Sec	.046 G-s
EOH	.053 In/Sec	.087 G-s

451A PUMP - 451A VACCUM PUMP (15-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.077 In/Sec	.456 G-s
MOV	.072 In/Sec	.295 G-s
MIH	.085 In/Sec	.915 G-s
MIV	.107 In/Sec	.167 G-s
MIA	.055 In/Sec	.368 G-s
EIH	.139 In/Sec	5.023 G-s
EIV	.255 In/Sec	.953 G-s
EIA	.159 In/Sec	1.177 G-s
EOH	.190 In/Sec	.417 G-s
EOV	.144 In/Sec	.159 G-s

HX453A FAN - HX453A VAC PUMP OIL COOL FAN (15-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.165 In/Sec	.085 G-s
MIH	.151 In/Sec	.069 G-s

451B PUMP - 451B VACCUM PUMP (15-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.041 In/Sec	.485 G-s
MOV	.067 In/Sec	.131 G-s
MIH	.055 In/Sec	.698 G-s
MIV	.055 In/Sec	.234 G-s
MIA	.026 In/Sec	.124 G-s
EIH	.190 In/Sec	.450 G-s
EIV	.166 In/Sec	.100 G-s
EIA	.144 In/Sec	.104 G-s
EOH	.214 In/Sec	.631 G-s
EOV	.206 In/Sec	.154 G-s

HX453B FAN - HX453B VAC PUMP OIL COOL FAN (15-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.150 In/Sec	.245 G-s
MIH	.113 In/Sec	.126 G-s

451C PUMP - 451C VACCUM PUMP (15-May-25)

	OVERALL LEVEL	1K-20KHz
MOH	.080 In/Sec	.419 G-s
MOV	.087 In/Sec	.087 G-s
MIH	.100 In/Sec	.423 G-s
MIV	.100 In/Sec	.123 G-s
MIA	.037 In/Sec	.099 G-s
EIH	.143 In/Sec	.629 G-s
EIV	.115 In/Sec	.147 G-s
EIA	.104 In/Sec	.144 G-s
EOH	.116 In/Sec	.532 G-s
EOV	.126 In/Sec	.064 G-s

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HX453C FAN - HX453C VAC PUMP OIL COOL FAN  (15-May-25)
                                OVERALL LEVEL     1K-20KHz
        MOH                      .125 In/Sec       .356 G-s
        MIH                      .097 In/Sec       .211 G-s

451D PUMP  - 451D VACCUM PUMP              (15-May-25)
                                OVERALL LEVEL     1K-20KHz
        MOH                      .055 In/Sec      1.234 G-s
        MOV                      .068 In/Sec       .240 G-s
        MIH                      .076 In/Sec      1.488 G-s
        MIV                      .073 In/Sec       .486 G-s
        MIA                      .037 In/Sec       .288 G-s
        EIH                      .174 In/Sec       .654 G-s
        EIV                      .120 In/Sec       .194 G-s
        EIA                      .088 In/Sec       .144 G-s
        EOH                      .168 In/Sec       .855 G-s
        EOV                      .159 In/Sec       .300 G-s

HX453D FAN - HX453D VAC PUMP OIL COOL FAN  (15-May-25)
                                OVERALL LEVEL     1K-20KHz
        MOH                      .199 In/Sec       .125 G-s
        MIH                      .164 In/Sec       .103 G-s

506B COMP  - 506B PRODUCT COMPRESSOR       (15-May-25)
                                OVERALL LEVEL     1K-20KHz
        MOH                      .050 In/Sec       .232 G-s
        MIH                      .093 In/Sec       .175 G-s
        MIA                      .058 In/Sec       .246 G-s
        IIH                      .166 In/Sec       .980 G-s
        IIA                      .130 In/Sec      1.074 G-s
        IOH                      .197 In/Sec      2.631 G-s
        OIH                      .246 In/Sec      1.295 G-s
        OIA                      .127 In/Sec      1.364 G-s
        OOH                      .211 In/Sec      1.377 G-s

HX507B FAN - HX507B GAS COOL FAN           (15-May-25)
                                OVERALL LEVEL     1K-20KHz
        MOH                      .091 In/Sec       .046 G-s
        MIH                      .128 In/Sec       .070 G-s

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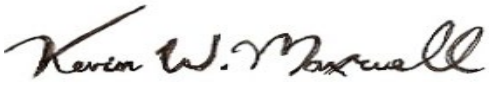
As always, it has been a pleasure to serve North Shelby-Archaea Energy. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

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