



QualiTest® Diagnostics

7030 Ryburn Dr. Millington, TN

Phone: (901) 873-5300

Fax: (901) 873-5301

www.gohispeed.com

January 13, 2023

Archaea Energy
North Shelby Plant
Millington, TN

The following is a summary of findings from the January 2023 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

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

Feed Compressor B

Compressor data is showing some elevated acceleration and possible non-synchronous vibrations that may be defect frequencies or possible harmonics of 2nd or 3rd stage of the compressor. This will be monitored closely. Rated as a **CLASS I** defect for now.

506 A Product Compressor

Motor has some increased high frequency vibration this survey that is concerning. Data is starting to show possible bearing issue taking place. Overall compressor vibration is lower this survey; however, compressor has had higher vibration since rebuilding unit. We will continue to monitor this very closely. Rated as a **CLASS II** defect.

Abbreviated Last Measurement Summary *****

Database: Clean Energy.rbm
Area: millington plant

MEASUREMENT POINT -----	OVERALL LEVEL -----	HFD / VHFD -----
303 FLARE - 303 FLARE BLOWER (12-Jan-23)		
	OVERALL LEVEL	1K-20KHz
MOH	.064 In/Sec	1.133 G-s
MOV	.212 In/Sec	.257 G-s
MIH	.092 In/Sec	.800 G-s
MIV	.106 In/Sec	.226 G-s
MIA	.066 In/Sec	.369 G-s
EIH	.117 In/Sec	.855 G-s
EIV	.090 In/Sec	.323 G-s
EIA	.076 In/Sec	.392 G-s
EOH	.098 In/Sec	.195 G-s
EOV	.397 In/Sec	.170 G-s
RINSE COMP - RINSE COMPRESSOR (12-Jan-23)		
	OVERALL LEVEL	1K-20KHz
MOH	.081 In/Sec	2.737 G-s
MIH	.108 In/Sec	1.339 G-s
MIA	.064 In/Sec	.158 G-s
IIH	.168 In/Sec	.550 G-s
IIA	.203 In/Sec	.260 G-s
IOH	.178 In/Sec	.460 G-s
OIH	.136 In/Sec	.794 G-s
OIA	.128 In/Sec	.364 G-s
OOH	.154 In/Sec	.572 G-s
VAC COMP - VACUUM COMPRESSOR (12-Jan-23)		
	OVERALL LEVEL	1K-20KHz
MOH	.106 In/Sec	1.998 G-s
MIH	.075 In/Sec	.915 G-s
MIA	.075 In/Sec	.504 G-s
IIH	.068 In/Sec	.438 G-s
IIA	.069 In/Sec	.178 G-s
IOH	.076 In/Sec	1.122 G-s
OIH	.063 In/Sec	.462 G-s
OIA	.065 In/Sec	.272 G-s
OOH	.104 In/Sec	.784 G-s

101B COMP - 101B FEED COMPRESSOR		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.232 In/Sec	.239 G-s
MIH	.169 In/Sec	.441 G-s
MIA	.039 In/Sec	.298 G-s
IIH	.113 In/Sec	2.007 G-s
IIA	.291 In/Sec	1.685 G-s
IOH	.103 In/Sec	1.787 G-s
OIH	.104 In/Sec	1.308 G-s
OIA	.123 In/Sec	2.021 G-s
OOH	.102 In/Sec	2.415 G-s

451A PUMP - 451A VACCUM PUMP		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.074 In/Sec	.583 G-s
MOV	.082 In/Sec	.331 G-s
MIH	.088 In/Sec	.514 G-s
MIV	.105 In/Sec	.724 G-s
MIA	.048 In/Sec	.537 G-s
EIH	.205 In/Sec	.297 G-s
EIV	.133 In/Sec	.322 G-s
EIA	.136 In/Sec	.371 G-s
EOH	.213 In/Sec	.442 G-s
EOV	.203 In/Sec	.480 G-s

HX453A FAN - HX453A VAC PUMP OIL COOL FAN		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.140 In/Sec	.171 G-s
MIH	.091 In/Sec	.088 G-s

451B PUMP - 451B VACCUM PUMP		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.049 In/Sec	.490 G-s
MOV	.068 In/Sec	.167 G-s
MIH	.068 In/Sec	.717 G-s
MIV	.071 In/Sec	.355 G-s
MIA	.033 In/Sec	.115 G-s
EIH	.156 In/Sec	.589 G-s
EIV	.127 In/Sec	.427 G-s
EIA	.126 In/Sec	.438 G-s
EOH	.160 In/Sec	.555 G-s
EOV	.190 In/Sec	.178 G-s

HX453B FAN - HX453B VAC PUMP OIL COOL FAN		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.165 In/Sec	.187 G-s
MIH	.077 In/Sec	.215 G-s

451C PUMP - 451C VACCUM PUMP		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.093 In/Sec	.832 G-s
MOV	.089 In/Sec	.116 G-s
MIH	.116 In/Sec	.825 G-s
MIV	.168 In/Sec	.264 G-s
MIA	.057 In/Sec	.193 G-s
EIH	.152 In/Sec	.694 G-s
EIV	.107 In/Sec	.273 G-s
EIA	.085 In/Sec	.304 G-s
EOH	.126 In/Sec	.480 G-s
EOV	.137 In/Sec	.204 G-s

HX453C FAN - HX453C VAC PUMP OIL COOL FAN		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.113 In/Sec	.291 G-s
MIH	.082 In/Sec	.113 G-s

451D PUMP - 451D VACCUM PUMP		(12-Jan-23)
	OVERALL LEVEL	1K-20KHz
MOH	.141 In/Sec	1.176 G-s

MOV	.162 In/Sec	1.331 G-s
MIH	.172 In/Sec	1.278 G-s
MIV	.147 In/Sec	.352 G-s
MIA	.063 In/Sec	.287 G-s
EIH	.194 In/Sec	.756 G-s
EIV	.139 In/Sec	.302 G-s
EIA	.150 In/Sec	.220 G-s
EOH	.187 In/Sec	1.098 G-s
EOV	.195 In/Sec	.200 G-s

HX453D FAN - HX453D VAC PUMP OIL COOL FAN (12-Jan-23)

OVERALL LEVEL 1K-20KHz

MOH	.234 In/Sec	.150 G-s
MIH	.300 In/Sec	.085 G-s

506A COMP - 506A PRODUCT COMPRESSOR (12-Jan-23)

OVERALL LEVEL 1K-20KHz

MOH	.064 In/Sec	.714 G-s
MIH	.069 In/Sec	5.578 G-s
MIA	.107 In/Sec	2.705 G-s
IIH	.266 In/Sec	.735 G-s
IIA	.238 In/Sec	1.815 G-s
IOH	.233 In/Sec	3.544 G-s
OIH	.326 In/Sec	3.103 G-s

HX507A FAN - HX507A GAS COOL FAN (12-Jan-23)

OVERALL LEVEL 1K-20KHz

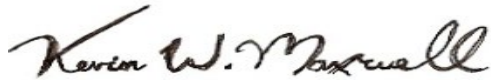
MOH	.158 In/Sec	.104 G-s
MIH	.135 In/Sec	.076 G-s

Clarification Of Vibration Units:

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

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



QualiTest® Diagnostics

Cell: 901-486-4565

Email: kwilliam@gohispeed.com