HI-SPEED INDUSTRIAL SERVICE QualiTest® Diagnostics

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January 21, 2025

Atlantic Dry Ice
Brandon, MS

The following is a summary of findings from the quarterly vibration survey on the Ammonia Compressors that was performed on 1/20/25 at the Brandon, MS plant.

QualiTest® uses a four step rating system for defects.

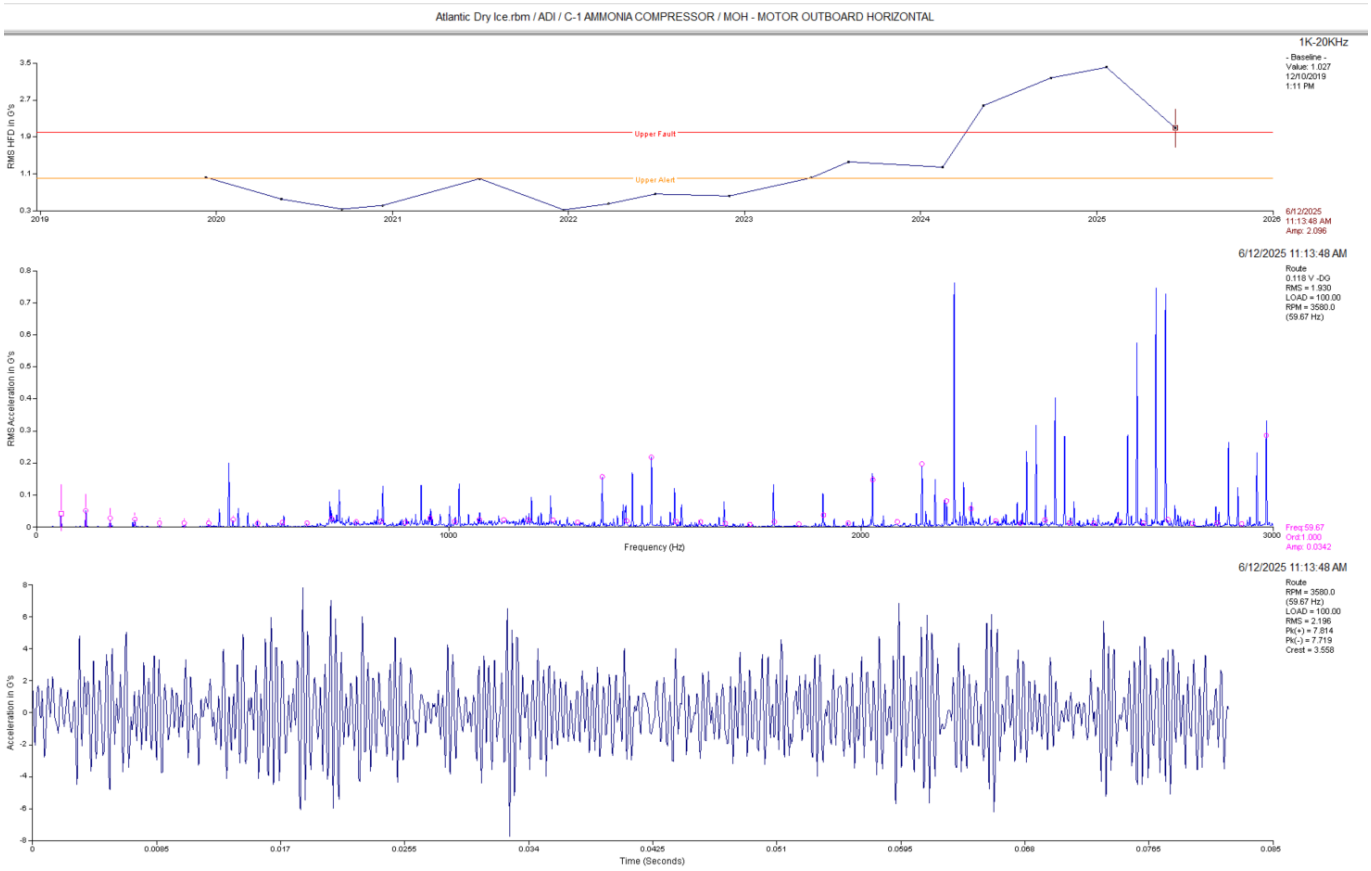
Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

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.

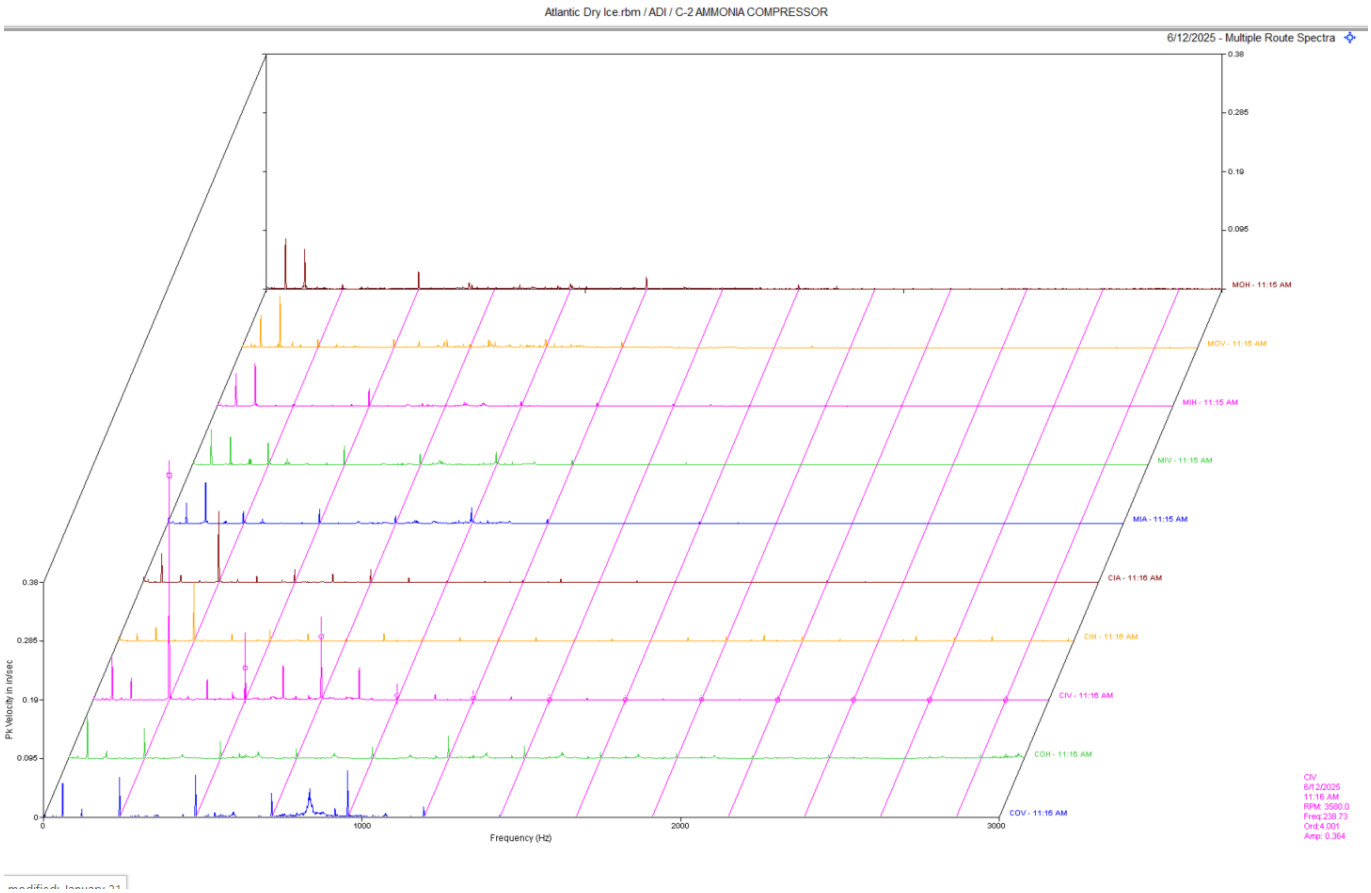
Class IV; Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Summary



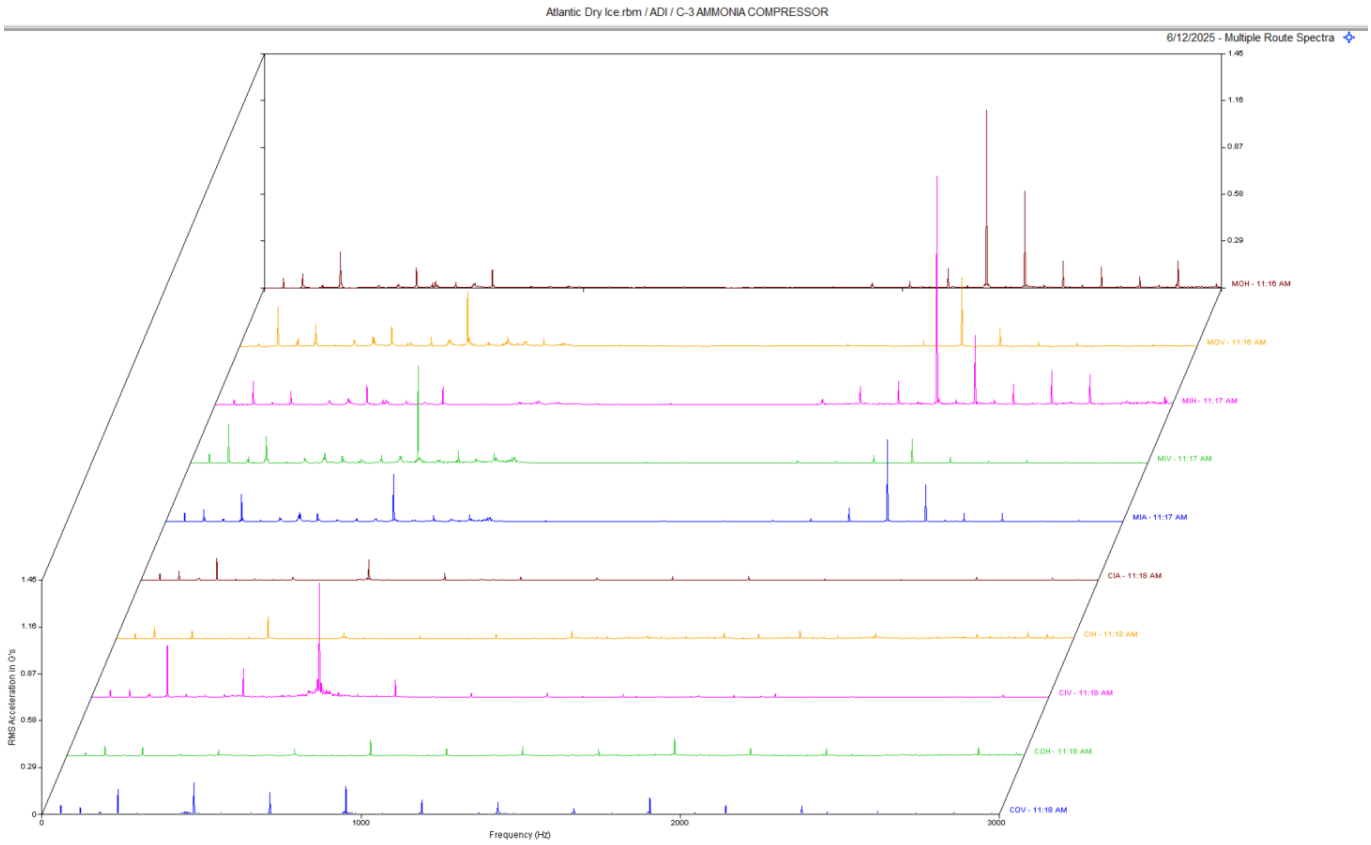
C-1 Ammonia Compressor

Motor data shows non-synchronous peaks in motor spectra that indicate bearing defects are present in the motor bearings. Trend data shows a slight decrease in high frequency amplitude since last survey. Inspect motor bearings for defects/wear as scheduling allows. Rated as a **CLASS II** defect.



C-2 Ammonia Compressor

Compressor data (CIA-COV) shows some possible signs of internal wear of the compressor. Heavy load on the compressor can also be a factor. The compressor verticals show a dominant vibration at lobe pass (4 x rpm) with harmonics. Compressor may need attention in the coming months. We will continue to monitor this closely. Rated as a **CLASS II** defect.



C-3 Ammonia Compressor

Motor data shows electrical vibration associated with possible rotor bar bass frequency and 2 x electrical line frequency. This may be due to soft foot of the motor causing an air gap issue in the motor. This is not a significant issue; however, it is still recommended to inspect motor for soft foot condition and realign motor if soft foot is found. We are monitoring this closely. Rated as a **CLASS I** defect.

Abbreviated Last Measurement Summary

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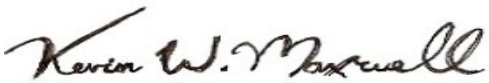
Database: Atlantic Dry Ice.rbm
Area: Brandon MS Plant

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
C-1 - C-1 AMMONIA COMPRESSOR	(12-Jun-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.117 In/Sec	2.096 G-s
MOV	.173 In/Sec	.723 G-s
MIH	.069 In/Sec	.974 G-s
MIV	.117 In/Sec	.572 G-s
MIA	.084 In/Sec	.389 G-s
CIA	.120 In/Sec	.079 G-s
CIH	.084 In/Sec	.254 G-s
CIV	.100 In/Sec	.099 G-s
COH	.049 In/Sec	.474 G-s
COV	.058 In/Sec	.166 G-s
C-2 - C-2 AMMONIA COMPRESSOR	(12-Jun-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.124 In/Sec	.860 G-s
MOV	.120 In/Sec	.266 G-s
MIH	.102 In/Sec	.798 G-s
MIV	.109 In/Sec	.295 G-s
MIA	.099 In/Sec	.276 G-s
CIA	.147 In/Sec	.176 G-s
CIH	.124 In/Sec	.813 G-s
CIV	.461 In/Sec	.171 G-s
COH	.137 In/Sec	1.668 G-s
COV	.192 In/Sec	.417 G-s
C-3 - C-3 AMMONIA COMPRESSOR	(12-Jun-25)	
	OVERALL LEVEL	1K-20KHz
MOH	.160 In/Sec	1.407 G-s
MOV	.204 In/Sec	.485 G-s
MIH	.142 In/Sec	1.657 G-s
MIV	.233 In/Sec	.204 G-s
MIA	.139 In/Sec	.578 G-s
CIA	.103 In/Sec	.104 G-s
CIH	.089 In/Sec	.339 G-s
CIV	.180 In/Sec	.094 G-s
COH	.063 In/Sec	.482 G-s
COV	.126 In/Sec	.252 G-s

Clarification Of Vibration Units:
Acc --> G-s RMS
Vel --> In/Sec PK

As always, it has been a pleasure to serve Atlantic Dry Ice. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III

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