



**QualiTest® Diagnostics**

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May 22, 2023

Tim Busby  
Mark Busby  
Atlantic Dry Ice  
Brandon, MS

Tim/Mark,

The following is a summary of findings from the quarterly vibration survey on the Ammonia Compressors that was performed on 05/18/23 at the Brandon, MS plant. Please let us know if there are any questions or comments.

**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.

## Summary

### C-1 Ammonia Compressor

Motor outboard horizontal data indicates some rpm harmonics present in spectral data. This indicates motor bearing fit looseness, coupling and or alignment issues. It is recommended to inspect the couplings for wear and ensure alignment is within tolerances. Rated as a **CLASS II** defect.

### C-2 Ammonia Compressor

Compressor data still shows some signs of internal wear of the compressor. Data shows some decrease in compressor vibration which may be due to a change in compressor load. We will continue to monitor this closely. Rated as a **CLASS I** defect.

### C-3 Ammonia Compressor

NO issues to note at this time.

#### Abbreviated Last Measurement Summary \*\*\*\*\*

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

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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C-1 - C-1 AMMONIA COMPRESSOR		(18-May-23)
	OVERALL LEVEL	1K-20KHz
MOH	.326 In/Sec	1.016 G-s
MOV	.212 In/Sec	.415 G-s
MIH	.164 In/Sec	.396 G-s
MIV	.221 In/Sec	.310 G-s
MIA	.199 In/Sec	.318 G-s
CIA	.131 In/Sec	.213 G-s
CIH	.139 In/Sec	.246 G-s
CIV	.157 In/Sec	.158 G-s
COH	.065 In/Sec	.240 G-s
COV	.128 In/Sec	.187 G-s
C-2 - C-2 AMMONIA COMPRESSOR		(18-May-23)
	OVERALL LEVEL	1K-20KHz
MOH	.122 In/Sec	1.304 G-s
MOV	.117 In/Sec	.506 G-s
MIH	.110 In/Sec	.909 G-s
MIV	.098 In/Sec	.380 G-s
MIA	.119 In/Sec	.392 G-s
CIA	.235 In/Sec	.628 G-s
CIH	.072 In/Sec	.564 G-s
CIV	.359 In/Sec	.539 G-s
COH	.099 In/Sec	.841 G-s
COV	.156 In/Sec	.299 G-s

C-3	- C-3 AMMONIA COMPRESSOR	(18-May-23)
	OVERALL LEVEL	1K-20KHz
MOH	.097 In/Sec	1.051 G-s
MOV	.119 In/Sec	.292 G-s
MIH	.095 In/Sec	.394 G-s
MIV	.069 In/Sec	.307 G-s
MIA	.043 In/Sec	.201 G-s
CIA	.126 In/Sec	.278 G-s
CIH	.082 In/Sec	.352 G-s
CIV	.115 In/Sec	.255 G-s
COH	.072 In/Sec	.373 G-s
COV	.123 In/Sec	.165 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 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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