



QualiTest® Diagnostics

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May 15, 2024

Nucor General Recycling

Subject: May vibration survey

Most of the machines surveyed were found to be in good condition except for the following.

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.

As always, it has been a pleasure to serve Nucor General Recycling. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

ISO Certified Vibration Analyst, Category III

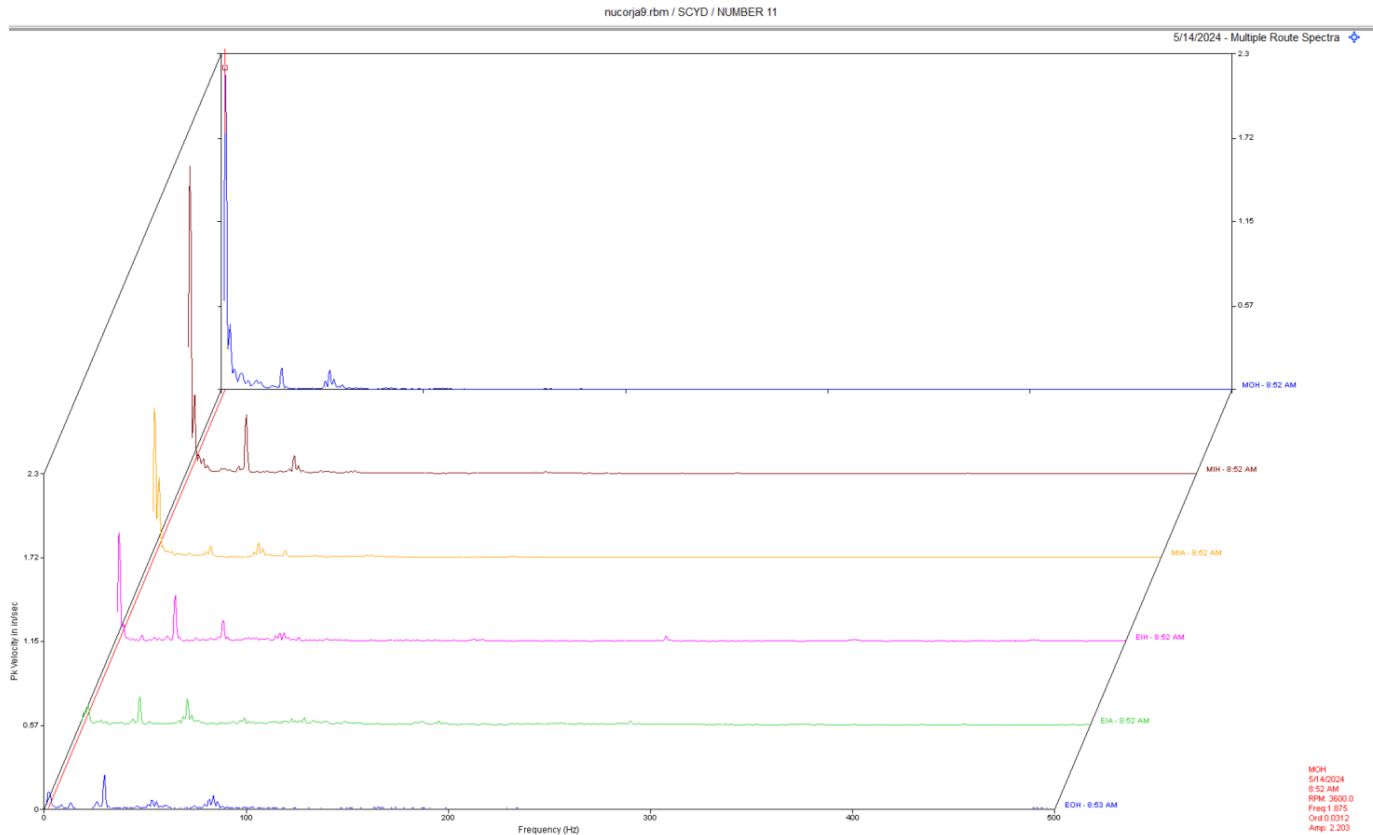


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Cell: 901-486-4565

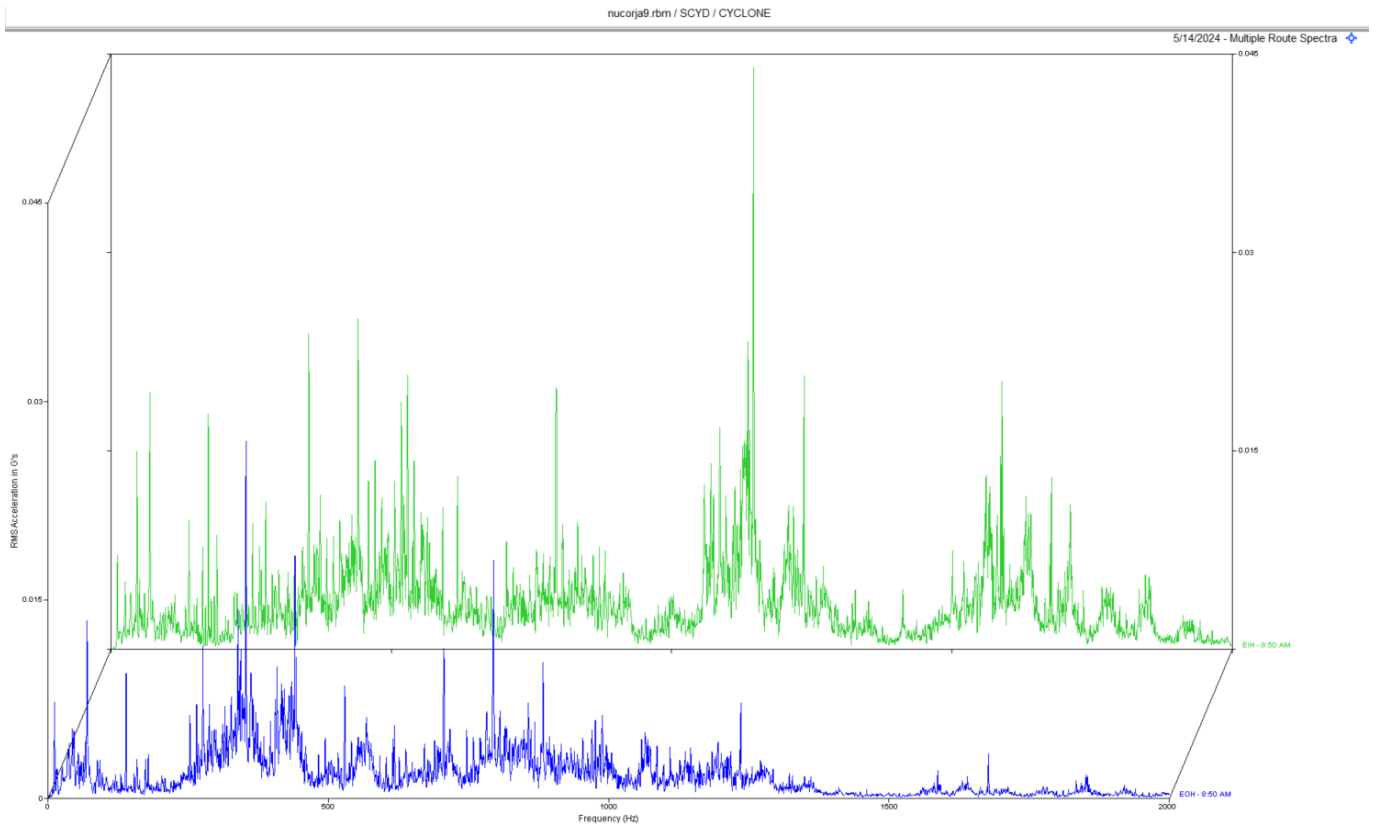
Email: kwilliam@gohispeed.com

Defects



Conveyor 11

Motor is still vibrating at **2.5 inches per second** which is **extremely** high Inspect motor base/frame for looseness, cracks. Conveyor drum shaft should also be checked for run-out, looseness. **Repair/replace unit soon**. Rated as a **CLASS IV** defect.



Cyclone Fan

Outboard (opposite drive end) fan bearing data is still indicating some minor bearing defects. We will continue to monitor this closely. Rated as a **CLASS I** defect.

Abbreviated Last Measurement Summary

Database: nucorja9.rbm
Station: Scrap Yard

MEASUREMENT POINT -----	OVERALL LEVEL -----	HFD / VHFD -----
SHREDDER - SHREDDER (14-May-24)		
	OVERALL LEVEL	1K-20KHz
MOH	.109 In/Sec	.159 G-s
MOV	.078 In/Sec	.093 G-s
MIV	.106 In/Sec	.113 G-s
MIH	.091 In/Sec	.205 G-s
MIA	.110 In/Sec	.215 G-s
CYCLONE - CYCLONE (14-May-24)		
	OVERALL LEVEL	1K-20KHz
MOH	.091 In/Sec	.512 G-s
MIH	.120 In/Sec	1.006 G-s
MIA	.128 In/Sec	.614 G-s
EIH	.089 In/Sec	.155 G-s
EOH	.081 In/Sec	.047 G-s
M3 - MAG DRUM (14-May-24)		
	OVERALL LEVEL	1K-20KHz
MOH	.084 In/Sec	.021 G-s
MIH	.063 In/Sec	.026 G-s
MIA	.070 In/Sec	.023 G-s
GIH	.046 In/Sec	.065 G-s
GOH	.035 In/Sec	.086 G-s
IDB	.041 In/Sec	.0080 G-s
ODB	.029 In/Sec	.0048 G-s
NUMBER 11 - NUMBER 11 (14-May-24)		
	OVERALL LEVEL	1K-20KHz
MOH	2.405 In/Sec	.295 G-s
MIH	2.357 In/Sec	.425 G-s
MIA	1.306 In/Sec	.313 G-s
EIH	.952 In/Sec	2.913 G-s
EIA	.504 In/Sec	2.033 G-s
EOH	.398 In/Sec	.335 G-s
NAIRCOMP - NEW SEPARATOR NORTH AIR COMP (14-May-24)		
	OVERALL LEVEL	1K-20KHz
MOH	.092 In/Sec	.362 G-s
MIH	.115 In/Sec	1.199 G-s
MIA	.085 In/Sec	.868 G-s
EIH	.156 In/Sec	.520 G-s
EIA	.080 In/Sec	.669 G-s
EOH	.095 In/Sec	.473 G-s

Clarification Of Vibration Units:

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