



**QualiTest® Diagnostics**

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April 14, 2023

Nucor General Recycling

Subject: April vibration survey

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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



**QualiTest® Diagnostics**

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## Defects

### Conveyor 11

Motor vibrating over **2.6 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 indicating some minor bearing defects. We will continue to monitor this closely. Rated as a **CLASS I** defect.

#### Abbreviated Last Measurement Summary

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Database: nucorja9.rbm  
Station: Scrap Yard

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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SHREDDER - SHREDDER (12-Apr-23)		
	OVERALL LEVEL	1K-20KHz
MOH	.137 In/Sec	.079 G-s
MOV	.123 In/Sec	.039 G-s
MIV	.090 In/Sec	.109 G-s
MIH	.134 In/Sec	.092 G-s
MIA	.078 In/Sec	.101 G-s
CYCLONE - CYCLONE (12-Apr-23)		
	OVERALL LEVEL	1K-20KHz
MOH	.104 In/Sec	.246 G-s
MIH	.099 In/Sec	.055 G-s
MIA	.116 In/Sec	.043 G-s
EIH	.126 In/Sec	.101 G-s
EOH	.138 In/Sec	.0033 G-s
M3 - MAG DRUM (12-Apr-23)		
	OVERALL LEVEL	1K-20KHz
MOH	.170 In/Sec	.099 G-s
MIH	.130 In/Sec	.209 G-s
MIA	.105 In/Sec	.051 G-s
GIH	.132 In/Sec	.049 G-s
GOH	.106 In/Sec	.080 G-s
IDB	.070 In/Sec	.0095 G-s
ODB	.067 In/Sec	.0034 G-s
NUMBER 11 - NUMBER 11 (12-Apr-23)		
	OVERALL LEVEL	1K-20KHz
MOH	2.468 In/Sec	.443 G-s
MIH	2.645 In/Sec	.321 G-s
MIA	2.412 In/Sec	.266 G-s
EIH	1.082 In/Sec	1.207 G-s
EIA	.996 In/Sec	1.557 G-s
EOH	.736 In/Sec	.185 G-s

SAIRCOMP - NEW SEPARATOR SOUTH AIR COMP (12-Apr-23)

	OVERALL LEVEL	1K-20KHz
MOH	.100 In/Sec	.054 G-s
MIH	.127 In/Sec	1.009 G-s
MIA	.119 In/Sec	1.530 G-s
EIH	.119 In/Sec	.521 G-s
EIA	.109 In/Sec	1.215 G-s
EOH	.114 In/Sec	.612 G-s

NAIRCOMP - NEW SEPARATOR NORTH AIR COMP (12-Apr-23)

	OVERALL LEVEL	1K-20KHz
MOH	.090 In/Sec	.069 G-s
MIH	.098 In/Sec	.817 G-s
MIA	.103 In/Sec	1.288 G-s
EIH	.095 In/Sec	.667 G-s
EIA	.098 In/Sec	.747 G-s
EOH	.103 In/Sec	.491 G-s

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Clarification Of Vibration Units:

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