



**QualiTest® Diagnostics**

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June 26<sup>th</sup>, 2023

Nucor General Recycling

Subject: June vibration survey

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Most of the machines surveyed were found to be in good condition except for the following. The Shredder and the Mag Drum Drive were not in service during this survey.

**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 \*\*\*\*\*

Database: nucorja9.rbm  
Station: Scrap Yard

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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CYCLONE - CYCLONE	(22-Jun-23)
	OVERALL LEVEL 1K-20KHz
MOH	.126 In/Sec .416 G-s
MIH	.145 In/Sec .426 G-s
MIA	.146 In/Sec .378 G-s
EIH	.205 In/Sec .309 G-s
EOH	.245 In/Sec .029 G-s

NUMBER 11 - NUMBER 11	(22-Jun-23)
	OVERALL LEVEL 1K-20KHz
MOH	2.641 In/Sec .221 G-s
MIH	2.676 In/Sec .359 G-s
MIA	1.556 In/Sec .209 G-s
EIH	1.146 In/Sec 1.122 G-s
EIA	.578 In/Sec 1.688 G-s
EOH	.486 In/Sec .101 G-s

SAIRCOMP - NEW SEPARATOR SOUTH AIR COMP	(22-Jun-23)
	OVERALL LEVEL 1K-20KHz
MOH	.107 In/Sec .115 G-s
MIH	.109 In/Sec .629 G-s
MIA	.099 In/Sec 1.322 G-s
EIH	.113 In/Sec .576 G-s
EIA	.111 In/Sec .431 G-s
EOH	.096 In/Sec .597 G-s

NAIRCOMP - NEW SEPARATOR NORTH AIR COMP	(22-Jun-23)
	OVERALL LEVEL 1K-20KHz
MOH	.070 In/Sec .143 G-s
MIH	.106 In/Sec .812 G-s
MIA	.167 In/Sec .612 G-s
EIH	.087 In/Sec .598 G-s
EIA	.135 In/Sec .543 G-s
EOH	.082 In/Sec .480 G-s

#### Clarification Of Vibration Units:

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