HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

September 30, 2021

IFF

Subject: August 800 Ton Grinding South Utilities vibration report

Most of the machines surveyed were found to be in good condition with the exception of 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.

This completes our assessment of your equipment for this survey. Thank you for your business and feel free to call if you have any comments or questions.

Sincerely,

David W Shook

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800 T GRINDING

14-3008-GRINDER SURGE BIN ASP FAN
Motor data shows a slight increase in fan speed fundamental and first harmonic. Inspect unit fasteners and drive train components for wear, run out, and alignment. **Rated a Class I Defect.**

15-3043 N GRIND MILL RECEIVER ASP FAN
Data still shows large fan speed vibration in the motor and fan. Motor is higher. Inspect the unit for loose fasteners, structural defects, shaft or sheave run out, sheave alignment, belt tension, and build up or damage on the fan wheel. Pay special attention to the base spring isolators. Trim balancing will be needed, or fan wheel replaced. **Rated a Class IV Defect.**

15-3048 S GRIND MILL RECEIVER ASP FAN
Vibration data shows a large decrease in the motor axial, but other measurements still show elevated fan speed vibrations. Motor and adjustable base were probably changed out since the motor had significant axial slop and the base adjusters were stripped. Inspect the unit for loose fasteners, Motor and fan base structural defects, shaft or sheave run out, sheave alignment, belt tension, and build up or damage on the fan wheel. Check for proper air flow parameters. Trim balance the fan. **Rated a Class III Defect.**

14-3043 N DUST COLLECTOR ASP FAN #1
Unit vibrations have dropped to acceptable levels. No issues noted.

14-3016 MSP N FLAKE GRINDING MILL
Motor and fan speed vibrations in multiple points has dropped slightly. Inspect the unit for wear and alignment in the drive train components. Inboard grinder bearing data shows possible early bearing defect frequencies. Inspect the grinder bearings as time allows. **Rated a Class I Defect.**

14-3029 MSP S FLAKE GRINDING MILL
Slightly elevated motor speed vibrations. Axial is the highest. Inspect for drive train wear, run out, and alignment. Grinding mill bearings show slight elevation in spectral noise. Could be a lubrication issue or signs of early bearing defects. Inspect and lubricate if needed as time allows. **Rated a Class I Defect.**

15-3029 MS2P S FLAKE GRINDING MILL
Motor data large drop in vibrations. No current issues.

15-3034 GROUND FLAKE TRANSFER BLOWER
Data shows a significant drop in motor vibrations, especially in the higher frequencies. Inspect all fasteners and structures, and drive train for alignment and worn components. **Rated a Class I Defect.**

22-5031 W 800T TRANS DIS BLOWER
Possible bad data due to low amplitude readings.

22-5032 E 800T BIN TRANS DIS BLOWER
Possible bad data due to low amplitude readings.

22-0614 S FLAKE BLOWER @ TRACK #1
Possible bad data due to low amplitude readings.

22-0604 N FLAKE BLOWER @ TRACK 1
Possible bad data due to low amplitude readings.

SOUTH PLANT UTILITIES

15-4111 COOLING TOWER E WATER PUMP
Possible bad data due to low amplitude readings.

14-4160 MSP #3 CHILL WATER SUPPLY PUMP
Motor still shows strong 1x and 2x RPM vibrations. A 3x RPM vibration is also present in the axial. Inspect the drive train for wear and alignment. Check the structure and fasteners. **Rated a Class III Defect.**

14-4161 #2CHILL WATER SUPPLY PUMP S-B
Motor vibration data shows a drop in 1x and 2x RPM vibrations. We still recommend inspecting the drive train for wear and alignment. Check the motor fan, structure, and fasteners. **Rated a Class I Defect.**

14-4162 #1 CHILL WATER SUPPLY PUMP
Motor vibration data still shows elevated 1x and 2x RPM vibrations. Inspect the drive train for wear and alignment. Check the motor fan, structure, and fasteners. **Rated a Class I Defect.**

15-4161 CENTER CHILLED WATER SUPPLY PUMP
Motor vibration data shows a drop in 1x and 2x RPM vibrations. No further action needed.

15-4162 E CHILLED WATER SUPPLY PUMP
Motor vibration data still shows an elevated 1x, 2x and 3x RPM vibrations. Inspect the drive train for wear and alignment. Check the structure and fasteners. **Rated a Class II Defect.**