

December 16, 2019

Protein Products

Subject: December vibration service 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 don't hesitate to call if you have any comments or questions.

Sincerely,

David W. Shook
Service Manager

QualiTest® Diagnostics

Division of **Hi-Speed Industrial Service**
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Route 1

FRONT SUMP PUMP

Not running at the time of the survey

C-1 GEARBOX

Not running at the time of the survey

C-2 GEARBOX

Not running at the time of the survey

C-3 GEARBOX

Not running at the time of the survey

C-4 GEARBOX****

Data not collected

C-5 GEARBOX****

Data not collected

C-6 GEARBOX****

Data not collected

FRONT WASTE WATER TRANSFER PUMP

Vibration has dropped significantly since the last survey and is no longer an issue.

FISH PUMP #1****

Not running at time of survey

FISH PUMP #2

All collected vibration data is within acceptable limits.

P-9 FISH PUMP (SOUTH)

Not running at the time of the survey

P-10 FISH PUMP (WEST)

All collected vibration data is within acceptable limits.

NORTH FISH SEDIMENTER PUMP*****

Not running at time of survey

SOUTH FISH SEDIMENTER PUMP

The motor has been fixed but the pump bearings are still an issue. Be prepared to repair or replace the pump. **Rated a Class II Defect.**

WEST FISH CENTRIFUGE

Vibration amplitudes have increased again to levels of around 0.67 and 3.0"/sec peak for the arbor. Data was taken with an extension pole due to the barricaded area and could be somewhat suspect. Inspect as time allows. **Rated a Class III Defect.**

EAST FISH CENTRIFUGE

Not running at time of survey

FISH PRESS FINES PUMP

Motor looks good this survey; however, we are seeing a possible issue in or around the pump bearings. **Rated a Class II Defect.**

FISH PRESS 3

Odd vibrations in the primary drive area adjacent to the motor. Could be early defects. **Rated a Class I Defect.**

FISH PRESS 2

Not running at time of survey

FISH PRESS 1

Possible non-synchronous vibration and harmonics in the primary drive area adjacent to the motor. Could be early bearing defects. **Rated a Class I Defect.**

WASTE HEAT PUMP

Inspect the drivetrain between the motor and pump for defects. Axial vibrations are still above 0.3"/sec velocity peak. **Rated a Class I Defect.**

EVAP RECIRCULATION PUMP (Barometric?)

Not running at time of survey

90 COOKER HPCR PUMP*****

Data not collected

90 COOKER*****

Data not collected

100 COOKER

The motor vibration data still indicates possible slight outer race defect in the drive end bearing. No immediate issue. Arbor bearings look OK. **Rated a Class I Defect.**

100 COOKER FEED PUMP

All collected vibration data is within acceptable limits.

100 COOKER HPCR PUMP

The vibrations in the pump at 1x have jumped to 1.5"/sec velocity peak. We suspect a coupling issue. Inspect ASAP **Rated a Class IV Defect.**

P-17 CONCENTRATE PUMP*****

Data not collected, too slow.

WEST WAREHOUSE AIR COMPRESSOR

All collected vibration data is within acceptable limits.

EAST WAREHOUSE AIR COMPRESSOR (In back)

Not running at time of survey.

Route 2

REAR 6 IN SUMP PUMP

Not running at time of survey.

REAR 3 IN SUMP PUMP

Not running at time of survey.

50 HP SCRUBBER FAN ON PLATFORM

All collected vibration data is within acceptable limits.

SCRUBBER PUMP

All collected vibration data is within acceptable limits.

75 HP SCRUBBER FAN

Ensure motor base and fasteners are secure. Most vibrations are elevated. Check the belts and sheaves for wear and alignment. Fan bearings show discreet bearing defect harmonics. **Rated a Class III Defect.**

SPRAY TOWER PUMP

All collected vibration data is within acceptable limits.

SCRUBBER FAN #2

Data not collected.

CENTRAL CONDENSATE PUMP 1

Not running at time of survey.

CENTRAL CONDENSATE PUMP 2

Not running at time of survey.

CENTRAL CONDENSATE PUMP 3

All collected vibration data is within acceptable limits.

1200 BOILER FAN

Not running at time of survey.

1500 BOILER FAN

All collected vibration data is within acceptable limits.

1 DA PUMP MOTOR

All collected vibration data is within acceptable limits.

2 DA PUMP MOTOR

Not running at time of survey.

3 DA PUMP MOTOR

Not running at time of survey.

WEST DA FEED PUMP

All collected vibration data is within acceptable limits.

EAST DA FEED PUMP

Not running at time of survey.

5 LAGOON SOUTH PUMP

Not running at time of survey.

5 LAGOON NORTH PUMP

Data still indicates the pump bearings are in distress, although cavitation could be a concern. Inspect as time allows. **Rated a Class I Defect.**

6 LAGOON WEST PUMP

Not running at time of survey.

6 LAGOON EAST PUMP

All collected vibration data is within acceptable limits.

RIVER PUMP

Not running at time of survey.

NORTH FISH CAGE MILL

Vibration data for the motor axial has dropped below 0.5"/sec velocity peak. Still check the belt drive for wear and alignment. Unit still shows noise floor in the inboard arbor bearing. Inspect the bearing as time allows.. **Rated a Class II Defect.**

SOUTH FISH CAGE MILL

Vibration data for the mill outboard horizontal is still above 0.4"/sec velocity peak and mainly harmonic. Check the belt drive for wear and alignment and looseness in the bearings. **Rated a Class II Defect.**

END