

February 21, 2020

ARKEMA

Subject: February Bi-annual 70 %Pumps vibration service report

265C Stability Tank- No immediate issues found.

265D Stability Tank-Not running this survey.

265E Stability Tank-Not running this survey.

265F Stability Tank- Possible early bearing defect frequencies found in motor data. Ensure the motor bearings receive grease periodically if required. **Class I Defect.**

265H Stability Tank-Not running this survey.

265J Stability Tank-Not running this survey.

265K Stability Tank-Not running this survey.

245B Stability Tank-Pump has slight beat vibration at near 6x RPM. Inspect the pump and coupling for wear as time allows. Could be vane pass and slight looseness in the pump. **Class I Defect.**

K Storage Tank Pump- No immediate issues found.

A Product Pump-Low amplitude harmonics found in motor and a 5x RPM pump vibration which is probably vane pass. We suspect slight wear in the unit. No immediate cause for concern. **Rated a Class I Defect.**

A Overrun Pump- No immediate issues found.

B Concentrate Product Pump North- Not running this survey.

B Concentrate Product Pump South-A 5x RPM vibration dominates the unit data. Harmonics are also evident in the pump data. Slight wear is indicated in the pump. No immediate action is warranted. **Rated a Class I Defect.**

C Concentrate Product Pump- Not running this survey.

C Concentrate Overrun Pump-Shaft speed harmonics are seen throughout the unit. Data indicates looseness in the bearing or shaft fits. Inspect as time allows. **Rated a Class I Defect.**

B Tank Car Load Pump- Not running this survey.

C Tank Car Load Pump-Shaft speed fundamental and vane pass vibrations are seen in the unit data. Possible early wear in the pump. Inspect as time allows. **Rated a Class I Defect.**

Vacuum Receiver Pump East-Shaft speed vibration and harmonics are evident in the data. Data indicates possible imbalance, wear or looseness. Inspect as time allows. **Rated a Class I Defect.**

Vacuum Receiver Pump West- Not running this survey.

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
Senior Reliability Specialist
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Hi-Speed Industrial Service

Abbreviated Last Measurement Summary

Database: Arkema.rbm
Station: PEROXIDE 70% H2O2 PUMPS
Route No. 1: 70% PUMPS
Report Date: 21-Feb-20 09:36

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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401-04 - 265C STABILITY TANK		(19-Feb-20)
	OVERALL LEVEL	
11	.020 In/Sec	
21	.042 In/Sec	
23	.022 In/Sec	
71	.025 In/Sec	
72	.020 In/Sec	
260-25 - 265F STABILITY TANK		(19-Feb-20)
	OVERALL LEVEL	
11	.073 In/Sec	
21	.072 In/Sec	
23	.046 In/Sec	
71	.041 In/Sec	
72	.013 In/Sec	
7073-02 - 245B STABILITY TANK		(19-Feb-20)
	OVERALL LEVEL	
11	.067 In/Sec	
21	.039 In/Sec	
23	.028 In/Sec	
71	.073 In/Sec	
72	.037 In/Sec	
357-12 - K STORAGE TANK PUMP		(19-Feb-20)
	OVERALL LEVEL	
11	.088 In/Sec	
21	.083 In/Sec	
23	.059 In/Sec	
71	.081 In/Sec	
72	.043 In/Sec	
56 - A PRODUCT PUMP		(19-Feb-20)
	OVERALL LEVEL	
11	.041 In/Sec	
21	.031 In/Sec	
23	.077 In/Sec	
71	.081 In/Sec	
72	.059 In/Sec	
247-11 - A OVERRUN PUMP		(19-Feb-20)
	OVERALL LEVEL	
11	.030 In/Sec	
21	.032 In/Sec	
23	.029 In/Sec	
71	.042 In/Sec	

72		.034 In/Sec	
249-25	- B CONC PRODUCT PUMP, SOUTH	(19-Feb-20)	
	OVERALL LEVEL		
11		.066 In/Sec	
21		.046 In/Sec	
23		.031 In/Sec	
71		.025 In/Sec	
72		.026 In/Sec	
7035-05	- C CONC PRODUCT PUMP	(19-Feb-20)	
	OVERALL LEVEL		
11		.030 In/Sec	
21		.036 In/Sec	
23		.029 In/Sec	
71		.057 In/Sec	
72		.029 In/Sec	
7034-04	- C CONC OVERRUN PUMP	(19-Feb-20)	
	OVERALL LEVEL		
11		.069 In/Sec	
21		.065 In/Sec	
23		.091 In/Sec	
71		.066 In/Sec	
72		.043 In/Sec	
274-28	- C TANK CAR LOAD PUMP	(19-Feb-20)	
	OVERALL LEVEL		
11		.097 In/Sec	
21		.131 In/Sec	
23		.071 In/Sec	
71		.125 In/Sec	
72		.115 In/Sec	
41	- VAC RECEIVR PUMP EAST -Durco	(19-Feb-20)	
	OVERALL LEVEL		
11		.087 In/Sec	
21		.100 In/Sec	
23		.131 In/Sec	
71		.140 In/Sec	
72		.067 In/Sec	

Clarification Of Vibration Units:

Vel --> In/Sec PK