

ABC Ethanol, Our Town, NE Vibration Analysis Condition and Recommendations Summary

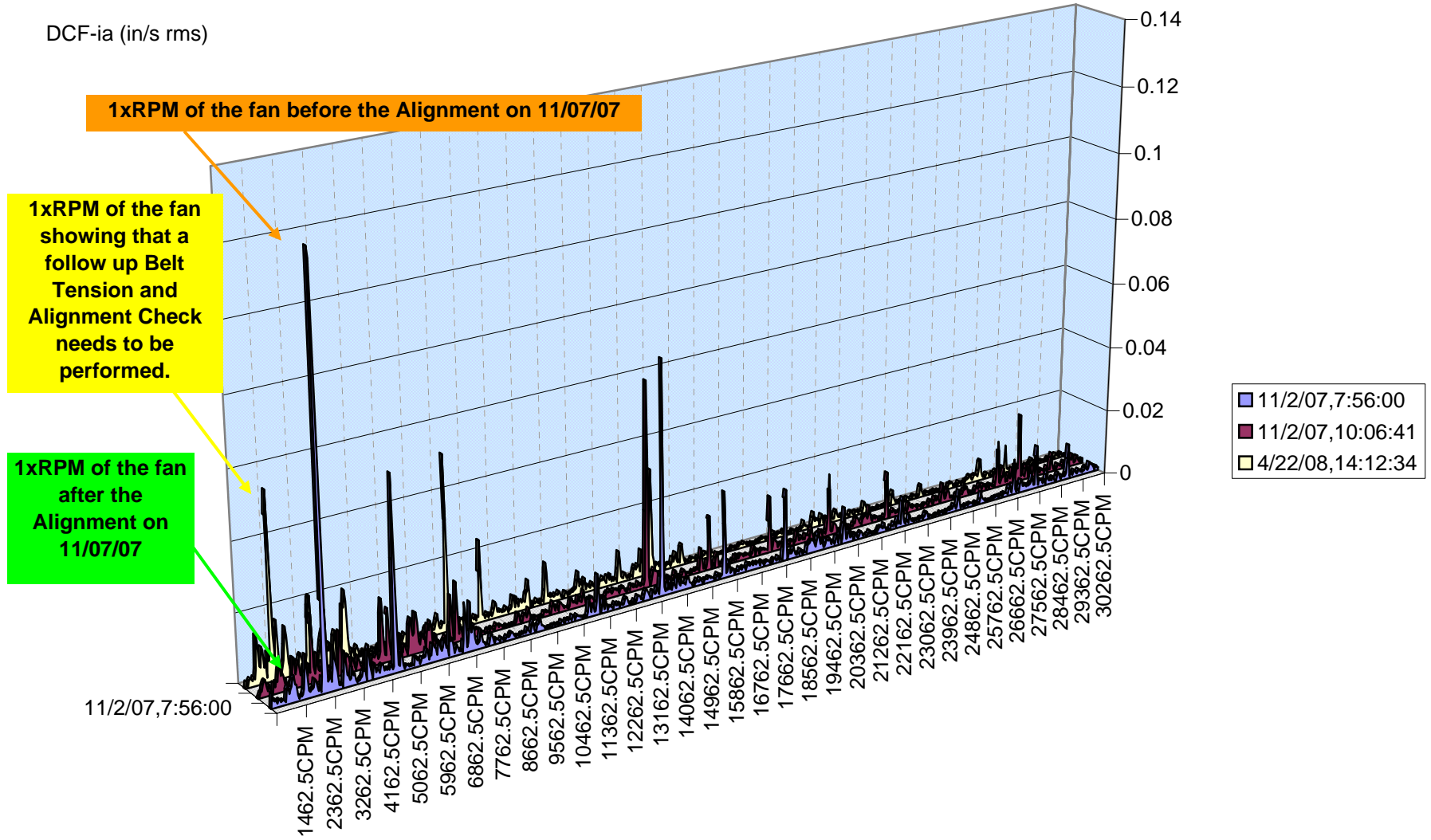
Area	Equipment ID	Fault	Priority	Findings	Recommendation	Repair Notes	Date Repaired	Next Reading
Energy Plant	VA Fan	Motor Belt Issues / Loose Fan Bearings	Repair within the month	Both in the heat present and the vibration indicate the belt tension is improper.	Lubricate bearings and continue to monitor the fan bearings for changes.			May 2009
Energy Plant	VA Comb Fan Motor	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
Energy Plant	ID Comb Fan	Misalignment across the coupling	Repair within the quarter	Vibration shows high 2xRPM in horizontal direction which indicates a misalignment	Have a laser alignment performed to reduce the loading on the bearings			May 2009
Energy Plant	East Jordan	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
Energy Plant	West Jordan	Looseness on Drive end Motor Bearing	Monitor Closely	Motor shows multiple harmonics of turning speed with advanced bearing analysis	Closely monitor the operating condition of the West Jordan and Motor until next readings			May 2009
Energy Plant	Air Compressor #1	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
Energy Plant	North Boiler Blower Motor	Lubrication	Repair within the month	Vibration levels indicate under lubrication of the bearings.	Grease bearing as appropriate before next readings.			May 2009
Energy Plant	Middle Boiler Blower Moto	Lubrication	Repair within the month	Vibration levels indicate under lubrication of the bearings.	Grease bearing as appropriate before next readings.			May 2009
Energy Plant	South Boiler Blower Moto	Lubrication	Repair within the month	Vibration levels indicate under lubrication of the bearings.	Grease bearing as appropriate before next readings.			May 2009
LRL	Coater Supply Pump	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
LRL	Coater Return Pump	Bearing Looseness	Monitor Closely	Vibration shows bearing looseness. Also the presence of approximately high levels of 11xRPM.	Unknown at this time what that is being generated by. Continue monitoring			May 2009
LRL	Dry Looper Pull Roll Drive	Brush Wear or Firing Issue	Repair within the month	High levels of Line Frequency present on the ODE of the motor only	Inspect the brushes for wear or tension issues. Clean, repair, or replace as appropriate			May 2009
LRL	Cooling Drive One	Misalignment across the coupling	Repair within the quarter	Suspected High 2xRPM present in the vertical direction	Have a laser alignment performed to reduce the loading on the bearings			May 2009
LRL	Cooling Drive Two	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
LRL	Cooling Drive Three	Bearing Wear	Repair within the month	Both the ODE and DE bearings are showing bearing faults.	Lubricate the bearings and retest next month. Plans should be made for motor replacement if the levels change			May 2009
LRL	Cooling Drive Four	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
LRL	Finish Looper Entry Drive	Early Drive end Bearing Wear	Repair within the month	Suspected bearing faults on the DE bearing	Lubricate the bearings and retest next month			May 2009
LRL	Finish Pull Roll Drive	Normal Operation	Repair within the month	Normal Vibration Levels Present	Continue normal monitoring			May 2009
LRL	Laminate Exit Pull Roll Drive	Gear Mesh Backlash	Reverify Issue	Vibration shows high gear mesh which generally indicates a backlash issue	Continue to monitor and testing next month will be taken to further determine severity of this			May 2009
REF	South AFT Big Fan	ODE Fan Bearing Wear	Repair within the month	Bearing Wear is present on the ODE Bearing	Lubricate bearings. Continue monitoring and plan bearings replacement when changes occur			May 2009
REF	North AFT Big Fan	Frame Issues	Repair at the next equipment outage	High levels being transferred from the fan to the motor	Re-engineer framework supporting the motor to give more support and reduce the transferred vibration.			May 2009
Raymond Mil	LRL Transfer Blower	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
Raymond Mil	North Mill Drive	Normal Operation	No Action Required	Normal Vibration Levels Present	Continue normal monitoring			May 2009
Raymond Mil	North Mill Big Fan	Bearing Wear and Lubrication	Repair within the month	Bearing Wear present on the motor bearing with signs of under lubrication.	Lubricate bearings and continue to monitor.			May 2009



Waterfall Graph of VA Fan DCF-ia



DCF-ia (in/s rms)



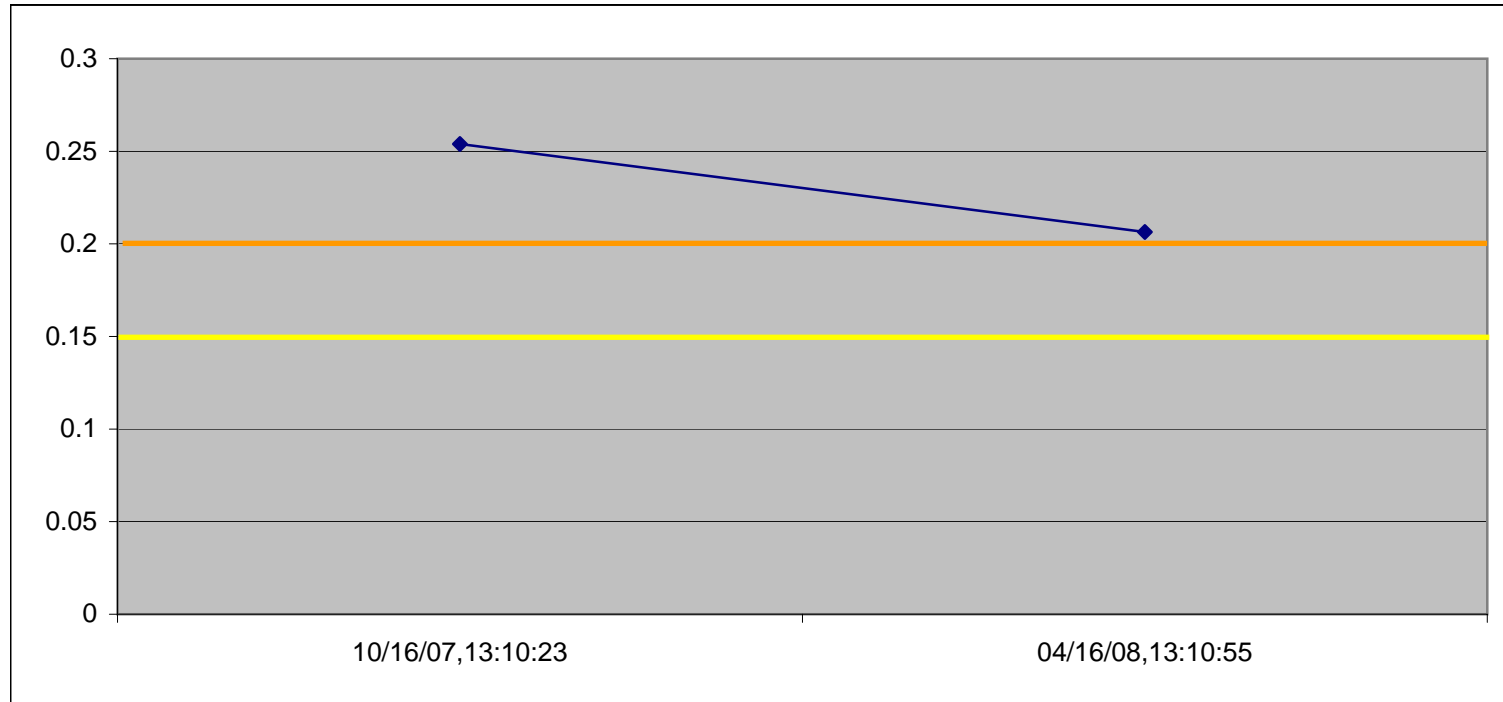
INSPECTION POINT TREND REPORT of ID Comb Fan pia2419

(starting with measurement dated: 10/16/07,13:10:23)

user: UPI001 device: VSA-1215 channel: pia2419
mode: Frequency to 60000CPM, Hanning, Velocity, Low Freq. Cutoff = 600.0000 CPM

<u>Date/Time</u>	<u>Value</u>	<u>Units</u>	<u>Severity</u>
10/16/07,13:10:23	0.253952	in/s rms	Critical
04/16/08,13:10:55	0.20639	in/s rms	Warning

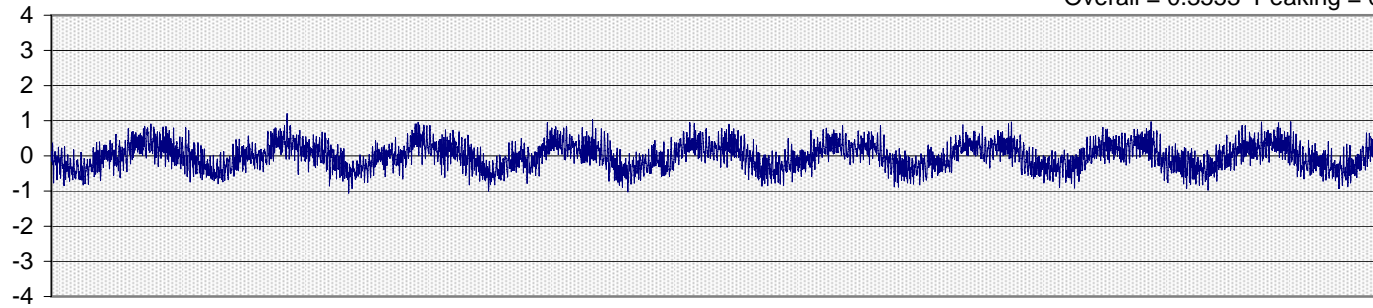
Vibration Levels have decreased slightly but are still above the recommended limited use levels. Recommend a laser alignment be performed.



(g) Acceleration

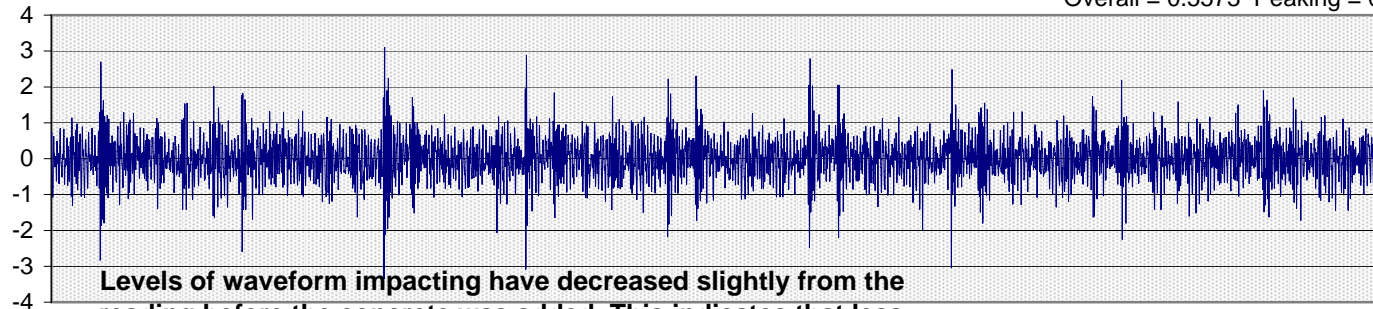
ULPR CWP4-mobW

Overall = 0.3553 Peaking = 0.0621



CWP4-mob (g)
6/27/08
9.08:02

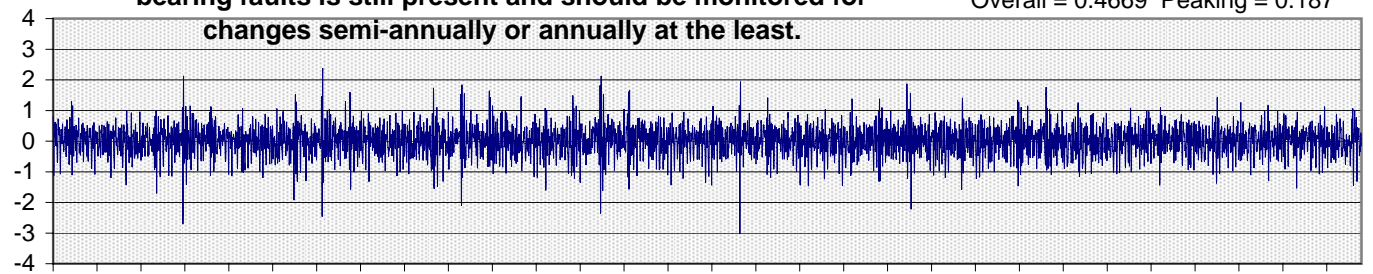
Overall = 0.5573 Peaking = 0.259



CWP4-mob (g)
4/8/09
11:12:02

Levels of waveform impacting have decreased slightly from the reading before the concrete was added. This indicates that less stress is on the motor bearings but the presence of inner race bearing faults is still present and should be monitored for changes semi-annually or annually at the least.

Overall = 0.4669 Peaking = 0.187



CWP4-mob (g)
4/17/09
10.00:42

0sec
0.009648sec
0.019297sec
0.028945sec
0.048242sec
0.057891sec
0.067539sec
0.077188sec
0.086836sec
0.096484sec
0.106133sec
0.115781sec
0.12543sec
0.135078sec
0.144727sec
0.154375sec
0.164023sec
0.173672sec
0.18332sec
0.192969sec
0.202617sec
0.212266sec
0.221914sec
0.231562sec
0.241211sec
0.250859sec
0.260508sec
0.270156sec
0.279805sec
0.289453sec
0.299102sec
0.30875sec
0.318398sec