1440 Diggs Dr.
Raleigh NC 27603
Ph (919) 828-5411
Fax (919) 832-6306
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Digital Diagnostics Report

Motor Circuit Evaluation

Prepared for:

Customer

Prepared by:
Billy Flinchum, Reliability Specialist

Date Prepared:
August 15, 2013

Survey Date
August 13, 2013

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August 15, 2013

Re: Motor Circuit Evaluation Report

Kevin,

Please find the following report from the Predictive Maintenance Services performed on August 13,, 2013. The following pages contain a summary of the machinery analyzed followed by diagnosis pages for identified problems.

Thank you, for choosing Electrical Equipment Company. If there are any further questions or concerns please contact me at (919) 909-8945

Sincerely,

Billy Flinchum
Billy Flinchum
Reliability Specialist

CC: Troy Guidt
Mike Rathbun

Equipment Summary

SEVERITY RATINGS

NONE (>) The equipment should be operated as normal, with confidence. There are no indications of failure.

LOW The equipment should be operated as normal, with confidence. There are indications/conditions that are evident but not critical.

MEDIUM The equipment may be operated/operable, but should be monitored closely. There are issues that will effect performance/reliability. The item will need maintenance soon.

HIGH The equipment should not be operated to prevent the risk of extensive damage or catastrophic failure.

Equipment	Problem Area	Severity
Press Pit Pulper Pump Motor A0150-062O.1	Stator PI; Step Voltage Leakage Current	Medium
Short Fiber Thickener Shower Water Pump Motor A0150-085T.1	Inductive Imbalance	Medium
Saveall Repulper Motor A0010-260T.1	Stator PI	Low
Saveall Motor A0050-2666T.1	None	
Saveall Stock Chest Pump Motor A0150-156T.1	None	
Flat Box Seal Pump Motor C1005486	None	
Short Fiber Stock Pump Motor to #1 Machine A0200-112T.1	None	
Primary Course Screen #1 A0250-078T.1	None	
S.F. Lightweight Cleaners Accepts Booster Pump Motor A0200-111T.1	None	
S.F. Primary Lightweight Cleaner Feed Pump Motor A0050-085T.1	None	
Short Fiber Surge Chest Pump Motor A0075-201T.1	None	
S.F. Primary Lightweight Cleaner Feed Pump Motor A0450-006O.1	None	
Secondary Fiber Thickener Seal Water Booster Pump Motor A0003-132T.1	None	

Exceptions Detailed Analysis

Company:
Equipment: Press Pit Pulper Pump Motor
Type: AC Induction Motor

Severity: Medium
Fault: Stator PI; Leakage Current
Survey: 3-15-13

Explanation:

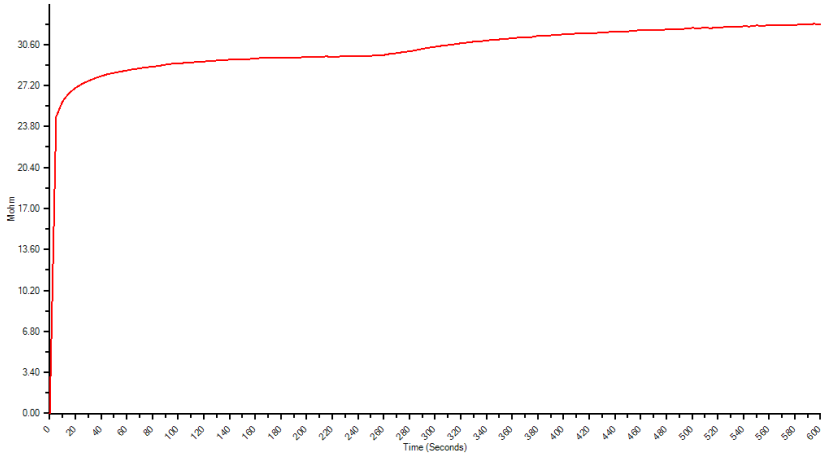
Polarization index is below IEEE 43 recommended minimum. Moisture build up is likely source. Leakage current during step voltage test is elevated indicating insulation degradation.

Recommendation:

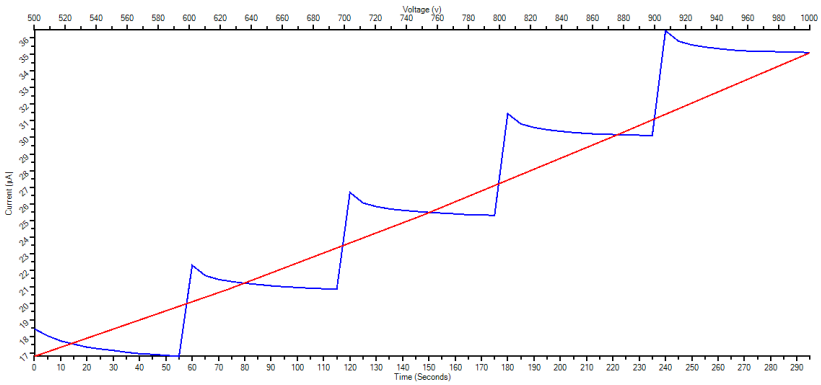
Utilize motor heaters during shutdown. Re-Test within 6 months and trend for condition.

Test Date	8/13/2013
Test Time	11:30:46 AM
Test Location	T-Leads
User	Administrator
	Baseline
Frequency	1200
Charge Time	600
Voltage	500
Motor Temp	38
Measured Mohm	28.44
Corrected Mohm	24.80
pF Ph 1 to Ground	68750
ohm Ph 1 to 2	0.08800
ohm Ph 1 to 3	0.08750
ohm Ph 2 to 3	0.08800
mH Ph 1 to 2	4.320
mH Ph 1 to 3	4.935
mH Ph 2 to 3	4.795
Average Inductance	4.683
% Res. Imbalance	0.38
% Ind. Imbalance	7.76
D/A Ratio	1.03
Polar. Index	1.14

Polarization Index Graph



Step Voltage Graph



Exceptions Detailed Analysis

Company:
Equipment: Short Fiber Thickener Shower Water Pump Motor
Type: AC Induction Motor

Severity: Medium
Fault: Inductive Imbalance
Survey: 8-13-13

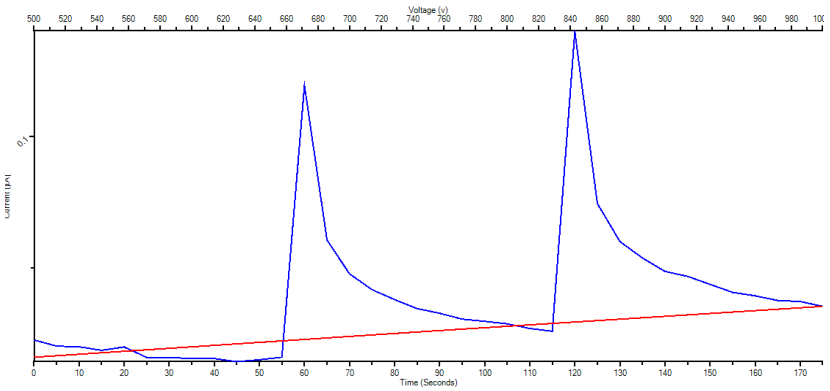
Explanation:
Elevated Inductive imbalance is possible indication of rotor, stator, air gap faults and/or unique motor design.

Recommendation:
Conduct re-test within 3 months and trend for condition.

Test Date	8/13/2013
Test Time	4:37:06 PM
Test Location	T-Leads
User	Administrator
	Baseline
Frequency	1200
Charge Time	600
Voltage	500
Motor Temp	38
Measured Mohm	20430.00
Corrected Mohm	17800.00
pF Ph 1 to Ground	38250
ohm Ph 1 to 2	0.07250
ohm Ph 1 to 3	0.07250
ohm Ph 2 to 3	0.07250
mH Ph 1 to 2	6.295
mH Ph 1 to 3	5.480
mH Ph 2 to 3	6.380
Average Inductance	6.052
% Res. Imbalance	0.00
% Ind. Imbalance	9.45
D/A Ratio	1.49
Polar. Index	N/A

Polarization Index Graph

Step Voltage Graph



Exceptions Detailed Analysis

Company:
Equipment: Saveall Repulper
Type: AC Induction Motor

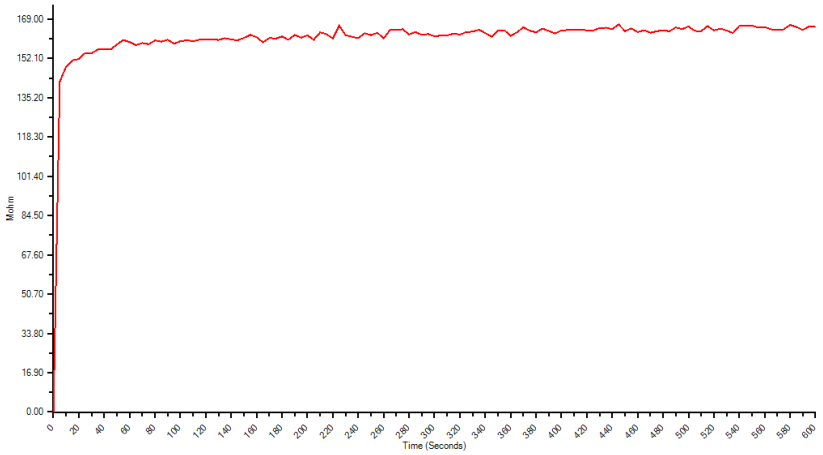
Severity: Low
Fault: Stator PI
Survey: 8-13-13

Explanation:
Polarization index is below IEEE 43 recommended minimum. Moisture build up is likely source.

Recommendation:
Utilize motor heaters during shutdown. Re-Test within 6 months and trend for condition.

Test Date	8/13/2013
Test Time	9:33:58 AM
Test Location	T-Leads
User	Administrator
	Baseline
Frequency	1200
Charge Time	600
Voltage	500
Motor Temp	38
Measured Mohm	159.10
Corrected Mohm	139.00
pF Ph 1 to Ground	14000
ohm Ph 1 to 2	2.34500
ohm Ph 1 to 3	2.34000
ohm Ph 2 to 3	2.35000
mH Ph 1 to 2	75.050
mH Ph 1 to 3	71.150
mH Ph 2 to 3	71.250
Average Inductance	72.483
% Res. Imbalance	0.21
% Ind. Imbalance	3.54
D/A Ratio	1.03
Polar. Index	1.04

Polarization Index Graph



Step Voltage Graph