

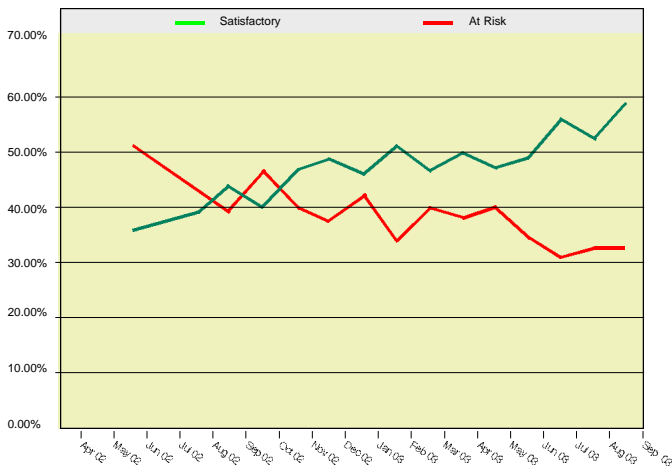


# Machine Monitoring Systems Ltd

## Maintenance and Reliability - are you world class?

- In maintenance terms a world class department has 80% of its tasks driven by Planned (30%) and Predictive (50%) means.
- To achieve these results this same department operates a vibration monitoring program covering at least 85% of rotating machines.
- The annual cost of running this department would average 1.75% of the plant's New Replacement Value.

### Reliability Improvement



These impressive results were obtained by a major international food producer who was concerned that more than 30% of indirect costs were caused by maintenance related issues. These costs were unsustainable and an extensive Worldwide Reliability Improvement Program was announced.

Key to this program was the use of Predictive Maintenance (PdM) techniques and MMS was selected as the UK partner to introduce a fully integrated program.

Plant was categorised by Criticality and the top 25% of assets were selected for monitoring. The initial survey revealed that only 30% could be classified as being in good (green) condition. Within 18 months of the start of the Reliability Improvement Program this had increased to 55%. When the 75% green point is reached the next 25% of critical items will be added and this will continue until world class status is achieved.

ROI after 18 months at this site has been 11.4

At MMS we have the resources, knowledge and experience to help our clients develop and operate effective Reliability Improvement Programs.

We have a high quality reputation founded on our ability to exceed client expectations by offering a local service backed up with nationwide support.

Our clients include many of the most successful international production and utility companies in Paper, Power, Food, Oil, Chemicals, Metals, Water, Cement and Facilities Management.

Leicester Rd Site - 35% assets on Reliability Improvement Program Jan 04		Vibration	Oil	Ultrasound	Electrical Infrared	Totals	Severity	
Machines in satisfactory condition	42%	40%	89%	89%	35%			
Machines in warning condition	2%	0%	5%	5%	11%			
Machines in critical condition	55%	57%	7%	7%	21%			
Machines not collected	14%	93%	0%	0%	0%			
Number of machines in satisfactory condition	54	4	131	131	63			
Number of machines in warning condition	3	0	7	8	18			
Number of machines in critical condition	71	8	10	9	98			
Number of machines not collected	20	138	0	0	0			
Total machine count in program	148	148	148	148	166			
Total machines this survey	128	10	148	148	166			
Area	Maximo ID	Equipment Name	Vibration	Oil	Ultrasound	Elec IR	Totals	Severity
Milling	M130K6	RJF PULSE BLOWER						LOW
Milling	M120T3	MAIZE IN CONVEYOR 3						
Milling	M120T4	MAIZE IN CONVEYOR 4						HIGH
Milling	M120T5	MAIZE IN CONVEYOR 5						
Milling	M120T6	MAIZE IN CONVEYOR 6						HIGH
Milling	M130K1	SW SIEVE RJF FAN 1						
Milling	M130K2	SW SIEVE RJF FAN 2						
Milling	M130K3	ELEVATOR TOPRJF FAN						
Milling	M120T1	ELEVATOR TO MAIZE SILOS 1						HIGH
Milling	M120T2	STEEPFEEED ELEV ATOR						HIGH
Milling	M120T2	ELEVATOR TO MAIZE SILOS 2						HIGH
Milling	M242K4	GAS EVAP FAN						
Milling	MP223P27	HEAVYGLUTEN P						HIGH
Milling	MP223P5	HEAVYFIBRE P						
Milling	M221P1	PRI SCR P/P						LOW
Milling	M211P2	K1K2 CLONE P/P						CRITICAL
Milling	M211P13	K3K4 CLONE P/P						
Milling	M232S21	GLUTCONC S21						
Milling	M232S22	GLUTCONC S22						HIGH
Milling	M232S1	STARCH CLR S1						HIGH
Milling	M232S2	STARCH CLR S2						