Underground conveyor drives in hot, dusty & salty atmosphere.

Experience shows MHC-Memo performed better than VA, detecting faults 6x faster.

Simpler implementation reduces reliance on CM specialists.
Cleveland Potash Ltd (CPL) based on the North East Coast has one of the deepest mines in Europe which extends several miles under the North Sea. The continuous operation of many miles of underground conveyors are crucial to the mines production and hence CPL’s profitability.

Not surprisingly CPL have built up considerable in-house expertise in Condition Monitoring. In the past they have relied heavily on state of the art vibration data collectors backed up by some of the most sophisticated analysis software available. Against the back-cloth of this investment, sophistication and expertise, the MHC-Memo has transformed their monitoring and maintenance strategies. The reasons for this are well understood within CPL:

- They have proven that the MHC-Memo is capable of detecting all the faults that they detect with Vibration.
- They have found the MHC-Memo to be 6 times faster in the field than the Vibration data collector.
- Measurements no longer have to be taken by CM specialists.
- PC based analysis of the MHC-Memo data is far simpler and quicker than that for FFT based vibration.

What all this means to CPL is that they are now for the first time able to monitor all their conveyor drives. Their mechanical fitters are monitoring almost 1000 points underground on a three weekly cycle on such components as main conveyors, production conveyors, main booster fans. A Range of faults have been detected on motors, gearboxes and roller bearings. As an example Fig 1 shows the trend of the Distress® parameter on a tension roller. Distress® is a very sensitive identifier of problems and for virtually all rotating machines a value above 10 is indicative of a problem.

Clearly the high Distress® on the tension roller in Fig 1 indicates a problem which is solved when it is replaced after the 3rd reading. Examination revealed it to have worn bearings. After this the subsequent trend of Distress® shows a subtle increase from its reduced level and is equal to 10 by the 8th reading indicating that either lubrication is needed or the problem is beginning to recur.

Due to the ability of the MHC-Memo to give an on-the-spot indication of problems (ie when Distress® greater than 10) it has helped to alert the operators to secondary problems (such as loose bolts, covers etc) which were previously undetected.

Using the MHC-Memo as a first filter to quickly detect machinery problems on a wider range of machines has had another significant benefit. It has freed the CM team at CPL to better focus its diagnostic expertise on those machines that are known to have problems.

(Picture & Data courtesy of Cleveland Potash Ltd a MINORCO GROUP Company)
Distress® is a registered trademark of Kittiwake Holroyd.

To find out more about how the MHC-Memo can transform your maintenance strategy contact:

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