Case Study

Motors, Gearboxes & Drives

Summary

Industry: Utilities

Application: Torque Limiter Failure

Actual Saving: £77,220

Payback Period:

Helical Gearbox and Inverter Replace Innefficient Drive

ERIKS increases Utility efficiency and reduces spares turnaround

ISSUE

A large Utility company called on ERIKS to investigate the main drives on a final settlement tank. The main drives were causing damage to the structure due to torque limiter failure. ERIKS were requested to suggest recommendations on how to overcome this issue.

SOLUTION

The drive consisted of a 2 speed motor mounted on a double reduction gearbox with a torque limiter mounted between them to prevent mechanical damage. Due of the age of the units involved there were no longer any spares available for the motors and gearboxes. When there was a jam on the scrapers in the tanks, the complete support structure and bridge was destroyed due to the torque limiter being rusted solid and not tripping as designed.

ERIKS recommended removing the existing inefficient drive system and replacing it with a complete new helical gearbox with an EFF 1 motor controlled by an inverter. A special adaptor plate was fabricated to enable the installation of the new gearbox with a special output shaft enabling the complete installation, including control panel, to be carried out in three days.

OTHER BENEFITS

- Energy savings achieved with a smaller motor and a more efficient drive system
- Faster turnaround time for spares or repairs
- Mechanical wear minimised as the inverter limits the output torque from the gearbox in case of a jam

FURTHER COMMENTS...

The customer has added efficiency with control of the scraper speed due to inverter installation. The installation of profibus (communications system only available with inverter) will assist with process control

MORE INFORMATION

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