



CASE STUDY—INSULATION

Repetitive Downtime Eliminated

Industry:	Refinery	Fault Zone:	Insulation
Motor Type:	Wound Rotor	Voltage:	4160
HP:	1250	Speed:	1191 rpm

Summary

Quality assurance test identifies insulation defect

Problem

A wound rotor motor was sent for a routine overhaul. Before reinstallation, quality assurance testing with MCE was performed. The rotor failed the polarization index test and the inductive imbalance was 99%.

Looking for the Root Cause

Additional quality assurance testing with vibration recorded .4 in/sec at two time the RPM. Investigation revealed a dime sized hole in the insulation under two slip rings. Post-repair MCE testing produced a good polarization index test and an inductive imbalance of less than 3%. Vibration dropped to .04 in/sec.

Savings

By conducting a three-minute MCE test, substantial time and money were saved and a potentially hazardous incident avoided. Testing a new or refurbished motor serves two purposes: quality assurance and establishment of a baseline for tracking and trending.

Estimated Failure Costs

- Downtime \$288,000
- Removal/Installation \$42,000
- Motor Repair \$133,000
- Total Losses Prevented \$463,000**