THERMOGRAPHIC SURVEY PREVENTS FIRE RISK IN TIMBER PROCESSING PLANT

AVT Reliability® was commissioned to carry out a full-site thermographic inspection of electrical panels at a large-scale sawmill, with the goal of identifying potential electrical faults and fire hazards before they could result in production downtime or safety incidents.

THE CHALLENGE

The affected asset powers one of the site's primary saws, used to cut raw timber into final products.

Had the fault gone undetected, it could have caused the saw to fail unexpectedly, triggering unplanned downtime, revenue loss, and potential fire risk.

In an environment with large volumes of timber and sawdust, even a small electrical fire could escalate rapidly across the site.

OUR FINDINGS

Thermal imaging revealed one phase of the cabling in the main isolator/breaker was operating at a dangerously high temperature of 232°C. The outer insulation showed clear signs of heat damage, including brittleness and discolouration.

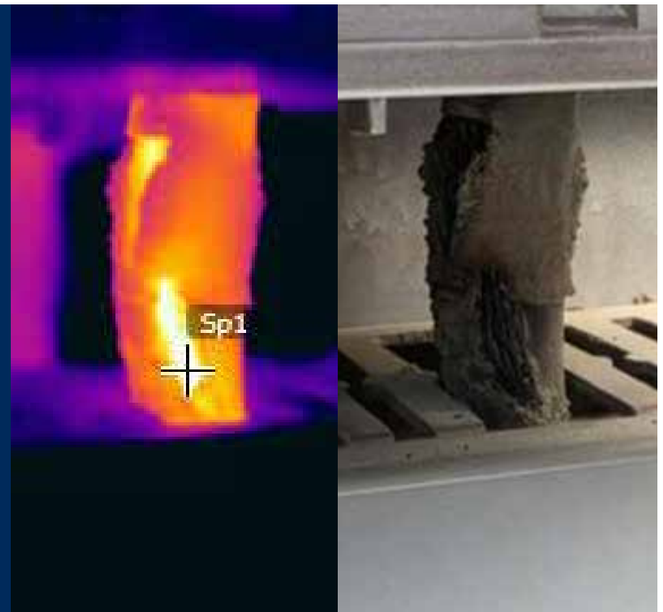
Possible causes included phase imbalance, a faulty termination, or an internal defect in the motor such as a shorted winding. The fault was deemed critical, and the site's electrical engineer was immediately advised to isolate the machine and investigate the root cause before re-energising the equipment.

THERMOGRAPHY

Implementing thermography as part of a predictive maintenance strategy is only effective if carried out by an experienced engineer.

The correct use of infrared equipment and expert analysis are essential to achieving accurate, actionable results.

All AVT Reliability® engineers are qualified and capable of performing infrared inspections and providing recommendations as part of an integrated condition monitoring program.



OUR APPROACH

AVT Reliability® conducts a full thermographic inspection of every electrical panel on site annually.

The survey uses high-resolution thermal imaging to detect early signs of electrical defects, component overheating, and potential failure points.

Due to the annual inspection schedule, AVT operates on an exception-based reporting model. Only defects or anomalies identified during the survey are documented and submitted to the customer, ensuring the maintenance team is focused on the most critical issues.

THE SOLUTION

Following the identification of the thermal anomaly, the site's internal maintenance team immediately shut down the equipment and carried out detailed fault-finding.

The defective cable and termination were replaced, and the isolator/breaker was inspected for heat damage and repaired as required.

The affected motor was tested to rule out winding faults, and electrical balance across all phases was confirmed before recommissioning.

FOLLOW UP

No further issues were reported following the repair, but AVT advised the customer to reconsider the inspection frequency and carry out thermal spot checks on high-load circuits more regularly.

If the fault had not been found, there was significant risk of fire, major equipment damage, and site-wide disruption.

The cost of early detection was negligible compared to the potential impact of full asset failure, lost production, or HSE investigation in the event of a fire.

AT A GLANCE

LOCATION: Fort William, Scotland
INDUSTRY: Timber / Sawmill
PROCESS: Raw timber processing
EQUIPMENT: Main saw & associated electrical panels
PRODUCTS: Thermal imaging camera
SERVICES: Annual thermographic inspection or electrical panels

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