CASE STUDY

2.75MW Seawater Cooling Pump Motor Emergency Motor Overhaul & Repair

Quartzelec delivered an emergency overhaul of a critical 2.75MW seawater cooling pump motor for a major power generation facility, restoring plant availability through rapid response, specialist repairs, and accelerated workshop execution.

POWER GENERATION | MELAKA, MALAYSIA

Our Customer's **Challenge**

The power generation facility was experiencing a critical plant availability issue when both seawater cooling pump motors became unavailable due to separate faults. The loss of seawater cooling significantly impacted condenser operation, preventing the associated steam turbine from running and reducing the generation output available from one of the plant's generating blocks. As a result, the power station faced reduced operational capability, potential generation losses, and increased pressure to restore cooling water availability as quickly as possible. The situation was further complicated by the size and criticality of the 2.75MW motor requiring repair, with only a limited number of service providers in the region possessing the workshop capacity, lifting capability, specialist expertise, and testing facilities needed to undertake an emergency overhaul. EDRA therefore needed a responsive and technically capable partner that could mobilise immediately, carry out a safe and reliable repair within a compressed timeframe, and help return the unit to service to minimise disruption to plant operations.

The Quartzelec **Solution**

Quartzelec responded immediately to the emergency repair requirement, prioritising the overhaul of the critical 2.75MW seawater cooling pump motor to help restore plant availability and minimise generation losses. The motor was transferred to the Selangor based workshop, where engineers carried out a complete strip-down and detailed inspection to assess its condition and identify the repairs required. The overhaul included comprehensive testing, component assessment, replacement of critical parts, installation of new SKF bearings, dry ice cleaning of both the stator and rotor, rotor balancing, reassembly, and final inspection checks prior to returning the motor to service.

To support the client's urgent timeframe, Quartzelec leveraged its in-house workshop facilities, specialist rotating machine expertise, lifting capability, and balancing equipment to complete the work without reliance on third-party providers.

The Quartzelec **Solution** (cont'd)

Where technically appropriate, selected components were replaced rather than refurbished to reduce repair time and accelerate the overhaul programme. The team also worked extended hours throughout the project to maintain progress and achieve the shortest possible turnaround. By combining rapid mobilisation, specialist repair capabilities, advanced cleaning techniques, precision balancing, and experienced engineering judgement, Quartzelec delivered a safe, reliable, right-first-time overhaul solution that enabled the customer to restore seawater cooling capacity and improve overall plant operational readiness.

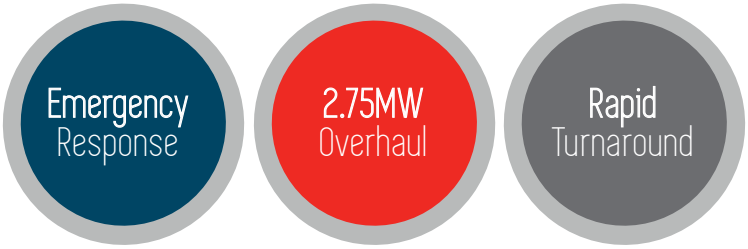
Key **Benefits**

Rapid Emergency Response: Prioritised the overhaul and worked extended hours to minimise downtime and support a fast return to service.

Specialist Large Motor Expertise: Successfully overhauled a critical 2.75MW seawater cooling pump motor using Quartzelec's in-house facilities, equipment, and experienced engineers.

Improved Reliability: Replaced critical components, fitted new SKF bearings, carried out dry ice cleaning, and balanced the rotor to support reliable operation.

Future Support Opportunities: Demonstrated the capability and responsiveness required to support future motor and generator repair projects for the client.



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