



Mine Site Diesel Fire Booster Pump System Upgrade

Customer: Newlands Coal (GLENCORE)

Location: Glenden, QLD

Case Study ID: CS-63

Date: July 2017

Overview

Dowdens Pumping & Water Treatment Mackay branch has successfully designed, manufactured and commissioned a Diesel Fire Booster Pump system for GLENCORE Australia who owns and operate the NEWLANDS Coal Mine that is located 33 kilometres north-west of the township of Glenden, in the northern part of Queensland's Bowen Basin, 190 km by road west of Mackay.

Traditionally fire pumps are only required to either sit idle in the basement of high rise buildings until a fire event occurs where they then run until they self-destruct, or when being used on mine sites they are run more frequently, for long hours during power outages and for onsite pressure boosting applications.

Here at Dowdens Pumping & Water Treatment, we pride ourselves on supplying our Customers with systems designed for longevity and continued use onsite. Often this means more money is spent on the

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build initially but this investment is quickly and easily recouped via lower ongoing maintenance and repair costs.

The Problem

This particular diesel fire pump system was needed to draw water from an onsite dam at the Newlands Coal Mine to be used for fire suppression applications. Dowdens first had to size up a suitable Diesel Engine to replace their current engine which was beginning to fail.



Our Solution

Newlands Coal Mine Diesel Fire Booster Pump System's Supply Scope:

- The diesel engine selected was upsized compared to the existing system, ensuring long term problem-free operation.
- All fabrication, assembly and performance testing conducted by Dowdens Pumping & Water Treatment in our Mackay Workshop & onsite guaranteeing product quality.

Dowdens Mackay Engineering Department designed a new base for the new engine enabling it to be coupled to the existing onsite DAVEY ISO-Spec CF Series pump. The base was designed, fabricated and painted in house. The engine was then mounted on the new base and the unit was shipped to the site ready for installation.

Once onsite the Dowdens Infield Mining Service Crew removed the existing pump from the failing engine and then reattached it to the new diesel unit and base using standard AS2941 couplings. All fuel lines were then connected and laser alignment successfully completed to ensure Newlands Coal's Auto Electrician Contractors could quickly and easily connect the unit to the existing control panel (pictured below).

Once these works had been completed by the Contractors, Dowdens were able to successfully field test the unit and complete all onsite commissioning. Dowdens Engineers had to overcome space limitations on site due to the fact the new diesel engine selected was larger compared to the existing engine that was in need of replacement.

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The issue was resolved using a specialised gear coupling and as a result, the two shafts were brought closer together, eliminating any wasted space. This coupling meets Australian Standard AS2941. The new Diesel Fire Booster Pump system ensures Newlands Coal remains fully compliant with all Queensland Government Mine Fire & Safety legislation, standards & guidelines.

Key Components

- CUMMINS Diesel Engine
- Unique Dowdens designed & fabricated heavy-duty galvanised engine skid base (built to fit existing DAVEY ISO-Spec CF Series pump)

Brands used in this project



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