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Prime Power

Case History Cloudbreak Mine

Where:

Pilbara region, Western Australia

What:

One QSK95 Series generator set;
Model C3500 D5

Purpose:

To provide dependable and reliable prime power for round-the-clock mining production. Additionally, the platform has to be robust and durable to operate in a harsh environment like Pilbara.

Remote site and challenging operating conditions

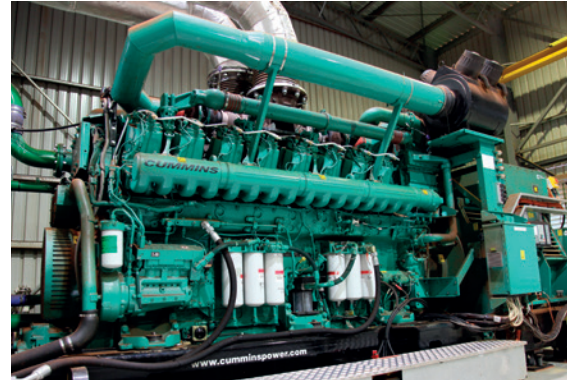
Cloudbreak Mine, which is fully owned by the Fortescue Metals Group (FMG), is located in the Pilbara region of Western Australia. About 1,500km from the nearest power grid, the site is extremely remote and has one of the harshest environments to man and machine. The terrain is not only dry and dusty, ambient temperatures can soar up to 50-degree Celsius (122-degree Fahrenheit).

Responsible for keeping the mine running is Contract Power Management (CPM), a mining power supply and management specialist. Established in 1991 and part of the Contract Power Group, CPM currently runs five build, own and operate (BOO) power stations in Australia, including two in Pilbara—one powering the Cloudbreak Mine and another the Christmas Creek Mine.

“The Pilbara region is one of the harshest environments you can put a unit into. Temperatures here can go up to 50-degree Celsius. It is dusty, remote and has limited accessibility. The QSK95 Series generator set works brilliantly in this environment to date,” said Marc Grosser, General Manage, CPM.



One unit of the QSK95 Series generator set (C3500D5) installed at Cloudbreak Mine delivers 3,125kVA of reliable prime power.



Innovative design improvements such as an externally mounted lube pump enables ease of service and replacement.

Extensive testing, leaving nothing to chance

Cummins has committed major resources to the new QSK95 Series generator sets with millions of dollars investments in research and development and new manufacturing build and facilities to establish production line and test cells.

The QSK95 Series generator sets have been extensively tested to evaluate the performance of the engine, alternator and other critical components. Additional testing at Cummins' Acoustical Test Center facility measures precise noise output to ensure minimal acoustic emissions.

QSK95 Series generator set: More power, performance and reliability

The QSK95 Series generator set is built around Cummins' 16-cylinder QSK95 diesel engine which delivers comparable power output to counterparts' 20-cylinder models.

"We have been very happy with the QSK95 Series generator set's fuel efficiencies. It is very impressive compared to other competitors that it's running against. This represents considerable savings to the mine at the end of the day".

"Currently, the QSK95 Series generator set is the most powerful, high-speed unit that's available to us. It delivered a more compact footprint per KW, which equates to lower construction costs for us, which we can pass on to the customer," said Marc.

Furthermore, the QSK95 Series generator set is equipped with many innovative engineering improvements such as larger and more accessible hand hole covers and an externally-mounted lube pump, enabling easier access to critical service functions. These features reinforce the enhanced serviceability incorporated into the generator set to minimize downtime to ensure reliability and uninterrupted mining operations.

Validated on-site performance and operational readiness

The QSK95 Series (C3500D5) generator set is configured for a prime rating of 3,125kVA. Since commissioning, the QSK95 Series generator set

has successfully completed over 4,000 run hours in continuous operation.

"We installed the QSK95 Series generator set back in February 2014 and are extremely satisfied with its performance so far. It is a robust, sturdy unit. We've been very happy with its load acceptance, load rejection and stability. It's hitting the maintenance milestones very well and is going to be a good unit," said Marc.

Accountability and support from Cummins

Cummins field engineer, Ryan Hyslop was on site to support the commissioning of the unit, which was installed in just 2.5 weeks.

"Due to the remoteness of the site, service and support are critical. Cummins turns up in a fast and responsive manner when called upon," said Marc.

"The technicians were sent to US for hands-on training on the new generator set. They have been a valuable resource not only in working on the unit, but also in providing feedback to the service and engineering team in the US," said Ryan.

A resounding user testimonial

"Based on our experience with the QSK95 Series generator set to date, it will be our choice in our next construction build," said Marc.

"The QSK95 Series generator set is doing what we say it will do. It is meeting the expectation of our customer, Contract Power," said Ryan.

To find out how our QSK95 Series generator sets can fulfil your power needs, please contact your local Cummins distributor or refer to power.cummins.com.



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