

CUMMINS HELPS TO DELIVER AUSTRALIA'S LARGEST HYBRID RENEWABLE ENERGY MICROGRID



WHERE:

Leinster, Western Australia

SUPPLY:

- 9x C2000N5CB QSV91G gas generator sets
- 2x C2250D5 QSK60 diesel generator sets
- 1x Digital Master Controller (DMC) 8000

PURPOSE:

To provide a hybrid renewable energy solution for a gold mining company.



CUMMINS WORKED WITH EDL TO PROVIDE AGNEW GOLD MINE WITH OVER 50% RENEWABLE ENERGY

Gold Fields is one of the largest global gold mining companies in the world, with nine operating mines and one project, including the Agnew gold mine, in the northern goldfields of Western Australia. Gold Fields wanted to create an innovative hybrid renewable energy solution at the site, which has operated for over 30 years, with an annual gold production of approximately 220,000 oz per annum. Cummins collaborated with global distributed energy producer EDL, which was selected due to its track record in providing sustainable, reliable energy solutions for remote operations and communities.

The crucial requirement in this project was that the generators had to provide continuous, reliable power at temperatures up to 45°C. As a result, the Cummins QSV91G gas generator model was selected due to its ability to operate in high ambient conditions, in addition to providing high impact step loads and fast ramp rates while maintaining power quality.

The C2250D5 units provide additional power during peak periods of demand, in addition to providing the ability to black start the power station in the event of a power outage. The DMC8000 communicates with EDL's microgrid controller to balance the power demand from the mine.

The first stage of the project required the installation of a new off-grid 23MW power station incorporating 16MW gas, 4MW photovoltaic solar and 3MW diesel power generation. The thermal power station was completed in July 2019, and the solar farm was ready in August 2019. A further 2MW of gas generation was installed in March 2020.

The second stage of this project was completed in May 2020. This stage was supported by the Australian Renewable Energy Agency (ARENA) to provide 18MW wind generation, a 13MW battery and an advanced microgrid control system.





Agnew is Australia's largest hybrid renewable energy microgrid with an installed capacity of 56MW, as well as the first to utilize wind generation at a mine. During 12 months of operation, the energy produced at Agnew is equivalent to powering 11,500 homes and will abate 46,400 tonnes of carbon dioxide – equivalent to taking 12,700 cars off the road.

“ The renewable energy technologies of EDL's Agnew Hybrid Renewable Power Station are complemented by thermal generation from Cummins gas and diesel generators. We're pleased to be working with Cummins to deliver this landmark project, which will provide the Agnew Gold Mine with more than 50% renewable energy over the long term, without compromising power quality or reliability. ”

Jason Dickfos, EDL Head of Growth



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