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Fast-Track Power: Rx for an Unreliable Grid South Australia's Energy-Intensive Industries

By Sean Hughes

For the third time in a year, the people and businesses of an Australian state are in the midst of an energy crisis due.

First was [Tasmania](#), which was hit by a right-left combination consisting of an historic El Niño pattern that reduced the state's hydro capacity to less than 10 percent and a six-month outage of the Bass Link power cable. Then in July, South Australia – and its [mining](#) sector – were reeling from the ill wind of intermittent renewables. Now, Mother Nature has unleashed severe weather to inflict another round of power outage across South Australia.

While the cause of each power crisis has been different, the impact to energy-intensive industries like BHP Billiton, OZ Minerals, Arrium and Nyrstar has been the same.

Take BHP Billiton, for instance. Reports show that prior to July 7, the mining giant was paying \$250,400 a day for the 120MW of power required for its operations at Olympic Dam. When the wind died in late July, BHP's electricity costs reportedly spiked by 1,000 percent to \$2.57 million for one day of power.

Higher costs are just one impact of an unreliable grid for South Australia's mining companies. In an industry where [safety is paramount](#), lives depend on uninterrupted power for essential processes like ventilation and dewatering. Similarly, a constant flow of electricity is required to ensure that smelters don't go cold, allowing molten metals to solidify inside capital-intensive processing equipment.

Just ask the folks at smelter operator Nyrstar. As a result of this latest outage, the company is reporting that the loss of grid power caused slag to solidify in its blast furnace in Port Pirie, resulting downtime and repairs that will cost up to \$7 million in profits. At Arrium's Whyalla steelworks, employees are trying frantically to prevent hundreds of tonnes of molten metal from solidifying. If they lose the race, the loss of power will necessitate the use of jackhammers to remove hardened steel from four 180-tonne ladles.

For miners BHP Billiton and OZ Minerals, the impact to capital equipment appears to be minimal. However, revenues clearly will suffer as a result of lost production and the time and expense to restart operations.

The good news is that a solution exists that can ensure reliable power, steady pricing and a hedge against an future outages for South Australia's energy-intensive industries: mobile fast-track power

using [high-speed reciprocating engines](#) and [fuel-flexible turbines](#) that can switch seamlessly between natural gas, diesel and other fuels depending on cost and availability.

This [turnkey solution](#) offers several advantages. First, installation is rapid; the units can be onsite and operational in as little as 14 days. Second, this is a scalable solution that can expand or contract according to need. Third, the [turbines](#) and reciprocating engines can power up and back down in minutes, allowing them to respond rapidly to fluctuating grid conditions.

Perhaps the greatest benefit of fast-track power is that it's not subject to the whims of Mother Nature. These machines can operate 24 hours a day, 7 days a week, year-round, serving as a pragmatic insurance policy to protect South Australia's energy-intensive industries against an unreliable grid in the future.

In a region where livelihoods – and lives – depend on uninterrupted and affordable electricity, the need for reliable power cannot be overstated.