



Rental Power

> Case History

Brazilian Grand Prix, São Paulo, Brazil

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Where:

Brazilian Grand Prix, São Paulo, Brazil

What:

20 Rental Power units totaling 4 MW of mobile power for a Formula 1 race event

Purpose:

Meet special event 50 Hz and 60 Hz power needs for the power boxes, paddock, pit area, heliport, hospital, fuel deposit, communications center and telemetry systems

Primary choice factors:

Ability to meet both European (50 Hz) and Brazilian (60 Hz) frequency standard requirements and a proven track record for providing reliable power in previous races from 2001 to 2004

Rental Power units keep Formula 1 event running

SÃO PAULO, BRAZIL — Fearless and competitive drivers, coupled with a need for speed, fuel the popularity of Formula 1 racing — one of the most popular sporting events in Europe and South America. Behind the glitz and glamor is an immense network of suppliers and equipment essential to making it all happen.

One of those suppliers is Cummins Power Generation Inc., the supplier of electrical power for the past several years at the Brazilian Grand Prix, a Formula 1 race at José Carlos Race Circuit in São Paulo.

As the sole supplier, Cummins Power Generation had to provide all the electricity for the event — from the teams' first preparations during the training phase until the checkered flag. The need was met with 20 trailerized, self-contained Rental Power units, ranging in size from 100 kW to 1000 kW. The units were set up throughout the compound, each operating in a specific area.

"The critical areas, such as the pit area and hospital, were each given their own isolated unit for power," said Alberto Silva, rental manager, Cummins Power Generation Brazil. "Some critical activities such as communication devices, telemetry systems, electronic



A total of 20 Cummins Rental Power mobile units were used, ranging in size from 100 kW to 1000 kW. The combined power system made available 4 MW of power — enough power to supply a city of 20,000 inhabitants.

controls and computer networks required redundant paralleled units to ensure higher reliability.”

High-power racing needs special electrical power

Besides the huge amount of electrical power consumed by the event, the race teams also need reliable, high-quality power — cleaner, balanced and more constant than the power usually provided by the concessionaire.

“The power voltage in Brazil isn’t always of a stable frequency or voltage. The energy supplied had to be within the frequency standard required by the sophisticated instruments and equipment used by the teams,” explained Silva.

Silva added, “We also had to meet both the European and Brazilian frequency standard requirements. Most of the electronic equipment is manufactured in Europe, where electronic devices operate at 50 Hz, so the power must be generated at that frequency. Here in Brazil, 60 Hz is the standard power generated by the concessionaires.” This meant that the power supplied from the Rental Power units needed to be converted into voltage the European equipment could operate on.

The majority of the Cummins Power Generation Rental Power fleet had the capability to provide both frequencies,” explained Silva. “Usually, when dealing with international events such as a Formula 1 race or Carnival in Rio, it is crucial to have generators that can operate on both frequencies. In the near future, the entire Cummins Rental Power fleet will be able to operate this way.”



Approximately 30 engineers, mechanics, technicians, electricians and support personnel worked to ensure that everything ran smoothly as planned.

System setup allowed performance monitoring

All the units were connected and monitored to ensure even performance. Putting them all together as one system for conversion running wasn’t as simple as plugging in a cord and having everything work. In order to install 20 Rental Power units spread throughout the circuit, approximately 3,000 meters of power cables were required. “In terms of structure and complexity, the mobilization for the Formula 1 race is equivalent to that used to supply energy to the Sambódromo [a 65,000-seat, 700 meter parade arena] for Carnival in Rio de Janeiro,” said Silva.

Cummins Power Generation provided a group of experienced and dedicated individuals to meet all the power needs of the Brazilian Grand Prix. About 30 engineers, mechanics, technicians, electricians and support personnel worked to see that everything ran as planned.

Of the 20 units used at the racetrack, most were in use only when the cars were running. However, some of the units were needed to run 24 hours a day for the three-plus days of practice and training runs before the actual race.

“The Rental Power units operated without problem. Apart from refueling, no maintenance was required for the machines,” said Silva.

For more information about Rental Power or other energy solutions, contact your local Cummins Power Generation distributor or visit www.cumminspower.com/rental.

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