



Standby power

> Case History

Santo Domingo Metro

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Where:

Dominican Republic

What:

Nine generator sets, model C2000 D6 powered by QSK60-G6 engine

Controls are Lonwork card and Modlon II (Network in Master Control)

System control is PowerCommand® Paralleling PCC 3201 in the event of utility power failure

Purpose:

To provide standby application power to the Metro's principal station, centre office, maintenance system and main line

Primary choice factors:

- Product reliability
- Specification and price
- Local Cummins Power Generation distributor experience
- Excellent standby power capability

Rapid transit system stays on track with Cummins Power Generation

SANTO DOMINGO, DOMINICAN REPUBLIC - SAMPOL Ingenieria y Obras S.A. is a multinational company dedicated to the promotion and management of large commercial and consumer engineering projects at high profile facilities such as hotels, airports, hospitals and railways. It currently employs 80 people with an annual turnover of €150,000,000.

SAMPOL has recently been involved in the build of the brand new Santo Domingo Metro, a rapid transit system in the capital of the Dominican Republic, and chose Cummins Power Generation to supply the Metro's standby power needs.

SAMPOL commissioned its first Cummins Power Generation product in 2006 for an installation at Valencia Airport. Since then, thanks to the success of this and subsequent installations, it has been a regular customer of Cummins Power Generation Madrid.



Installation of nine C2000 D6 generator sets



The C2000 D6 generator sets provide 18 MW of standby power to the entire Metro system

The Santo Domingo Metro is part of a major "National Master Plan" to improve transportation in Santo Domingo, and across the Dominican Republic. It is hoped this will ease congestion and the heavy air pollution that severely affects productive time and the health of the city.

The first line of the subway system, which will relieve road congestion in the Máximo Gómez and Hermanas Mirabal Avenue, was completed in February 2008 with commercial service planned to start later in 2008. Two further lines are also planned, bringing the total count to three possible lines, each passing through the centre of Santo Domingo.

The first line is approximately 14.5km long, connecting Villa Mella (north of the city) with La Feria (south of the city), and requires a constant supply of 1500 V to run at 160km/h. Power is also required continuously at each of the line's 16 stations, both underground and on the surface. Therefore, the standby power system required had to be able to handle a heavy-duty power load, whilst considering operation noise due to the line's proximity to the city centre and its residential areas.

SAMPOL received quotations from both Cummins Power Generation Madrid and SDMO for the project but chose the Cummins Power Generation product because of its reliability and competitive price.

SAMPOL specified nine C2000 D6 generator sets with QSK60 engines to provide a total of 18 MW standby power to the Metro's principal station, centre office, maintenance system and finally the metro line itself. The sets are operating on 60 Hz/480 V and because the generators are operating on manual changeover it was not necessary for Cummins Power Generation Madrid to supply switchgear.

Fernando Pinzon of Cummins Power Generation Madrid said, "This is the first project of its kind in the Dominican Republic and we are delighted to be part of it. The solution we presented SAMPOL was ideal for the station's massive standby power requirements, whilst delivering against the special environmental considerations; namely that operation be at low-level noise." With further lines planned Cummins Power Generation hopes to continue the relationship with the Santo Domingo Metro in the future.

ARGICO C. POR A., a local Cummins Power Generation distributor for the Dominican Republic provided the full

support for the system commissioning as well as the complete cooling system installation.

Although the generator sets are installed to provide standby power, until the Metro is opened to the general public the system is currently running daily and easily coping with the power requirements. This is because the QSK60 engine is ideal for stationary standby applications, providing optimum performance, reliability and versatility.

David Blasco of SAMPOL says, "We have worked with Cummins Power Generation Madrid for two years now and have been impressed not only with the reliability and versatility of the products but also the technical experience and expertise of the Cummins Power Generation team. This project is vital to the future of the city of Santo Domingo. Delivering such an important project requires excellent project management skills and part of this is choosing suppliers that you can rely on and products that meet requirements. In this case as with others, Cummins Power Generation Madrid was the better choice and we are very pleased with the outcome."

As well as the sets, Cummins Power Generation Madrid also supplied controls, Power Command Paralleling PCC3201 for the system control, and ARGICO C. POR A. supplied the Lonwork card and Modlon II for the generator sets including the network configuration and commissioning. This provides total generator set system integration, including automatic remote starting/stopping, precise frequency and voltage regulation and alarm and message display.

This power project was ordered through a Spanish main contractor and the generators were purchased in the EU as part of the EU contribution to funding of this infrastructure project.

Once operational it is expected that more than 200,000 passengers will use the Santo Domingo Metro line daily.

ARGICO C. POR A. provides O&M consulting and training for the back-up power system through a maintenance contract awarded by the Santo Domingo Metro.

For more information about integrated standby power systems, contact your local Cummins Power Generation distributor or visit www.cumminspower.com.

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