

# Switchgear and Generator Paralleling Control System



## Project Brief

The customer required The Generator Company to design, manufacture, deliver and commission three new 975KVA (60 Hz) generator sets for parallel operation, daily service fuel tanks, inlet & discharge attenuation and exhaust silencer(s) to limit the noise level outside the plant room to a level of 75 dBA @ 1m, a bespoke switchboard inclusive of all system and generator controls and cabling and installation kits

**A Luxury Resort and  
Spa Hotel complex  
located on the  
Caribbean island of  
Antigua**

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# CASE STUDY

## Generator Sets

In line with the requirements of the site The Generator Company supplied multiple 975 kVA (60Hz) generator sets; these were based on the Cummins engine and Newage alternator combination preferred by the customer.

The sets were purchased as 'Level 1' skeletal units excluding all generator controls; they were then up-fitted with set mounted control panels to facilitate set to set parallel operation.

## Controls Specification

The project brief was such that the application required a bespoke system to meet the customer's requirements. The set mounted controls up-fitted to each generator set were designed with ease of operation in mind and the functionality to parallel the supplied generators accommodating an N+1 generator system.

## Controls and Switchgear

The controls and associated switchgear supplied with the generator sets allowed The Generator Company to offer a complete package solution. All supplied controls and switchgear were fully tested and witnessed during the manufacturing stage prior to despatch to alleviate any controls issues that may of occurred at site.

The switchboard was supplied complete with the Generator paralleling, change-over, and distribution switchgear and was designed to accommodate

- Mains Incomer, 1 x 2000 Amp Fixed Pattern 4 Pole Manually Operated Air Circuit Breaker
- Mains Change-Over, 1 x 2000 Amp Withdrawable 4 pole Motorised Non Auto ACB
- Generator Change-Over, 1 x 3000 Amp Withdrawable 4 pole Motorised Non Auto ACB
- Feeder 1, 1 x 2000 Amp Fixed Pattern 3 Pole Manually Operated Air Circuit Breaker
- Feeder 2, 1 x 630 Amp Fixed Pattern 3 Pole Manually Operated Air Circuit Breaker
- Generator Paralleling – 3 x 1250 Amp Withdrawable 3 pole Motorised ACB's

This system incorporates both digital and analogue metering and was designed specifically for applications where high utilisation of generators is required. The control system has considerably more functions than a standard and includes the ability to manual parallel the generators which assists commissioning and fault finding, a feature many other systems do not cater for.

## Installation

The Generator Company supplied a technician in a supervisory capacity on site to assist during key elements of the install period. To further assist, The Generator Company supplied specific detailed installation 'kits' for the associated plant under our supply including the attenuation and exhaust systems and cabling required for the generator plant.

The supplied 'kits' helped ensure that the installation of our supplied equipment was trouble free, this combined with our experience on generator installations worldwide helped to ensure that the install was completed quickly and successfully. For this project we have a Technician travelling to the Caribbean twice a year to carry out servicing on each of the generators.