Hybrid Generator

Cygnus 3

"Our new site is going to need power 24/7 but we need to look at noise reduction and reducing our fuel usage. What can John F Hunt Power suggest?"

In recent years, there has been a huge increase in the use of Hybrid Generators on construction sites across the UK. As contractors explore more efficient and environmentally friendly ways to power their site, they're turning to us for the solution.

A recent enquiry from a major housebuilder, with a new project starting in Oxfordshire, gave John F Hunt Power the opportunity to not only reduce our clients carbon emissions and noise levels, but also save them money by significantly reducing their fuel usage.

The site in question required a generator to run six cabins during the day, but only required a small amount of power overnight. With the compound located so close to nearby residents and a real desire to cut down on their fuel usage, the client asked us to explore the best possible option for their temporary power.

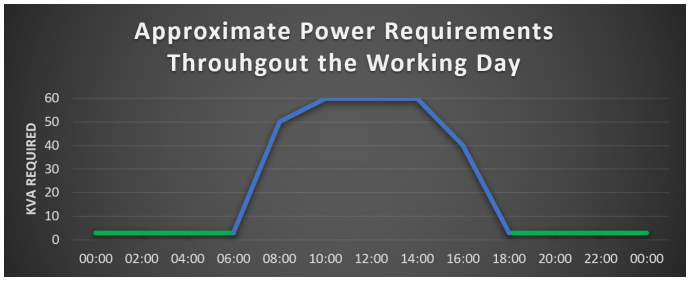
What did John F Hunt propose?

First step was to arrange an on-site meeting with the project teams to discuss the application and explore the most practical and cost-effective solution.

On this particular job the client's compound consisting, of multiple temporary site cabins, required power during the day. Outside of site's operational hours, only the drying room and a fridge in the canteen needed power.

Rather than leaving their generator running 24/7 for such a small load, we suggested a Hybrid Generator working in conjunction with a 60 kVA Diesel Generator.

We proposed that the diesel set would run the compound throughout the working day (period shows in blue on the below graph) and when the load was significantly lower in the evening (period shown in green), the Hybrid set would take over and provide silent, fuel free power through the night.



The client ideally wanted to be switched over to Hybrid Power for 12 hours a day, from 18:00 - 6:00. To ensure the Hybrid package was suitable for this, we carried out the below calculations – taking in to account the load requirements and the desired run time.

Equipment Requiring Power	kW	Hours Needed	Battery Storage Required
Drying Room Fan Heater	2kW	12	24kWh
Canteen Fridge	<1kW	12	12kWh (max)

With 48 kWh of battery storage, the Cygnus 3 Hybrid Generator would have more than enough usable energy to maintain power for the 12-hour period.

What was the result for the client?

As with all Hybrid Generator jobs, the success relies on the vigilance of those working on site. In order to achieve optimum results, staff made sure all none-essential items were switched off every day before leaving to avoid unnecessary drain on the batteries.

The package remained on site for 12 months in total and the client experienced brilliant results - not only were they able to avoid any noise related complaints from local residents, but they also saved thousands of litres of fuel.

We estimate that by utilising a Hybrid generator for 12 hours a day Monday – Friday, rather than a diesel generator running constantly, site saved over 400 litres of fuel per week, as approximated in the below table.

By operating a hybrid system in this way, the client benefited from both noise and fuel reduction, resulting in a more efficient solution to the power requirements.

Give one of our depots a call today to discuss Hybrid Power for your next project.

Equipment	Time Ran & Approx. Load	Approx. Fuel Consumption/ Average Load	Total Fuel per Working Week
Generator Only	6am – 6pm	10.92 – 75% Load	1,092
	6pm – 6am	7.28 – 50% Load	
Generator + Hybrid	12 Hours @ 75%	10.92 – 75% Load	655
	12 Hours	0	

Prime Power Rating @ 25°C (kVA)	Standby Power Rating @ 25°C 30 mins (kVA)	Surge Power Rating @25° C (5 seconds) (kVA)	AC Output Voltage (50Hz)	AC Input Current Max (Aac)	AC Output Current Max (Aac)	Transfer Relay Time
21	24	63	190-245v / 415v(3Ph)	50 A 3 phase	80	<15 mins

Standby Power Consumption (W)	Battery Capacity (kWH) (60% DoD**)	Wet Weight (kg)	Dimensions (mm)	Forklift Pocket Dimensions (mm)	Distance between Fork Pockets (mm)	Set up Time
7.2	48	2900	L 2050 W 998 H 1500	W 996 D 190 H 100	810	5 mins

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