

The Company and Project

Control panels for Global Energy Company, Centrica

Operating across the UK and Ireland, Europe and North America, Centrica is at the forefront of the distributed energy market.

With over 5,000 business customers across 34 countries, Centrica helps organisations around the world improve their operational efficiency. The company works closely with customers to help them meet their sustainability goals and a large part of Centrica's business is focused on delivering energy-efficient CHP (Combined Heat and Power) technologies.

Using CHP solutions not only helps businesses reduce their environmental impact but also delivers significant cost benefits. By capturing heat through the electricity generation process to produce heat and power simultaneously, CHP can cut energy costs for up to 40 per cent.

Bensons, using its expertise in this area, has built control panels for hundreds of distributed energy systems (including CHP technologies) since the 1980s.

The Challenge

To develop a new style of containerised CHP solution that was heavily constrained by space.

In this instance, the configuration and size of the engine imposed significant space constraints within the standard sized containers required by Centrica.

At the same time, Centrica required all the functionality of a conventional control panel, together with the high-current switching capacity of a large Air Circuit Breaker (ACB).

A conventional system would feature a traditional wardrobe panel, installed alongside their system's engine, within a container, to create a fully integrated plantroom assembly. This would then be delivered to the client's site, ready to be incorporated into the main energy plant.

As the panel plantroom within the container was not long or wide enough to house the control panel in one straight line, our challenge was to create a bespoke design to solve the space restrictions.



The Solution

A bespoke enclosure design to work as a stand-alone item.



To meet the exacting specifications, Bensons manufactured the ACB section as a stand-alone item. This meant it could be installed in one corner of the plantroom next to the dividing wall leading to the engine section. This also positioned the ACB adjacently to the outside wall for the transformer cables.

This approach minimised the cable lengths required and meant that all incoming power cables could be terminated directly into the ACB section.

Bensons' design allowed the control section of the panel to be mounted on the opposing side of the plantroom with the power section mounted adjacently in an L-shaped configuration to overcome the width restrictions. The design also meant that interconnecting cables could run along the container wall inside metal trunking.

The Result

Space saving - simplified installation – reduced assembly and testing time

With Benson's space-saving design, the floor area within the containerised plant room is optimised, allowing Centrica to provide a spacious and safe working environment both for its own engineers and its client's engineers.

By splitting the control panel into sections, the installation process is simplified, reducing Centrica's assembly and testing time. The design of the control panel minimises interconnection between sections. When combined with Benson's robust testing process (testing each section of the control panel prior to delivery), Centrica can confidently rely on the delivery of a suite of fully functional panels that can be installed immediately.

The adaptable nature of Benson's design allows it to be used for a range of engine designs with associated ACB sizes from 1600 - 3200 amps, minimising the need for expensive system re-design.

