

*Proteus Industrial Switchgear of Telford were asked to serve up something special for AB Produce of Measham, Leicestershire for their main 2500A L.V. switchboard and sub MCCB panel boards. Having competitively tendered for this project, Proteus Industrial worked closely with Electrical Design Consultant Andrew Snipe of AS Engineering – Energy Services, based in North Oxfordshire over a six month period assisting with the design of the projects electrical distribution boards and panels. The contract was subsequently awarded to supply a 2500A LV main Incomer / Generator Switchboard and Panel Boards for sub distribution fully compliant to BSEN 61439 – 1 and 2.*

*AB Produce have a complex recycling and generation installation, so an upgraded switchboard was required which could be supplied from a combination of mains power grid, Biogas CHP, Solar PV and a 2000A diesel generator set. The switchboard was required to operate in two modes: normal, where the power mains and generator supplies operate as a conventional interlocked changeover system and export, where the CHP, solar, bio digestion and generator can supply the site and export to the mains power grid system if required.*

*The switchboard was constructed to Form 4A, type 2 for segregation of all circuit breakers from each other. Each outgoing circuit breaker was monitored by a MID approved kWh meter equipped with MODBUS communication.*

*The main ACB was rated at 2500A, 4 pole, fixed pattern frame. This was monitored by a digital multi meter with a 4-20mA output signal. A combined Type 1 and Type 2 Surge Protector was fitted to the Busbar. This provides protection against the effects of lightning strikes (Type 1) and man-made surges (Type 2) such as large switching loads and short circuits.*

*A 6 stage 300 kVAr detuned capacitor bank was built into the switchboard. The detuning reactors act as a buffer to the capacitors providing protection to them from the effects of harmonics on the system. This is controlled and monitored automatically by a Power Factor Correction Relay. Each stage is fitted with individual fuse protection and switching contactor. An On – OFF indicator lamp provides local indication of the state of each stage.*

*Tony Tombs, Technical Manager of Proteus, said, “As a UK manufacturer we enjoy working with our installers right from the initial design process through to the final installation. This way the end client can often achieve exactly what they want rather than having to settle for standard formats with limited functionality”*

