Case Study

Chapel Farm Connection: Turnkey 50MW BOP Project

Ipsum Group

Overview of works

Ipsum were appointed as Principal Contractor to deliver two grid connection projects in partnership with Tesla, including the 50MW Chapel Farm scheme. Acting as Balance of Plant (BOP) Principal Contractor, Ipsum provided a full turnkey solution covering design, installation, and commissioning.

The projects were developed to optimise energy storage capability, improving grid flexibility and stability across the region. Chapel Farm was successfully completed, energised, and handed back to Tesla in May 2023.

As certified Tesla Megapack installers, Ipsum demonstrated specialist capability in delivering large-scale battery energy storage systems, reinforcing their position in the clean energy sector. Their in-house energy and connections division enabled delivery of complex multi-disciplinary works under a single contractor.

Key challenges

Delivering a high-capacity 50MW energy storage connection project presented significant technical and logistical challenges. Ipsum had to coordinate a full turnkey delivery while managing interfaces with multiple CDM duty holders, including the Principal Designer. The project required complex civil engineering works, including site surveys, grading, earthworks, and construction of structural bases for substations, switchrooms, and Megapack units. In addition, the installation and integration of high-value equipment such as HV switchgear, MV transformers, control systems, and Tesla Megapacks demanded precision and specialist knowledge. The project also involved extensive site-wide cabling infrastructure, covering HV, LV, DC, control, and data systems, while ensuring compliance with strict safety, security, and fire system requirements. Finally, all systems needed seamless commissioning, integration, and testing within tight programme constraints.

Our solution

Ipsum delivered a fully integrated turnkey solution, leveraging in-house expertise and robust project management to overcome the challenges. They managed the full Principal Contractor scope, including site setup, welfare, security, and coordination with all stakeholders. Civil works were completed comprehensively, encompassing site surveys, clearance, grading, earthworks, and the construction of all equipment bases, including substations and switchrooms. Specialist teams installed switchrooms, MV skids, and Tesla Megapack units, while site services such as lighting, security, and fire protection systems were fully integrated. All cabling infrastructure, including HV, LV, DC, control, and data systems, was installed with appropriate containment. Finally, Ipsum carried out thorough testing and commissioning of all installed equipment, including HV switchgear, transformers, control systems, and SCADA, ensuring the site was energised safely and efficiently. This approach enabled successful delivery on programme and reinforced the reliability and flexibility of the local grid.

Lee Maxwell, Managing Director at Ipsum Group, said: “We are thrilled to be supporting Tesla in the delivery of these large-scale, grid-connected Connection projects. It is a testament to our team of specialists who were instrumental in securing this contract and will be executing its roll-out, as well as to Ipsum and our ever-evolving working methods and our adaptable and sustainable nature.”