



# 33kV SOLAR FARM CONNECTION

DEVELOPMENT IN BASILDON, ESSEX



## Power

Value	Multi-million
Voltage	33kV
Market Segment	Renewable
Duration	8 months



### Project summary

This project involved the design, installation, and commissioning of a 15MVA 33kV DNO switchroom and cable route. Works included detailed design and approvals, supply and installation of the switchroom with battery chargers and metering room, and 4.2km of 33kV cable ducting with cable pulling and jointing.

### Pre-construction

33kV DNO switchroom and cable route design - JSM employees completed the detailed design which included single line diagrams, protection and interface design – Power System and G99 Studies - Cable route design and cable calculations, ducting, cable install and jointing - earthing design, report, soil resistivity test, earth mat installation and fall of potential test.

### Construction

Supplied and installed a 33kV DNO switchroom including battery chargers and a metering room, along with 4.2km of 33kV cable duct installation, cable pulling, and jointing.

### Post-construction

Works included cold and hot commissioning, energisation and providing As-Built records.

- Principal designer
- Principal contractor
- Compound construction
- Compound earthing
- 4.2km cable route
- Civils
- 33kV Cables & Duct installation
- LVAC supplies
- Jointing & Terminations
- Hot and cold commissioning with Energisation

# PROJECT CHALLENGES

## CHALLENGE



### **Congested route**

Cable route crossed the busy A127 highway route into London

### **Adjacent third party project**

Adjacent 3rd party project required excavation of the same route, high probability of disruption to local residents.

## SOLUTION



Horizontal Directional Drill design and installation under the A127, as agreed with Essex Highways Authority.

JSM were aware of both schemes happening at a similar time and facilitated a collaborative route sharing exercise to avoid the same busy road being excavated twice

