

# Project Overview – Lower House Farm, Usk

“Connecting you to the grid”



## PROJECT STATISTICS

**Project:** Lower House Farm, Usk

**Location:** Usk, Monmouthshire, Wales

**DNO:** WPD



**Voltage:** 66kV

**Works Awarded:** Contestable, Client Side and Civil Works

**Completed:** March 2016

## SCOPE OF WORKS – CIVIL WORKS

Design, Supply & Installation of:

- WPD Control Building
- 66 / 11kV Compound Bases
- Palisade fencing and gates
- Transformer Bunding
- All troughs, ducts and drainage
- All roads / pavements internal to the compound
- Compound Lighting

## SCOPE OF WORKS - CONTESTABLE

Supply & Install WPD approved 66kV EHV substation, including:

- Metering circuit breaker, Disconnectors, CVT's and structures
- Bus Bars, Clamps & Connectors
- Protection Panel
- Battery and Charger
- Design, Supply & Install Multicore Cabling from WPD Outdoor equipment to protection panel within adjacent substation building
- Design, Supply & Install WPD approved 66kV underground cable connection to outdoor Substation
- Cable route to include 3,100m route length and associated jointing and terminations
- Cable route consists of 2,100 metres on Agricultural and 1,000 metres on Highway

## MAP / LOCATION



## SCOPE OF WORKS – ELECTRICAL CLIENT SIDE

Design, Supply, Installation, Termination, Commissioning & Testing of:

- 66kV manually operated dis-connector plus integrated earth switch and 66kV surge arrestors
- Associated 66kV bus bars and clamps to connect from WPD metering circuit breaker to customer's installation
- 11kV switchboard and cable connections
- G59 Relay to Solar Park
- 30V trip and close battery and charger system for client side switchboard
- 415V auxiliary supply arrangement and 415V supply cables
- Transformer Bund Pump Arrangement
- Above and Below ground Earthing arrangement
- P28, P29, G5/4 System Studies

## CHALLENGES FACED:

- For the 3.5km cable route with 1/3 being within the highway, the expected timeline for completion was 2 months which included all joints and associated works
- The S50 application was submitted in the middle of 2015, for works to start late 2015
- The Council had complaints from the local residents and legal challenges against the solar developer
- After many meetings with the council, residents and Consultants, g2 Energy were given the S50 with a number of caveats to follow
- The latest date to be issued for the S50 for works to be completed was very tight, therefore when the works started, weekend working and additional resources were required to ensure the works were completed on time and by the deadline
- As part of the works, a section of the highway was to be open cut, but to placate the local residents we completed the works via Directional Drill
- After approx. 6 months with the cable works, the project was completed and energised on the original date of the programme



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