CASE STUDY 7:
3 OFF SOLAR FARMS –
POWER SYSTEM STUDIES

UCP CHOICE

Client:	**UCP Choice**
Industry:	**Renewables**
Plant Type:	**Solar PV**
Project:	**System Studies**
Contract:	**Lump Sum**
Date:	**2017**

"SPE was appointed to undertake a stage 3 G5/4 harmonic assessment and P28 transformer inrush study for 3 different 5MW solar farms."

SPE was contracted by UCP Choice to carry out a series of power system studies for 3 new 33kV, 5MW solar farms within the UK.

SPE's scope included undertaking a full G5/4 Stage 3 harmonic assessment of each site, requiring import of the existing DNO network model into Digsilent. Modelling the background harmonics, and PV array output before checking the harmonic distortion levels throughout the network for a variety of operating scenarios, as well as the system performance to harmonic resonance sweep.

In addition, SPE also carried out a detailed P28 transformer energization study using the PSCAD simulation package to determine the voltage disturbance caused by energizing the transformers individually or as a group. This study also reviewed the long term and short terms flicker created by the PV units on the network.

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