



LARK POWER SERVICES

**CASE STUDY 10:
NEW 7.5MW STOR GENERATION
POWER SYSTEM STUDIES**

Client: Lark Power Services
Industry: Generation
Plant Type: Diesel Generation
Project: System Studies
Contract: Lump Sum
Date: 2017

SPE was contracted by Lark Power Services to carry out a wide range of power system studies for a new 7.5MW diesel generating plant in Derbyshire, for the new STOR / EFR response contracts.

SPE's scope included undertaking a short circuit G74 study and protection coordination study using the ETAP software package. This required a detailed model of the whole power system being created, and a Time Current Curve plot generated for each of the main overcurrent and earth fault coordination scenarios.

SPE also carried out a detailed P28 transformer energization study using the EMTP-ATP 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.

In addition, SPE also undertook a detailed analysis of the HV and LV earthing system using the CDEGS design package. After subcontracting a soil resistivity to a local company, SPE developed a detailed model of the soil layers, fault current return paths and the earth grid, before carrying out detailed Earth Potential Rise (EPR) calculations and detailed touch and step voltage calculations for the site.

“SPE was appointed to undertake a range of power system studies to support construction of a new 7.5MW generating station.”

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