Technical Specification

Requirement for the plant

The plant will be used to supply electricity to the national grid, but only at times of very high system demand, or when unexpectedly there is insufficient “traditional” generation available.
The need for such plants has been clearly demonstrated by the fact that National Grid runs a tender process and issues contracts for such plants to be constructed and made available to them.

Outline Description

The technology to be used is high efficiency diesel and/or gas fuelled generator sets, each of which will be emission-optimised and housed in acoustic containers. The new plant will run for around 100-200 total hours per year, and during likely peak periods of demand.
There will also be five diesel fuel tanks which will be constructed to BS799 Part 5 in accordance with Pollution Prevention Guidelines 2. We expect refuelling lorry movements to be around ten per year.
In addition to the generator containers and the fuel tanks, there will be five 400/33kV 4MVA transformers and a further container to house PeakGen’s LV and HV switchgear.
Cable connections will be made between this container and the local network operator’s 33kV switchgear which will be housed in an enclosure to meet their specifications.
The 33kV switchgear will be connected to the existing distribution network running adjacent to the site. This housing and its contents will be adopted and maintained by the local network operator.

The proposal will also incorporate a small scale solar PV installation with an output of 10kW. It is intended that 40 off, 250W panels be installed on the roofs of the switchgear containers and a number of the generator containers. These will be used to provide power required for the on-site auxiliary equipment with any excess fed into the electrical network.

The whole area will be secured around the perimeter by a suitable security fence and acoustic fence as required.

Air Quality assessment/Emissions

The engines used will be modern high efficiency machines and will operate in emission optimised mode. The exhaust gas emissions are certified to fall within all UK and European limits at continuous power and nominal speed.

Noise Impact/Acoustics

Each of the generator sets, comprising the above engine plus electrical generator, cooling and associated equipment, will be mounted within a suitable acoustic enclosure. The overall installation will comply with local noise level requirements.