

Project name: Cedar Farm – Power Upgrade

Quick facts	
Project value	£ 71,850
Client name	School of Agriculture
Work start date	March 2010
Completion/open date	May 2010
UoR project manager	Paul Harding



The Problem

During the summer of 2009 Cedar Farm suffered several power failures due to an overload of the existing power supply.

Cedar Farm consists of three main buildings that make up the total load, these being the Dairy Unit, MET Unit and the MGRU.

Load recording equipment was connected to the distribution cables serving the MET Unit and MGRU to establish what element of load these building used and it was concluded that the MET Unit and MGRU consumed approximately 49% of the site load (based on max measured values).

The power for the site was provided from a Scottish & Southern Energy HV/LV pole mounted transformed, backed up by a standby generator located in the Dairy Unit.

The MET Unit and MGRU were supplied from low voltage (LV) switchgear located in the Dairy Unit via a buried cable.

The Solution

To overcome this problem it was decided that the MET Unit and MGRU would be supplied via a separate Scottish & Southern Energy HV/LV pole mounted transformer. This meant that the MET Unit/MGRU and dairy would be supplied from discreet supplies and would allow some spare capacity at each distribution.

The new separately metered supply is rated at 400A but is fused at 200A although the connection agreement will be based on the availability of 120kVA for a minimum of 5 years.

New LV switchgear was installed in the MET UNIT and was designed to offer an essential (generator backed) and non-essential distribution, plus an emergency link between the MET Unit and Dairy Buildings. The existing LV switchgear in the dairy was also modified to facilitate the emergency link.

A new 110kVA externally located generator was installed as part of the upgrade. Based on the current site load this generator will currently fully support both the MET Unit and MGRU. However, any future growth will need to be managed with regards to whether an essential or non-essential service is required.

The emergency link allows either of the combinations of transformers and generators to serve a restricted site load in the event of one of the transformers being out service. Digital meters are provided adjacent to each distribution for the purpose of measuring load during load shedding.

The Benefits

The upgrade has not only alleviated the failures caused by overload but has also added greater resilience with the introduction of the emergency link.

WREN No and Building Name & No.

WREN: 1054491

Building Name: Cedar Farm

Bld No: A073

Project stakeholders

FMD Small Works Projects, Scottish & Southern Energy and Southern Electric Contracting were all involved in successfully delivering the project from start to finish.

Progress/work schedule

- The original WREN was logged by the help desk on the 6th November 2009
- A detail survey followed by scope of works was produced by FMD Small Works
- Estimates were provided by Scottish & Southern Energy and Southern Electric Contracting for the purchase and installation of the new supply, generator and electrical switchgear necessary to deliver the project.
- A Total Project Estimate was prepared for approval February 2010
- Project approval was granted March 2010 and a programme of works was created.
- Work commenced on March 2010 and completed on May 2010.

Did you know?

That the dairy herd at Cedar Farm is one of the biggest in the UK.

Find out more

Please contact Paul Harding – FMD Project Manager on 0118 378 7284