Project Summary – BioGas Plant with Accord

Project Name:	BioGas Plant
Customer:	BioGas Generation, Ireland
Sector:	Renewables
PLC:	1 x Siemens S7-300 PLC
SCADA:	Accord Scada
Networks	Ethernet & Profibus
I/O count	Over 400 I/O

System Summary.

The BioGas Plant consists of 3 Large Digesters (Fermenters) which are fed from 20 materials sources. The digesters have Landia Control for internal material movement, and heating by passing material to a common large heat exchanger. The system was originally 2 Digesters with 3 source tanks and has grown significantly since initial installation.

The control system is provided by Logicon, utilising a Siemens PLC and Accord Scada. We designed and installed the original system, and expanded it as the client required, and it is now a large Scada for the plant, with multiple HMI Clients, full redundancy on the Servers, and incorporates a Feed Management System which allows the client to maximise the BioMethane by arranging Feeds based on BioMethane Potential. Accord Scada has proven to be a good choice for the Plant as the changes are very easy to implement with no code errors.

The Automatic Programs are for Heating the Fermenters, Lanida Operation, Liquid Transfer and Outtake. There is an ancillary system which controls the Pasteuriser (also programmed by Logicon).

There are approximately 200 automatic devices, all of which have Manual control, and settings which can be changed from the Scada. All the settings for the Automatic programs, including Source and Destination parameters, can also be changed from the Scada.

The **Feed Management** system is a fully configurable add-on which fully integrates with the main Scada. Each Tank (Source) can be assigned a Material and the BioMethane Potential for that material can be assigned.

Recipes are composed of Material, Tank Selection, Standby Tank Selection, and Quantity. Up to 10 sources can be listed in a Recipe. The BMP for the material is shown when the Recipe is being generated.

When the Recipe is started the Feed Manager will route from each of the selected Materials Tanks, in turn, until the required quantity is transferred from each Tank. The Feed manager will automatically switch to a Standby Tank if there is an Alarm on a Source tank, or the Source Tank is empty.

All transfers and relevant values are logged in the Scada database and reports are generated at the end of each day. The system provides full traceability, tracking all variables and actions, which is very valuable for the client.