

Transmission of data from Distributed Gas entry facilities to the GDN's agent

1. Current arrangements – directed sites with propane enrichment

1.1 Directed site requirements

The current data requirements with respect to volume and CV measurement at Distributed Gas entry facilities flow from Ofgem's policy that all such inputs should be subject to Letters of Direction and the parameters should feed directly into the FWACV calculation for the area in question. The daily average CV value is transferred into HPMIS via a RemoteWare server and the value is then transferred into the National Grid Transmission Integrated Gas Management system (iGMS). A FWACV process calculation then delivers the LDZ FWACV values for each gas day. The information, along with daily volume data, is transferred to the Gemini system to calculate the daily energy values to include in the daily energy balance and to provide (via Xoserve) details of the daily energy delivered to the shipper by the producer.

The attached figures **[to follow]** set out the data flows in some detail.

The hardware and software required by the current processes are as follows:

- A (ruggedized) site PC and peripherals on which runs the relevant software (e.g. DANINT) to collect and store the CV and volume data and to produce an End of Day flow average CV value for the site in an auditable manner. All transporters have DANINT licences under previous agreements so (unless the total agreed number of licences was exceeded) there would be no marginal cost for this if provided by the GDN. Other software associated with different gas analysis equipment would no doubt have its own licensing costs, but like DANINT these would not be expected to be significant on an individual site basis.
- Communications from site will be via an ISDN line and an ISDN router, or via a cheaper PSTN line/router. These items will be required by the GDN in any event to enable the GDN to control the shutdown valve as a back-up to the site telemetry.
- RemoteWare software is configured to collect process and configuration data from the remote sites at a required intervals or ad-hoc as necessary. Some of this retrieved data is transferred into HPMIS at the required intervals or ad hoc. It is also used to deliver upgraded software to the site. GDN users are able to add sites to the RemoteWare system and to HPMIS.

1.2 Data flows and frequency of collection

Under the current regime the following are required:

- A daily average CV from flowing records only, in the form of an End of Day CSV file (EOD) (automatically generated by DANINT software), this is used in the FWACV calculation and for Gemini.
- A daily audit file (DAT) (CSV) with all analysis used in the daily average CV calculation
- A daily Flow Volume total for the Gemini system.
- A daily RBD data file (RBD) of all flow raw data and resultant instantaneous flow records – every 4 minutes readings of CV, volume, pressure, temperature, alarms, state of Danalyser

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- A monthly test on whatever analyser is used (this is run automatically by DANINT and produces a CSV file (TST) for loading into HPMIS).
- Other condition monitoring and configuration files are produced. Absence of this information would jeopardise efforts to investigate instrument problems or meter error reports, etc.

Of the above, the EOD, DAT and TST files are required to meet regulatory requirements.

The above processes are those that are approved by Ofgem for the generation of FWACV outputs. The use of other equipment / processes might be possible, subject to approval by Ofgem, but would be likely to involve additional costs.

2. Sites which utilise commingling with pipeline gas (e.g. Adnams) – directed sites without propane addition (or with limited propane addition)

An alternative method for calculating daily calorific values is set out in the 1997 Amendment to the Gas (Calculation of Thermal Energy) Regulations. In summary, the amendment provides for the application of the FWACV “cap” to be based on the measured CV **of commingled gas downstream of an input point** rather than that of the CV of the input gas itself (so long as no consumers are supplied by the gas before it is commingled).

At the biomethane input point National Grid Gas Distribution’s proposal is to measure the calorific value (with an approved Danalyser) and the volume, and to deliver these into the iGMS system for the purposes of the FWACV calculation, then to calculate energy for input into the Gemini system for the producer / shipper and for energy balancing purposes. However, the system functionality will be subject to a manual process to avoid triggering the CV ‘cap’.

A second CV measurement will be taken after commingling with local grid gas, using an approved Gas PT2 device. The instantaneous CV value from the Gas PT2 measurement will be monitored and would initiate a shut down of the ROV at the biomethane input if the commingled CV reached 0.8MJ/m³ below the projected daily FWACV value for the gas day. The resultant daily average CV value from the commingled measurement will be captured in an End of Day file, which will be manually checked to demonstrate that the value has not exceeded the cap on any gas day.

3. Future possible arrangements – non-directed sites

If Ofgem agreed not to direct an entry point for FWACV purposes, in theory it would be possible to amend the existing processes so that producers could deliver the calorific value and volume measurements directly into the National Grid Transmission iGMS system via the telemetry system. However, as this would introduce new non-UK Transmission processes relating to distributed gas into UK Transmission’s systems, UKT would first need to agree to this as a concept, and, if agreed, would require an Impact Assessment to be carried out to determine the scope and costs of the software changes that would be required.