

REA Questions to EMIB

22nd November 2011

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1 Introduction

This note sets out question that the REA believes should be answered in the Final EMIB Report.

It also includes additional information in relation to the issue of the specification for the Entry Facility (Appendix 1) and summary slides that relate to the regime for gas quality analysis and safeguarding the network from injection of out of specification gas.

One key issue remains the issues associated with odourisation – what should the system functionality be (eg should there be an odourant flow-meter which is standard in EU but not in UK) and who should own/operate/maintain it.

2 GDN Connection Policy for Biomethane Projects

REA Questions for Consideration:

- a) Can the EMIB sub group establish a set of core design principles that will apply to the Entry Facility designed, built, owned, operated by the Biomethane producer? REA has set out initial matrix that shows the key elements for each item of plant, Appendix 1. The boxes shaded yellow need a set of fundamental design principles to go in the NEA. There are 2 options shown, with the GDN adding the odorant and with the DFO adding the odorant (a 3rd option is continuation of existing model with GDNs providing a financed solution under Mod 0391, this is same as the Existing System).
- b) Gas analysis equipment would not be within the GDN network and so G17 (which is process used to control modifications to the GDN system) is not applicable, do GDNs agree?
- c) What is the process and cost associated with the GDN providing the Option 1 Service (ROV + telemetry) and also Option 2 (ROV + telemetry + Odorant)?
- d) For Option 2 with addition of odorant, are GDNs prepared to provide any liabilities associated with performance of this system (over and above those associated with ROV + telemetry)
- e) For a 'Financed Option' (Mod 0391), can the GDNs indicate how this would operate in practice – does the producer fund the Feasibility/Conceptual Design and then if project goes ahead they are refunded such payments? Can the GDN indicate the approximate level of such payments based on similar projects?
- f) What is a realistic timetable for the proposed charging change (Mod 0391) ? Part of it is clearly attractive to the Biomethane producer (reduction in transportation charges), the finance option may also be attractive depending on the details of the service and timetable (e above)

3 Capacity for Biomethane

REA Questions for consideration:

- a) Can ENA agree a form of words re capacity that will apply in all NEAs? This covers where capacity is clearly available (due to nature of local gas grid and customer base) and also where there are risks associated with a small number of large I&C Customers
- b) Will Ofgem accept that if, after say 5 years, investment is required to provide capacity then it should be funded by GDNs and added to RAB? (makes an assumption that GDNs will be able to provide an engineering solution)
- c) Can ENA start to develop a possible compression service ahead of completion of the pilot being developed (REA accepts that without such a service it is difficult for GDNs to provide the sort of capacity guarantee that the Biomethane Producer wants to have other than where there are clearly no capacity issues).

4 Technical standards associated with Calorific Value

REA Questions for consideration:

- a) Is the principle that we have a normal standard of accuracy (ie today's 0.15 MJ/M3 error) where there is blending (and hence less or no need for propane) and a lower accuracy (say 0.38 MJ/M3) for examples with no blending and enrichment to actual real time FWACV?
- b) What is the process to have devices approved to new standard?
- c) Can Ofgem accept certification from an approval body in Germany/Netherlands etc?

5 Gas Quality Analysis at Biomethane entry

REA Questions for consideration:

- a) What is the latest position re Oxygen and possible change to 1%? This issue is now the key risk on many projects.
- b) For gas components that are important but do not create immediate risks (e.g. O₂) will GDNs accept a margin just outside the appropriate GS(M)R limit coupled to a defined averaging period in which shutting off Biomethane flow would not be necessary?

6 Transmission of data to the GDN's agent

REA Questions for consideration:

- a) Is the flow and CV data from a site that is enriched to FWACV part of the FWACV calculation?
- b) What alternative means of data transmission/receipt would GDNs accept for any sites that are not included in the FWA calculation?
- c) How do the HPMIS and Dannit systems work and what role will they play if there is new approved energy measurement systems (as 4 above)? Are they needed? What are the costs? What would alternatives look like?

Appendix 1 – BtG Options Matrix

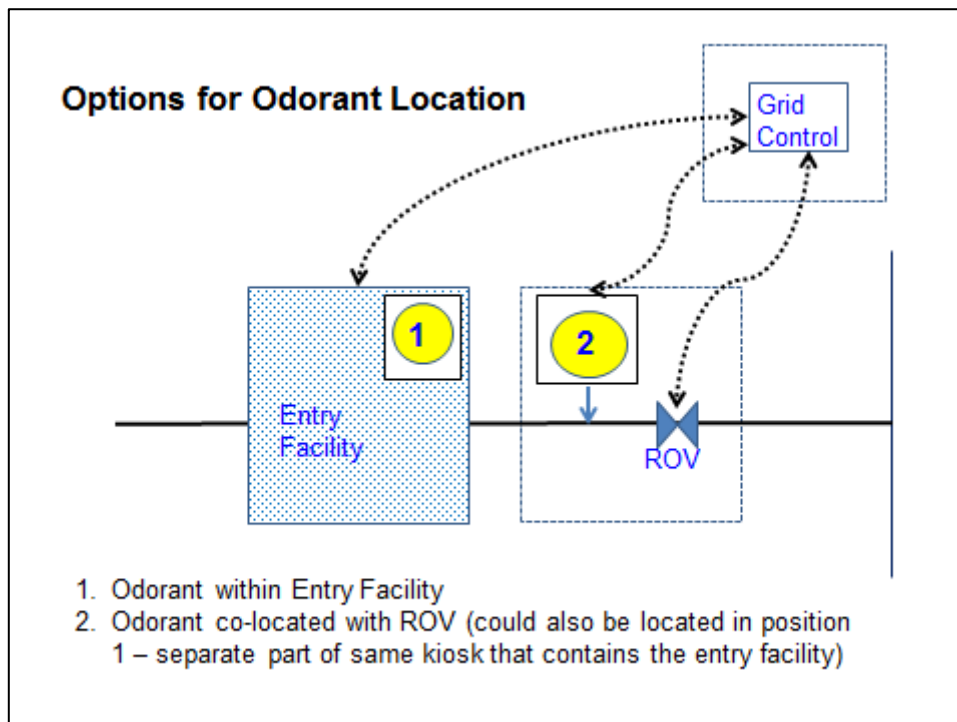
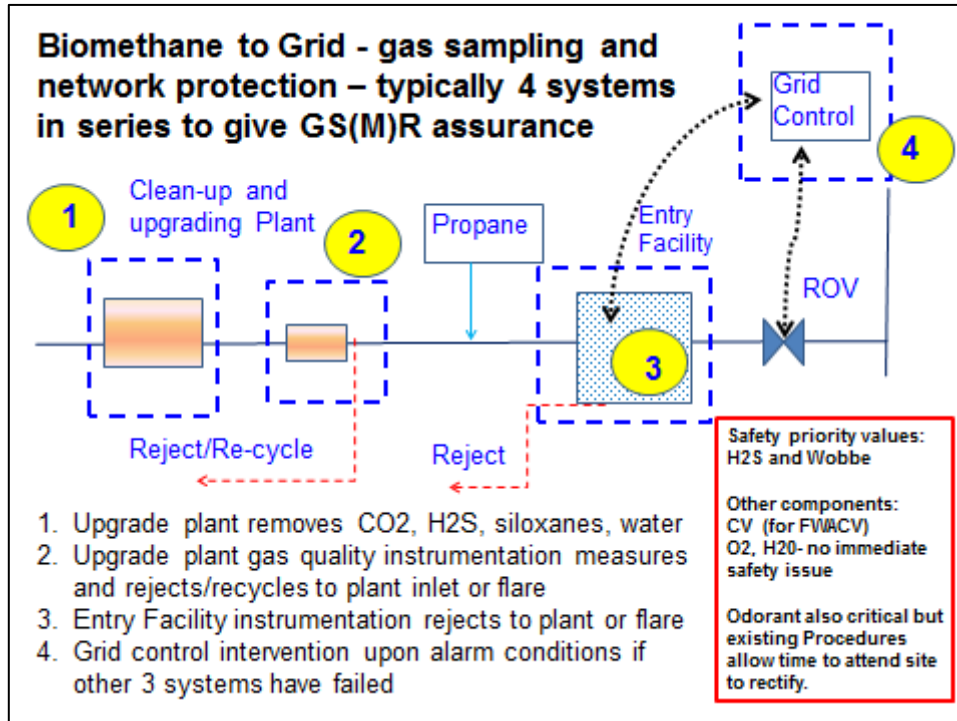
Notes on the Matrix

1. HPMIS subject to confirmation
2. If GDNs provide a financed solution with the Entry facility in the RAV then the Existing model applies
3. The accuracy of flow measurement is as at present (no proposals to change it)
4. The CV accuracy is as per EMIB outcome
5. Will the energy be part of FWACV calculation?
6. Under existing model, there is no credit risk/stranded asset issue. Under new model this is limited to the ROV/telemetry/odorant unless all assets are financed by GDN. In this scenario. with move to packaged solutions, there is only limited stranded asset risk as assets can be re-used on other sites
7. Start of the Network could be upstream of the ROV

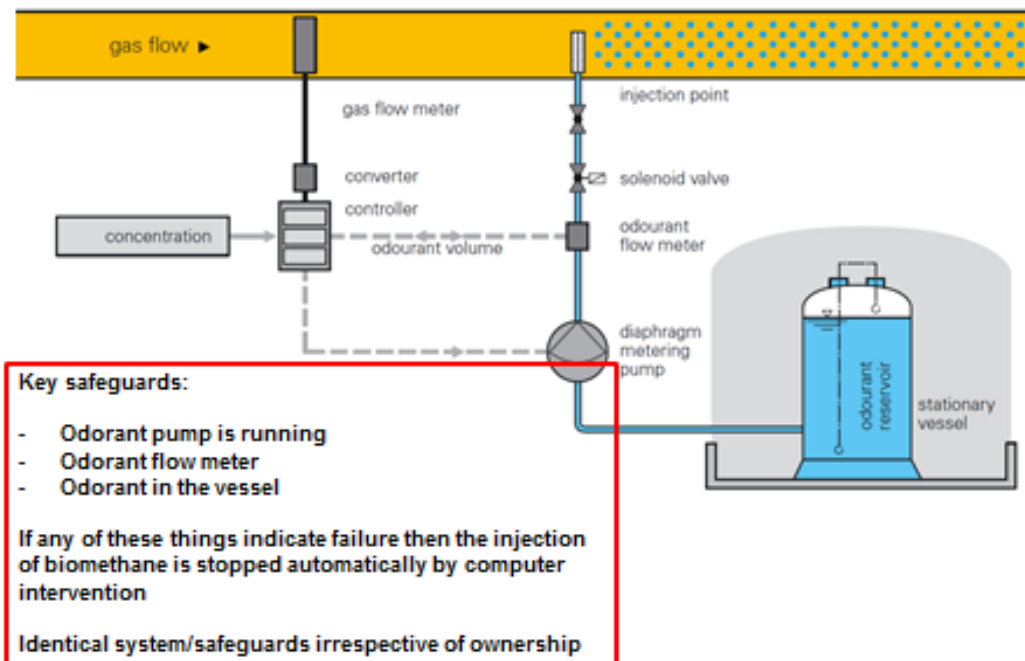
BtG Options matrix		Asset Owner	Where is start of Network?	G17	Pressure Control	Gas Quality Monitoring	Energy Measurement	Odorant System	Final ROV	Telemetry	Data Transfer
Existing Model		GDN	At the ROV	All plant	IGEM TD/13	As EMIB (based on GQ/8)	Fiscal Standard Meter CV to Ofgem standard	Full system with safe-guards	GDN asset	Full links with GDN system control	HPMIS
New Model Option 1	ROV + Telemetry	GDN	At the ROV	ROV only	N/A	N/A	N/A	N/A	GDN asset	Valve control automatic and by GDN system control	HPMIS
	BtG Plant	Delivery Facility Operator	Upstream not part of network	N/A as not in network	IGEM TD/13	As EMIB (based on GQ/8)	Fiscal Standard Meter CV to Ofgem standard	Full system with safe-guards	N/A	Pass data to GDN system control	N/A
New Model Option 2 (includes odorant)		GDN	At the ROV	ROV + Odorant	N/A	N/A	N/A	Full system with safeguards	GDN asset	Valve control automatic and by GDN system control	HPMIS
	BtG Plant	Delivery Facility Operator	Upstream not part of network	N/A as not in network	IGEM TD/13	As EMIB (based on GQ/8)	Fiscal Standard Meter CV to Ofgem standard	N/A	N/A	Pass data to GDN system control	N/A

The boxes shaded yellow are referred to in 2 a) on page 3. The NEA needs a specification for these items so that the DFO can procure a compliant plant.

Appendix 2 – Gas Sampling and Network Protection



Typical Odorant System Design



On Biomethane systems in EU it appears that an odorant flow-meter is also installed to give an additional safe-guard. This is not existing practice in the UK because there is significant plant redundancy applied. Subject to risk assessment it may be appropriate to have this in UK.