EMIB – Expert Group
Meeting 1
Wednesday 12 October 2011
at IGEM House, High Street, Kegworth DE74 2DA

Attendees

Tim Davis (Chair)	(TD)	Joint Office of Gas Transporters
Bob Fletcher (Secretary)	(BF)	Joint Office of Gas Transporters
Colin Stock	(CS)	Wales & West Utilities
Dave Lander	(DL)	Dave Lander Consulting
Iain Ward	(IW)	REA/CNG Services
Ian Taylor	(IT)	Northern Gas Networks
Olu Ajayi-Oyahire	(OA)	IGEM
Paul Holland	(PH)	EffecTech
Peter Hardy	(PHa)	IGEM
Richard Lewis	(RL)	Arup
Stephen Skipp	(SS)	Scotia Gas Networks
Steve Howells	(SH)	Scotia Gas Networks
Steve Rowe	(SR)	Ofgem
Stuart Gibbons	(SG)	National Grid Distribution

1. Introduction

Copies of all papers are available at: www.gasgovernance.co.uk/emib/121011.

TD welcomed all to the meeting, and thanked IGEM for hosting. He advised that the meeting has been called at the request of EMIB so that technical issues concerning CV and gas quality measurement can be explored, specifically in a biogas context. In particular, expert views on appropriate measurement equipment would be welcomed.

SR advised that any recommendations that were put forward should be accompanied by the supporting evidence, covering anticipated benefits as well as costs and risks.

2. Discussions

2.1 CV Measuring Devices

Accuracy of CV determination systems for calculation of FWACV

DL presented an updated version of analysis initially undertaken in 2006 to support Ofgem when considering potential impacts of CV changes on consumers and their bills. He explained that, while FWACVs allow Gas Transporters to manage the charging regimes for their networks, this might not protect individual consumers. Some may consistently receive lower than average CV gas, and therefore pay more through their bills than they should, albeit with the cap limiting exposure. However, this is not specifically a biogas issue.

SR asked if the analysis explores the impacts on consumers during the 91 day billing period and the associated billing errors. DL advised that any error associated with FWACV is likely to be less one tenth of the error based on other factors, such as meter error, in the average billing period.

TD questioned if meter error is the major issue for an individual consumer as opposed to allocation impacts, since meters are not all read in each billing period. DL accepted this in part, although at some stage there should be reconciliation of reads in order to correct any misallocations. However, it is difficult to represent this in a model. SR asked if the model assumptions have been provided to allow the group to review the criteria and their appropriateness. DL offered to run through the assumptions, and would welcome feedback.

SR asked if the expanded uncertainty bias estimated in DL's spreadsheet is due to altitude and the associated temperature impact. DL advised that expanded uncertainty is the variance from the average (based on long run averages as set out in earlier technical documents) when compared to the actual temperatures and altitudes across GB – it is about identifying the factors in order to assess their combined and individual impact. SL asked if the reported bias includes offtake metering. DL advised that this is impacts the offtake metering volume but is unlikely to have a significant impact on FWACV.

DL provided an example on screen of the difference between errors, bias and uncertainty and how each can affect consumer bills. Temperature is the biggest source of uncertainty, and is influenced by geography.

SR asked why the mean for temperature is considered to be 12.2C. DL indicated that the best data he was aware of was collated in 1998, or thereabouts. SS asked if this was still an accurate reference temperature– SGN have observed significant changes in temperature at offtakes. DL explained that the mean temperature is based on that found at the consumer meter, though ground temperature is a major factor. SS asked if seasonal gas usage is also factor. IT suggested this was an issue for weighting based on time of year and usage.

DL explained the combined impact in terms of uncertainty in an individual consumer bill, which was modelled at 5.817%. However, there are also those that, due to their particular circumstances, fall outside the mean and therefore are more likely to be disadvantaged. DL also set out his assumptions whereby standard uncertainty is expressed as 95%, whereas expanded uncertainty would be outside 95% ie a multiple of this standard factor.

IW asked if any increased uncertainty in CV, such as through less accurate measurement of biogas CV, would have a significant impact on the overall bias. DL demonstrated that the modelling shows that there could be an impact but this would be very limited. This was, however, assuming that otherwise low CV inputs would be enriched to the relevant FWACV.

New Action EG1/0001: DL to provide a copy of previous report exploring the uncertainty between the current regulations and UK experience.

DL then explained that most measuring instruments will inevitably have errors associated with their results since they are set up assuming fixed factors. The changing composition of gas will affect calibration as the instrument response is not linear, though linearity is assumed during set up. That said, new instruments are emerging which can operate consistently across changing compositions of gas.

DL concluded that impacts on consumer bills from uncertainties and modelling bias are dominated by meter accuracy and ambient temperature variations – FWACV is not a significant factor.

SR was concerned that the modelling does not factor in RbD or what is experienced at the offtake. DL noted this but did not think it relevant to the issue in hand - the model considers actual as opposed to assumed circumstances at the consumer meter and therefore the impact on kWhs on individual consumer bills. SS agreed with this, noting that RbD has an impact on Shipper rather than consumer billing, with the bulk of consumers generally billed independently of RbD on the basis of fixed tariffs (which have an element built in to reflect RbD costs as part of the tariff setting process).

DL explained the modelling assumptions made to calculate the impacts on a consumer's energy bill. His conclusion was that the impact of biogas is limited even when using pessimistic assumptions, with biogas being a relatively small flow and assuming enrichment to FWACV. SR asked what sort of biogas volumes might have an impact? DL advised that it would probably need to be near that of an offtake, though he had not explored a tipping point.

DL explained that it could be assumed that approximately 2.5% of the population are adversely impacted by the fact that metering at premises is not temperature adjusted. It does not appear to be cost effective to reduce this number of affected consumers – the use of a cap above the minimum CV source works in a broad way to provide protection, albeit that it leaves these small discrepancies.

TD asked about small quantities of biogas that could trigger the CV cap in a charging zone - this had the potential to have a widespread impact on consumer bills across a charging zone. DL believed that the position established to date would remain, and that biogas would be enriched prior to injection in order to meet minimum CV requirements. This was precisely to avoid this issue arising.

SS asked if the local nature of biogas plants could mean that specific consumers in the area of a producer might be impacted more than identified in DL's analysis. DL advised that the cap protects all consumers so they will not significantly be affected even if close to the production facility.

Considering the impact of potentially less accurate measurement of CVs, TD asked, if biogas is enriched, is this at a constant rate or varied in real time to meet a target CV? IW advised that current proposals are to target a CV on a continual, real time basis. DL explained that this issue is with biogas, it is not FWACV but relates to the target CV and metering accuracy.

SR asked if it would be possible to show the error as a monetary value to consumers. Also, he questioned what the impacts would be should temperature or meter accuracy be amended due to later policies. DL advised that, should the other major contributors to billing inaccuracy be addressed, then FWACV impacts would remain small but would increase as a % of the, lower, total value.

PH asked if, for the analysis, the biogas is assumed to be GS(M)R compliant. DL confirmed this had been assumed - in particular for the wobbe index of the gas. He added that monitoring of biogas injection should be appropriate to meet the circumstances on site. It is more critical for sites that are not enriching gas since they may be closer to lower wobbe limits.

When considering CVDDs, DL advised that the uncertainty is potentially doubled. However, this has a limited impact on FWACVs. Discussion then moved to the potential implications for DNOs of less accurate CV measurement given the requirement to comply with GS(M)R. DL suggested that some tolerance would

need to be agreed. Particular attention would need to be given to the limit set on the wobbe index below which a biogas site would not be permitted to put gas into the network – this should include a tolerance level to reflect uncertainty and so give confidence that GS(M)R compliance is being delivered even if the instrument reading is inaccurate.

IW agreed that any commercial operator would want to understand the limits and set operating practices to mange the risk. IT added that the risk is not the same as with beach terminal operators, due to the close proximity of consumers to the injection point – for example, there may be very little time before the gas reaches consumers and so no prospect of commingling. DL considered the limit should be set around the accuracy of monitoring equipment – the least accurate equipment would need a higher rated, lower wobbe limit.

The group accepted that the analysis had demonstrated that, where a biogas plant enriches gas to FWACV, less accurate CV measurement (relative to the existing approved approach) should be acceptable. Consumers would continue to be protected through the FWACV capping regime, and limits could be set to ensure GS(M)R compliance.

2.2 Gas Quality Monitoring

IW introduced a number of other measurement issues for the group to consider. He advised that, for oxygen content, a class exemption is being sought under GS(M)R as a biogas site is not likely to have a detrimental impact on networks. He understood a trial is being considered in Wales & West Utilities to provide supporting evidence. The aim was to consider a risk-based approach, which would reduce costs and encourage new entrants.

IW suggested that a risk based assessment of options should be undertaken, using a methodology such as National Grid's approach, labelled GQ8. SS wanted to understand what cleaning processes were likely to happen with different biogas sources - he felt this would make it difficult to have a generic risk assessment, as the process would be site specific. IW still thought it would be possible, as additional requirements could be identified on a site-by-site basis and appropriate tolerances applied.

IT asked if the GQ8 risk assessment document could be made available to all networks. DL noted that GQ8 was developed as a risk assessment process for all new connections or major amendments to existing sites and may need tailoring to address biogas. SG added that one of the main issues is the lack of industry experience with bio gas – it was not just a case of making procedures available, there is always a risk with any process that it might fail at some stage.

New Action EG1/0002 - SG to advise whether the GQ8 document can be made available to all networks, as has been previously done with GQ1 to GQ7.

IT had some concerns with a generic approach as it relies on DNOs to identify potential risks and have them included over and above the generic assessment – he was not sure that DNOs would have the necessary knowledge/skills to do this. IW noted this but was less concerned since research will identify specific local issues and DNOs can ere on the side of safety.

SG asked if landfill sites were to be included in the assessment of biogas sources. There was a difference of opinion on whether they were or were not

they should be included in the risk assessment. IW was of the opinion that landfill sites were different to other sources of biogas and that gas quality, inherent and required, could vary depending on the specific circumstances. As such, he would not expect to include landfill gas in the initial assessment. DL considered that where the biogas is through a reliable source, testing could be less frequent, whereas less certain sources would need to be monitored more frequently. GQ8 was written to provide a process/assessment regime to ensure connections such as biogas comply with GS(M)R and meet the requirements of Safety Cases.

SS advised that individual Network Entry Agreements, albeit informed by a generic risk assessment, should dictate the requirements for entry and how the connection point is managed – the risk assessment alone would not be sufficient. IW agreed, though he would wish to see a common approach and model adopted by all DNOs to deliver understanding and ease administration.

SS asked if it would be worthwhile seeking a view from the HSE and developing a number of sample risk assessments, thereby identifying process that could be used in similar circumstances. DL supported this as it would be worthwhile to reduce the administration burden on DNOs, though he did not think the HSE would want to be involved in this process.

RL considered a common approach would benefit the industry on both sides of the entry point. TD asked if the CEN documents provide an initial starting point for a common approach. DL agreed in part, though the CEN documents include too many possible risks rather than focussing on those that are likely at a specific site. SR asked if the evidence is required to support any Safety Case change – this was confirmed. SR also suggested that PH might usefully provide a presentation on the proposed new standards at the next EMIB meeting.

RL felt that the DNO should set a clear requirement for delivery to meet GS(M)R. However, how this is physically delivered and the equipment used should be the developer's choice. IT agreed in part, but noted there is some overlap in terms of understanding what is connected and how/when monitoring takes place. It is the DNO that faces GS(M)R obligations and would need to be able to demonstrate how it was satisfied that he arrangements in place deliver compliance – this required some level of approval of the physical arrangements. SR explained that Ofgem's approval of measuring equipment and that the instruments are tested against the thermal energy regulations, not GS(M)R. IW felt that Ofgem should direct the use of equipment for biogas sites and help with the risk assessments for these sites.

SR asked if the software used for monitoring NTS entry could be used for the purposes of GS(M)R. DL advised that the equipment and software would not be suitable as they were used for different purposes. SR advised that it is likely that Ofgem will need to consider what equipment is required for these purposes and whether there is an all in one module that could be used.

RL asked if table 8 in the CEN/TC234/WG9 is useful for the purpose of monitoring on site. PH agreed it was a representative sample but may not be a definitive list. DL advised that the document is for assessing possible contaminants and further industry work is needed to take the document forward to include other possible factors.

SS indicated that he was happy to support a standard risk assessment process and establishment of standards for all parties to introduce consistency for the industry. All present endorsed this.

PHa advised that IGEM could support the development of a generic risk assessment process. However, it would need funding by its members in order to take ownership of any new standard. DL considered at least two meetings were required to complete the risk assessment – 1. for the standards and process and 2. to identify contaminants. IW felt the generic risk assessment and specification could be developed within 4 to 8 weeks.

IW asked if the Ofgem letter of approval for an instrument currently includes biogas. SR was unsure, though he doubted this would be the case. Understanding is required to identify the specification for testing biogas instruments. IW asked if it would be possible to develop an instrument approval process that does not restrict who can provide the instrument it specifies what standards the instrument needs to meet. DL argued that the aim should be to develop standards in a biomethane context: it is for Ofgem to direct approval and instrument performance requirements and the risk assessment could provide a framework to support this.

New Action EG1/003 – DL to draft a revised version of GQ8 for use as a strawman risk assessment by DNOs

New Action EG1/004 – PHa to arrange meetings to take forward the strawman risk assessment from action EG1/003

3. AOB

None raised.

4. Next Steps and Diary Planning

Details of planned meetings are available at: www.gasgovernance.co.uk/Diary.

Relevant attendees agreed to meet on 21 October 2011 to take forward a risk assessment based on the GQ8 process. This was expected to be taken forward under the aegis of IGEM.

EMIB Action Log

Action Ref	Meeting Date(s)	Minute Ref	Action	Owner	Status Update
EG1/0001	12/10/11	2.1	Provide a copy of previous report exploring the uncertainty between the current regulations and UK experience.	(DL)	Pending
EG1/0002	12/10/11	2.2	Advise whether the GQ8 document can be made available to all networks as has been previously done with GQ1 to GQ7	National Grid Distribution (SG)	Pending
EG1/0003	12/10/11	2.2	Draft a revised version of GQ8 for use as a strawman risk assessment by DNOs	(DL)	Pending
EG1/0004	12/10/11	2.2	Arrange meetings to take forward the strawman risk assessment from action EG1/003	IGEM (PHa)	Pending