

**UNC Workgroup 0693R Minutes
Treatment of kWh error arising from statutory volume-energy
conversion**

Tuesday 25 February 2020

at Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA

Attendees

Lorraine O'Shaughnessy (Chair)	(LOS)	Joint Office
Helen Cuin (Secretary)	(HCu)	Joint Office
Andy Clasper	(AC)	Cadent
Dave Lander	(DL)	Dave Lander Consulting
David Mitchell	(DM)	SGN
Fiona Cottam	(FC)	Xoserve
Kirsty Dudley *	(KD)	E.ON
Lorna Lewin *	(LL)	Orsted
Louise Hellyer	(LH)	Total
Luke Reeves *	(LR)	EDF Energy
Mark Bellman	(MB)	Scottish Power
Mark Palmer *	(MP)	Orsted
Rebecca Hailes	(RH)	Joint Office
Rhys Kealley	(RK)	British Gas
Rob Johnson *	(RJ)	Waters Wye Associates
Rose Kimber	(RK)	CNG Ltd
Stephanie Clements *	(SK)	Scottish Power
Steven Britton *	(SB)	Cornwall Insight
Tony Perchard	(TP)	DNV-GL
Tracey Saunders	(TS)	Northern Gas Networks

**via teleconference*

Copies of all papers are available at: <http://www.gasgovernance.co.uk/0693/250220>

The Workgroup Report is due to be presented at the UNC Modification Panel by 18 June 2020.

1. Introduction and Status Review

The meeting was confirmed to be quorate. Lorraine O'Shaughnessy (LOS) advised the Workgroup that the modification had been deferred since October and for further details please refer to previous minutes.

1.1. Approval of Minutes (21 January 2020)

The minutes from the previous meeting were approved.

2. Assessment of kWh size of error - information gathering

3. Mark Bellman (MB) provided an update and status of the Request and explained as gas is compressible and gets smaller the industry need to understand the full scale of this. He also wished to ensure that all parties understood the report from Dave Lander (DL). MB explained developments were made for reasons around billing. MB confirmed there are variations across LDZs and Unidentified Gas (UIG) post Nexus and is calculated as a balancing figure by LDZ, this is an area that DNV-GL and the Allocation of Unidentified Gas Expert (AUGE) have started to look at and understand what evaluations have been done.

Rob Johnson (RJ) questioned if the elements looking to be amended are supported under the Gas Safety Regulations (GSR), and if there is a position, that these can be affected by the UNC. MB did not believe there was an issue around the legality aspects within GSR, however he confirmed a legal view is being sought See action 0802 below.

Fiona Cottam (FC) confirmed that the treatment of an error would not be changing the Thermal Energy Regulations, however there was a need to acknowledge, quantify and deal with the error, not change legislation or billing arrangements.

3.1. Summary of UIG Task Force 2019 assessment of UIG contribution from standard volume-to-energy conversion (FC)

FC recapped the history of the Standard Conversion Factor (CF) issues raised by the UIG Task Force. FC confirmed there was no clear way forward due to the complexities around legislation.

FC provided some background to the UIG Task Force assessment, confirming that all sites under 732,000 kWh rolling AQ should have a single standard Correction Factor of 1.02264.

FC provided a graph to illustrate the estimated daily percentage error in an LDZ and explained that impacts will vary depending on actual weather. FC noted that NDM sites are allocated gas each day using profiles based on NDM sample data and there is an assumption there is a constant temperature of 12.2 degrees. This in turn results in the NDM Allocation to be understated in the winter and overstated in the summer.

David Mitchell (DM) enquired where the 12.2 degree average temperature originated from. DL explained that this would come from the average temperature possibly supplied from Met Office data.

FC explained that gas is impacted by the location of the meter as this can be within a heated room, unheated location or outside but there is no widespread information on the temperature of gas at the meter. FC confirmed that regardless of how the industry derived a temperature of 12.2 degrees it is still right to use a single number each day, as there will still be seasonal variations.

Louise Hellyer (LH) asked how much of that seasonality can be accounted for in the NDM algorithm and take into account the sensitivities. FC explained that the algorithm works out the LDZ weather station temperature and metered energy, confirming that these are a very good fit based on information from the DESC process.

Tracey Saunders (TS) enquired if the temperature of gas in the ground rather than the temperature of gas travelling through a meter is more important to consider and that the flow rate may not have much of an impact to affect the gas temperature when it goes through the meter. Tony Perchard (TP) explained that there is also a slug of gas in pipework which may be inside a heated house before it reaches the meter which may be warmer than the gas behind it in the ground that will affect the temperature relationship.

MB expressed the need to try and be pragmatic, that there may not be a definitive answer. Nevertheless, the industry needs to come up with a reasonable model taking into account some assumptions, and once all the mechanisms are better understood it may be possible to come to a better approximate model.

FC explained meter readings for NDM sites use a standard CF to convert volume to energy. FC also explained there is a potential consideration that as cold weather demands are understated, and warm weather are overstated this will give an incorrect seasonal shape.

3.2. Summary of previous work by D Lander and relevant conclusions (DL)

Loraine O'Shaughnessy (LO) highlighted to the Workgroup that a presentation had been provided prior to this morning. Workgroup attendees approved the review of the presentation to aid discussions.

DL provided the background to the approach taken for the accuracy of customer billing and the development of the model.

DL explained in detail the mathematical approach taken for calculating the accuracy of consumer billing. He explained that the estimate of the error in energy is determined for three groups of consumers each day: there were GB as a whole, 13 charging zones/LDZs and 2564 GB out codes. The output from the model provides 365 estimates of error in daily energy for each of these three groups and the uncertainty in each estimate of daily energy.

DL explained the results on the accuracy from the consumer billing study and the percentage variations. The results for the accuracy and the contributing factors was also explained within the presentation and the implications for shrinkage.

The Workgroup welcomed the information provided by DL.

MB wished to understand when looking at UIG allocation and reconciliation if there was any dis-benefit relationship between the two. LH explained there is difficulty to work this out and would depend how positioned proportionally on other party reconciliations.

New Action 0201: Tony Perchard and Dave Lander to liaise on the Wallace Report and provide any further information available from the study.

3.3. Summary of analysis to derive the temperature of gas at the point of metering and impact on UIG by LDZ (AUGE - CW/TP)

Tony Perchard (TP) provided a presentation giving an overview of the Volume Conversion, and a summary of work carried out by the AUGE, the Magnitude of UIG from Volume Conversion and the issues for consideration.

TP explained that UIG is calculated on an LDZ to LDZ basis with a single set of factors for every LDZ, he also explained the forward projection, using a set of factors for the following year. TP confirmed the need to make some assumptions, to work at a National level, and that factors are split by EUC and Product Class.

TP provided a summary of the AUGE volume conversion work and the elements considered for 2019/20 and 2020/21. TP explained that approximately 80% of throughput from meters are without volume converters, he provided an illustration of a real evaluation in relation to Storm Dennis on the CF error, due to low pressure sweeping across the country there was an overstatement of UIG. TP explained the volatility in particular years. Overall the average spread from atmospheric pressure was 56GWhs.

TP went on to explain the metered gas temperature studies undertaken and the results. The average based on seasonal normal conditions was that the total UIG from temperature was 555GWhs.

DL enquired if there was a difference between meter location in EUC bands and meter temperatures.

The Issues for consideration relating to UIG factors were:

- UIG factors assume Seasonal Normal weather
- No account taken of daily weather variations (Volume conversion is a significant contributor to daily UIG volatility)
- Currently only National

- EUC/Product Class split not ideal to capture presence of Volume Converters

The Data Issues for consideration were:

- Quality of meter location data (~23% have no location)
- Uncertainty around gas temperatures for internal meters, especially small I&C
- Access to meter regulator pressure data

DL enquired if the meter setting has been considered, the extremities of meter insertion services and the maintenance of the 21Mbar. DL referred to the low-pressure working group and their views on pressures and whether this was a contributor. It was suggested this may benefit from further consideration alongside consideration of the Wallace Report.

4. Consideration of Potential Solution

MB suggested the Workgroup needs to evaluate of all the information considered today and agree what needs to be addressed and through what means, for example through DESC, NDM, Reconciliation for the next workgroup meeting

MB suggested at the next Workgroup meeting the Workgroup should consider the options on how to treat errors arising from statutory volume-energy conversion and what the potential paths are to take this forward.

It was agreed that the Workgroup should consider the UIG Task Force findings presented by Xoserve along with the information presented today and bring views on the potential solutions to the next meeting.

Action 0202: All to review previously presented analysis including Xoserve's UIG Task Force findings and provide a view on the potential solutions/options at the March meeting.

UIG Task Force findings at:
Xoserve.com

<https://www.xoserve.com/media/1956/task-force-findings-item-122v2.pdf>

UIG Task Force Recommendations at:
Xoserve.com

<https://www.xoserve.com/media/2499/122-uig-task-force-use-of-standard-conversion-factor-for-all-ndm-sites-with-ags-lt-732-000kwh-recommendations.pdf>

Detailed comparison of the various Task Force Recommendations

<https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/2019-02/5.1%20Iss%2012.2%20Options%20Analysis.xlsx>

5. Development of Request Workgroup Report

Deferred.

6. Review of Outstanding Actions

0801: All DNs to investigate what data is available over 12 months; metered volume and corrected energy for all offtakes in relation to that LDZ including the CV for that offtake – (easier to choose an LDZ that has no LDZ-LDZ connections).

Update: DM confirmed some data maybe available, but this would be pretty inconclusive. MB was not sure what the Workgroup needed to ask for or how to access what is available. He believed the Workgroup would need to draft some specific requirements. DL explained that NTS offtake information may be available and that DNV-GL may have access to the data, but permissions would have to be provided to utilise it from each DN. He suggested that Sarah Kimpton maybe able to provide a steer on this. DL believed if the Workgroup wanted to know volumes and energies that are at offtakes, DNV-GL would have access to the databases which hold this information for flow weighted CV. The Workgroup considered the availability of data and its use for the Workgroup for assessing gas temperature at the meter. It was agreed this needed to be reconsidered i.e. what information is required at the next meeting. It was agreed that this particular action should be closed until further consideration can be given on what data would be useful to the Workgroup. **Closed.**

0802: Scottish Power (MB) to engage with Ofgem Jon Dixon (JD) regarding the legality of a sharing type treatment in relation to the Gas (Thermal Energy) Regulations.

Update: Ongoing. **Carried Forward.**

0803: Joint Office (RH) to engage with Ofgem Jon Dixon (JD) in relation to the content and context of the Request.

Update: No longer necessary **Closed.**

0804: Joint Office (RH) to engage with Dave Lander at Dave Lander Consulting in relation to previous paper he had produced on thermal energy.

Update: See item 2.2 **Closed.**

0901: Xoserve to provide update on the meter temperature data exercise from the AUG Subcommittee.

Update: FC explained that Xoserve are undertaking a procurement exercise for the simulation of relationships between outside temperatures and meter temperatures, following a request to find some suitable companies to undertake this piece of work. **Carried Forward.**

0902: Shippers/Transporters to investigate and provide any gas temperature data available for the 0693 Request Workgroup to consider.

Update: See Action 0901. It was confirmed that this would require a lab study. The Workgroup agreed to close this action and continue progress with Action 0901. **Closed.**

1001: MB to email the Joint Office for onward communication to the registered ITEs.

Update: MB confirmed this had been issued in January. **Closed.**

1002: Joint Office to invite the AUGE to dial into the next 0693R Workgroup.

Update: LOS confirmed attendance of the AUGE for January and February. **Closed.**

7. Next Steps

LOS confirmed that for March meeting the Workgroup would continue to assess the Request, by considering the potential solutions, and considering any further available analysis.

8. Any Other Business

None raised.

9. Diary Planning

Further details of planned meetings are available at: <https://www.gasgovernance.co.uk/events-calendar/month>

Workgroup meetings will take place as follows:

Time / Date	Paper Publication Deadline	Venue	Programme
10:30 Tuesday 17 March 2020	5pm Monday 09 March 2020	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Request Assessment Consideration Potential Solutions / Options Consider any additional analysis.
10:30 Tuesday 21 April 2020	5pm Thursday 09 April 2020 (BHs)	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Request Assessment Potential Solutions
10:30 Tuesday 19 May 2020	5pm Monday 11 May 2020	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Development of Request Workgroup Report
10:30 Tuesday 16 June 2020	5pm Monday 08 June 2020	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Finalise Request Workgroup Report

Action Table (as at 25 February 2020)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
0801	20/0819	1.0	All DNs to investigate what data is available over 12 months; metered volume and corrected energy for all offtakes in relation to that LDZ including the CV for that offtake – (easier to choose an LDZ that has no LDZ-LDZ connections.	All DNs	Closed
0802	20/0819	1.0	Scottish Power (MB) to engage with Ofgem Jon Dixon (JD) regarding the legality of a sharing type treatment in relation to the Gas (Thermal Energy) Regulations.	Scottish Power (MB)	Carried Forward
0803	20/0819	1.0	Joint Office (RH) to engage with Ofgem Jon Dixon (JD) in relation to the content and context of the Request.	Joint Office (RH)	Closed
0804	20/08/19	1.0	Joint Office (RH) to engage with Dave Lander at Dave Lander Consulting in relation to previous paper he had produced on thermal energy.	Joint Office (RH)	Closed

Action Table (as at 25 February 2020)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
0901	23/09/19	2.0	Xoserve to provide update on the meter temperature data exercise from the AUG Subcommittee.	Xoserve (FC)	Carried Forward
0902	23/09/19	2.0	Shippers/Transporters to investigate and provide any gas temperature data available for the 0693 Request Workgroup to consider.	Shippers/Transporters	Closed
1001	22/10/19	5.0	MB to email the Joint Office for onward communication to the registered ITEs.	Scottish Power (MB)	Closed
1002	22/10/19	5.0	Joint Office to invite the AUG to dial into the next 0693R Workgroup	Joint Office (RH)	Closed
0201	25/02/20	2.2	DNV-GL (TP) and Dave Lander (DL) to liaise on the Wallace Report and provide any further information available from the study.	DNV-GL (TP) and Dave Lander (DL)	Pending
0202	25/02/20	3.0	All to review previously presented analysis including Xoserve's UIG Task Force findings and provide a view on the potential solutions/options at the March meeting.	All	Pending