

**UNC Shrinkage Forum Minutes**  
**Wednesday 26 August 2020**  
**Via Teleconference**

**Attendees**

Rebecca Hailes (Chair)	(RH)	Joint Office
Helen Cuin (Secretary)	(HC)	Joint Office
Colin Wainwright	(CW)	SGN
Julie Chou	(JC)	Wales & West Utilities
Nina Polsinelli	(NP)	Northern Gas Networks
Paul O'Toole	(POT)	Northern Gas Networks
Shahin Ali	(SA)	Wales & West Utilities
Simon Holden	(SH)	Lloyds Register UK (Observer)
Thomas Koller	(TK)	Energy Networks Association

**Apologies**

Emma Buckton	(EB)	Northern Gas Networks
Peter Morgan	(PM)	SGN

Copies of all papers are available at: <http://www.gasgovernance.co.uk/sf/260820>

**1. Introduction and Status Review**

Rebecca Hailes (RH) welcomed all to the meeting, and explained that as there were no Shippers in attendance the meeting was not quorate. Helen Cuin (HC) reminded attendees that within the Terms of Reference all four Distribution Networks and at least two of the Gas Shippers should be represented at Shrinkage Forum meetings. Attendees confirmed that they were happy to proceed. RH suggested that UNC Panel should be made aware of the problem and she took an action to improve awareness of the meeting, since it is aimed at increasing opportunity to discuss LDZ shrinkage with the Shipper community. (see Section 6 and Action 0801).

**1.1. Approval of Minutes (24 March 2020)**

The minutes of the previous meeting were approved.

**2. AIGT Shrinkage Analysis Update**

No AIGT representative available to provide an update.

**3. LDZ Shrinkage Factor Update**

It was agreed this agenda item was not required and could be removed.

**4. Theft of Gas Methodology Review**

Shahin Ali (SA), confirmed that Wales & West Utilities are leading the Theft of Gas Methodology review on behalf of the Networks. Numerous forums have been held and options shared. One representation was received from E.ON who were not supportive of removing the Theft of Gas incentive (see E.On response filed here: <https://www.gasgovernance.co.uk/sf/240320>)

SA explained that there are some unknowns at the moment, but it is anticipated that the incentives are likely to change with RIIO2. The draft determinations for RIIO2 are being

considered with a response from the networks being the next step. SA hoped to be in a better position to provide a more informative update in November.

## **5. Gas Goes Green - Assessing network fugitive emissions (WWU)**

Thomas Koller (TK) thanked attendees for inviting him to speak and provided a brief presentation on the work being undertaken on future emissions and the Gas Goes Green programme. This will make changes to move the UK's network to delivering zero carbon hydrogen and biomethane gas.

TK was wanting to look for alignment, collaboration and to seek thoughts on the Gas Goes Green work being undertaken with BEIS (the department for Business, Energy & Industrial Strategy). He explained the joint initiative with the Energy Networks Association (ENA) and the Networks to address any gaps.

TK presented the current suite of deliverables, 6 key incentives and key considerations formulated by the stakeholder engagement programme. TK confirmed a report was published last year providing more detail of the pathways and the ENA website has more detail on each of the incentives.

RH enquired whether zero carbon hydrogen meant Grey, Blue or Green hydrogen. TK explained:

- Grey hydrogen is where hydrogen is produced using Auto Thermal Reformation (ATR) or Steam Methane Reformation (SMR) without carbon capture (which is the normal method used for industrial hydrogen today);
- Blue hydrogen is where hydrogen is produced as for grey but with added carbon capture and storage;
- Green hydrogen is produced through electrolysis using renewable electricity.

He added that BECCS was Bioenergy production with carbon capture and storage and could utilise biomethane.

TK went onto to the 2020 deliverable for Networks to undertake desk based research of AGI emissions and evaluate the case for a further programme of live trials to quantify methane leaks and test possible mitigation measures on different parts of the gas networks.

The first step was to undertake an investigation to focus approach, the gaps identified were:

- CBA (Chemical Business Association) to determine approach/frequency of monitoring emissions; materiality threshold developed to determine which above ground installations (AGIs) to target.
- Standardising equipment for measuring fugitive emissions.
- Develop a joint network position on recommended changes to the shrinkage model to put to the Shrinkage Forum

SA enquired about the focus of AGIs based on the leakage rates. TK explained that as areas such as leakage from cast iron pipes is already being addressed, the focus will be to look elsewhere.

SK asked in terms of monitoring emissions on AGIs, how this was going to be done and if this would be a desktop or field exercise.

TK explained the need to understand and develop the approach based on considering the cost/benefits of the work. Agreement has been reached that the measurement of emissions would be of benefit but consideration needs to be taken on the cost of doing this. The priority area will be standardising equipment, but consideration will be given to technology, sound methods and what has been done in the past.

SA explained that the Gas Distribution Networks (GDNs) have looked at mains leakage testing, and explained the difficulties associated with the testing options. With the engineering difficulties and technologies, when weighing up the cost of doing this, ultimately borne by the end consumer, the costs were prohibitively high compared with the benefit that could be realised.

The forum briefly considered the work being undertaken in the European Market and the available material published on the Joint Office Website at: <https://www.gasgovernance.co.uk/Shrinkage/Publications>. TK recognised that work in other countries may be useful.

Colin Wainwright (CW) explained most of the technologies used are in the Shrinkage Leakage Model (SLM), and SK confirmed that technologies in the UK are quite advanced.

Julie Chou (JC) confirmed who the leads were from each of the GDNs on the Gas Goes Green group, some of whom regularly attended the Shrinkage Forum.

TK also provided the Shrinkage Forum a brief overview on the Hydrogen Programme Development Group to looking at the level of hydrogen in the Networks. This group will help ensure a full coordinated and appropriately governed joint industry programme is established to enable the impacts of introducing a hydrogen grid to be investigated objectively and comprehensively.

This will be a collaborative and comprehensive programme of work to provide the necessary evidence to assess key issues for hydrogen in Networks including safety, feasibility, costs and benefits and consumer experience.

TK explained that the Network Safety and Impacts sub-programme has identified around 10 gaps. The key areas TK wanted to share with the Shrinkage Forum were Gas Conditioning and PE permeation.

For Gas Conditioning, TK wished to understand if injecting MEG (Mono-ethylene Glycol) is still required with the increasing use of PE and if the GDNs have considered MEG in its recent work to determine if MEG would be continued in principle.

CW explained MEG is sprayed into the mains to stop the lead iron joints from drying out and prevent leaking. CW confirmed that MEG is considered in the shrinkage model, and the GDNs do take samples for the annual saturation levels. Going forward with the diminishing cast iron assets MEG may become less important. CW confirmed that the Shrinkage Model draft determinations are currently being considered however the incentives are expected to remain.

SA confirmed that the cost of injecting MEG and considering this in line with maintenance and faults has been reviewed. JC explained that in the Wales & West Networks a cost benefit analysis was previously undertaken and as it was costing more to inject MEG than the benefits realised the network stopped injecting MEG a while ago.

CW explained some of the problems encountered when injecting MEG, such a pooling, which can cause blockages. CW believed some GDNs including Cadent and Northern Gas Networks continue to inject MEG due to the level of cast iron mains still in place, but these are diminishing.

RH enquired if there will be date within the leakage model when it will be presumed MEG is no longer used. CW confirmed the Networks monitor the injection of MEG on a yearly basis and recognise that the diminishing cast iron assets will circumvent the benefits of injecting MEG.

JC enquired if hydrogen can be transported through the metallic pipes that remain. TK explained this is dependent on the H21 Programme (<https://www.h21.green/about/>) and H100 Project (<https://www.sgn.co.uk/news/unveiling-our-industry-plan-worlds-first-zero-emissions-gas-network>), which are looking at the safety of transporting hydrogen. TK confirmed that phase 2 of the H21 programme will be looking at the impact on joints.

For PE Permeations, TK explained that an issue came up in the gap analysis and there is a need to understand the hydrogen permeation rate. Hydrogen permeates around 5 times as much as that of natural gas.

SA confirmed that some work has been undertaken by Imperial College Consultants for Energy UK in 2016 around permeation<sup>1</sup>. It is difficult to undertake a field study, however permeation at

---

<sup>1</sup> 2016 Energy UK Gas Retail Group Study into the effect of shrinkage on domestic customers: <https://www.gasgovernance.co.uk/Shrinkage/Retail-Study>

high pressure has been looked at, with some downscaling assumptions/calculations undertaken based on manufacturing data. The outcome of the study suggested the permeation appears negligible, in terms of natural gas. SA offered to share more information with ENA offline. CW confirmed that the shrinkage model takes into account Polyethylene (PE) permeation and a leakage rate for PE.

## 6. Review of Terms of Reference

It was noted that the current Terms of Reference (ToR) was published in April 2018 and may benefit from a review. The GDNs reviewed the current ToR and agreed they were still valid and did not require updating.

The group however considered the value of convening Shrinkage Forum meetings without Shipper attendance when the purpose of the meetings is to provide an opportunity for interested parties to discuss LDZ Shrinkage. CW confirmed that the GDNs meet regularly in other forums and there is no benefit to the GDNs in meeting without Shipper colleagues.

**New Action 0801:** Joint Office (RH) to raise a concern with the UNC Panel about the benefit of continuing Shrinkage Forum meetings without Shipper Attendance.

## 7. Review of outstanding actions

**0802:** Shippers to provide comments on Theft of Gas and the three options for consideration presented in slide 5.

**Update:** SA confirmed an opportunity had been provided for Shippers to respond and a response had been received from E.ON. **Closed.**

**0301:** AIGT (MC) provide an update on the estimated shrinkage rates for IGTs in August.

**Update:** No AIGT representative available to provide an update. RH assured the group an invite will be extended to the AIGTs (Mark Chapman) with the expectation of an update in September. **Carried forward.**

## 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>:

Time/Date	Venue	Programme
09:30, Wednesday 25 November 2020	Teleconference	<ul style="list-style-type: none"> <li>AIGT Shrinkage Analysis Update (MC)</li> <li>Theft of Gas Methodology Update (SA)</li> </ul>
09:30, Wednesday 16 December 2020	Teleconference	<ul style="list-style-type: none"> <li>TBC</li> </ul>

Action Table (as at 26 August 2020)					
Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
<b>0802</b>	27/08/19	4.0	Shippers to provide comments on Theft of Gas and the three options for consideration presented in slide 5.	Shippers	<b>Closed</b>

---

<b>0301</b>	24/03/20	2.0	AIGT (MC) provide an update on the estimated shrinkage rates for IGTs in August.	AIGT (MC)	<b>Carried forward</b>
<b>0801</b>	26/08/20	6.0	Joint Office (RH) to raise a concern with the UNC Panel about the benefit of continuing Shrinkage Forum meetings without Shipper Attendance.	Joint Office (RH)	<b>Pending</b>