

UNC Offtake Arrangements Workgroup Minutes
Wednesday 27 July 2022
via Microsoft Teams

Attendees

Eric Fowler (Chair)	(EF)	Joint Office
Helen Cuin (Secretary)	(HCu)	Joint Office
Alan Raper	(AR)	Joint Office
Ben Hanley	(BH)	Northern Gas Networks
Christopher Syrett	(CS)	E.ON
Craig Marshall	(CM)	TUV SUD National Engineering Laboratory (NEL)
Darren Dunkley	(DD)	Cadent
David Mitchell	(DM)	Scotia Gas Networks
David Ransome	(DR)	Cadent
Fiona Cottam	(FC)	Correla
Kirsty Dudley	(KD)	E.ON
Mark Jones	(MJ)	SSE
Mark Perry	(MP)	Corella
Paul Daniel	(PD)	i-Vigilant
Rhys Keally	(RK)	British Gas
Shiv Singh	(SS)	Cadent
Stephen Ruane	(SR)	National Grid
Steve Mulinganie	(SM)	Gazprom Energy
Uche Oguike	(UO)	Cadent
Zoe Thorpe	(ZT)	National Grid

Please note these minutes do not replicate the detailed content provided within the presentation slides, therefore it is recommended that the published presentation material is reviewed in conjunction with these minutes. Copies of papers are available at: <https://www.gasgovernance.co.uk/OA/270722>

1. Introduction and Status Review

Eric Fowler (EF) welcomed all parties to the meeting.

1.1 Approval of Minutes (25 May 2022)

The minutes from the previous meeting were approved.

1.2 Approval of Later Papers

The Workgroup approved one late paper for item 4.0.

1.3 Review of Outstanding Actions

Action 0907: Joint Office (AR) to clarify the accounting arrangements for monies paid by Shippers to National Grid as a result of a Measurement Error and add this information to the Measurement Error Guidelines for the future.

Update: Alan Raper (AL) referred to the presentation provided by Correla which explained how reconciliations will be paid, by the LDZ Shippers operating in the LDZ when the error occurred and managed through the NTS Shrinkage account, which flows back through to NTS charging.

AR explained other reconciliation aspects for LDZ direct inputs, and the principals used for the Isle of Grain boil-off-meter in the South East (SE) LDZ, as the gas does not figure into the NTS balancing account, as it comes in from lower pressure systems. AR confirmed consideration is being given on how this should work and the opportunities to provide better clarification within the UNC.

Kristy Dudley (KD) wished to understand the management of reconciliation in relation to defaulting Shippers and how the money is accounted for. AR confirmed the throughput will be zero and as a result the money is recut to the active shippers as outlined in TPD Section E 7.5.4.

Fiona Cottam (FC) confirmed that the treatment for failed Shippers has been covered within slide 11, and that the energy balancing rules apply. **Closed.**

New Action 0701: Joint Office (AR) to clarify the accounting arrangements for none NTS to LDZ inputs (LDZ direct inputs).

Action 0302: E.ON Energy (CS) to provide further analysis, if possible, on the potential impact of gas price fluctuations for Measurement Errors.

Update: Christopher Syrett (CS) advised there is a methodology for calculating differences, asking for the action to be carried forward to August to provide more detail. **Carried Forward.**

0501: Reference 50GWh Threshold Change – Joint Office (EF) to write to PAC to update them on the Workgroup views and request that PAC also considers the matter and reports back on its findings.

Update: Eric Fowler (EF) confirmed that PAC do not have a concern with the existing 50GWh threshold that would drive a change. Fiona Cottam (FC) clarified that this was a matter for the industry to decide upon rather than PAC, confirming PAC had no driver to change from a performance perspective. **Closed.**

0502: *Reference End-to-End Communication Process / Timeline* – DNs to consider E.ON proposals and provide a view at the July meeting.

Update: David Mitchell (DM) confirmed it was unclear at this stage what changes would be required to the Measurement Error Notification/Communication process, suggesting this is considered in August. **Carried Forward.**

2. Pre-Modification Discussions

2.1 OAD Subsidiary Document (Supplemental Agreement)

Darren Dunkley (DD) provided a presentation explaining the need to amend OAD for the following elements, which were carried forward from Request 0646R:

- Cost Recovery (Modification 0792S - Amendments to Cost Recovery under OAD)
- Supplemental Process
- Update to site drawings process (being developed by National Grid)

DD provided an overview of the Supplemental Agreements (SA) Amendment Process and suggested Business Rules. For full details please refer to the presentation material published.

DD proposed that the Distribution Network Operators (DNOs) review the Subsidiary Document ahead of the next meetings to agree what changes may be required to OAD.

New Action 0702: DNOs to review the Supplemental Agreements (SA) Subsidiary Document and provide a view on changes required to OAD.

Stephen Ruane (SR) believed this will be a relatively straight forward Modification.

DD requested further discussions in August with a view to having draft legal text to help inform the Workgroup of the likely changes

3. Significant Measurement Error Update EM009 – Alrewas EM MTD

Alan Raper (AR) asked the two independent experts to present their analysis and provide a view of the under measurement before presenting the final joint summary report.

David Ransome (DR) provided a presentation on the reason for the error due to the Orifice Plate being incorrectly installed (incorrect orientation) at Alrewas in May 2019 and a subsequent replacement plate also being incorrectly orientated until discovered in February 2021 resulting in a measurement error spanning over a period of 18 months.

Craig Marshall (CM) from National Engineering Laboratory (NEL) provided a presentation giving a summary of the error assessment results, predicting an under measurement of 867.09GWhs and 79.441 million Sm³, calculated based on a change in discharge coefficient predicted through Computational Fluid Dynamics (CFD). Data was provided on the simulations, studies and validation undertaken, to assist the Workgroup’s understanding of how NEL reached their under-measurement prediction.

Steve Mulinganie (SM) enquired about the percentage for the error. CM believed this to be roughly 6.5%

Paul Daniel (PD) provided an assessment of the error from i-Vigilant Technology/Emerson which included an explanation of the CFD method similar to NEL and flow testing using a Clamp-on Ultrasonic meter. Data was provided on the impacts of the CFD Reverse orientation simulations, flow tests and validation undertaken. The predicted under measurement was believed to be 776.10 GWhs, a 5.39% measurement error.

PD went on to provide a joint ITE Summary Report. This provided a summary and comparison of the approaches undertaken by NEL and i-Vigilant. Both ITEs performed CFD over 3 Reynolds Numbers, with very similar input conditions. Both CFD simulations were close to one another (within 1%). The flow tests result close to middle of CFD data.

PD provided the Final Correction Factors taking an average of the two ITE results, resulting in a final proposed total of 782.4GWhs, 71.69 MSm³, 5.43%,

	ITE1	ITE2	Final
Correction for Period: GWh	867.09	776.10	782.4
Correction for Period: Msm3	79.44	71.11	71.69
% of Total over Period	6.01%	5.39%	5.43%

Zoe Thorpe (ZT) enquired about the correction factor over the period based on the 5 O’clock (05:00hrs) values, noting for billing purposes the bill volume will be based on the flow weighted average CV. ZT highlighted the billing approach values will therefore be slightly different for the reconciliation. ZT suggested for billing purposes the reconciliation should start with the bill volume, which may result in a different energy value. It was estimated that the value therefore may vary by 2GWh as a result of correcting the metered volume instead of the energy.

Steve Mulinganie (SM) wanted clarity on what the correction would be. It was confirmed that the indicative correction factor, for the two orifice plates, is 5.43% but that the full calculations would be applied to the volume, by day and would identify the specific factor for each of the two plates. ZT explained that the correction factor and billed values will be used from the table in the final report and these will be validated by National Grid NTS.

The Workgroup reviewed the daily calculation table provided in the joint report from 22 May 2019. ZT confirmed that the billing reconciliation would start on the date the plate was incorrectly installed which was 23 May 2019 to the date it was corrected on 23 February 2021.

It was suggested that Cadent should confirm the precise times on the start and end dates to apply an accurate correction and to account for the two partial days.

SM requested that the ITEs provide a breakdown of the costs of each day to Shippers for the error using the billed amount opposed to the energy values.

AR confirmed that the joint ITE summary report, the individual ITE reports, the Cadent background presentation, along with summary presentations will be published on the MER page. at: <https://www.gasgovernance.co.uk/MER/EM009>.

Fiona Cottam (FC) explained that once the CDSP have been provided the breakdown these will be run through pre-production systems which is expected to take place in August, once the error has gone through the National Grid sign-off process.

SM enquired about the application of the 5.43% for the two Orifice Plates. ZT confirmed the daily correction factor of 1.0608 will be applied for the first plate and then a correction of 1.0471 for the second plate. SM explained that Shippers will need a table providing the final position including the percentage.

AR assured the Workgroup that daily amounts would be provided. It was agreed further clarification would be provided on the start times and ends time and to provide the correction factor and volume it applies to, rather than providing energy volumes.

New Action 0703: Cadent (SS) to provide a final correction table with updated presentation material for publication at: <https://www.gasgovernance.co.uk/MER/EM009>

The Workgroup thanked the ITEs for the thorough overview provided.

Following the ITE presentations David Ransome (RD) provided an explanation of why the error occurred and what controls and assurances were now in place to avoid reoccurrence. RD confirmed that the following:

- All plates are now marked to denote the downstream face
- Markings in metering stream denote direction of flow
- Installation is a 2-person task to enable quality checks
- Procedural documentation updated
- All ME/2 work will be completed under authorised, Non-routine-operation (NRO) procedures planned for the specific site (with defined steps and checks)

SM asked if these were put in place following an independent review. DR confirmed Cadent engineers independent (i.e., not involved in the original incident) undertake the reviews. SM challenged that the process for addressing issues should be completely independent and could draw in expertise from other industries. Shiv Singh (SS) agreed to take this feedback away and consider this extra level of assurance.

New Action 0704: Cadent (SS) to consider greater independent reviews, for lessons learnt following Measurement Errors.

Uche Oguike (UO) confirmed that the manufacturers of the meters have been engaged to assist with lessons learnt.

SM challenged what best practise is shared with other Networks and what the other Networks were undertaking for assurances on ultrasonic meters and minimising the risk. It was confirmed that System Operations monitor energy flows which can pinpoint potential issues allowing sites to be addressed more quickly.

Ben Hanley (BH) confirmed that DNOs have monthly Metering Forums to share best practises, and that the lessons learnt from this error had been shared.

Kirsty Dudley (KD) enquired about the timing of the invoice. Fiona Cottam (FC) estimated September depending on National Grid's approval timescales.

4. EM011 – Thorton Curtis

Eric Fowler (EF) introduced the new error Thornton Curtis <https://www.gasgovernance.co.uk/MER/EM011>

David Ransome (DR) provided the timelines and initial investigations undertaken on the Thornton Curtis following identification of a UIG discrepancy, from control centre datasets. A desk-top exercise found no obvious issue, followed by an external examination again with no obvious issues.

An ME2 was conducted in April and the dates coincided with a stepped change in the UIG identified, therefore a physical site check was undertaken and an internal check identified that the carrier had not been correctly seated at the bottom of the chamber, this was a different issue to Alrewas.

Steve Mulinganie (SM) enquired what triggered the UIG Xoserve report. Mark Perry (MP) explained UIG levels are monitored, and a continual discrepancy was observed which was out of the ordinary, this was then followed up with Cadent. MP explained there is an upper and lower tolerance for each LDZ and the national position is used to provide indications of an issue.

DR confirmed Cadent are looking at initial controls and mitigation of errors, what data sets can be monitored as best practise in the future for early indications of issues that need investigation. DR explained that procedural improvements are being considered to consider opportunities and training innovations.

SM noted that most errors appear to involve Orifice Plate meters, DR explained that there are limited resources available with Orifice expertise.

Mark Jones (MJ) enquired if DNOs examine daily reads to monitor changes in the meter readings and sudden decreases, noting for Thorton Curtis there was a 25% reduction, and this should have been obvious after 2 days.

MP confirmed a demand forecast would enable Transporters to notice obvious changes. Noting that Xoserve had identified a change across the whole LDZ and why Cadent may not be able to attribute this to a single offtake.

Uche Oguike (UO) explained it can be difficult to ascertain that a difference in flows is related to an error, further explaining the different layers of controls with the use of clamp-ons to avoid a repeat incident.

Zoe Thorpe (ZT) considering the data flow profiles noted it would have been difficult to identify the particular offtake meter which maybe causing the problem due to the aggregation of data.

Kirsty Dudley (KD) expressed concern about silo investigations being undertaken, and repeat errors for Orifice Plate meters, referring to the licence obligations for Transporters. UO confirmed Cadent are undertaking a programme to check that every Orifice Plate is installed correctly and the different scenarios that can occur.

KD challenged the errors are all process errors related to fitting and that reassurances have been provided in the past with regards to procedural changes but these appear not to be reaping results.

DR acknowledged that there are lessons to be learnt from processes and available data sets, flow control settings, modelling etc to provide earlier indications of issues. DR re-assured the Workgroup that Cadent are looking at critical activities and potential issue scenarios for meter changes that can occur, with control room over-sight.

SM expressed concern about the frequency between the two significant errors from Cadent and the importance of holistic learning for all DNOs, reiterating that independent reviews need to be in place. SM wished to note if a Shipper had caused an issue resulting in a significant bill there would be repercussions for the Shipper, but in the case of Significant Measurement Errors there appears to be no consequence for Distribution Network Operators for issues that could cause a cashflow problem for a Shipper.

KD suggested that more monitoring is put in place suggesting PAC or ENA undertake some form of monitoring and escalation.

Mark Jones (MJ) suggested that the current standard of monitoring is not working as some errors are discovered more quickly and others undiscovered for an extended period of time. It was agreed that Cadent would review past error identification and lessons that could be learnt from these.

Eric Fowler (EF), summarised the point being stated by Shippers that they suggest greater independent analysis and, suggested Cadent seek assistance from a different perspective, such as terminal operators who also operate high value metering with significant financial throughput. Furthermore, that DNOs consider the wider sharing of lessons learnt. **New Action 0705:** Cadent (DR) to provide an update on wider information sharing between DNOs and Independent Reviews.

Following the provided overview Alan Raper (AR) advised of the need for the appointment of 2 ITEs and the need for DNOs and Shippers to undertake a selection process.

On behalf of Networks David Ransome (DR) wished to nominate Ben Kirkman from Kelton Engineering, having a proven track record of Orifice plate systems, Meter Errors and Reconciliation. Zoe Thorpe (ZT) supported the nomination of Ben Kirkman.

AR advised of the remaining available 4 ITEs for consideration, allowing Shippers present to consider the ITEs expertise and qualifications of the available experts.

Shippers considered the appointment of Paul Daniel with the recent comprehensive report for Alweras. The appointment of Paul Daniel was unanimously supported.

AR confirmed the next steps will be for Cadent to consider the Terms of Reference (ToR) and procurement process. The Workgroup briefly considered the recent ToR for the Alrewas error and proposed having a ToR for review at the next meeting.

It was agreed that the ToR should include the methodology, the need for individual ITE reports, and a Joint Report. It was also agreed that the ToR should record the technical data required with a day-to-day correction rate.

New Action 0706: Cadent (DR) to provide the proposed EM011 – Thornton Curtis, ITE Terms of Reference (ToR)

The Workgroup considered the timeline and predicted meetings for reporting updates.

New Action 0707: Cadent (DR) to provide a predicted process timeline for the EM011 – Thornton Curtis Significant Measurement Error.

5. Independent Technical Experts Register Annual Review

Helen Cui (HCu) provided a brief overview of the status of the annual review process, and the request to add two additional contacts on the register for TUV NEL, which is expected to be supported by National Grid. National Grid did not object to the sponsorship.

Steve Mulinganie (SM) suggested that IGEM could assist with the provision of Shipper nominations.

New Action 0708: Joint Office (EF) to approach IGEM for ITE nominations on behalf of Shippers.

6. Measurement Error Notification Guidelines Review

Further consideration due August.

6.1 Requirement for Two Independent Technical Experts (ITEs) 500GWh Threshold

Item deferred. Further discussions expected in August.

6.2 End-to-End Communication Process / Timeline

Item deferred. Further discussions expected in August.

6.3 Other Identified Areas for Review

No further discussions.

7. Any Other Business

Steve Mulinganie (SM) requested that the industry are advised upon the publication of the Alrewas reports.

Helen Cuin (HCu) confirmed notification would be provided using the standard Measurement Error Distribution List and papers would be provided on the Offtake Workgroup meeting page and individual Measurement Error web page.

8. Diary Planning

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

Time/Date	Paper Publication Deadline	Venue	Programme
10:00, Wednesday 24 August 2022	17:00 Monday 15 August 2022	Teleconference	Standard Agenda
<i>Proposed Meeting:</i> 10:00 Wednesday 28 September 2022	TBC	Teleconference	
<i>Proposed Meeting:</i> 10:00 Wednesday 26 October 2022	TBC	Teleconference	

Action Table (as of 27 July 2022)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Target Date	Status Update
0907	29/09/21	1.3	Joint Office (AR) to clarify the accounting arrangements for monies paid by Shippers to National Grid as a result of a Measurement Error and add this information to the Measurement Error Guidelines for the future	Joint Office (AR)	July 2022	Closed
0302	23/03/22	3.0	E.ON Energy (CS) to provide further analysis, <u>if possible</u> , on the potential impact of gas price fluctuations for Measurement Errors.	E.ON Energy (CS)	July 2022	Carried Forward
0501	25/05/22	4.1	<i>Reference 50GWh Threshold Change</i> – Joint Office (EF) to write to PAC to update them on the Workgroup views and request that PAC also considers the matter and reports back on its findings.	Joint Office (EF)	July 2022	Closed
0502	25/05/22	4.4	<i>Reference End-to-End Communication Process / Timeline</i> – DNs to consider E.ON proposals and provide a view at the July meeting.	DNOs	July 2022	Pending
0701	27/07/22	1.3	Joint Office (AR) to clarify the accounting arrangements for none NTS to LDZ inputs (LDZ direct inputs).	Joint Office (AR)	August 2022	Pending

Action Table (as of 27 July 2022)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Target Date	Status Update
0702	27/07/22	2.1	DNOs to review the Supplemental Agreements (SA) Subsidiary Document and provide a view on changes required to OAD.	DNOs	August 2022	Pending
0703	27/07/22	3.0	Cadent (SS) to provide a final correction table with updated presentation material for publication at: https://www.gasgovernance.co.uk/MER/EM009	Cadent (SS)	August 2022	Pending
0704	27/07/22	3.0	Cadent (SS) to consider greater independent reviews, for lessons learnt following Measurement Errors.	Cadent (SS)	August 2022	Pending
0705	27/07/22	4.0	Cadent (DR) to provide an update on wider information sharing between DNOs and Independent Reviews.	Cadent (DR)	August 2022	Pending
0706	27/07/22	4.0	Cadent (DR) to provide the proposed EM011 – Thorton Curtis, ITE Terms of Reference (ToR)	Cadent (DR)	August 2022	Pending
0707	27/07/22	4.0	Cadent (DR) to provide a predicted process timeline for the EM011 – Thorton Curtis Significant Measurement Error.	Cadent (DR)	August 2022	Pending
0708	27/07/22	5.0	Joint Office (EF) to approach IGEM for ITE nominations on behalf of Shippers	Joint Office (EF)	August 2022	Pending