UNC Modification	At what stage is this document in the process?

UNC 0642A:

Changes to settlement regime to address Unidentified Gas issues

01 Modification
02 Workgroup Report
03 Draft Modification Report
04 Final Modification Report

Purpose of Modification:

This modification seeks to introduce a fixed unidentified gas (UIG) value per category across all Shippers and also to introduce a Balancing Quantity to act as an equal/opposite leveller.

The Proposer recommends that this Modification should be:

- assessed by the Workgroup, and
- proceed under the same timetable as approved by the Authority for Modification 0642(Urgent).

High Impact:

Shippers

Consumers

Medium Impact:

CDSP

Transporters

Low Impact:

NA

Contents

Timetable

The Proposer recommends the following timetable:	
Initial consideration by Workgroup	04 January 2018
Initial consideration by Panel	18 January 2018
Draft Modification Report issued for consultation	01 February 2018
Consultation Close-out for representations	08 February 2018
Final Modification Report available for Panel	12 February 2018
Modification Panel recommendation on the proposal	15 February 2018
Ofgem Decision	End of February 2018

Any questions?

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1 Summary

What

The energy allocation model, implemented on 1 June 2017 through UNC Modifications 0432 and 0473 as part of Project Nexus has not been implemented in a manner in which some parties had expected and a suggested solution has been proposed in UNC Modification 0642(Urgent) - *Changes to settlement regime to address Unidentified Gas issues*, which extends the responsibilities of the Allocation of Unidentified Gas Expert (AUGE). The proposer of Modification 0642 believes the simulations of the new methodology produced are significantly different allocations to those which are now being produced, however some parties are not seeing these significant outcomes.

It is clear that the concept of Unidentified Gas (UIG) as currently defined in code has proved confusing across Shippers/Suppliers. While there have been some unforeseen issues – DM Asset issues and AQ of 1 – some parties believe the system is operating in line with the simulations published in the three years prior to Nexus go-live. However, there is clearly significant concern about what the system is doing. As such the proposer recognises that there is a need to clarify which elements of UIG are transient and which may be expected to remain, without requiring significant system change and without pre-determining which sector of the market should pay.

The proposer's view is that a guiding principle of Nexus was to allow the industry to have full visibility of what the unidentified gas volumes actually were post reconciliation across the industry. The proposer believes it is important to retain this principle and remove the reliance on an estimation mechanism. This is key to allowing the industry as a whole to quantify and tackle the true volumes and causes.

This alternative proposal can introduce refinements to the approved Project Nexus modelling which will enhance what has already been implemented; it would be based on actuals with a transparent approach and would apply to all without any sector bias.

Why

This alternative proposal to the original Modification 0642(Urgent) proposal would not seek to roll-back to the pre-Nexus approach, as that methodology has already been superseded and was deemed a necessary progressive move. There is a concern that following investment of significant cost and resources over the last nine years in the development of Nexus, the industry should not now force additional system changes unless absolutely necessary.

This is an alternative proposal rather than a new Modification because both suggestions cannot be delivered together; it would be an either/or scenario.

UIG has impacted some parties more than others and it has had negative publicity so there is not the option to do nothing, but the solution proposed is aimed to be a fairly distributed mechanism with anticipated minimal cost compared to other potential options.

The original Modification 0642(Urgent) proposal wouldn't have the use of profiles, as rolling back would see the unpicking of things such as the Weather Correction Factor (WCF) components and the Daily Adjustment Factor (DAF). This Modification would be an enhancement of what has been introduced, in a manner which is owned and driven by the industry on factual data rather than by further estimated methodologies. This would be more beneficial than to move to a model which parties would struggle to replicate and which could have other unintended consequences.

How

The solution seeks to introduce the following:

- Maintain current allocation methodology to prevent significant system change as the profiles already exist and separate the current UIG into:
  - A fixed volume of throughput called Fixed UIG for each category which is apportioned across all Shippers according to throughput market share – initial values being:
    - Category 1 = Fixed UIG of 0.01%
    - Category 2 = Fixed UIG of 2.5%
    - Category 3 = Fixed UIG of 2.5%
    - Category 4 = Fixed UIG of 2.5%
  - A Balancing Quantity which acts as a leveller to any additional volume which the fixed % does not sweep up or, if the Fixed UIG is too large, it balances things out.
- As sites reconcile; the equal and opposite volume would be applied to the Balancing Quantity and shared to Shippers with category 2, 3 and 4 sites based on throughput market share.
- An annual review of the Fixed UIG which will be based on the residual Balancing Quantity post reconciliation. This will be completed via the Demand Estimation Sub Committee (DESC).
- Creation of an annual 12 month 'reassessment' process for how the UIG %s compare to the actual UIG position for each gas year

Any new Fixed UIG value(s) will be implemented at the beginning of each Gas Year if required; the figure can be the same across all Local Distribution Zones (LDZs) or can be a varied value. If no changes are required Fixed UIG values will rollover from one Gas Year to the next.

2 Governance

Justification for Urgency

The Modification Panel determined that this Modification should follow the same timetable as Modification 0642(Urgent)[1].

Since the change in the regime following the introduction of Project Nexus; some Shipper parties have seen a change in UIG costs which are vastly different to their expected costs. The request for urgency for this modification links to two areas:

1) Some Shippers reporting significant commercial impacts which relate to gas purchases and imbalance management which cannot be rectified through the reconciliation process;
2) To mirror the urgent status applied to the original Modification 0642, to which this Modification is an alternative.

The proposer believes the current focus on UIG demonstrates the material impact on the market and competition which some parties have experienced and, therefore, requires an Authority decision.

[1] https://www.gasgovernance.co.uk/0642

Requested Next Steps

This Modification should be assessed by the workgroup and should proceed as such, under the timetable agreed with the Authority for Modification 0642(Urgent).

The original Modification has been discussed but it is recognised, due to the accelerated timescales, this alternative proposal has not yet been discussed. The proposer believes parties should have the opportunity to review all options and therefore they should be consulted on together.

In addition, the Central Data Service Provider (CDSP) has had limited engagement on the development of this alternative proposal but the Data Services Contract (DSC) processes can be invoked in parallel to allow this Modification to develop on expedited timescales.

3 Why Change?

As part of Project Nexus, the industry moved from a top-down settlement approach for determining and allocating daily NDM consumption to one that attempted to use a bottom-up calculation, using individual site profiles and external weather information to build up a Shipper's (and so, ultimately, the industry's) total supply demand, with any remainder being smeared across the market.

Unidentified Gas is the term given to any residual gas that is not directly allocated each day to a meter or Transporters, to represent network losses (Shrinkage). At allocation, the term Unidentified Gas is misleading; the vast majority of Unidentified Gas is in fact estimation error caused by inaccuracies in the NDM estimation process, which is used for large portions of industry volume.

The original Modifications 0432 - *Project Nexus – Gas Demand Estimation, Allocation, Settlement and Reconciliation Reform* and 0473 - *Project Nexus – Allocation of Unidentified Gas* were intended to achieve the benefits below.

Additional enhancements provided by this Modification are also suggested below and give further benefits to what was originally implemented. Where applicable, it is shown how this alternative proposal will deliver reduced volatility for UIG, compared with Modification 0642(Urgent).

1) Make Unidentified Gas more accurately reflect permanent *Unallocated Gas* only.

   This has been delivered when considering both allocation and reconciliation, but the introduction of a Fixed UIG values per category will give a clear and fixed position which Shippers can easily introduce into any forecasting model they currently have, rather than having to build a brand new model which Modification 0642(Urgent) would introduce, leading to increased development and implementation costs.

2) Improve the NDM estimation profiles; as a consequence of the within month profiles.

   The proposer believes this has been delivered but EUC01B/EUC02B could benefit from segmentation, this is already being reviewed/developed through Modification 0631R *Review of NDM algorithm post-Nexus* and Modification 0644 *Improvements to nomination and reconciliation through the introduction of new EUC bands and improvements in the CWV* and via the Business As Usual (BAU) work completed by Demand Estimation Sub Committee (DESC). Returning to the historic allocation would only hide the issue as Scaling Factors (SF) was less visible.

3) Make the industry more cost reflective, as it more correctly and more quickly matches actual gas costs to the meter.

   The proposer believes this has been delivered, however, the suggested enhancements to introduce the Fixed UIG values per category plus the Balancing Quantity will deliver further benefits of reduced volatility with increased transparency. In addition, the focus will be on the industry to maintain the values going forward which would create a mechanism to seek to reduce UIG or identify actual UIG contributing issues.

4) Encourage the adoption of Smart meters, Automatic Meter Reading (AMR) devices and the regular submission of these reads, which will be for the benefit of the market as it will reduce initial estimation error.

   This proposal does not suggest any enhancements for this element but the proposer believes the BAU work completed by DESC will build on this as rollout ramps up. The proposer believes that PAC is also looking into this area and any changes here will support PAC's work.

5) Reduce within day volatility in the nominations issued, trading costs and therefore customer costs.

   Creation of the Fixed UIG values per category and the Balancing Quantity with ongoing reviews by DESC will ensure a stable approach is applied; further enhancements from Modification 0631R and Modification 0644 will further contribute to positive impacts to this element.

6) Match estimate error to those meters which are estimating in the first reconciliation run for that period.

   Creation of the Fixed UIG values per category and the Balancing Quantity will deliver a combined way to ensure UIG is fairly, transparently and reflectively applied across all parties. It also allows the ability to forecast with more accuracy. This approach can be implemented without requiring complicated system enhancements to the reconciliation process.

7) Give clearer and more understandable cost for customers.

   When the end to end process is considered, the proposer believes this has been delivered but when looking just at reconciliation, this could be perceived as not being delivered. However, the delivery of the Fixed UIG values per category and the Balancing Quantity will allow parties to assess exposure of the known and mitigate the unknown. The regular reviews will flex the figures to seek to keep a stable position.

8) Remove an unintended source of customer detriment.

   Although quantifying this will be completed through the reviews of the values at a later stage, based on a review of the proposer's own portfolio, it is considered that when the end to end process is reviewed there has been an improvement compared to the old model.

Based on the original approach of Modification 0642(Urgent), the introduction of the Fixed UIG values per category and the Balancing Quantity as an alternative does not significantly change the current modelling. It does however enhance it with improved transparency and stability. In addition, the developments proposed would allow the introduction of parameters which can be easily flexed to ensure parties remain on top of the UIG position.

Although the suggestion would be an annual review of the values by both DESC and PAC, these committees could invoke an earlier review if the positon changed dramatically.

These enhancements would see tangible and quantifiable data outputs which can then be used to make decisions to keep the market moving and it would not seek to introduce convoluted forecasting which parties would struggle to replicate. It brings in a simplistic tweak to what has already been developed, invested in and delivered.

Analysis has been conducted on our portfolio and we have determined 0.01% for category 1 and 2.5% for category 2, 3 and 4 as the initial Fixed UIG % is justifiable. This analysis will be shared with the authority confidentially – a request to the CDSP has been submitted to try and conduct a wider analysis piece.

4 Code Specific Matters

Reference Documents

NDM Demand Estimation Methodology (UNC Related Document).

Knowledge/Skills

UIG, statistical analysis, demand modelling, nomination process and the reconciliation process.

5 Solution

The solution seeks to introduce the following:

- A Fixed UIG value per category which is apportioned across all Shippers according to throughput market share – the initial values would be:
    - Category 1 = Fixed UIG of 0.01%
    - Category 2 = Fixed UIG of 2.5%
    - Category 3 = Fixed UIG of 2.5%
    - Category 4 = Fixed UIG of 2.5%
- A Balancing Quantity which acts as a leveller to any additional volume which the fixed % does not sweep up or if the Fixed UIG is too large, it balances things out.

The solution will work by taking the daily position and would:

- Take out class 1 and 2 volumes (DM) as it is currently calculated today,
- Calculate volume for category 3 and 4 (NDM) by utilising the current profiling formula (profiles and system are already available),
- Allocate the Fixed UIG %'s for all categories across all Shippers based on their throughput market share,
- Utilise the Balancing Quantity for any positive/negative remaining volume and based on throughput; apply it to all category 2, 3 and 4 sites (in essence a scaling factor) and

Creation of an annual 12 month 'reassessment' process for how the UIG %s compare to the actual UIG position for each gas year. As sites reconcile; the equal and opposite volume would be applied to the Balancing Quantity and shared to Shippers with category 2, 3 and 4 sites based on throughput market share.

There will be an annual review for Fixed UIGs for each category which will be conducted by DESC and would take into consideration the Balancing Quantity remaining post reconciliation.

The Fixed UIG value(s) would commence at the beginning of each Gas Year and be in place for the entirety of that Gas Year.

Updates to the Fixed UIG % could be a blanket % for all LDZs per category or could vary per LDZ going forward but initially it would be a Fixed UIG % of 0.01% (category 1) and 2.5% (category 2, 3 and 4).

Any ongoing changes would be analysed and determined via DESC; their role would be to review the previous Gas Years Fixed UIG %s and Balancing Quantity to validate if the current Fixed UIG %s are accurate. If the analysis determines the Fixed UIG values are still accurate the current Gas Years fixed %s will rollover to the next Gas Year. If however analysis determines updates are required to the Fixed UIG %s then the proposed Fixed UIG values will be recommend by the CDSP to DESC, no later than 4 months prior to the start of the next gas year, for DESC to validate or challenge – this would just be an additional element to the current DESC annual review process.

Acceptance of the revised Fixed UIG %s per category/LDZ will be on a majority voting basis at DESC. Where a majority decision cannot be reached it will be escalated to the UNCC to determine if the proposed %s or the current Gas Years Fixed UIG % will roll into the next Gas Year.

The dataset which DESC requires for the determination of the Fixed UIG values will be developed via the DSC change process; this is not required for the modification implementation date due to initial values being proposed but it would need to be in place for the end of the first Fixed UIG Gas Year to determine the following Gas Years values.

This solution will enable visibility of the final UIG volumes seen as the sum of UIG and the Balancing Quantity. It will also remove the need for an AUGE and will therefore remove an element of cost from the industry while retaining the expected Nexus visibility benefits.

The removal of the AUGE is because the weighting factors will be replaced by the process to create the Fixed UIG and Balancing Quantity per category and per LDZ on an annual basis. The DESC approved values will be based on accurate and transparent data which is captured by the CDSP through the BAU process, thus removing the need for estimated values. A guidance document outlining the process will be developed and processes regarding the amendment to AUGE requirements will be progressed should this alternative solution be implemented.

It is expected that the PAC will retain a role in monitoring both the speed of reconciliation and size of the Balancing Quantity. There monitoring can also cover, for example, read performance per category and use the reports which will be created for Fixed UIG and Balancing Quantity to focus their reviews. Development of additional report requirements would be via the PAC but the DESC reports will also be made available to PAC.

The creation of an annual 12 month ‘reassessment’ process will required for each Gas Year. This review will be completed by the CDSP to ensure the allocation of financial adjustments made are appropriately apportioned across all categories and where any disparities occur financial adjustments will be completed via a REC adjustment. The reassessment process will also be incorporated within the development of the subsequent Gas Years Fixed UIG processes. An example being:

> Gas Year X started with Fixed UIG of Cat 1 = 0.01% Cat 2, 3, 4 = 2.5%
>
> The annual review determined UIG for Gas Year X was actually Cat 1 = 0.51%, Cat 2 = 2% and Cat 3 & 4 = 2.5%

The reassessment activity would reapportion the shares across the categories in a one off activity. It is anticipated the reapportionment activity would mainly be within the first couple of years to allow time for MI and DESC to determine accurate %s; this would then result in increased stabilisation of the fixed UIG and a reduced need for the annual activity. It is not perceived as retrospective activity but an annual reapportionment acting as a safety net so there is not an unfair distribution of UIG for any category.

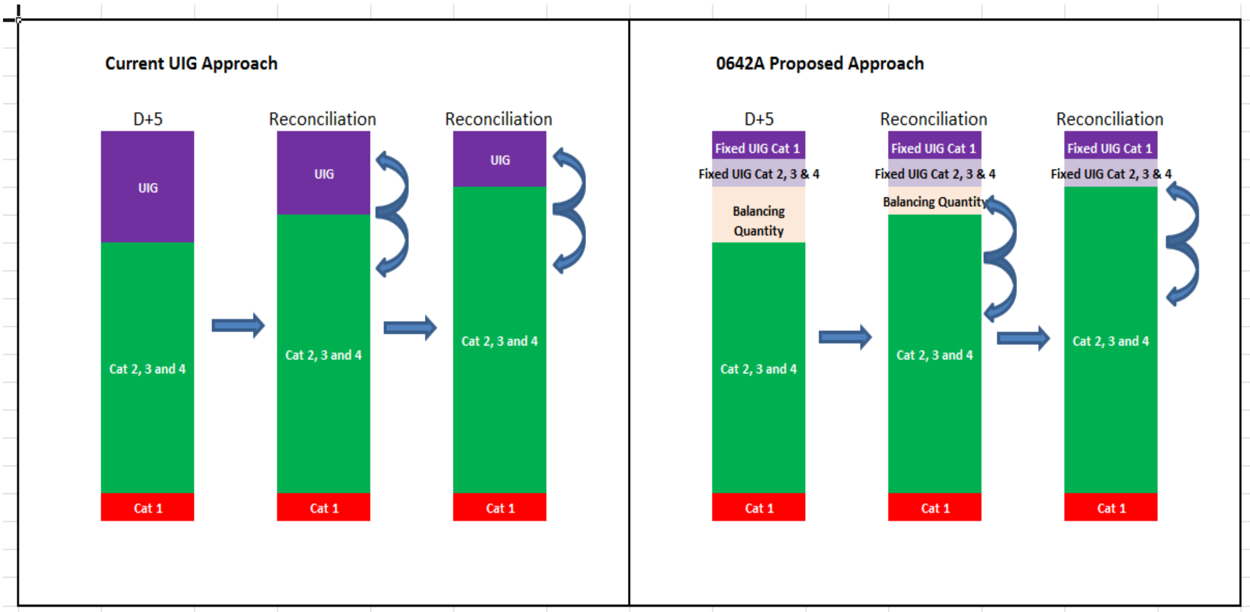
The design development of the Fixed UIG % for all categories/LDZs and reassessment activity will be completed via the DSC change process.

Development of system changes via the DSC can be completed in parallel so that the expedited timescales can be achieved. Although some changes are required for the modification implementation date e.g.

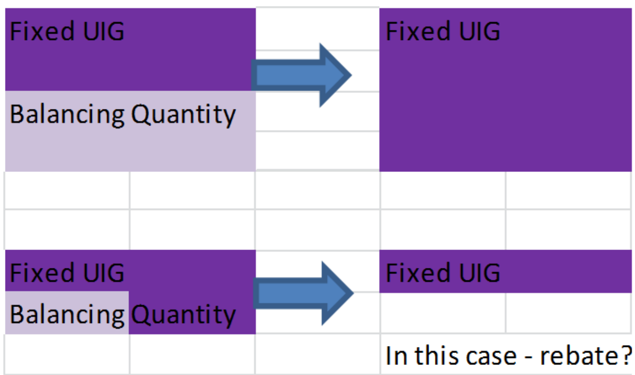
implementation of the Fixed UIG /Balancing Quantity it is not anticipated that they will be significant, however, there are likely impacts to Gemini which the DSC Change group will also need to consider for implementation.

Other elements e.g. reports for DESC / governance documents can be developed post modification implementation, the development and implementation of those changes would be required before the end of the 1st Gas Year to enable the activities required for the subsequent gas years.

Below are illustrations to accompany the creation of the Fixed UIG / Balancing Quantity and the annual reassessment process.



Annual reassessment



Based on average figures across the year, evidence based numerical calculation

6 Impacts & Other Considerations

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

Not applicable.

Consumer Impacts

No direct impacts identified – although improved allocation will ensure a closer match between Transporters invoiced charges and customer actual demand, minimising reconciliation flows and improving volatility in the energy purchasing area.

Cross Code Impacts

None identified – it is not believed any SPAA or iGT UNC changes are required to complement this modification,

EU Code Impacts

None.

Central Systems Impacts

The CDSP will assess the impact of the proposed enhancements on central systems.

7 Relevant Objectives

Impact of the modification on the Relevant Objectives:	
Relevant Objective	Identified impact
a) Efficient and economic operation of the pipe-line system.	None
b) Coordinated, efficient and economic operation of (i) the combined pipe-line system, and/ or (ii) the pipe-line system of one or more other relevant gas transporters.	None
c) Efficient discharge of the licensee's obligations.	None
d) Securing of effective competition: (i) between relevant shippers; (ii) between relevant suppliers; and/or (iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant shippers.	Positive
e) Provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards… are satisfied as respects the availability of gas to their domestic customers.	None

f) Promotion of efficiency in the implementation and administration of the Code.	None
g) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

This Modification delivers positive impacts to Relevant Objective (d) as it delivers enhancements to already existing processes to give transparency in how UIG is calculated and divided across parties, which assists with simplifying understanding of UIG whilst actively introducing stability through reduced volatility.

8 Implementation

No implementation timescales are proposed. However, the proposer suggests it would be beneficial if the Modification were approved sufficiently ahead of 30 September 2018 to allow effective system implementation by the start of the 2018 Gas Year on 01 October 2018.

Should an adhoc date be selected; implementation should be on the 1st of the month.

The change may also be required to align with the changes being delivered through the DSC Change Management process.

9 Legal Text

To be provided.

10 Recommendations

The Workgroup is requested to:

- Assess this modification;
- Agree that this Modification should be treated as urgent and proceed under the same timetable as approved by the Authority for Modification 0642(Urgent).