Joint Office of Gas Transporters

UNC Request Workgroup Report	At what stage is this document in the process?
# UNC 0631R: Review of NDM algorithm post-Nexus	01 Request 02 Workgroup Report 03 Final Modification Report

Purpose of Request:

This UNC request proposes to address industry concerns around the revised NDM algorithm used for nomination and allocation post Nexus (1 June 2017 implementation)

✓	The Workgroup recommends that the Panel now consider this report.
❗	High Impact: Gas consumers, shippers, suppliers, NGG and transporters
❗	Medium Impact: None
❗	Low Impact: None

Joint Office of Gas Transporters

Contents

About this document:

This report will be presented to the panel on 19 April 2018.

The panel will consider the recommendation to Determine that Request 0631R should now be closed.

Any questions?

Contact:
Joint Office of Gas Transporters

enquiries@gasgovernance.co.uk

0121 288 2107

Proposer:
Tim Hammond

Tim.hammond@coronaenergy.co.uk

01923 476870

Systems Provider:
Xoserve

commercial.enquiries@xoserve.com

telephone

Additional contacts:
Gareth Evans

gareth@waterswye.co.uk

07500 964447

---

1 Request Summary

Why is the Request being made?

Suppliers and shippers are experiencing significant and commercial challenges with UIG (unidentified gas) post-Nexus which was implemented on 1 June 2017.

Background

Any Gas that is supplied to an LDZ network and not allocated to the DM, NDM or shrinkage is now attributed to shippers as a new UIG (unidentified gas) value at each LDZ (local distribution zone) level. UIG can be viewed by a shipper on Xoserve's Gemini system.

Pre-Nexus total LDZ demand comprised a balancing figure for NDM (non-daily metered) energy only with DM (daily metered) energy and LDZ shrinkage (fixed by the network operator) as the known variables in the NDM demand calculation (the NDM algorithm). The NDM algorithm was used to calculate both the NDM nominations and allocation with unidentified gas (not UIG) a relatively known constant of approx. 1% incorporated into the NDM allocation process. During this period before Nexus, reconciliation pushed unidentified gas into the SSP sector with market uncertainty (balancing and trading) falling on NDM energy.

Post-Nexus unidentified gas and settlement error was reclassified as 'UIG' and this is now included in the balancing figure (at each of the 13x LDZ levels) with both DM and NDM now subject to (universal) meter point reconciliation at closeout (D+5) and beyond. A heavily revised algorithm was used to calculate the new UIG values and NDM demand leaving market uncertainty now crystallised solely on UIG 'forecasts'.

Request to review

This UNC request is requesting Xoserve undertakes a full review of the revised NDM algorithm (including all components that were changed and agreed by the committee DESC including the UIG calculation and forecast UIG calculations) are accurate. This request requires similar work undertaken on UNC Modification 0280 requesting a full review of the Uniform Network Code – Transportation Principle Document Section H – Demand Estimation and Demand Forecasting.

Scope

- Xoserve to fully evaluate the accuracy of the NDM algorithm parameters and if weather sensitivity factors are punishing NDM LSP sites more than NDM SSP sites

- Xoserve to review whether universal individual meter point reconciliation (i.e. post Nexus go-live) is working correctly, and importantly fairly

- Assess whether UIG can be <u>fixed</u> each day (NDM demand can be accurately forecasted by shippers using EUC bands whereas UIG cannot be forecasted) and subsequently reconciled beyond D+5

  - For example would a fixed UIG value of 1.2% be applied when the initial demand attribution run is made D-1 such that UIG remains a fixed constant within day (D) during the nomination stage and at the allocation close out (D+5).

  - If a fixed UIG value could not be applied could an alternative be applied that would minimise the volatility and inconsistent reporting of UIG between nomination and allocation periods?

- Xoserve to carry out analysis urgently of the EUC1B ALP and DAF change (that came into effect on 1 October 2017) and assess what impacts, if any, this has made to UIG levels

- Xoserve to analyse the NDM WAR band EUCs and to assess whether there are difference between shippers

- Consider bringing forward the ALP and DAF review if new changes do not improve UIG levels significantly after 1 October 2017 and make this a monthly process

- Xoserve to provide DESC with as much information required such that DESC are able to quickly adjust the algorithm if a change should be made (CE willing to assist on providing analysis)

- Analysis of why TWG (DESC) recommended Option E of the NDM algorithm and why option A and C were ignored (could these have been better for industry?)

- Xoserve to obtain data from industry to assist on UIG and demand

Impacts & Costs

One of the key changes to support Nexus was a new approach to NDM allocation. Industry was told that the current (pre-Nexus) NDM allocation algorithm was not sustainable in a new Project Nexus world. To support this change a new NDM estimation formula for supply point demand was made. This became the NDM estimation algorithm. It is our belief this algorithm is a poor fit to actual demand resulting in abnormal weather fits making UIG very volatile (noting UIG cannot be forecasted with any great accuracy and re-calculated up to 9 times depending on supplier factors e.g. DM sites nominating).

The approach taken to UIG (post-Nexus) is to compare total DM and NDM demand to LDZ consumption (net of shrinkage) creating a new way of estimating NDM demand (without reference to LDZ consumption). The NDM estimate now uses a bottom up calculation with:

- A new form of WCF (weather correction factor) using <u>actual</u> data

- No reference to SND (seasonal normal demand)

- Amended NDM parameters (ALPs and DAFs) but using existing NDM demand models

The key concern is the 'treatment' of UIG post-Nexus that does not accurately apportion the daily UIG estimate between product classes and penalises certain product classes more.

The understanding is the UIG calculation occurs after shrinkage (which in itself is a fixed % value that may be understated) and UG comprises gas theft, shipperless sites, delays in registration by GT's / iGT's and meter errors etc. The reality is UIG comprises significant unknowns, cannot be accurately forecasted and as a standalone value is extremely unpredictable (between D-1 and D+5) that suppliers are unable to position their purchases leaving market uncertainty and low levels of liquidity late on in the gas day (forcing NG to the market to re-balance).

Notwithstanding comments made earlier, it is recommended Xoserve carry out a full investigation on the accuracy of demand estimation and changes made to the model that appear to significantly impact UIG.

Without a review and immediate fix a number of large suppliers will have to consider their position within the energy sector as they are having to choose between 'business survival' and paying significant amounts of additional gas costs versus the temptation to pass through these costs to consumers and therefore raise bills.

Recommendations

Yes this should be considered by the workgroup because shippers are paying significant amounts of additional gas costs versus the temptation to pass through these costs to consumers and therefore raise bills.

Additional Information

UIG is causing significant commercial challenges for shippers and suppliers. Without a comprehensive review it is highly probable those commercial challenges will ultimately have a material impact on gas consumers because shippers are unable to forecast UIG with most seeing uncorrected demand increases to their portfolios between 5-10% leaving suppliers exposed to market volatility and ultimately leading to consumer detriment.

One of the key features of Nexus was the removal of allocation of unidentified gas (AUG) charge and inclusion of the Unidentified Gas UIG) charge. This was a fundamental change in the calculation of unidentified gas once all meter points are settled (up to the line in the sand date of 3 years) and was supposed to give an accurate view of unidentified gas to the industry but this has not been the case since Nexus went live in June 2017.

2   Impacts and Costs

Consideration of Wider Industry Impacts

We have not identified any wider industry impacts.

Impacts

Impact on Central Systems and Process	
Central System/Process	Potential impact
UK Link	• Gemini consequential changes (potential to fix UIG or amend the algorithm)
Operational Processes	• Medium impact

Impact on Users	
Area of Users' business	Potential impact
Administrative and operational	• No impact
Development, capital and operating costs	• No impact
Contractual risks	• No impact
Legislative, regulatory and contractual obligations and relationships	• No impact

Impact on Transporters	
Area of Transporters' business	Potential impact
System operation	• No impact

Joint Office of Gas Transporters

Impact on Transporters	
Development, capital and operating costs	• No impact
Recovery of costs	• No impact
Price regulation	• No impact
Contractual risks	• No impact
Legislative, regulatory and contractual obligations and relationships	• No impact
Standards of service	• No impact

Impact on Code Administration	
Area of Code Administration	Potential impact
Modification Rules	• High impact
UNC Committees	• No impact
General administration	• No impact
DSC Committees	• No impact

Impact on Code	
Code section	Potential impact
	•

Impact on UNC Related Documents and Other Referenced Documents	
Related Document	Potential impact
Network Entry Agreement (TPD I1.3)	•
General	Potential Impact
Legal Text Guidance Document	•
UNC Modification Proposals – Guidance for Proposers	•
Self Governance Guidance	•
	•
TPD	Potential Impact
Network Code Operations Reporting Manual (TPD V12)	• No impact
UNC Data Dictionary	• No impact

Joint Office of Gas Transporters

Impact on UNC Related Documents and Other Referenced Documents	
AQ Validation Rules (TPD V12)	• No impact
AUGE Framework Document	• Greater accuracy of NDM and UIG will help the AUGE produce better data that will lower the impact of UIG on shippers (and ultimately customers)
Customer Settlement Error Claims Process	• Greater accuracy of NDM and UIG may have potential impact
Demand Estimation Methodology	• High impact on Section H of TPD document, potentially revising the NDM algorithm to limit UIG
Energy Balancing Credit Rules (TPD X2.1)	• Unknown
Energy Settlement Performance Assurance Regime	• Unknown at this stage
Guidelines to optimise the use of AQ amendment system capacity	• Unknown
Guidelines for Sub-Deduct Arrangements (Prime and Sub-deduct Meter Points)	• Unknown
LDZ Shrinkage Adjustment Methodology	• Unknown at this stage but a review of shrinkage should be made alongside this request
Performance Assurance Report Register	• TBC
Shares Supply Meter Points Guide and Procedures	• No impact
Shipper Communications in Incidents of CO Poisoning, Gas Fire/Explosions and Local Gas Supply Emergency	• No impact
Standards of Service Query Management Operational Guidelines	• No impact
Network Code Validation Rules	• TBC
OAD	
Measurement Error Notification Guidelines (TPD V12)	• High impact and reference to DESC (Section V12.3 and V12.4 in relation to the NDM demand estimation methodology
EID	No impact on NTS capacity
Moffat Designated Arrangements	•

Impact on UNC Related Documents and Other Referenced Documents	
IGTAD	
	• Unknown impact on CSEP class 1, 2, 3 or 4
DSC / CDSP	
Change Management Procedures	• High impact on CDSP agency functions calculating forecast user LDZ UIG for LDZs and calculating forecast user LDZ UIG
Contract Management Procedures	• High impact on CDSP agency functions calculating forecast user LDZ UIG for LDZs and calculating forecast user LDZ UIG
Credit Policy	• No impact
Credit Rules	• Unknown
UK Link Manual	• Some requirements set out in the UK link manual may need to be updated following the outcome of this UNC mod

Impact on Core Industry Documents and other documents	
Document	
Safety Case or other document under Gas Safety (Management) Regulations	• No impact
Gas Transporter Licence	• No impact

Other Impacts	
Item impacted	
Security of Supply	• Unknown but accurate NDM and UIG values will free up liquidity on the OCM, where currently shippers are balancing UIG late on within the gas day (circa midnight gas day D)
Operation of the Total System	• Unknown but accurate NDM and UIG values will mean far greater accuracy for shippers
Industry fragmentation	• No impact
Terminal operators, consumers, connected system operators, suppliers, producers and other non code parties	• Unless industry addresses UIG then suppliers may need to consider passing these additional costs onto customers

3 Terms of Reference

Background

UIG is causing significant commercial challenges for shippers and suppliers. Without a comprehensive review it is highly probable those commercial challenges will ultimately have a material impact on gas consumers because shippers are unable to forecast UIG with most seeing uncorrected demand increases to their portfolios between 5-10% leaving suppliers exposed to market volatility and ultimately leading to consumer detriment.

One of the key features of Nexus was the removal of allocation of unidentified gas (AUG) charge and inclusion of the Unidentified Gas UIG) charge. This was a fundamental change in the calculation of unidentified gas once all meter points are settled (up to the line in the sand date of 3 years) and was supposed to give an accurate view of unidentified gas to the industry but this has not been the case since Nexus went live in June 2017.

A full review is required to improve the NDM algorithm and how UIG is calculated following Nexus go-live on 1 June 2017. Until such reform is made the benefits of Nexus will not have been made forcing suppliers to alter their commercial purchasing strategy (at the NBP) and ultimately force these additional costs onto consumers.

Topics for Discussion

- Understanding the objective

- Assessment of alternative means to achieve objective

- Development of Solution (including business rules if appropriate)

- Assessment of potential impacts of the Request

- Assessment of implementation costs of any solution identified during the Request

- Assessment of legal text.

Outputs

Produce a Workgroup Report for submission to the Modification Panel, containing the assessment and recommendations of the Workgroup including a draft modification where appropriate.

Composition of Workgroup

The Workgroup is open to any party that wishes to attend or participate.

A Workgroup meeting will be quorate provided at least two Transporter and two User representatives are present.

Meeting Arrangements

Meetings will be administered by the Joint Office and conducted in accordance with the Code Administration Code of Practice.

4   Modification(s)

No Draft Modifications were put forward for Workgroup consideration.

5   Recommendation

The Workgroup invites the Panel to:

- DETERMINE that Request 0631R should be closed.

Conclusions:

The Workgroup reviewed a number of areas related to UIG, to identify potential process, compliance, and regime changes, including the following items:

- Analysis of NDM Customer behaviour (in particular non-weather related)
- Analysis of the suitability of the NDM Bucket EUC profiles
- Analysis of EUC bands to determine which EUCs have the most volatility
- Analysis of levels of UIG at D+5 and at Line-in-the-Sand to understand if these are acceptable or if there are any inherent industry issues.

The Workgroup noted that the analysis of these key considerations involved interactions with other UNC Committees such as DESC and PAC and the DSC Committees. The review has raised awareness of UIG issues but the workgroup has not identified any specific improvements that should be progressed.

It should also be noted that Modification 0644: *Improvements to nomination and reconciliation through the introduction of new EUC bands and improvements in the CWV*, has now been raised and analysis performed by DESC has identified benefits in the introduction of the proposed changes to the EUC bands. Workgroup members have suggested that industry efforts should now concentrate on the development of this proposal.

With the above in mind it is recommended that the Request be closed.