

# UIG Task Force Update

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Wednesday 27<sup>th</sup> March 2019

Dear Customers and Industry Colleagues,

In mid-February the Unidentified Gas (UIG) Task Force published an executive summary of their post sprint findings. The team is now pleased to share our progress over the recent weeks and an update on our next steps.

## Background

Since the implementation of Project Nexus in June 2017, gas shippers have experienced much higher than expected absolute levels and volatility of UIG. This is severely affecting their ability to predict demand and commercially manage their businesses from an immediate cash-flow perspective, because UIG is reconciled (corrected) over an extended and unknown future period. In July 2018 Ofgem approved the Uniform Network Code (UNC) Modification 0658 to drive a more centralised and focussed approach to the resolution of UIG, mandating Xoserve as the Central Data Service Provider to take on a leadership role on behalf of the industry.

## UIG Work Group and recommendations

Following the UIG Work Group and Recommendation Session which took place on Monday 28<sup>th</sup> January, we continue to make progress on all 85 recommendation lines. We will continue to update on progress and engage with our customers at all future UIG Work Groups. We have agreed status updates against each line and we have closed 37 lines. The high level overview of the recommendation actions in progress are:

### Modifications

Three recommendations related to the Non-Standard Conversion factor findings for investigation items 12.1 & 12.3 have been combined into a shipper sponsored UNC Modification Proposal, reference 0681, which was raised earlier this month, and has been assigned to the UIG Work Group for development. A copy of the modification can be found [here](#).

We have detailed nine recommendations related to the Standard Conversion factor findings (item 12.2) and presented them at the UIG Work Group on 26<sup>th</sup> February 2019. As this is a complex topic, we agreed that Xoserve would draft a UNC Modification Proposal to create a separate review group to own this issue. Xoserve have drafted the modification, titled *Use of a Standard National Conversion Factor (UNC Review Group)*, and are in discussions with shippers to gain a sponsor.

Xoserve have drafted three separate modifications for three recommendations related to Non- Daily Metered (NDM) sites in End User Category (EUC) 09 with an Annual Quality (AQ) greater than 58.6m kWh (item 3.2.1):

- Central Data Service Provider (CDSP) to convert Class 3 or 4 meter points to Class 1 when Uniform Network Code G1.6.15 criteria are met
- Reduce qualifying period for Class 1

- CDSP to automatically change the meter read frequency to monthly where the AQ is greater than 293,000 or there is Smart/ Automated Meter Reading (AMR) equipment on site.

For all of the above drafted modifications, we encourage all parties to read, review and consider if they would be amenable to sponsor them. All draft modifications can be found [here](#) on our website.

### ***PAC reports***

Eight recommendations related to introducing monitoring of performance by Performance Assurance Committee (PAC). We have carried out a full assessment of all of the recommendations and are happy to confirm that no new changes to PAC reporting are required and that all recommendations, which suggested new and/or amendments to existing reports are all underway via existing Change Requests (CRs) that are in progress:

- **Two recommendations, CR4867** – this Change Request will give PAC the visibility of NDM sites in End User Category 09 (AQ >58.6m kWh). It was agreed that this would be shared for three months to enable PAC to make a decision if it is something that needs to become a permanent report. Target delivery April 2019.
- **Two recommendations, CR4795** – this Change Request makes amendments to the Performance Assurance Report Register (PARR) reporting, which will improve the timeliness and relevance of some of the performance assurance reports, enabling PAC to address areas of concern more quickly.
- **Four recommendations, CR4876** – this Change Request makes changes to Performance Assurance reporting to provide further data to PAFA to aid analysis of performance reporting. Reports being updated are: 2B.1, 2B.2, 2B.3, 2B.4, 2B.5, 2B.6, 2B.7, 2B.8, 2A.9, 2A.10, to better target measures where the industry performance is low.

The PAFA has already begun engagement with Shippers on topics such as NDM sites above the Class 1 threshold.

### ***Change requests and change proposals***

Four recommendations are in progress, under change requests and proposals:

- **CP4866** – removal of validation on uncorrected read, target release November 2019.
- **CR4867** – sites due or have crossed the Daily Metered (DM) threshold of >58.6 million kWh (as above), target report delivery April 2019.
- **CP4853** – interim process to monitor and manually load rejected read into UK Link, where the read was rejected for reason code MRE00458 only, target implementation April 2019.
- **CR4868** – Reporting on Class1 and Class 2 read rejections, implementation date to be determined.

### ***Closed recommendations***

The majority of these were closed as other recommendation items relating to the issue are being progressed and therefore, they are not required. We have closed all 'do nothing' options, as we are taking other options forward for every issue identified to date.

All of the remaining recommendations are in progress under customer engagement or pending a future review of progress made to date. All open items will be discussed at the next UIG Work Group on 9<sup>th</sup> April 2019.

If you would like to see the full detail and status of each recommendation line, the UIG recommendation tracker is published on the Joint Office website and on our Xoserve website, the link can be found [here](#). If you would like to discuss any of these in detail, please get in touch with the Task Force directly.

## Findings

### *Machine learning*

We have explored the use of machine learning to improve the NDM algorithm, and our analytics partner has developed a neural network model, with the goal of increasing the accuracy of NDM allocation and reducing UIG. Using the Neural Network Model to estimate energy at a national level, they have demonstrated significant reductions in levels of base level UIG at allocation of around 70% over the simulated 2016 gas year. Over the same period, daily volatility reduced by around 30%.

We've also attempted to model UIG removing some of the assumptions we have around gas usage – for example, modelling nationally rather than by Local Distribution Zone (LDZ), but this did not improve the prediction over the current NDM algorithm, which tells us that these structural assumptions do contribute to accurately predicting NDM energy use.

The next steps would target reducing the volatility in the new model. Using cutting edge algorithms and additional weather data has reduced the volatility by around 30%, which suggests that other factors not currently incorporated in to the model – factors like housing type, elevation, and regional demographics – may be influencing demand. We will explore the industry appetite for continuing with this line of investigation.

### *Annual quantities*

We are continuing our analysis on energy tolerance meter read rejections, once concluded we will share our findings with the industry.

We have completed our analysis on AQ movements over time to identify whether the changes to industry rules under Project Nexus have materially impacted AQ levels, whether legacy AQ trends have changed following the implementation of UK Link, and if so, what the potential impact on UIG could be. As of 1<sup>st</sup> October 2018, nearly 23 million meter points have had at least one AQ calculation since Project Nexus implementation. Our analysis of the full market shows similar volatility trends to the analysis presented by Scottish Power in the UNC Modification 0672, in that the longer the interval between AQ calculations, the bigger the change between prevailing and recalculated AQ. The percentage of the market with an AQ change greater than 50% is only around 4% of meter points, but these meter points account for nearly 40% of AQ volatility.

AQs have generally increased since Project Nexus go-live, and we do not see the same annual drops in total NDM AQ which we saw under the legacy AQ review process. This suggests that AQs could have been artificially low in legacy systems and that the AQ is now returning to a level more reflective of actual consumption. This corresponds with the lower level of UIG we see from Autumn 2018 onward (excluding the impact of the NDM uplift factors applied to the gas year 2018/2019 demand models), and would suggest that lower levels of reconciled energy may be observed in the future once any initial catch-up reconciliation has taken place. The findings and recommendations related to the above AQ

issue 3.2.5 have been published on our website and can be found [here](#). As this is a new suite of recommendations, we will be presenting these as a specific agenda item at the next UIG Work Group meeting on 9th April 2019. If you would like to be present, please advise the Joint Office of your proposed attendance.

Our analysis showed that 3.2% of meter points have not yet had a meter reading loaded since Project Nexus go-live and that 8.5% have only had one AQ calculation since go-live. Low meter read submission acceptance rates are contributing to UIG volatility and we have a number of recommendations which could help address this. We will work with the UIG work group and other forums/channels to support the industry in improving read submission rates.

We have also observed that there are a number of estimated reads being used during Shipper Transfer, as we have not received a valid Transfer Reading. Change Request 4880 has been raised titled *Additional info to Performance Assurance Framework Administrator (PAFA) on Shipper Transfer read performance*. The current reporting that is supplied to the PAFA around transfer read performance for users shows very low achieved performance across many users, but the current reporting only provides a percentage achieved as a value with no context around how many transfers there were in the month for a particular user. As a one-off exercise, we provided an additional report to the PAC with a view of how many transfers took place per user per month, and for how many actual read were supplied in the transfer read window; it also included how many replaced transfer reads were submitted by the user for the transfers that took place. This was delivered to the PAC in March.

### **Algorithm performance**

Our analytics partner has analysed the differences between allocated energy and metered energy across the whole market, to identify any trends which are contributing to UIG. We have found that that EUC 01 is generally under-allocated, which means that the sites in this EUC are contributing to UIG at allocation and will generally record more energy when they are read, reducing UIG levels at reconciliation. We have also found some clusters of sites in EUC 02 which are recording energy in a different pattern, when the metered consumption is compared to their allocation. The different behaviour is driven by the frequency of meter readings, with meters which are read very frequently having a different UIG profile to sites which are read less often. We will share these findings with the Xoserve Demand Estimation Team and the Demand Estimation Sub-Committee (DESC) as they may inform where different profiles, driven by meter read frequency, could improve NDM allocation. Further analysis is required by the industry before we can identify any recommendations in this area.

### **Next steps for the Task Force**

As agreed we will continue to use the UIG Work Group to monitor the progress of all recommendations. We will also be taking all of the drafted modifications as a separate agenda item to the next UIG Work Group in April as pre-modification discussion agenda items. We have been engaging with Customers and are confident that a number of these will be sponsored. As previously mentioned, we will also take the new recommendation suite for investigation item 3.2.5 as a specific agenda item to the next meeting.

In addition, the UIG Task Force will continue with analysis into the root causes of UIG by investigating the remaining lines of enquiry. We are beginning our investigation into the accuracy of metering equipment under investigation item 16.

We are also in the process of working with our Data Team and our Website Developers to automate a suite of UIG reports. These include UIG % by gas day (Day+1 vs Day+5), the percentage of original

allocation what has reconciled, and UIG as a percentage of total throughput at Day+5 allocation and the current UIG level following reconciliation. We aim to have these reports available by summer 2019. In the interim we are manually producing two of the graphs; please click [here](#) for the latest view.

We will explore the creation and development of an industry wide UIG dashboard of factors, which contribute to UIG levels. This will give the visibility of how performance trends are impacting UIG over time.

To view the Investigation Tracker to follow individual updates against each line of investigation, please click [here](#). We will also continue to work up any new findings and recommendations in-line with our previous approach and publish these on our website. To review our published findings and recommendations to date please click [here](#).

As always, we will continually update you with our progress via monthly Change Management Committee Meetings, Contract Management Committee Meetings and the UIG Work Group. I will also write to you next month with a further executive summary.

If you have any questions or comments, please contact us at [uigtaskforce@xoserve.com](mailto:uigtaskforce@xoserve.com).

Kind regards

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