Consultation Response

CDSP Consultation on the NDM Algorithm

Responses invited by: 5pm on Friday 20th November 2020

To: xoserve.demand.estimation@xoserve.com

Representative:	Kirsty Dudley
Organisation:	E.ON
Type of Organisation	Shipper/Supplier
Date of Representation:	20/11/2020
I am happy for this response to be published on the Joint Office website	Yes – Apart from the Q8, that is to be redacted.

Guide to Scoring:

1 = Strongly oppose
2 = Somewhat oppose
3 = Neither oppose nor support
4 = Somewhat support
5 = Strongly support

1. Do you support the industry's efforts to improve the accuracy of the NDM gas allocation algorithm?

Yes

2. How strongly do you support the industry's efforts to improve the accuracy of the NDM gas allocation algorithm, on a scale of 1 to 5? Please provide a brief explanation of your reasons.

5

E.ON has always seen a well-functioning energy settlement process as essential. We have been prepared to support this with committed membership of the Demand Estimation Sub-Committee and associated Technical Working Group, and the Performance Assurance Committee.

In addition, we have been instrumental in a number of modifications covering the algorithm, including during Nexus development where we undertook a section of the supporting analysis.

3. Do you support the use of Machine Learning as the future approach to NDM demand modelling?

No

4. How strongly do you support the use of Machine Learning as the future approach to NDM demand modelling, on a scale of 1 to 5? Please provide a brief explanation of your reasons.

1

We currently use a significant amount of Machine Learning in our processes and recognise the benefits from being able to use advance analytics to solve business problems. We would counter this with a few caveats.

The modification that amended CWV to incorporate additional weather reaction only went live last month. This has not yet been monitored to validate the benefits from this change despite the UIG analysis previously showing the significant link to weather. There is also a second parameter in the CWV that has been put in as a placeholder but not yet implemented. We are of the opinion that as we know a large part of the UIG is related to weather, and as these changes may well improve UIG significantly without any wider industry system change, this should be fully assessed over at least the next 1-2 years to ascertain how much improvement we already have. This may well prevent any further costs across the market while providing benefits in stability.

Machine Learning (ML), Neural Networks and AI are not new techniques and have been available for use for a long time. As with all analytical methods, it is important to be sure that techniques are used appropriately, and more significantly, that they are maintained as required to ensure their reliability.

We have concerns about the requirement for management of a fully ML model to underpin the industry settlement process. ML techniques are based on a suitable training period and the model will flex from this view of 'the world'. Updates would be required more frequently than we have in the industry schedule for the current algorithm. They will need base periods that are reflective of the period you are using the model for and they will shift the model appropriately.

This requires both Xoserve and all industry participants to be involved in the selection and updated analysis on a more frequent basis. Too frequently; and the model will lack the stability that the current algorithm has built in (from the 3 year smoothing for example). Not frequently enough; and the model will not match recent behaviour as it doesn't have that available in its knowledge. We have concerns on the overhead this will place on all parties.

While we recognise the desire to minimise UIG, any black box methodology would make the Shipper requirement to forecast allocation in advance of the gas day for energy purchases harder. This is likely to increase imbalance costs to the industry and put additional pressure on participants at a time where the economic situation is already adding costs. Frequent changes to the ML model will be increase support in this area and increase costs. It will also be much harder to ensure transparency on the model and its operation.

Both E.ON and Centrica were in favour of a multiple regression methodology during Nexus development. It seemed appropriate that any major change be implemented at a time when all systems were being changed. This was vetoed by both Xoserve and Transporters as it would also have removed the ALP and DAF parameters, and made the algorithm less formulaic. It seems the same concerns are still present, and we wonder why they are being given less weight when the proposal is Xoserve led?

From our perspective this will lead to additional cost from system changes across the business. So, while our forecasting and energy balancing areas could deal with this change, albeit with the implementation cost associated, there are also costs across the wider business that appear to outweigh the small benefits from any decrease in UIG.

Transparent specifications, clear implementation costs and benefits proposals are required before decisions can be made on the implementation, this is because it is currently unclear if this investment would deliver anything different to what is in place today.

5. Do you require access to a set of parameters ahead of the gas year to allow you to forecast/ simulate NDM gas allocation (as currently provided by Annual Load Profiles and Daily Adjustment Factors - ALPs and DAFs)?

Yes

6. How strongly do you support the need to retain a set of annual parameters (e.g. ALPs and DAFs) in the NDM gas allocation algorithm, on a scale of 1 to 5? Please provide a brief explanation of your reasons.

5

We have concerns on any break with the parameters that are currently part of the algorithm (ALP and DAF), they have become standard usage for areas of our business that look at customer consumption and AQ.

Specifically, for AQ, we have concerns that the current mechanism to weather correct customer usage to seasonal normal relies on WAALP's that are built from the ALP. AQ is a building block to many of our business processes and hard coded into our systems. Changes in this area will impact not just settlement, but customer billing, financial invoice validation, workload planning, business cases for CHP and large-scale investment, to name a few.

Likewise, ALP and DAF parameters are embedded in many of our IT systems to support estimated accounts, financial processes, call centre staffing requirements, support for pre-payment meters and many other areas.

7. What proportion of the GB gas market do you believe will still be NDM in 2, 5 and 10 years? Please provide a brief explanation of your reasons.

Years from now	% of market which is NDM
2	90

5	70
10	50

Given the poor industry compliance with daily metering – evidenced with the abysmal industry performance of those with Category 3 sites, we feel that the industry is not proving capable of flowing monthly information, this also extends to daily information requirements to support the algorithm not being needed.

8. What proportion of your portfolio do you believe will still be Non-Daily Metered in 2, 5 and 10 years? (this information will be aggregated with other market participants' responses prior to disclosure outside Xoserve). Please provide a brief explanation of your reasons.

Years from now	% of portfolio which is NDM
2	
5	
10	

9. Can you attribute a financial benefit to a reduction in UIG levels, even if this is due to an increase in NDM Allocation? (a more accurate NDM Algorithm could result in higher NDM Allocations and lower UIG). If so please quantify (e.g. a reduction of x% in average UIG would result in a cost saving of £y per annum.

We believe that we currently manage UIG to de-risk our cost base as much as possible. From our perspective reduced UIG would increase allocation and as such our net cost would be similar. On top of IT changes there would be a financial detriment from this change.