

**Eon Response to consultation on First Draft Allocation of Unidentified Gas Statement for 2018/19**

Comment:

Should Xoserve be technically referenced as the CDSP throughout the document?

*Response 2018\_02:*

*We will update the AUG Statement to refer to the CDSP.*

Comment:

There are still references to SSP and LSP within some sections, as splits are now by product class should these references be updated? E.g. referencing data sources on page 4 refer in our view relates to the post nexus approach so should be product class.

*Response 2018\_03:*

*We have been careful to use the correct market sector split based on the time period under consideration, i.e. SSP/LSP pre-Nexus and Product Class post-Nexus. The section in question refers to the training data, which as things stand comes entirely from the pre-Nexus period, which is the reason for referencing SSP and LSP in this case. We will continue to monitor the document to ensure that any inconsistencies in this area are identified and we are grateful to industry parties for informing us when they believe they have occurred.*

Comment:

Use of UG can be misleading and confusing so terminology needs to be clearer, and relate to code terms. Although we appreciate that parties might like this to be easier to understand there needs to be consistency in the language used.

*Response 2018\_04:*

*DNV GL also appreciate the need for clear terminology and the potential for confusion arising from the UG and UIG acronyms. This has been discussed at industry meetings together with the suggestion that a code modification is raised to clearly define terms relating to unidentified gas. We will aim to ensure that future versions of the AUG Statement are clear, unambiguous and consistent with code.*

Comment:

We were unable to identify where assessments relating to standard temperature and pressure correction have been incorporated into this review – this is not net neutral by Shipper and can make a substantial difference between metered volume and energy. It is also not neutral by EUC and therefore could lead to a manifest difference in energy calculated by EUC for meter reads. We believe it is likely to be of a larger magnitude than the meter read bias that is calculated and allowed for and for that reason we would like to see clearer inclusion in the work the AUGE conducts.

*Response 2018\_05:*

*To date, no analysis has been carried out to assess the use of standard pressure and temperature correction factors rather than site specific factors. We are currently identifying data sources which*

would allow us to perform some analysis. We would appreciate it if the industry advise us about any work already carried out or relevant data sources they are aware of.

Comment:

Balancing Factor assumes an AMR fitted in all EUCs where required. While this has a licence condition we are aware this is not a true assumption – we would like to understand what allowances have been made for this?

*Response 2018\_06:*

*Whilst the use of AMR for EUCs 04B and above is a licence condition, we are aware that 100% compliance has not been achieved. There is, however, currently no adjustment made to reflect this due to lack of data, and hence 100% compliance is currently used as the best estimate of the true situation.*

*The data source for the AMR population is the asset data provided by Xoserve. Historically, the recording of the presence of AMR at any given site was not mandatory, and this meant that far more often than not it was omitted. In the case of AMR the problem is so severe that out of approximately 27,000 sites (EUC 04B and above), only 57 are recorded as having AMR. This issue was discussed in detail in responses to the first draft of the AUG Statement for 2017/18 (February 2017 consultation period).*

*In the absence of reliable data on the actual number of AMRs, it is appropriate to use 100% compliance with the licence obligation as the best estimate. If any industry parties have their own, reliable, data that could improve the estimate in this area we would be pleased to receive it. We are also aware that Mod 632 may be successful in improving the recording of Smart Meters and AMR, and it is hoped that the level of accuracy becomes high enough in time for us to use the improved asset data in our calculations to replace the current estimate of 100% compliance. We will continue to monitor the effects of this.*

Comment:

3.3.5 (Page 16) refers to a cubic smoothing method; given the variability of site behaviour we are unsure why the assumption means that factors should be smoothed between EUCs, please explain why is this being applied?

*Response 2018\_07:*

*The Unidentified Gas calculations involve the application of a large number of statistical modelling techniques, many of which are complex in nature. All of them are subject to common-cause variation, as every statistical model is, and this leads to uncertainty in the output. In addition, the number of sites in certain EUC/Product Class categories is very small for PC2 and PC3, making the output highly dependent on individual sites and hence very uncertain.*

*The single figures for each Unidentified Gas factor that are the raw outputs of the process are the best estimates, each dependent on a combination of specific instances of common-cause variation that is present in the particular data sets used for training. Each of these best estimates has variability around it.*

*In practice this leads to variation in the values of the raw factors that in reality is due to the presence of a specific level of common-cause variation in the training data rather than a genuine consistent physical cause. It is counter-productive to leave such variation in the factors, particularly when it can lead to situations where (for a particular Product Class), the factor for EUC(n) can (say) be higher than that for EUC(n-1) but with the value then dropping again for EUC(n+1). This is, in effect, random variation rather than an indication that EUC(n) produces more Unidentified Gas than its immediate neighbours. Therefore the figures are smoothed to remove these effects as far as is possible, leaving each factor as the best estimate available with as much common-cause variation as possible removed.*

Comment:

4.1 (Page 17) We have previously questioned meter read spacing. While there is some improvement we would still note this is significantly short of the base period deemed suitable for AQ stability, and would assume this will lead to modelling impacts despite the assertion that the effect is small. We believe this will lead to inaccurate seasonal modelling, which is a significant issue in assessing demand breakdown. Please provide a response to this point? We also believe the report should state a Shipper not necessarily naming organisations as no other organisation is mentioned yet others have raised questions in the forums.

*Response 2018\_08:*

*As a point of clarification, the 6 month meter read spacing used in the consumption calculation is a minimum spacing. Where valid meter reads with a larger separation are available, these will be used. Currently 3% of successful consumption calculations are based on meter reading closer than 9 months apart. We will continue to analyse the data to determine the most appropriate method for calculating the consumption of each site.*

*Following last year's consultation period, the AUG Expert was provided with data containing a sample of sites together with some analysis to show that using a 9 month meter read separation is better than using a 6 month meter read separation. The data included a prevailing AQ together with a calculated AQ based on meter read separations of 6m, 9m and 12m, with the 12m figure being treated as an "actual" value i.e. it was used as a baseline to assess the accuracy of the other AQs. It is unclear how the 6m and 12m periods to carry out the calculation were chosen. To be a realistic comparison with what actually happens, the periods should have been selected at random to avoid introducing any bias e.g. the 6 month period is always over the summer.*

*In summary, the analysis showed the following*

- *Using 9 months, the bias (average of the calculated AQ % error) was +0.55% compared to a bias of -0.56% for the 6 month AQ calculation i.e. both calculations show very similar levels of bias though in opposite directions (positive values represent underestimate of AQ compared to 12 month calculation).*
- *The 9 month calculation shows a much tighter error distribution with a standard deviation of 11.7% compared to 24.2% for the 6 month calculation*
- *Based on the sites where a prevailing AQ was available, the AQ calculation using 9 months of data was shown to be better than using the prevailing AQ in 62% of cases but using the*

*6 month AQ calculation was only better than using the prevailing AQ in 41% of cases*

*This suggests that it is better to roll-over prevailing AQ values rather than use a calculated AQ based on a 6 month meter read separation. This is the case if we are interested in getting the most accurate estimate of AQ for an individual site or accurate relative AQs between sites. However, the consumption method is estimating total consumption and is not concerned with individual site consumptions. For this purpose, it is more important to get site consumption estimates which are unbiased. Using the data provided, calculation of the bias for cases where a prevailing AQ exists shows that the bias for the prevailing AQ is -14.3% compared to -0.82% for the AQ calculated using 6 month meter read separation.*

*Our conclusion is therefore that calculating AQ based on 6 month meter read separations is preferable to using biased prevailing AQs.*

*The result of this can be seen by summing the AQs for all of the sites in the dataset provided. The sum of the prevailing AQs overestimates the total by 21% compared to a 2.7% overestimate using the sum of the AQs calculated using a 6 month meter read separation.*

*The AUG Expert was aware of the ongoing bias in AQs and therefore used the EUC average as a replacement value where consumption cannot be calculated. Given the fact that the bias of the calculated value over 6 months is essentially the same as the bias for the 9 month calculation, we believe that for the purposes of our calculation, the use of a 6 month minimum separation in meter reads is appropriate. If this is increased beyond 6 months, the number of cases where no consumption can be calculated increases significantly and there is a danger that whatever value is used results in a bias in the total consumption calculation. If the number and quality of meter read submissions increases in future it may become more appropriate to increase the minimum meter read separation used.*

*Going forward we propose looking at using alternative replacement values where consumption can't be calculated for a gas year. In most cases, the consumption calculation fails for only one year out of the five years used. In cases where the failed year is not the first or last year it may be more accurate to use the average of the calculated consumptions for the years either side.*

**Comment:**

We dispute the assertion that the Balancing Factor is mainly unknown theft; and believe there needs to be a clearer breakdown on what is meant by 'theft' – is it metered theft? Or theft due to shipperless/unregistered sites? Or even theft in conveyance? It needs to be clearer rather than using the generic 'theft' banner, this is because this hasn't been quantified and is therefore an AUG assumption. This is the largest portion of the breakdown of energy the analysis; with the work by Suppliers using the Theft Risk Assessment Service (TRAS) and the Energy Theft Tip-Off Service (ETTOS), we believe further analysis is required rather than using a generic approach. It is worth noting that even though Suppliers have obligations to report theft into Transporter systems (SPAA Schedule 33) there are no obligation for Shippers to report anything, this may account to the disparity in the numbers been the Schedule 33 reporting and what the CDSP holds. It is also to be noted that not all Suppliers provide Schedule 33 reporting so there are further data gaps which are not outlined in this report.

*Response 2018\_09:*

*In the context of the AUG statement, the term "theft" refers to deliberate acts of stealing gas at the meter. Gas lost due to Shipperless/Unregistered sites is regarded as an administrative issue and not theft, and it is covered in the relevant Shipperless/Unregistered calculations. Theft in conveyance is part of Shrinkage and hence not within the AUG Expert's remit.*

*We are aware that the incomplete nature of Xoserve's theft data is due to the lack of an obligation to report theft to them. Where theft is reported, however, the information is far more detailed than that contained in the SPAA Theft of Gas report, and this makes it an invaluable data source despite its limitations. It is, of course, necessary to scale any values calculated using the Xoserve data up to the levels reported in the SPAA data in order to capture all detected theft we are aware of.*

*It is also true that there is not 100% compliance with the submission of data to the SPAA report, but TRAS did confirm that the largest suppliers have all submitted a response. For 2015, 67 supplier groups out of a total of 100 supplier groups did not provide theft data. Of these, it is known that five are listed as "dormant" according to Companies House. We have contacted TRAS for further information on the level of response in order to assess whether a further adjustment to the detected theft estimate is appropriate. However, any theft not included in the SPAA theft report will instead feed through into the Balancing Factor, where it is treated as undetected theft. Whilst in reality this theft is unreported rather than undetected, this is an appropriate treatment of it.*

*We agree that this area should be the focus of attention in order to quantify and split it as accurately as possible. The AUG Expert is committed to carrying out a full analysis in this area for inclusion in the 2019/20 AUG Statement. In support of our analysis, we have requested further information from TRAS, as we believe that they hold information about the meter type and method of theft.*

Comment:

Page 3, 4.11, 5.1 and 6.6 references data from the TRAS; the AUGE has not received TRAS data they have received the anonymised SPAA Schedule 33 – Theft Code of Practice reporting data, Suppliers have provided TRAS numbers within this but it is not TRAS data. The TRAS has strict data sharing requirements and the AUGE has not been included in this data share – this information needs correcting without delay as it is inaccurate. Also, has this report has been provided to SPAA for their review? We ask this because it is referring to reporting which is Supplier/Transporter information not Shipper, and therefore we believe it should be, even if it is just for information.

*Response 2018\_10:*

*The AUGS says that we use data supplied by TRAS – this data consists of the anonymised SPAA Theft of Gas reports. We have, however, updated these sections in the AUG Statement to make it clear that the data supplied by TRAS was the anonymised SPAA Theft of Gas report rather than any data owned/calculated by TRAS.*

*The AUG Statement is in the public domain once published on the Joint Office of Transporters and*

*so can be accessed by SPAA and any other interested party.*

Comment:

Additionally; the theft data in the SPAA Schedule 33 reporting is split by classification of use (Domestic / I&C) rather than individual product class, therefore the AUGE will be making further assumptions on the apportionments applied to this data which we do not believe are clearly outlined in this document.

*Response 2018\_11:*

*The SPAA Theft of Gas data feeds into the detected theft analysis, which applies to the training period only. Detected theft is temporary Unidentified Gas and only permanent Unidentified Gas is considered for the forecast period, and hence it plays no part in the forecast period calculations. For the training period, detected theft is only used in total, not split by Product Class or EUC. Therefore the Domestic/I&C split used in the report has no impact on our calculations and does not require us to make a mapping to Product Class.*

Comment:

The approach doesn't appear to taken into account sites with specific correction factors; we believe these may also contribute to the UIG position and might need to be incorporated in something like the Balancing Factor.

*Response 2018\_12:*

*The formulae used to calculate the consumption in kWh for each site are given on page 37 of the AUG Statement (Step 14 of the step-by-step guide to the NDM Consumption Calculation, Section 6.2 of the statement).*

- For SSP sites (labelled as such because the training data is all pre-Nexus), the meter reads  $mr$  are used, along with the units  $U$  and the correction factor  $CF$ . These sites will always use the default correction factor.*
- For LSP sites, the metered volume  $mv$  is used. The value we use for  $mv$  is already calculated taking both the units and the site-specific correction factor into account.*

*We will amend the text of the AUG Statement to make it clear that the site-specific correction factors have been taken account of in this way.*

Comment:

Finally, the document references that issues regarding the deeming algorithm is out of scope of this review (page 2). Recent UIG modification proposals have seen the AUGE representing a view on this subject. Although DNV GL may be appropriately skilled in the subject matter we are concerned the views were provided as the AUGE rather than as DNV GL; leading us to question the independence of the review which has taken place.

*Response 2018\_13:*

*During the recent AUGE review meeting 639R similar feedback was received. DNV GL is keen to work with the industry to ensure that the AUG Expert framework is clear and unambiguous.*