

British Gas consultation response to the First Draft 2018/19 Allocation of Unidentified Gas Statement (AUGS)

Comment:

1. Impact of DM Errors identified during Nexus Transition on the Total Unidentified Gas Calculation

From the Q&A from the 9th February AUGS walkthrough:

Q7: Have the DM Errors identified during Nexus Transition affected the Total Unidentified Gas Calculation?

A: *The Total Unidentified Gas Calculation for the 2018/19 AUGS has used data which is solely pre-Nexus Implementation and as such the DM Errors post Nexus have no impact.*

The transition to the post-Nexus regime has revealed some long-standing issues with read submission for daily and monthly read sites, previously masked by 'fuzzy matching'.

While we understand that a degree of maturity is required in the data to assess permanent UG, these DM Errors are baked into the historic data, and a robust assessment of the available post-Nexus data needs to be undertaken to back out the impact DM site issues will have had on UG.

Response 2018_21:

Xoserve advise us that the DM Errors that were experienced during Transition related to the unexpected rejection of meter readings that were previously being accepted in the old UKLink system. In most cases the pre-Nexus consumption was calculated correctly.

Our calculations of total Unidentified Gas don't explicitly use the DM consumptions but do use the NDM allocations, which are calculated by Xoserve using the DM consumptions prior to Nexus. If you are aware of any material historic issues which have affected DM consumptions during the training period then we will seek to obtain data relating to this to apply any necessary corrections.

Comment:

2. Allocation of Balancing Factor to PC 1 sites

We note that no theft has been recorded from a DM site, and while we are satisfied to accept that wilful theft is unlikely to occur at DM sites, there are often metering arrangements that feasibly allow for unregistered consumption. As examples, unregistered consumption can occur during site maintenance, or when a meter bypass is used. This should be accounted for in the allocation of the Balancing Factor. Specifically, a Balancing Factor allocation of zero is not appropriate for PC 1 sites.

Response 2018_22:

We acknowledge that the Balancing Factor is not entirely composed of undetected theft, and the AUG Statement describes this in several places as "mostly undetected theft". The other elements of the Balancing Factor are specified in the Statement's Glossary section and include such elements as open bypass valves, which could occur on Product Class 1 sites. The issue with all elements of the Balancing Factor, including theft, is quantification. They are in the Balancing Factor specifically because they cannot be calculated directly.

*In particular, whilst we recognise that various elements of the Balancing Factor **could** occur for PC1 sites, there is no evidence to suggest that they **do** occur. As such there is no justification for any specific non-zero value for Unidentified Gas that could be applied to this sector.*

Therefore the current assumption, in the absence of evidence to the contrary, is that the permanent non-theft elements of the Balancing Factor are small, and that any that arise from PC1 are negligible to the point that the best estimate from this market sector is zero.

We are not currently aware of any data held by industry parties that can be used to challenge this assumption. We are always looking to ensure that the split of Unidentified Gas is as accurate as

possible, however, and would therefore encourage industry parties to share any information they do have.

Comment:

3. Smart Meter theft levels

Some clarity should be provided about which features of smart meters make them less prone to theft, and the degree to which AMR meters should be treated the same as smart meters.

In terms of the levels of theft via smart meters, we oppose the level indicated in the draft statement (taken as the mid-point of the upper and lower bound). The BEIS Cost Benefit Analysis notwithstanding, at this point of time there is not sufficient evidence for the theft levels for smart meters to be differentiated from those of dumb meter levels. More practical operational experience would be required to do so.

Response 2018_23:

The assessment of relative theft levels of Smart and traditional meters is the area of the Unidentified Gas analysis where evidence on which to base our analysis is the most sparse. This is unfortunate, but we have made the best estimate possible given the information available. The 50% point used in the Balancing Factor split calculation is a combination of the expected 20-33% reduction in theft from the BEIS study, plus the majority of the 29% of thefts that are carried out via index tamper, which are not possible on Smart Meters. Based on this, the 50% point is the best estimate currently available, but we recognise that Shippers may have different opinions on the real figure.

The reason for using this figure up until now is the unreliable nature of the asset data, where the type of meter associated with each theft (by MPRN) could in theory be found. This has been documented fully in other consultation periods, but in summary the effect is that the presence of Smart Meter and AMR by MPRN is heavily under-recorded. Therefore, any estimates of the levels of theft from such devices will be extremely unreliable.

It should be noted, however, that Mod 632 may help improve the levels of Smart Meters recorded in the asset data. An improvement has already been observed, from 700,000 in 2016 to 1.3m in May 2017 and a reported 2.2m in November 2017 (Nov 17 figure not verified using data supplied to the AUG Expert). In addition there are a further 1.8m non-SMETS Smart-type meters recorded in the asset data. Whilst this is some way short of the full population as reported to BEIS, the numbers may now be sufficiently high to enable a robust analysis of theft from Smart Meters and AMR using detected theft information.

In addition to this issue with the asset data there are still a number of other unknowns, which mean that we cannot guarantee that any such analysis will yield results that can be used in the Unidentified Gas calculation. The most important of these are as follows:

- *We demonstrate in the AUG Statement that there is a window of approximately 8 years during which any thefts which will eventually be detected are detected. This means that thefts can run for a considerable length of time before detection. The Smart Meter population is young and we are in the early stages of this window for the vast majority of them, meaning that most theft from this source that will go on to be detected has not been detected yet. This in turn means that any analysis of Smart Meter theft that is undertaken whilst the installation phase is still ongoing will under-estimate the level of theft from this source. Whilst every effort will be made to account for this known effect and produce an estimate of overall Smart Meter detected theft, this necessarily introduces additional uncertainty into the calculation.*
- *Detected theft is not necessarily representative of overall theft because it is highly influenced by what detection activity is carried out. In short, you will only find theft where you look for it. The introduction of TRAS mitigates this to a certain extent because they apply an even approach to theft detection and supply leads to Suppliers. It is still up to the Suppliers to decide whether to follow up these leads, however, and so the theft targeting effect still remains. This, again, introduces additional uncertainty into the analysis.*

Despite these nuisance factors, 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:

4. Smart Meter population

There was some discussion at the 9th February walkthrough as to whether it was appropriate to take start-of-year values for smart meter population.

In terms of smart meter installations, we consider a mid-point value to be more appropriate. In addition, rather than a linear projection of installations, there is also some safety in assuming an accelerating rate of installations across the industry.

We also note that the BEIS smart meter report significantly underestimates non-domestic installations, as only Big 6 and large mid-tier suppliers are required to submit data to BEIS. There are also pre-SMETS smart meters in the market that offer the same theft benefits as smart. These won't be recorded in the BEIS figures as they don't count towards the mandate – there are of the order of several hundred thousand of these meters installed.

Response 2018_24:

The Smart Meter population extrapolation method has been improved in the following three ways:

- 1. Use of mid-year figure (31/3/2019) rather than start of year.*
- 2. Use of the trend in installation rate to forecast the rate for each future quarter.*
- 3. The inclusion of data from small suppliers (data provided by ICoSS).*

All of these improvements have already been included in the calculations and will appear in the revised AUG Statement for 2018/19.

In addition, Smart-type meters (pre-SMETS) are recorded in the asset data – the population estimate from May 2017 is 1.8m. Whilst these records are subject to the same inaccuracy referred to above, Mod 632 will ensure that this information becomes more accurate, and these meters will be included in the "Smart Meter Theft Level" analysis described above.

Comment:

5. Shrinkage Error and other uniformly allocable sources of UG

We note that the AUG Framework has been updated to exclude Shrinkage Error from the Unidentified Gas analysis. For completeness, a comment from the AUG on the impact of this exclusion would be appropriate i.e. given that this error is embedded in the data, what impact does ignoring it have on the rest of the analysis?

While this debate has been taken outside the remit of the AUG, it is worth reiterating our position: that treating shrinkage error (in effect) as theft introduces a market-wide inefficiency, and that shrinkage error should be firmly in the scope of the AUG's review of UG, in line with the treatment of all other sources of error.

Perhaps less controversially, we propose that the AUG includes in their methodology a catch-all for UG sources not yet known about. These sources are currently treated as theft, and it is our view that they should more rightly be smeared across all Product Classes equally. This non-specific, non-theft, uniformly allocated factor could in the first instance be set to zero, although it could also naturally accommodate CSEP Shrinkage and other directly measured components (such as metering error).

We remain convinced that UG is higher than the AUG's current estimate, and that not all of this delta is comprised of theft. We look forward to future assessments of the current (post-Nexus) regime, that will reveal a truer estimate of UG once reconciliations have matured sufficiently.

Response 2018_25:

As the AUG Expert, we accept the industry decision that Shrinkage Error should lie outside our remit, and welcome the commitments given in the 2017 Shrinkage and Leakage Model Review to assess the impacts of both PE permeation and MP leakage. The best solution to the Shrinkage Error issue is to ensure that the SLM remains accurate and unbiased and to take any steps necessary to rectify any bias if it is currently present.

Given that Shrinkage Error is out of scope, we do not feel it would be appropriate to include additional information on this topic within the AUG Statement.

We will include a separate catch-all category split by throughput, set to zero at the moment, for any elements currently within the Balancing Factor for which sufficient evidence is supplied for us to quantify. It should be noted, however, that consumer metering errors would not qualify for this because they are calculated directly using site-by-site information for all non-domestic sites. The effects of over- and under-reads are therefore directly assigned to the Product Classes and EUCs from which they arise in the analysis as it stands.

Comment:

6. Statistical house-keeping

Any commentary that the AUG could provide on the confidence interval on the estimates of the Permanent Unidentified Gas and Balancing Factor would be appreciated.

Response 2018_26:

The production of Confidence Intervals for the permanent Unidentified Gas total and the Balancing Factor is not trivial and falls outside the AUG's current remit – the post-Nexus AUG role is to calculate the UIG Factors rather than Unidentified Gas totals. As described in the AUG Statement however, the total permanent Unidentified Gas and the Balancing Factor are both calculated as part of the factor production process, and hence both could, in theory, have Confidence Intervals calculated for them.

Any such Confidence Intervals would be based on the number/proportion of sites from each EUC that consumptions could successfully be calculated for – in statistical terms these are actual values that form a sample of size N for each EUC. The calculation of a Confidence Interval based on this sample size is complicated by a number of factors:

- *The population mean/total is not estimated from the sample value as in a traditional calculation – the sites outside the sample are assigned the average EUC consumption and hence any Confidence Interval needs to be based around the difference between the average EUC consumption and the observed mean consumption from the sample. This requires an extension of standard statistical theory in the calculation of the Standard Error for the Confidence Interval.*
- *A finite population correction is required. This is a routine calculation when using standard statistical theory, but when using the method described above it will be more complex.*
- *All of the above analysis has to be stratified by EUC.*

Given these complexities, the production of Confidence Intervals would be possible but would require a significant amount of work, and would represent an extension to our remit (and hence require an extension of the analysis budget).