

**AUGE Response to Queries arising from AUGS Final Statement**

<b>Queries From</b>	British Gas
<b>Date Received</b>	20/02/2012
<b>Date of Response</b>	20/03/2012

**Question/Issue:**

The AUGS has failed to meet the following high level objective:

- To develop a methodology of calculating Unidentified Gas

As the AUGS describes within the latest AUGS:

*“It should be noted that the latest calculation method is based on a technique of estimating the total level of Unidentified Gas, directly calculating its individual component parts where possible, and calculating the aggregate effect of the remaining causes (i.e. those that it is not possible to estimate directly in a robust manner) by subtraction as the Balancing Factor.”*

This estimation of the total level of Unidentified Gas results in a failure to actually calculate the overall quantum of Unidentified Gas as required. Estimation of the total size of Unidentified Gas has been undertaken by many parties in the past with vastly differing outcomes. The appointment of the AUGS was necessary to specifically calculate the scale of Unidentified Gas thus removing any concerns or doubts as to the validity of previous estimates; in failing to develop a methodology to specifically calculate Unidentified Gas the AUGS has failed to comply with its primary purpose.

Under the proposed methodology the accuracy of the balancing number will only be as good as the initial “estimate” as to the total scale. Since the AUGS has only managed to directly calculate a relatively small proportion (23.75%) of the total this leaves an unacceptably high proportion (76.25%) subject to the AUGS’s own discretion as to scale and allocation – we believe that this does not meet the specific requirement to “develop a methodology of calculating Unidentified Gas” since the vast majority remains estimated.

British Gas flagged concerns repeatedly during the consultation process that the total scale of Unidentified Gas was being artificially constrained by the AUGS’s own view as to the likely levels of theft. The AUGS responded to these concerns by stating:

*“The new method will allow the level of theft to be estimated without being influenced by expectations of its likely magnitude, either on the part of the AUGS or any other interested party.”*

Yet the rationale the AUGS describe in the latest version of the AUGS states:

*“UG estimates higher than this necessarily result in very large volumes of gas being assigned to theft (because other elements of UG are calculated directly and remain constant). Higher estimates of UG lead to values for theft that are far higher than previously published and accepted values and which the AUGE considers to be unrealistic.”*

The AUGE has failed to address the specific concerns raised by British Gas despite issuing a clear written assurance that it would do so – and puts into question the purpose of the consultation process. One of the AUGE’s high level objectives is:

- To consult with the industry bodies and respond to questions / issues raised

The AUGE has, in essence, defined the scale of Unidentified Gas by its belief as to the likely scale of theft in the industry, despite an absence of any supporting data. This demonstrates that the latest version of the methodology is constrained by the AUGE’s preconceptions about unidentified gas and is not entirely based on fact, reason or evidence. As such the AUGE has failed to calculate the remaining causes that are not possible to estimate directly “by subtraction as the Balancing Factor” as previously stated, since the AUGE’s expectation of the likely magnitude of theft is the dominant factor in determining the overall scale of Unidentified Gas. The AUGE has attempted to calculate the balancing number by first defining its likely expectation as to the scale of the balancing number – this is not a method any other reasonable expert would use.

As stated within the AUGS, the balancing number contains:

1. Theft
2. Errors in the shrinkage estimate
3. Open bypass valves
4. Meters “Passing Unregistered Gas”
5. Unknown Sites
6. Addition Common Cause Variation

Despite this the allocation of the balancing number across sectors is defined by the AUGE’s erroneous view of the theft allocation alone. It is not reasonable to assume that all factors will be distributed as per theft, particularly when the AUGEs view as to the allocation of theft is so divergent from proportional. All this means the AUGE’s methodology cannot be said to have calculated unidentified gas.

### **Response:**

It is untrue to state that just because the AUGE’s chosen method of estimating Unidentified Gas is to calculate the total and then break this down into categories that UG has not been calculated at all. There are two options when estimating UG, as follows:

1. To estimate each component part and then to sum these to get the total UG
2. To calculate the total UG and break this down into components

Each approach is equally valid and can be equally accurate given the appropriate background data to base the calculations on. Therefore, the decision between them is based on the quality of the data available

The AUGÉ's first draft of the UG calculations (contained in the first draft of the AUGS) attempted to use the "bottom up" approach, but it was agreed between all parties that the quality of the theft data available was insufficient to allow this calculation to be robust. It should be noted that British Gas agreed with this decision to change the estimation method, as can be seen in their response to the first draft of the AUGS.

A new method based on calculating the total UG, as accurately as possible given the available data, was then implemented in the second draft of the AUGS. This was approved by the UNCC on 15/12/2011 and is hence accepted by the industry as the most appropriate method to use given the data currently available. The AUGÉ also notes that whilst British Gas commented on the split of theft between the SSP and LSP sectors in their response to the second draft of the AUGS, they made no objection to the total theft figure.

A method of estimating UG is not invalid simply because it uses a top-down approach, which is what British Gas appears to be suggesting. It is also important to bear in mind that every approach to the UG calculation, whether it is bottom-up or top-down, involves the estimation of UG levels rather than the direct calculation of actual figures:

- For UG elements that can be calculated directly, UG levels for Year Y are estimated from values calculated from data collected for Year Y-1.
- In all calculations, consumption levels for Year Y are estimated from AQ values for Year Y-1.
- For meter errors, likely peaks and troughs of hourly consumption are estimated from AQ levels.

Therefore, whatever method was chosen, the final UG figures would be estimates. It is, and always was, the remit of the AUGÉ to make this estimate in the most accurate manner possible given the available data, and this is what has been done and accepted by the UNCC.

With regard to constraining total UG levels in the calculation of "SSP Assigned" UG, this was done based on the evidence available. It is accepted that the current approach does not represent a complete solution and this is recognised in Section 4.3 of the AUGS, where the following is stated:

*"In addition, a factor has been included in the current method as a way of accounting for SSP-assigned UG for future AUGS should the alternative methodology not prove feasible. This factor is used to calculate SSP-assigned UG as a simple percentage of LSP-assigned UG. It is set to zero in the current calculation due to there being insufficient data to estimate it reliably. If the current method is retained in future AUGS, additional data will be identified and collected in order for a new value of this factor to be set."*

The current best estimate of UG must therefore be calculated based only the data and evidence currently available. The AUGÉ is not connected to any party that has an interest in the UG figures

and therefore remains impartial. The UG figures calculated by the AUGS are based on available evidence only are not designed to favour any party.

The evidence used by the AUGS in this decision is clearly stated in Section 6.1 of the AUGS and has been accepted by the industry as part of their acceptance of that document. Whilst the AUGS recommends the collection and use of additional data to allow the value of SSP-assigned UG to be estimated, no information is currently available to allow this to be done. Therefore the evidence that is available now has been used, and the objective decision taken that this does not support the assignment of a non-zero value at this stage of the analysis. It is recognised, however, that it may be possible to assign a non-zero value in the future given the collection of the necessary background data, and this is covered by the factor described above.

Regarding the split of the Balancing Factor between SSP and LSP market sectors, the following is stated in Section 6.10 of the AUGS:

*“All elements of the Balancing Factor other than Theft are either small or will sum to zero over time. Therefore it is reasonable to split the Balancing Factor volume between the SSP and LSP market sectors using the percentage split for Theft.”*

This assessment remains valid and provides the basis for splitting the Balancing Factor using the SSP/LSP split calculated for Theft.

Based on the above, it is concluded that the issue British Gas raises with regard to calculation of UG does not constitute a material error.

**Question/Issue:**

It is unfeasible for the SSP-assigned element of Unidentified Gas to be zero for the measured period.

The AUGS states:

*“a factor has been included for future analysis in order to allow the SSP-assigned element of Unidentified Gas to be estimated. This is set to zero for the current analysis, however, as the required to estimate it accurately is not yet available.”*

We welcome the fact that the AUGS has finally adjusted their methodology to cater for the Unidentified Gas that is initially allocated to the SSP sector but conclude that setting this to zero is unreasonable given the available evidence that suggests the contrary.

The AUGS states:

*“Under the current reconciliation process, Unidentified Gas is fragmented until after RbD is applied. At this stage it is collected into a single quantity, but exists only as an aggregate with SSP load, where the breakdown of the two is unknown.”*

*“The nature of the calculation means that the Unidentified Gas component is split across EUCs. It can be demonstrated by scenario analysis that its distribution across the EUCs is driven by allocation algorithm error in each category in addition to market sector volume, with high (positive) errors leading to larger volumes of UG in that category. This is unlikely to represent a realistic breakdown of where UG arises. In addition, whilst the components of each EUC load estimate are known (as listed above), the split between them is not.”*

*“The proposed methodology is based on Unidentified Gas calculations carried out on post-RbD data, with estimates of LSP sector Unidentified Gas being made using the average offset from zero in the quantity of RbD over time. It is at this stage that all the elements of Unidentified Gas are joined together for the first time, as identified in the third stage of Figure 2. The split between actual SSP load and Unidentified Gas is still unknown, however, and so an algorithm is required to estimate this.”*

This demonstrates that the AUGS accepts that Unidentified Gas is assigned to the SSP sector initially yet the methodology to allocate across sector sets this to zero – in doing so this knowingly introduces error to the calculation. This error has the effect of artificially constraining the total scale of Unidentified Gas and also over-allocating cost to the SSP sector.

The following is an extract from the AUGS:

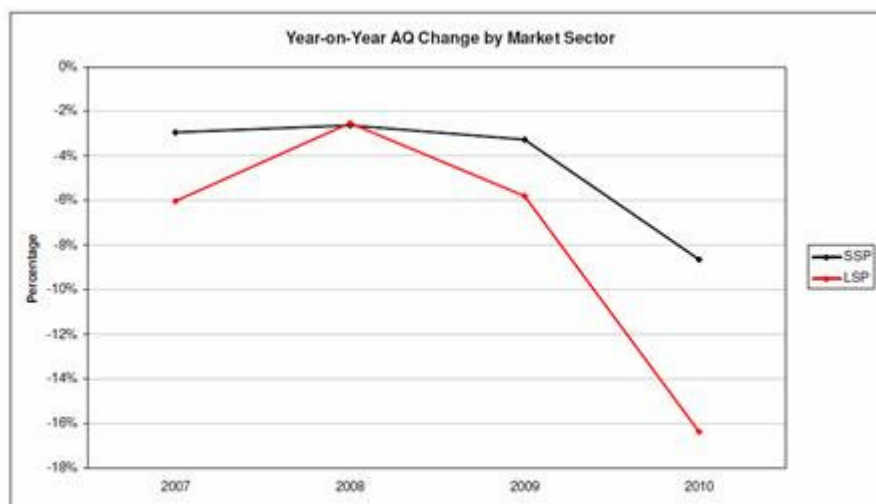


Figure 1 – Aggregate AQ Change by Market Sector

*“Whilst the AQ values for all EUCs tend to be over-estimates for the reasons stated above, the level of overestimation is greater for LSP NDM loads than for SSP loads. This is because AQs are, on average, falling more quickly (when expressed as a percentage of the total for the market*

sector) for LSP loads. This can be seen in Figure 1 above. The allocation calculations therefore have a tendency to skew the load estimate towards the LSP NDM section, and this imbalance is redressed via the RbD calculations.”

It is clear from Figure 1 that in 2008 the SSP AQs decreased by a slightly greater degree than LSP AQs. According to the AUGE:

*“In previous drafts of the AUGS, the assumption was made that Unidentified Gas was split across market sectors by volume ratio, but it can be demonstrated using the tool that this is only the case if there is no bias in the initial SSP or LSP allocations.”*

The greater reduction in aggregate SSP AQ values over LSP AQ values indicates that proportionally more than the SSP volume share (75%) of Unidentified Gas was initially assigned to the SSP sector during this year; as an absolute minimum there was no bias. This means that during the measured period used by the AUGE (2008 – 2010) a minimum of 25% of unidentified Gas has been allocated to the SSP sector as defined by the AUGE’s own calculations. Technically, since consumption has declined year-on-year the Unidentified Gas present during 2008 would be greater than both 2009 and 2010 and therefore a 75% allocation of UG pertaining to 2008 would represent more than 25% of the total for the 3 years. It is therefore unreasonable that the AUGE has failed to account for this despite clearly identifying its existence. The AUGE are required to correct for this error which will have the effect of increasing the total scale of Unidentified Gas by a minimum of 25% and will have a significant effect in the apportionment across sector.

The AUGE have stated in the recent AUGS:

*“Despite the relatively small size of this error, the AUGE recognises that it is important to estimate Unidentified Gas as accurately as possible in all circumstances.”*

We are therefore confident that the AUGE will recognise and correct for this error prior to the inaugural implementation.

The 2011 AQ results show that the SSP AQ values have again dropped by a significantly larger proportion than the LSP AQ values. It is therefore clear that the AUGE cannot reasonably continue to state that there is an “inherent bias” towards the LSP sector since in 2 of the last 4 years this has not been the case.

#### **Response:**

The AUGE agrees that, on balance of probability, there is likely to be a *small* percentage of UG assigned to the SSP sector, and this is discussed objectively in Sections 4.2, 4.3 and 6.1 of the AUGS. However, whilst only limited information is available in this area this remains simply an opinion and does not have sufficient basis to justify basing AUGS calculations on it. There is certainly no evidence currently available to support the setting of the SSP-assigned UG percentage to any given specific non-zero figure.



The AUGE *believes* that this percentage is likely to be small and positive as and when data is available and it is calculated rigorously. This is no basis, however, for assigning some arbitrarily chosen small number and using this in the AUGS. Collection and analysis of data may show that the SSP-assigned UG percentage is zero, negative, or larger than the AUGE currently believes is likely.

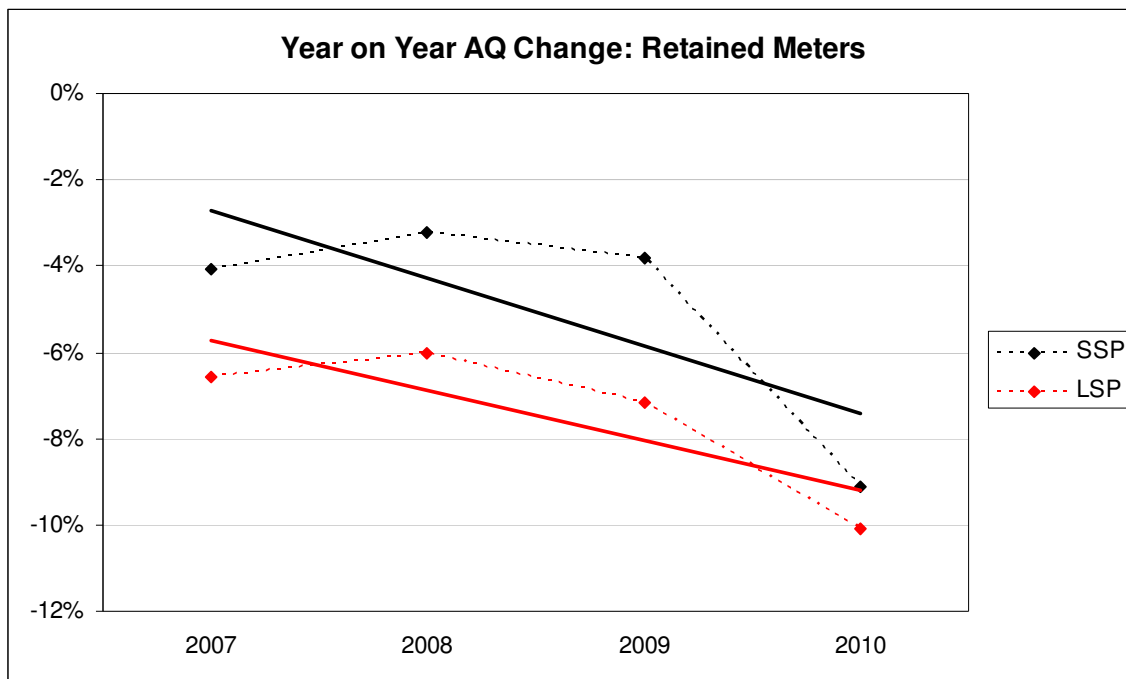
In statistical terms, the null hypothesis is that the SSP-assigned UG percentage is zero, and currently insufficient evidence exists to reject that hypothesis. Therefore the factor is set to zero in current calculations, but the AUGE remains committed to collecting and analysing the necessary data to assess its real value for future AUGS. This will ensure that the UG calculations are always as accurate as possible given the available data at the time of analysis.

Contrary to British Gas's assertion, however, it is certainly not unfeasible for the SSP-assigned UG percentage to be zero. The British Gas analysis is based on a single point in the "Year vs AQ Change" relationship, which exhibits a high positive scatter from the line of best fit. All naturally-occurring processes contain a degree of scatter around the base relationship due to common-cause variation, and the AQ Change relationship is no different.

Due to the nature of RbD and the fact that retrospective corrections form a significant part of each monthly value (as described in Section 6.2 of the AUGS), it is necessary for the current UG calculation method to be based on long-term trends. This applies to both the RbD bias and the algorithm bias calculations. It is not statistically valid to isolate a single point with high positive scatter and extrapolate this to reach the conclusions stated in the British Gas response to the AUGS, because due to the very nature of a line of best fit, points of positive scatter are equally balanced with points of negative scatter and the effects also cancel each other out. Whilst, if considered in isolation, a single point may suggest a higher percentage of SSP-assigned UG, other points with negative scatter can and do produce negative SSP-assigned UG figures. Neither can be used in isolation to drive conclusions about the overall level of SSP-assigned UG – the long-term trend defined by the line of best fit is required for this purpose, and this is what is used in the AUGE's analysis.

It should also be borne in mind that whilst Figure 1 of the AUGS, as reproduced by British Gas in their response, is used to illustrate the concept of falling AQs across entire market sectors, these are not the figures used in the model bias analysis. The allocation algorithm necessarily scales to AQ by its nature, and any model bias is a result of bias in the AQ values it scales to. In other words, meter wastage (included in the values shown in Figure 1) is not relevant here: it is the change in AQ from one year to the next in like-for-like meter populations that is important. This data is available from Mod81 and is the basis for the technique described in Section 6.3 of the AUGS.

The Mod81 like-for-like AQ changes from year to year for SSP and LSP market sectors are shown below:



It can be seen that the two trend lines, whilst not parallel, are reasonably close to it, and there are no years when the SSP AQ drop exceeds that from the LSP sector. Based on this, the AUGÉ maintains its position that the assumption of higher AQ drop for the LSP sector is justified. It is recognised that the 2011 figures are not included in the analysis presented in the current version of the AUGS. These will be included in the trend calculations in the 2012 AUGS, and all UG figures calculated will be based on the full trend including 2011.

Based on the above, it is concluded that the issue British Gas raises with regard to SSP allocation of UG does not constitute a material error in the methodology.

#### **Question/Issue:**

The AUGÉ's proposed method of allocating theft between sectors is fundamentally flawed

The only correct method of allocating theft instances across sector is to effectively re-calculate the AQ taking into account metered and un-metered (theft) consumption when doing so. This new AQ value can then be used to allocate the associated theft volume to sector.

The AUGÉ's proposal to utilise reported theft statistics and to extrapolate to a total fails to take into account the critical fact that efforts to detect theft are not uniform across sector. British Gas can reliably state this since it accounts for c79% of all reported theft instances during the period analysed by the AUGÉ. The theft detection strategy of British Gas during this period was to focus almost exclusively on domestic (almost invariably SSP) theft. More recently (see years 2009 and 2010 in the tables below) British Gas has focussed slightly more on LSP theft detection, but the



majority of its focus remains on SSP theft detection. This trend can be easily observed within the Xoserve data.

	2006	2007	2008	2009	2010
SSP	19,682,887	14,233,542	12,312,158	26,302,773	12,194,711
LSP	4,115,329	3,269,931	2,710,733	11,962,505	6,558,267
<b>Total</b>	<b>23,798,216</b>	<b>17,503,473</b>	<b>15,022,891</b>	<b>38,265,278</b>	<b>18,752,978</b>

	2006	2007	2008	2009	2010
SSP	82.71%	81.32%	81.96%	68.74%	65.03%
LSP	17.29%	18.68%	18.04%	31.26%	34.97%

The AUGÉ has attempted to correct for perceived data bias elsewhere within its proposed methodology but has failed to correct for this most obvious of biases. Theft is surely more likely to be identified at premises that are targeted by a data-driven, experienced, field-based team specifically designed for the detection of theft. The SSP sector pays for all undetected theft whether from LSP or SSP sites. As such there is no incentive for LSP-only suppliers to expend any effort on the detection of theft within their portfolio and every incentive for SSP suppliers to do all they can. This market distortion is seemingly not recognised within the AUGS.

#### Response:

The table that British Gas provides showing detection rates by sector over the past 5 years is not strictly relevant because the estimated period covered by each detected instance of theft does not only fall into the year of detection. This is due to the fact that thefts are often of several years in duration. The methodology proposed by the AUGÉ and approved by the UNCC collates thefts by the year(s) in which each theft was active, not the year in which it was recorded by Xoserve. Whilst British Gas assert that they may find thefts more quickly than other shippers, over time thefts will continue to be identified for historic years even for those market areas where the detection rate is lower. The cumulative affect of this will eventually provide a realistic split of SSP/LSP theft as more of the 'unknown theft' is detected.

This is clearly shown by the low level of theft for 2010 in Figure 14 (Section 6.7) of the AUGS: much of the theft from this year has not been detected yet, whereas figures for previous years from 2005 onwards are of similar magnitudes. The purpose of the AUGÉ's theft algorithms is to estimate the split of theft by market sector in each historic year, and as described above this does not necessarily rely on detection rates.

During the preparation of the AUGS the LSP shippers asserted that they carry out pre-customer checks before taking on new customers, implement regular metering services, etc. and this has been summarised in the AUGS.

There is also a view within the industry that customers who steal gas are likely not to switch shippers in case they get found out, with the result that they stay with the incumbent shipper, i.e. British Gas. Hypothetically, British Gas may well detect a higher level of LSP theft in their client base because they have more LSPs that steal gas compared to the rest of the market. If this was the case, a potential solution would be to calculate different theft rates for each shipper. This

approach would introduce considerable additional complexity into the calculations, however, and insufficient data exists to support it.

Ultimately the methodology put forward to the industry was agreed and approved by the UNCC. The issue British Gas raises with regard to detection rates as explained above does not constitute a material error.

**Question/Issue:**

The AUGÉ's proposed method of utilising the AQ immediately prior to the reported theft period to allocate the subsequent theft volume is fundamentally flawed. This is especially so when the annual theft volume allocated to the SSP sector in many instances exceeds the SSP sector consumption threshold volume, and in some cases is many times greater. Surely the AUGÉ must accept that an SSP site cannot consume, for example, 274,725KWh of un-metered consumption and 53,469KWh of metered consumption in a single year and remain within the SSP sector –over 4 times the SSP volume threshold. This is only one example of many where the AUGÉ methodology inaccurately allocates LSP theft volume to the SSP sector. The AUGÉ methodology cannot reasonably allocate annual theft volumes that are in excess of the LSP consumption threshold to the SSP sector and then use this ratio to allocate the whole balancing number.

The assessment of stolen energy may be required for use in court. As such it has to be an amount that can be evidenced and for this reason is therefore typically a conservative view of the actual volume of gas stolen. For similar reasons the period of assessment is also likely to be understated and therefore the AQ immediately prior to the reported theft period is not a reliable basis upon which to determine market sector ownership.

**Response:**

British Gas previously put forward an assertion that the AQs in the theft records should be adjusted by adding annual estimated theft and then assigning to market sector. However, as described in the AUGS the AQs and the sector classifications provided by Xoserve are based on **current** AQs (i.e. those prevailing in 2011). The AUGS explains clearly why it is not appropriate to use the latest AQs for sector classification.

The site referenced with a theft of 274,725kWh had an AQ of 20,000-30,000 from 2000-2007 and then 50,000-55,000 in 2009-2010. The period of theft was between 2005 and 2006. Observations regarding this site are as follows:

- 1) Thefts from 2006 are not used in the split of theft in the AUGS for 2012/13 so this record has no impact regardless of its sector classification.
- 2) Assuming that the theft is no longer occurring (given that it has been detected) and that the recent AQs are realistic, this site still falls in to the category of SSP based on its most recent AQ.
- 3) Applying the theft to the current AQ would be incorrect as the theft occurred over 5 years ago and consumption/usage may have changed since.

- 4) British Gas assert that the amounts of theft and periods of theft can be conservative so it is possible that the amount of theft for this record could be over a longer period of time. This would contradict the argument that British Gas puts forward in terms of the size of theft per annum against the AQ. However, we have no additional information to confirm this either way.

A further examination of the theft data shows that there are a number of sites that would be classified as SSP (based on current AQ) that using the approved methodology are actually reclassified as LSP based on pre-theft AQs. There are a similar number of sites that would be classified as LSP if using current AQs that are classified as SSP based on pre-theft AQs. This can happen as consumption patterns change over time. It would be incorrect to base sector classification based on current AQ when the consumer may have changed and have nothing to do with theft from several years ago.

It is accepted that for any dataset of this nature there will be individual records that do not conform to the underlying assumptions of the model. The general methodology remains sound, however, and there is insufficient information to investigate every single case. Ultimately we have to work with the data that is available.

The AUGÉ recognises that British Gas disagrees with the current approach. The method has, however, been accepted by the UNCC and it remains the case that the suggested British Gas approach (current AQ plus annual estimate of theft) is fundamentally flawed. It cannot be correct to take a 2011 AQ and add in theft that was detected several years ago and no longer affects the AQ calculation. This is particularly important because where theft has been detected at a particular site, it becomes more likely that the consumer at the site has changed and the current user (and their associated AQ) has nothing whatsoever to do with any historic theft at that address.

Therefore it is concluded that the issue British Gas raises with regard to use of pre-theft AQ does not constitute a material error.

**Question/Issue:**

There is no basis to simply replace an AQ of 1 with the average SSP AQ and use this to determine sector allocation. This material error has the effect of biasing theft allocation (and therefore the allocation of the whole balancing number) towards the SSP sector unfairly.

**Response:**

The methodology does not replace sites with AQ=1 with average SSP AQ. During the development of the methodology the AUGÉ did look at adding the theft estimate in to the original theft record AQ as per British Gas's proposed approach. As there were a number of records with AQ=1, in these cases the market sector classification would have been based on the estimated annual theft figure alone. However, in practice the site would not have had an AQ=1 consumption. To assess the impact of this, an average AQ was derived to replace any AQ=1 records, and then the annual theft estimate was added to see what threshold crossers were produced. However, once the AUGÉ had determined that the AQs provided with the theft data were current and not

those in place at the time of the theft/detection, adding the annual theft to the AQ was no longer appropriate and so a different approach to AQ=1 sites became appropriate.

In the AUGS it was stated that *“Replacing AQs of 1 with an average SSP AQ will not affect the market sector classification as theft should not be added to the current AQs.”* This may have been misunderstood to imply that we had replaced AQs=1 with averages, but what it was designed to convey is that because it wasn’t appropriate to add theft to the current AQs to identify market sector, there were no threshold crossers whether we used average AQ or 1.

For the theft analysis contained in the final AUGS, the AUGS obtained from Xoserve AQ data from 2000 onwards for each theft record. When establishing the pre-theft AQ, we obtained the AQ for each year and selected the one that was in force immediately before the theft period. Where this value was missing or equal to 1 it was replaced with the previous year’s AQ. This approach removed the majority of cases where the AQ value on the theft record was listed as 1.

There remained a number of cases where the AQ stayed as 1 due to there being no previous non AQ=1 data available. In these cases there is no evidence to suggest the sites are not SSP and hence it was decided to include them as SSP sites in the overall split calculation.

Therefore it is concluded that the issue British Gas raises with regard to use of average AQ does not constitute a material error.

#### Question/Issue:

The table below shows 4 theft instances where the assessed theft period exceeds a complete year and the level of theft volume at a total and annualised level would place the account within the LSP sector based on theft consumption alone regardless of any metered consumption (the lowest annual theft volume is >95,000KWh). These 4 instances that are mistakenly assigned to the SSP sector within the AUGS methodology represent 1.17% of the total theft volume recorded in the period analysed by the AUGS. The allocation proportion of the balancing number (£122m) to the SSP sector is artificially increased by 1.17% and the allocation to the LSP sector is artificially reduced by 1.17%. Under the AUGS’s proposed methodology, these 4 accounts alone have the aggregate effect of distorting the allocation of the balancing number by 2.33% (>£2.8m) against the SSP sector. Given the magnitude of error, it would be unreasonable for the AUGS not to correct for this.

Year	TOG Start Date	TOG End Date	LDZ	Market Sector	Originator	Meter AQ	Kwhs
2006	31/10/2004	04/09/2006	WMM	SSP	Shipper	1	517,531
2009	06/02/2008	12/07/2009	NT	SSP	Shipper	1	200,000
2008	16/06/2004	17/10/2005	NWV	SSP	Network Operator	1	138,059
2009	27/11/2006	24/06/2009	VVA	SSP	Shipper	1	247,220

1,102,810

**Response:**

The calculation spreadsheet uploaded to UK-Link shows that three of these sites are actually classified as LSP by the existing theft methodology, contrary to British Gas's assertion that they are regarded as SSP.

One of the sites does stay in SSP as its AQ at the time prior to theft occurring was in the SSP sector. For this site the theft end date (2006) means that it was not used in the theft split calculations for 2012/13, however.

Therefore none of these sites has any impact on the theft market sector split calculations.

The AUGÉ has looked at this issue further and examined sites that fall into the following category:

- 1) Theft end date falls in 2007-2009
- 2) AQ prior to theft = 1
- 3) Site classification based on pre-theft AQs sector = SSP

There are 54 such sites. In all cases, using the AQ=1 plus annual theft estimate results in all sites remaining in SSP. If the AQ=1 is replaced by an average AQ and then annual estimated theft added (if we assume that the AQ=1 is not realistic) then one site becomes LSP. Closer examination of this individual record shows a theft period of one month in 2008 which when scaled up to an annual estimate results in a total consumption of 75,046kWh.

If this one site is changed from SSP to LSP, the calculated overall percentage split of theft between market sectors is not affected.

Therefore it is concluded that the issue British Gas raises with regard to these records does not constitute a material error.

**Question/Issue:**

The AUGÉ has used AQs as a proxy for consumption throughout its methodology. Where the AUGÉ felt that the AQ was no longer representative of consumption it has adjusted the AQ to take this into consideration (for example meter points that did not have their AQ amended during the AQ review). The most obvious and extreme disconnect between AQ and consumption is with the existence of theft. The AUGÉ has not adjusted the AQ but utilised an older AQ that is not appropriate for the purpose or time period for which it is being used. This failing has the affect of allocating LSP theft volumes to the SSP sector and distorting the allocation of the total balancing number. The balancing number contains not just theft but also:

1. Errors in the shrinkage estimate;
2. Open bypass valves;
3. Meters "Passing Unregistered Gas;
4. Unknown Sites;
5. Addition Common Cause Variation.

As such the AUGE is also misallocating the above across sector to such a degree as to have a dramatic and material impact on the fairness of the Unidentified Gas allocation.

Until these failings are addressed, it is our view that the high level objectives and primary purpose of the appointment of the AUGE has not been met. It is unreasonable for the proposed methodology to not correct for these material errors and continue to bias the allocation of Unidentified Gas costs to the mostly-domestic SSP sector.

**Response:**

The assertion that using older AQs is not appropriate for the purpose or time period for which it is being used is incorrect. Using current AQs would distort the theft volumes based on current consumptions, which may be completely different to those prior to the theft event and this has been explained and discussed in detail in the AUGS and in the responses to the issues raised above.

With regard to the other items in the balancing factor these are either very small in comparison or sum to zero over time. This is explained in the AUGS and in the above responses, and these residual sources of UG do not have a 'dramatic and material impact' as British Gas suggests.

Therefore it is concluded that the issues British Gas raises with regard to the use of AQs for sector classification and balancing factor do not constitute material errors.

<b>Queries From</b>	Inexus
<b>Date Received</b>	08/03/2012
<b>Date of Response</b>	20/03/2012

On reading the Allocation of Unidentified Gas Statement Report No. 11170 published 4<sup>th</sup> May 2011, Section 6.3 states that;

*"New sites, particularly housing estates will be built to new building regulations with improved energy efficiency levels and therefore expected AQs may be lower than average consumptions. This will need to be allowed for in subsequent estimations of consumption.*

*Data has been requested to allow this analysis to take place."*

I understand that following contact with IGTs during May 2011 Xoserve provided the details of missing or rejected IGT CSEPs which enabled the volume of gas to be calculated for the purposes of the report.

Following on from the above, Version 4 published 23<sup>rd</sup> December 2011 in Table 16 lists the aggregate Quantity of Unidentified Gas as 693 GWh.

Are you able to confirm the AQ values that were used to calculate this figure? The reason I have raised this is during the latter part of 2010 and 2011 IGTs carried out a review of their AQ values which concluded that the current CSEP NExA table values (last reviewed in 2006) are currently around 19% lower than those listed in the current NExA table. The modification based on this work (IGT040V) was approved by the Authority for implementation on June 29<sup>th</sup> 2012, the details of which can be found at <http://www.igt-unc.co.uk/Modifications/Open+Modifications/IGT040>. As such the gas volume and monetary values in report version 4 if based on the “current” NExA table values are likely to be approximately 19% overstated. Should there be a further update to the report, are you able to confirm whether the report will take account of the revised values?

**Response:**

The text from the first draft of the AUGS (the version dated 04/05/2011) related to the approach to CSEPs that was planned at the time. At that point it was not believed that we could obtain actual AQ data for Unknown Projects and so we planned to estimate this from data for known CSEPs.

After this point it became clear that better information was in fact available, and Xoserve now supply the AUGS with a regular report containing both the meter point count and the aggregate AQ for all Unknown Projects. This is described in Section 6.6 of the latest version of the AUGS (Version 4). The accuracy of the UG estimate for CSEPs is therefore dependent on the accuracy of the AQs in this Xoserve report.

Given that AQ values for sites in CSEPs are recalculated using meter read data when this becomes available, any issue with values from the NExA CSEP AQ table is restricted to those sites that have not yet had their AQ recalculated (which will, in general, be the newest sites). In addition, given that SSP-arising UG is already assigned to the correct market sector by the RbD process, the key value in the calculation in this area is the LSP-arising UG from CSEPs. This figure is unaffected by the change in the domestic AQ NExA table.

Having said this, the overall estimate of total UG (SSP plus LSP) from CSEPs does still play a part in the overall UG calculation, and it will be affected by the change to the NExA table. The impact is likely to be relatively small in the context of the overall UG value due to the fact that it only applies to domestic sites that have not yet had their AQ recalculated using meter reads, but it should nevertheless be considered.

The final UG figures for the current year have now been published, so it won't be possible to conduct an assessment of this effect for this year.

This area will be included in the analysis for next year's AUGS, however, and allowance made for it in the final figures if appropriate.



<b>Queries From</b>	Shell Gas direct
<b>Date Received</b>	08/03/2012
<b>Date of Response</b>	13/03/2012

My question relates to section **7.1 Estimation of SAP Price**.

I know that the prices here are only indicative and given as a guide for shippers to budget for UG gas costs. However, I'm having difficulty referencing these prices. Your statement gives the Annual average SAP figure between 2009 and 2011 as 2.6p/kWh. However, after downloading the SAP prices for this period from the National Grid website – I calculate the figure to be far lower, around 1.46p/kWh.

I just wondered, if anyone there could assist in explaining the source of the 2.6p/kWh figure.

#### **Response**

The SAP price estimates were based on projecting the trend of prices over 2009-2011 to 2012/13. Several methods were considered, number 1) which we think you are referring to states "Annual average SAP price based on 2009-2011 (2.6p/kWh)". It probably needed to be stated a little more clearly as described with the other options we looked at which covered monthly, daily trends. It is using the data from 2009-11 and scaling up based on the average increase year on year from 2009-2011. This came out at 2.6p/kWh. Note that at the time of calculation we didn't have a complete year hence there were two varieties of this.

Of course there has been some recent reductions in gas price so the actual average SAP price for 2012/13 may turn out lower than this.

In terms of the AUGS and final figures this query is classed as requiring no action.