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Reference: Query responses

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Dear Mike

Thank you for the queries submitted 29th October in response to the Interim 2013 AUGS for 2014/15.

We have considered each of the queries against the criteria set out in the AUGE Guidelines. The responses to the queries are provided within this communication and are published on the Joint Office of Transporters website.

Query 1

This concerns a discrepancy in the total seasonal normal allocations between the individual LDZ consumption calculation spreadsheets and the overall summary sheet where the AUG table is ultimately calculated. We have investigated the difference and identified an issue with the use of EWCF when creating the Seasonal Normal scaling factors in the Unidentified Gas summary spreadsheet. The figures in the LDZ consumption calculation spreadsheets use a greater level of precision in the EWCF factor following a data update earlier in the year that had not been carried forward to all usage of this data. These should of course be the same and we will need to update the allocations to use the higher precision EWCF. Thank you for drawing this to our attention.

We will also take the opportunity to double check any other factors/source data where precision may be lower than expected.

There is no classification in the AUGE Guidelines that covers the situation where there is a material change to the final Unidentified Gas volumes that can be implemented before the creation of the final Unidentified Gas volumes but does not require change to the final AUGS. The nearest classification is 8.5 albeit no change to the final AUGS is required.

We therefore classify this query as material, does not require a change to the final AUGS but does require a change to the final Unidentified Gas volumes.

Query 2

This query concerns the derivation of the forecast Unidentified Gas volumes and use of the Balancing Factor.

The suggestion that the Balancing Factor has been understated in the final figures by 416GWh comes from the fact that the distinction between the training period and the forecast period in the UG analysis has not been recognised. This has led to the erroneous conclusion that the Balancing Factor has been understated.

Section 6.10 of the AUGS states that the Balancing Factor is calculated using data from the three historic years used for training in the analysis (i.e. 2009-11):

“For 2014/15 this will be based on the total LDZ consumptions for formula years 2009-2011 subtracted from their corresponding total NDM allocations with corrections for meter error and temporary UG which includes detected theft. The resulting figure will be averaged over the years used, and split into the LSP and SSP sectors.”

This makes it clear that the Balancing Factor is not and cannot be recalculated for the forecast year: given the changing nature of the UG total due to various UNC modifications, this would be inappropriate for reasons discussed further below. Rather, the Balancing Factor is calculated for the training period and this value is taken forward as the best estimate for the forecast year. In this case the Balancing Factor was calculated using the average Total UG figure of 3,686GWh per annum quoted by British Gas.

As described above, the value for the Balancing Factor calculated from the training period is used as the best estimate for the forecast period, but other elements of UG may change between the training and forecast periods, usually due to the introduction of UNC Mods designed to reduce UG. The method of projecting the value of other UG elements forward to the forecast year is described in Section 6.5 of the AUGS (where the procedure for extrapolating Shipperless/Unregistered UG to the forecast year is described) and Section 6.6 (where the procedure for extrapolating iGT CSEP UG to the forecast year is described). The result of this projection is that the Total UG for the forecast year will not necessarily equal that from the historic years. It is clear that making allowances for the effects of UNC modifications and other initiatives to reduce UG in the estimate of Total UG for the forecast year is vital in order to allow the effects of these Mods to be reflected in the UG figures. In the case of the forecast for 2014/15, reductions in the number of Unknown Projects and Unregistered sites on known CSEPs have reduced UG between the training and forecast years, and this is the reason for the Total UG reducing from 3,686GWh per annum to 3,270GWh per annum. It is likely that further reductions will occur if the effects of Mod 410A on Unregistered UG can also be included in the final figures.

It is important to note, however, that these reductions do not come from the Balancing Factor. They come from Shipperless/Unregistered and iGT CSEPs, and have been correctly accounted for in the calculations for these elements as described in the AUGS.

It is necessary for the calculations to work in this manner because any attempt to keep Total UG constant from the training to the forecast period and recalculate the Balancing Factor to maintain that total would have two undesired side-effects:

1. The success of any UNC modification or other initiatives to reduce UG would not be recognised. The effects of such process changes would effectively be ignored and the estimate of Total UG remain unchanged no matter what actual reduction in UG was achieved.
2. Any reductions in directly calculated UG areas would be counteracted by equivalent rises in the Balancing Factor, which is constructed almost entirely of theft. Therefore if, for example, Mod 410A successfully reduced Unregistered UG by N GWh, the Balancing Factor estimate would inexplicably rise by N GWh in order to compensate. This clearly does not reflect reality.

It is accepted, however, that whilst all of these calculations are described in relevant sections of the AUGS, greater clarity could be achieved by introducing a new AUGS section specifically summarising the methods of extrapolating all elements of UG from the training to the forecast period. This would tie together the details given in various different sections of the AUGS in summary format in a single place, which would reduce the potential for any misunderstanding of the methods.

We therefore classify this query as 8.4(b): it requires a change to the final AUGS only to clarify the correct approach for the forward estimation of UG but this will not have a material effect of the final Unidentified Gas volumes.

Query 3

This query concerns the inclusion or otherwise of large AQ sites in Unregistered and Shipperless UG calculations.

In this query, British Gas highlighted a section of the file “Shipperless Sites – Mar 2013_Back Up MPRs.xls”. The highlighted section of this file contains a list of sites in the “Unregistered <12 Months” UG category, of which the largest 12 appear in red text and also have a “1” indicator in a column headed “Remove?”. The query arises from a misunderstanding of the meaning of the “Remove?” column. The AUGS apologises for any confusion caused by the explanation of this area in the AUGS and in the supporting notes supplied with the data/calculation spreadsheets.

The process for querying Shipperless and Unregistered sites with Xoserve is described in Section 6.5 of the AUGS, as follows:

1. *In the backup files containing data for each individual MPRN, each is assessed and flagged for further investigation by Xoserve if any of the conditions specified below are satisfied.*
 - *If a graph of AQs sorted by descending magnitude contains a “shoulder” point (i.e. a distinct change in gradient), any points to the left of the shoulder are flagged.*
 - *Any site with an AQ more than 100 times the average LSP AQ is flagged.*
 - *Any DM site (i.e. with an AQ greater than 58.6 GWh) is flagged.*

The resultant list of flagged sites is sent to Xoserve.
2. *Xoserve will respond with details where any of the flagged sites have been confirmed on their system, and the confirmed AQ of each such site is provided. Any differences between the queried AQs and the confirmed AQs are aggregated to LDZ level for each category of Shipperless or Unregistered site for each snapshot. The data in the relevant snapshot file is then amended to account for these differences. Seven consecutive two-monthly snapshot files are required to calculate the Shipperless and Unregistered UG for a year. Sites where Xoserve have no further information are left as is.*

In addition, in the data/calculation spreadsheet supporting notes, the following is stated:

The raw snapshot data imported into these tables has been modified manually in a number of places. This occurs where Xoserve have investigated a site that has an unusually high AQ and found that it has subsequently been confirmed with a different AQ to that given in the snapshot. This identification of sites for further investigation is carried out in files with a “Back Up MPRs” suffix. These files are associated with the snapshots and contain details of each MPR that goes into the snapshot in question. Sites that are flagged by the AUGS for further investigation are marked in red, and where these have been confirmed with a different AQ the data has been updated in the snapshot files and also marked in red. Full sets of both snapshot files and Back Up MPRs files are supplied.

These excerpts make it clear that no sites are ever removed from the Shipperless/Unregistered UG calculation. Sites with unusually large AQs are flagged for further investigation, and the results of those investigations are used to modify the Shipperless/Unregistered snapshots before they are imported into the calculation process where this is necessary, but no sites are ever removed.

In the "Back Up MPRs" files, the "Remove?" flag in fact refers to whether the site is included in the calculation of the average LSP AQ, which can be seen in the formula in cell F2. As described in the AUGS excerpt above, any site with an AQ more than 100 times the average LSP AQ is flagged for further investigation by Xoserve. This process requires the average LSP AQ for the category to be calculated, which is what is done in cell F2. Unusually large sites are removed from this calculation in order to avoid skewing the average figure, which would affect which sites were identified for further investigation.

The differences between the figures for "Total AQ" and "AQ Used for Consumption Calc" quoted in the query are due to modifications made to the snapshot data following feedback from Xoserve regarding the sites highlighted for further investigation. In the example quoted (Unregistered <12 Months for March 2013), the original raw snapshot value is approximately 41TWh across all LDZs. Xoserve confirmed that four flagged sites have been confirmed, one at the initial AQ and three at lower AQs (sites 23321770, 23312833 and 10759333). The combined effect of the lower confirmed AQ at these sites is approximately 13TWh, leading to the total of approximately 30TWh that is carried forward into the calculation. All other differences quoted are due to the same reason.

In the query it is also stated that the final figures for Permanent UG that result from the Unregistered/Shipperless calculations are multiplied by a simple factor of 5 for all Unregistered UG categories to give Temporary UG. This factor is derived using the data in the file "Connection Details for Unregistered 2012.xls" and reflects the proportion of sites that flow Unregistered Gas but cannot be backbilled (i.e. asset Shipper code different from confirmation Shipper code). The data can be examined in the spreadsheet and the calculation method is described in Step 5 of the process description given in Section 6.5 of the AUGS. It is purely by coincidence that the data creates a factor that is the reciprocal of a round number.

It can therefore be seen that this query has resulted from a misunderstanding of the method used by the AUGS, and it therefore requires no change to either the UG figures or the text of the AUGS.

We conclude this query be classified under 8.4(b) "Requiring no action".

Query 4

This query concerns the inclusion or otherwise of large sites (above the DM threshold of 58GWh per annum) in the calculations to produce AQ scaling factors for use in Shipperless and Unregistered UG calculations.

These sites are intentionally left out of the AQ scaling factor calculation. This response explains why this is the case and describes the process for applying the scaling factors, particularly with reference to these large sites.

British Gas stated in their query that the evidence suggests that where sites in the Shipperless "Back Up MPRs" files have very large AQs, these AQs are likely to be erroneous and hence modified downwards, sometimes drastically, when the sites are confirmed. The AUGS agrees that this is likely to be the case, but as yet there is insufficient evidence to prove this, and in the absence of such evidence no definitive action regarding these sites can be taken. British Gas quoted the cases of two sites in the "Unregistered <12 Months" category, both of which had very large initial AQs (120GWh and 10TWh respectively), and both of which were subsequently confirmed as SSP sites.

Whilst this situation highlights the potential for this to occur, such a thing happening for two sites cannot be used as the basis for an assumption that it will happen for all similar sites. The latest data shows a similar phenomenon occurring for two further sites, bringing the total to 4 very large AQ sites that have been confirmed at a much lower value. Whilst this provides additional evidence of this phenomenon, it does not constitute statistical significance, however. Just as getting four consecutive heads when tossing a coin does not prove it has no "Tails" side, or rolling a double six on two dice does not prove they have no other numbers on them, four occurrences of a very large AQ site being drastically amended downwards does not prove that this happens for every very large AQ site.

The AUGS is aware of the situation, however, and is collating evidence in this area. When sufficient evidence exists to demonstrate that this phenomenon is genuine and consistent, provision will be made for it in the UG calculations.

In the meantime, the following rules are followed for Shipperless and Unregistered sites with very large AQs:

1. When a graph of sites ordered by descending AQ is plotted it is clear that these very large AQ sites are outliers and they are hence treated as such. They are therefore dealt with on a site-by-site basis by referring any such site found in the "Back Up MPRs" dataset to Xoserve for further investigation. The threshold chosen for referring sites to Xoserve is the DM threshold of 58GWh per annum, and so all sites with AQs above this value are treated as special cases.
2. Sites above this threshold are not included in the calculation of the standard AQ scaling factors (which are applied to all sites in the Shipperless UG process) because the very large reductions that have been noted for some of these sites would skew the factors and make them inappropriate for use on all sites.
3. Where information on the confirmed AQ is supplied by Xoserve for any of these sites, the Shipperless/Unregistered snapshot data is modified to account for this difference.
4. Where no information is supplied by Xoserve (because the site is yet to be confirmed) it is unknown whether the AQ is representative of the site or not. As described above, it cannot be assumed that all very large AQs are unrepresentative because insufficient evidence exists to prove this. Therefore, in the absence of such data, the standard AQ scaling factors are applied to these sites and they are included in the Unregistered/Shipperless calculations.

Until further evidence exists to deal with these sites in a different manner, this approach remains appropriate. Therefore this query requires no change to either the UG figures or the text of the AUGS.

We conclude this query is classified under 8.4(b) "Requiring no action".

Query 5

This concerns the adjustment of CSEP consumption when there are sites with $AQ > 1$ not consuming. The assertion is that a correction should be applied in the same way as the wider population which would reduce the level of CSEP consumption.

We also note that the query only highlights the issue of sites with $AQ > 1$ not consuming and makes no reference to sites with $AQ = 1$ that actually are consuming. The latter would have an opposite effect by increasing CSEP consumption.

In an earlier draft of the 2013 AUGS for 2014/15 we did apply a similar approach to CSEPS as failed meters for the wider population. However, during the course of the year we identified that the EUC bands used to categorise the CSEPS were based on maximum AQ. This meant that some meters would be allocated to the incorrect EUC band compared to their actual levels of consumption.

This breaks the assumption that the proportion of meters in CSEPs band 01B would have the same proportion of meters with AQ>1 not consuming as in the wider population because the numbers of meters in each band is erroneous. In addition, using the failed meter approach to calculate consumption would greatly over state consumption because of the incorrect EUC band assignments.

We therefore decided that we could only estimate CSEP consumption using the total average AOs as given and not attempt to estimate based on average band consumption and count of meters in each band.

This was documented in the final 2013 AUGS for 2014/15 (version 3) sections 4.1.6 and 6.1.3.

This is therefore not a new issue as it was addressed during the AUGS process as set out in previous drafts of the statement.

We conclude this query is classified under 8.4(b) "Requiring no action".

In summary,

Query 1 will require an update to the final Unidentified Gas volumes but no change to the AUGS
Query 2 will require an update to clarify the AUGS but no changes to the Unidentified Gas volumes
Query 3 requires no action
Query 4 requires no action
Query 5 requires no action.

Proposed changes to the AUGS will be provided for consideration at UNCC on 21st November.

Yours sincerely

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