

Demand Estimation Sub-Committee Minutes

Monday 11 February 2019

At Xoserve Limited, Lansdowne, 65 New Road, Solihull, B91 3DL

Attendees

Chris Shanley (Chair)	(CS)	Joint Office	
Kully Jones (Secretary)	(KJ)	Joint Office	
Dave Mitchell*	(DM)	SGN	Voting Member
Fiona Speake	(FS)	npower	
Jason Blackmore	(JB)	British Gas	Voting Member
John Jones	(JJ)	Scottish Power	
Joseph Lloyd	(JL)	Xoserve	
Josh Mallett	(JM)	npower	
Lorraine Edgcumbe	(LE)	E.ON	Voting Member
Louise Hellyer	(LH)	Total Gas & Power	Voting Member
Mandeep Pangli	(MP)	Xoserve	
Mark Jones	(MJ)	SSE	Voting Member
Mark Perry	(MPe)	Xoserve	
Mark Palmer*	(MPal)	Orsted	
Nicholas Pollard*	(NP)	NGN	Voting Member
Shiv Singh*	(SS)	Cadent	Voting Member Alternate
Toby Thornton	(TT)	National Grid	Voting Member

Apologies

Chris Warner	(CW)	Cadent Gas	Voting Member
Emma Buckton	(EB)	NGN	Voting Member
Smitha Coughlan	(SC)	WWU	Voting Member

*via teleconference

Copies of papers are available at: <http://www.gasgovernance.co.uk/DESC/110219>

1. Introduction and Status Review

Chris Shanley (CS) welcomed everyone to the meeting including Toby Thornton who has joined DESC as a new member replacing Simon Geddes.

1.1. Apologies for Absence

Please refer to the above table.

1.2. Note of Alternates

Nicholas Pollard for Emma Buckton and Smitha Coughlan
Shiv Singh for Chris Warner

1.3. Approval of Minutes (10 December 2018)

The minutes from the previous meeting were approved.

1.4. Review of Outstanding Actions

1101: DESC Shipper members to consider the implications of removal of the DE NDM snapshot report with the view to reaching a decision on the future of the report at the December meeting.

Update: Mark Perry (MPe) covered this action as part of the update for action 1204. **Closed**

1201: Xoserve (MP) to consider how to incorporate uplift factors in the Spring Approach 2019 and the timetable for any supporting work.

Update: MPe confirmed that this was included as part of the Spring Approach document. **Closed**

1202: DESC members to consider the types of issues that might need to be addressed through the use of uplift factors and consider what material would need to be reviewed/produced to determine the level of uplift.

Update: This was covered under agenda item 4.0. **Closed**

1203: Shippers to consider the proposed changes to the Third Party NDM Sample data file format and highlight any issues to Xoserve by the close of play on Friday 14 December 2018.

Update: MPe confirmed that a few comments have been received and as the deadline has passed it was agreed to close the action. **Closed**

1204: Xoserve (MA) to contact the current recipients of the DE NDM Snapshot report in order to request feedback on its use and to check they are still the right people to receive the report and to copy in the DESC member.

Update: MPe provided a short presentation updating DESC members that the scheduled bi-monthly report was issued on 24 December 2018. He reported that only 3 responses were received to the 45 emails sent out. DESC members were asked to vote on whether the report was still needed. Workgroup considered the information suggesting that it was still not clear if the report is adding value as the low response to the email does not confirm if the emails are being sent to the right contacts. In addition, DESC members reviewed the data provided at the December meeting which showed that there has been a small improvement since 2016. It was suggested that more information was needed on how many meters have been returned and the number of calls received from engineers to return equipment over the last 12 months. If possible, it would be useful to understand who the associated Shippers were. MPe added that there is Xoserve guidance on their website for meter workers asking for equipment to be disconnected and left for the Xoserve service provider to collect. The guidance can be accessed here: <https://www.xoserve.com/services/demand-estimation/gas-demand-research>.

DESC members were in broad agreement for Xoserve to no longer produce the DE NDM Snapshot report. Xoserve agreed to consider how to support those parties that still required some information and therefore, agreed to review the communications in relation to the removal of meter read equipment and possibly providing the report on a by request only basis.

This action was therefore closed. **Closed**

2. UIG Sprint Recommendation

MPe provided a brief update from the UIG Taskforce meeting held on 28 January 2019 to review the recommendations made by the Taskforce and to agree which recommendations should be progressed. All the findings, recommendations including a recommendations tracker have been published on the Xoserve website and can be accessed via this link:

<https://www.xoserve.com/services/issue-management/unidentified-gas-uig/#task-force-findings-etc>.

MPe highlighted three recommendations impacting on the work of DESC:

- 12.2 - Use of Standard Conversion Factor with AQ < 732,000 kWh
- 13.2.2 - Accuracy of NDM Algorithm -Use of Weather Data – Sensitivity of Components of the Composite Weather Variable
- 13.2.5 - Accuracy of NDM Algorithm – Use of Weather Data – Basic Machine Learning.

He stated that the recommendation relating to the use of Standard Conversion Factors issue were not supported and further discussions are planned at the UIG workgroup. The weather-related recommendations would be considered as part of the work on the Seasonal Normal Review particularly in terms of the relationship between the composite weather variable and UIG. He added that the driver for DESC is to achieve the best NDM model and not necessarily to drive UIG down to zero.

3. Algorithm Performance - Reconciliation Analysis

MPE provided a walkthrough of the presentation titled *NDM Algorithm Performance (Gas Year 2017/18) Strand 4 Analysis – Reconciliation Analysis*.

He reminded DESC members that DESC have a responsibility under UNC H 1.8.1 for carrying out NDM algorithm performance in the preceding year of the End User Categories (EUC) and demand models. To assist this work 4 strands of analysis were agreed at the 15 November 2016 meeting:

- Strand 1 – Weather Analysis
- Strand 2 – Unidentified Gas Analysis
- Strand 3 – NDM Daily Demand Analysis
- Strand 4 – Reconciliation Analysis.

He then briefly updated on the reconciliation analysis carried out in early 2018 for Gas Year 2016/17 against sites in EUC bands 02 to 02 (approximately 270k sites). He explained that analysis of sites in EUC band 01 was not performed due to the large volume of sites (approximately 24m sites).

The UIG task force have also performed reconciliation analysis for the same Gas Year but covering all EUC bands and their findings are expected to be published by March 2019. Slide 4 provides a quick preview of the initial results. The next steps are to complete the analysis and publish it more widely.

Going forward in terms of reconciliation analysis, MPE said there is an opportunity to influence the analysis being undertaken by the UIG task force. MPE sought views on the scope of the reconciliation analysis in terms of how it should be used and presented. DESC members raised the following comments in discussion of this topic:

- a. It was suggested that where Annual Quantity (AQ) is not representative of the consumption that has occurred and both under and over allocation can be observed which is not as a result of the demand model. Louise Hellyer (LH) asked whether sites with AQ issues are being filtered out and suggested that the analysis could be further sub-divided by meter read frequency. Lorraine Edgcumbe (LE) suggested also looking at the impact of daily variations in standard temperature.
- b. DESC members sought clarification of the distinction in the roles between the UIG taskforce and DESC to better understand DESC's responsibility.
- c. Jason Blackmore (JB) suggested that Strand 3 is the best assessment of the demand algorithm.
- d. CS queried the timing of the UIG task force analysis and the date of the next meeting (01 April 2019) asking if a decision needs to be made before the April meeting and whether DESC members could review the UIG analysis before deciding on what else DESC would like to see.
- e. MPE concluded his presentation by re-iterating that an action from last year was for DESC members to provide feedback on how to use reconciliation data to support the modelling work and suggested this is revisited. CS suggested a sampling approach could be adopted as it may be difficult to analyse and review the 24m sites in EUC band 01.

- f. MPE agreed to send the UIG data to DESC members when it is available.

4. Modelling Approach – Spring 2019

Mandeep Pangli (MP) provided an updated view of the approach to deriving EUCs and their demand models for use in Gas Year 2019/20. The presentation *titled EUC Modelling Approach – Spring 2019*. She explained that the presentation provides an opportunity to review any further comments that have been received on the draft Spring Approach (slides 4-5) and to consider the stratification method for selecting sample sites.

She highlighted that the Spring Approach has been updated to allow for the use of uplift factors in Gas Year 2019/20 if DESC members consider they are needed for another year. She also highlighted that agreement would be needed on how the factors will be derived as the CDSP will not be in a position to calculate them and that the previous data had been provided by E.ON.

MPE indicated that the analysis provided to UIG workgroup on uplift factors suggests that they are having an impact and suggested that DESC need to agree if uplift factors should be included.

- a. LH indicated that system capabilities would allow an update mid Gas Year for Annual Load Profiles (ALPs) Band 1 if it was felt the uplift factors are doing too much
- b. JB suggested that any actions relating to the use of uplift factors in Gas Year 2019/20 that could provide a market steer or help to increase certainty would be welcomed.
- c. LE suggested stripping out the adjustment factors to understand the impact on UIG.
- d. Mark Jones (MJ) asked how and if the model had taken into account extreme weather from last year highlighting that this winter has been milder.
- e. LE indicated that E.ON don't have an spare resource to repeat the previous analysis. She explained that the models still exist but even minor tweaks would require a lot of work.
- f. LH suggested the UIG data is discussed more fully at the April meeting particularly in relation to performance of the model and impact on ALPs. She added that it would be helpful to review UIG data with and without uplift factors and asked if Xoserve had volume data that could be shared in advance of the meeting.

MP also highlighted that comments had been received in relation to last year's EUC band modelling results being affected by lower consumption during snow events. She highlighted that DESC decided last year to retain the 'snowy' demand days in the regression results as they felt they were genuine outliers i.e. real demand adjustments. She confirmed that this approach was supported by CDSP as it is consistent with previous instances. In addition, she explained that during the 2018/19 modelling process CDSP will observe if such instances occur, however the current modelling systems/processes would not be able to remove or alter demand values without causing serious re-work. MPE also added that a more flexible approach will be available when the new system is installed later this year as the current modelling system is rigid and does not easily allow for any tweaks to be made.

Stratification of Sample Sites (slides 6 – 18)

MP then took DESC members through the background and approach to the stratification for Bands 1 and 2 domestic and non-domestic models. She reminded DESC members that they had previously agreed that a process should be created to select the required number of sample points needed to be representative of the population where the validated sample points for a particular EUC band are well in excess of the ideal target numbers. She also re-iterated that Xoserve and Network managed samples would be prioritised ahead of third-party data and the data provided was for these sites only. She then presented slides 7 – 17 illustrating the impact of the stratified approach for Band 1 and Band 2 sites. She highlighted that in order to make the sample representative of the population the adjustment of sample numbers to make the proportion match the population as closely as possible in most cases lead to the removal of sites. For Band 1, 532 sites would be removed from a total of 1536 and for Band 2, 1770 sites were removed from a total of 3780.

DESC members considered the stratification approach balancing the need to adopt good practice by improving sample representation with the overall reduction of sample sites used in the modelling.

DESC members were concerned about the number of sites that are potentially being removed from the sample highlighting that it might skew the final analysis; and suggested using all the sample data then applying a weighting factor to it. There was also concern that stratification might lead to a biased sample in the way sites are removed. JB highlighted that they expected to provide data for around 1000 sample sites, so the stratification results could look quite different when Shipper data is received/considered.

In response to a question from LH, MPe confirmed that the Xoserve sample would be prioritised first before sample sites are removed on a random basis. In addition, in relation to applying a weighting factor MPe asked how the weighting factor would be derived as some LDZs are very different. JB suggested asking the UIG task force to provide a recommendation on how the weighting factors could be derived.

MPe emphasised the need to agree what models will be used as soon as possible.

Action 0201: Xoserve (MPe) to repeat the analysis to illustrate the impact of a) removal of sample site data and b) applying a weighting factor using population percentages. The outcome of the analysis to be sent to DESC members for review and to seek agreement on which method to adopt.

In relation to the Band 2 analysis, MP thanked JB for the work undertaken to identify sub-bands through cluster analysis.

MP concluded her presentation by providing a brief overview of the high-level modelling principles for the Spring Approach 2019 – modelling. She reminded members of the key industry changes and discussions such as new EUCs for Bands 1 and 2; impact of Modification 0654 (which is likely to result in additional streams of sample data) and the work of the UIG task force.

DESC Members approved the principles of the EUC modelling approach so that the data preparation work can commence subject to agreement of the stratification approach.

5. Seasonal Normal Review Update

Joseph Lloyd (JL) provided a walkthrough of the presentation titled *Review of CWV Formula*. He explained that the Composite Weather Variable (CWV) and the Seasonal Normal Composite Weather Variable is being reviewed during 2019 in line with DESC's obligations under UNC Section H obligations. JL added that the current basis expires on 30 September 2020 so the review needs to be completed in time to enable the Spring modelling in 2020 to be carried out using the new arrangements and for the profiles for Gas Year 2020/21.

A high-level overview of the timeline of CWV/SNCWV review was provided (slide 4). A reminder was then provided of the agreed milestones from the December meeting:

- 1st April - DESC to decide whether to revise existing CWV formula
- 8th July - DESC define proposed CWV formula for next period i.e. GY 2020/21 onwards
- 7th October - DESC confirm parameters for use in proposed CWV formula for Gas Year 2020/21
- 1st April - DESC decide whether to revise existing SNCWV
- 9th December - DESC confirm revised SNCWV values.

The key checkpoint dates, assumptions and objectives were provided in slides 6-8. JL then took DESC members through the background to the CWV formula principles (slides 9-14) before explaining the approach to reviewing the CWV formula (slide 16). He highlighted that previous iterations of this work (i.e. 2010, 2015) had not assessed the underlying formula of the CWV and that the focus was given to re-optimising the parameters within the existing formula. In addition, the potential use of additional weather data items being used in the derivation of the CWV have been supported by industry recently. An additional step is required in 2019 to review the current CWV formula ahead of any exercise to 're-optimize' the parameters. DESC will therefore, be asked at the 01 April meeting to consider revisions to the current CWV formula. JL stated that the remainder of the presentation would provide the suggested approach to DESC members to make this decision. The following comments/observations were made during the presentation:

- a. Slide 7 - Shiv Singh (SS) asked if it was possible to tie-in data produced by National Grid in relation to peak day demand forecast as there are potential implications for capacity bookings. He therefore wanted to understand the impact on peak day forecasts. Toby Thornton (TT) suggested that he would be considering this over the next 12-18 months.
- b. Slide 14 – TT asked why the analysis does not include Fridays. JL responded to say that historically consistent behaviour is observed between Monday-Thursday.

A discussion was held on the approach to reviewing the CWV formula in light of the potential use of additional weather data items in the derivation of the CWV. JL highlighted that an additional step is needed to review the current CWV formula before any exercise is undertaken to 're-optimize' the parameters.

There was broad agreement of the type of analysis provided through the examples in slides (20-26). In relation to the analysis of residuals to identify where the CWV is not performing as well as it could, JB suggested it would be helpful if a summary table was provided showing the residuals cross referenced against the categories: normal/summer transition/summer cut-off and cold weather upturn.

DESC members:

- a. Supported the need for benchmarking analysis to provide a baseline from which future improvements could be assessed.
- b. Agreed that analysis should be completed to see how the model performs for all LDZs over the last 4 Gas Years.
- c. Agreed to support Xoserve's analysis with their own analysis where possible.
- d. Agreed that limited optimisation of the current formula should be undertaken using a 10 year period (the 4 new Gas Years (2014 to 2018) and 6 previous years), given the key focus this year was to look to change the CWV formula.

MPE stated that Xoserve are investigating the use of an external service provider to help with the modelling optimisation work. CS suggested that the UIG taskforce should also be involved to help explain the rationale for their weather-related recommendations.

6. DESC Related Modification/Change Updates

MPE explained that agenda items 6-8 have been added as standing agenda items to ensure that they continue to be discussed. In relation to change requests he gave an update on four change requests:

XRN4717 – Use of up to date Forecast weather data in first NDM Nominations Run. This is on track for implementation in February 2019

XRN4665 – Creation of new End User Categories. This is on track.

XRN4770 – NDM Sample Data – Mod 0654 Delivery. This is on track.

XRN4772 – Composite Weather Variable (CWV) Improvements. The requirements gathering stage has now been completed and Xoserve are taking this change proposal to the DSC Change Management Committee meeting to be held on 13 February for Solution Approval.

7. Adhoc Work Plan Review

MPE indicated that the ad-hoc workplan includes areas of work identified for further work or investigation by DESC members during the course of the meetings. He highlighted that during the summer review of the work plan, highlighted the replacement modelling system as the key priority.

The next review is scheduled for July but suggestions can be captured at any point and hence the reason this is a standing agenda item.

8. Communication of Key Messages

A summary of the key message agreed during the meeting are published separately and can be accessed here: <http://www.gasgovernance.co.uk/desc/summarykeymessages>.

9. Any Other Business

9.1. Publication of Derived Factors (ALPs, DAFs and PLFs)

MPE stated that Xoserve have recently been approached by some third parties at a National Grid Operational Forum and are also frequently asked through the generic email address for information on derived factors (ALPs, DAFs and PLFs). The provision of this data is restricted to UNC signatories who fund the analysis and provide sample data for demand estimation analysis. He sought the views of DESC members on whether this information could or should be made available in the public domain.

DESC members were supportive of making this information more widely available and suggested that there was minimal commercial risk to them. They agreed that this information could be provided through the Xoserve website with appropriate caveats in relation to what it covers and how it should be used.

Post-meeting update

As not all members were present for this discussion it is recommended that this item be discussed further at the next meeting with a view to voting on this proposal.

10. Diary Planning

Further details of planned meetings are available at: <https://www.gasgovernance.co.uk/events-calendar/month>

Workgroup meetings will take place as follows:

Time / Date	Venue	Workgroup Programme
10:00 Monday 01 April 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • Review of Uplift Factors in Gas Year 2018/19 • Seasonal Normal Review Update • Publication of Derived Factors (ALPs, DAFs and PLFs) • Communication of Key Messages
10:00 Tuesday 24 April 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • Spring Analysis – Data Validation and Model composition
10:00 Wednesday 15 May 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • Review progress on Single Year Modelling Results (2018/19 data)
10:00 Monday 08 July 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • 2019/20 NDM Algorithms: Review TWG responses <p>Seasonal Normal Review Update</p> <ul style="list-style-type: none"> • Communication of Key Messages
10:00 Monday 22 July 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • 2019/20 NDM Algorithms: • Response to Industry Representations • Weather Station Review • Review Adhoc Workplan • Seasonal Normal Review Update • Communication of Key Messages
10:00 Monday 07 October 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • NDM Sample Update • Seasonal Normal Review Update • Communication of Key Messages
10:00 Monday 09 December 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	<ul style="list-style-type: none"> • Evaluation of Algorithm Performance for Gas Year 2018/19 • Modelling Approach – Spring 2020 • Seasonal Normal Review Update • Communication of Key Messages

Action Table (as at 11 February 2019)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
DESC 1101	08/11/18	5.0	DESC Shipper members to consider the implications of removal of the DE NDM snapshot report with the view to reaching a decision on the future of the report at the December meeting.	DESC Members	Closed
DESC 1201	10/12/18	3.0	Xoserve (MP) to consider how to incorporate uplift factors in the Spring Approach 2019 and the timetable for any supporting work.	Xoserve (MP)	Closed
DESC 1202	10/12/18	3.0	DESC members to consider the types of issues that might need to be addressed through the use of uplift factors and consider what material would need to be reviewed/produced to determine the level of uplift.	DESC Members	Closed
DESC 1203	10/12/18	5.0	Shippers to consider the proposed changes to the Third Party NDM Sample data file format and highlight any issues to Xoserve by the close of play on Friday 14 December 2018.	Shippers	Closed
DESC 1204	10/12/18	6.0	Xoserve (MA) to contact the current recipients of the DE NDM Snapshot report in order to request feedback on its use and to check they are still the right people to receive the report and to copy in the DESC member.	Xoserve (MA)	Closed
DESC 0201	11/02/19	4.0	Xoserve (MPe) to repeat the analysis to illustrate the impact of a) removal of sample site data and b) applying a weighting factor using population percentages. The outcome of the analysis to be sent to DESC members for review and to seek agreement on which method to adopt.	Xoserve (MPe)	Pending