

Demand Estimation Sub-Committee Technical Workgroup Minutes

Monday 27 April 2020

Via Teleconference

Attendees

Lorraine O'Shaughnessy (Chair) (LOS) Joint Office

Helen Cuiin (Secretary) (HCu) Joint Office

Shipper Representatives

Anupa Purewal (AP) E.ON Energy + DESC Member

Fiona Speak (FS) npower

Louise Hellyer (LH) Total Gas & Power + DESC Member

Mark Jones (MJ) SSE alternate + DESC Member

Zoe Ireland (ZI) British Gas + DESC Member

Transporter Representatives

Emma Buckton (EB) Northern Gas Networks + DESC Member

Sanjeev Loi (SL) Cadent + DESC Member

Xoserve Representatives

Joe Lloyd (JL) Xoserve

Mark Perry (MP) Xoserve

Martin Attwood (MA) Xoserve

Mike Maguire (MM) Xoserve

Simon Bissett (SB) Xoserve

Observers

Jason Blackmore (JB) Observer

John Jones (JJ) Scottish Power + DESC Member

David Mitchell (DM) SGN + DESC Member

Paul O'Toole (POT) Northern Gas Networks

Toby Thornton (TT) National Grid

Copies of papers are available at: <https://www.gasgovernance.co.uk/DESC/270420>

1. Introduction and Status Review

Lorraine O'Shaughnessy (LOS) welcomed everyone to the meeting and confirmed the meeting was quorate.

1.1. Apologies for Absence

None advised.

1.2. Note of Alternates

None Advised.

1.3. Approval of Minutes (10 February 2020)

The minutes from the previous DESC meeting were approved by the DESC members present.

1.4. Review of Actions DESCs Outstanding

Action 0201: CDSP (MM) to provide more information and detail on the calculations in relation to AQ Ratios including the checks undertaken as part of the update on Seasonal Normal Review at the 06 July meeting.

Update: Mark Perry (MP) confirmed that Xoserve are intending to provide the AQ ratios at the July meeting. **Carried Forward**

Action 0202: CDSP (MM/MP) to provide an update to the Performance Assurance Committee (PAC) of the DESC work on Seasonal Normal Review.

Update: MP confirmed an update was provided at the April PAC meeting. **Closed.**

Action 0203: Jason Blackmore (JB) to provide more information on a formal validation check of the Stratification approach for EUC Bands 01 and 02 for discussion at the April meeting.

Update: Jason Blackmore (JB) confirmed an email update had been provided for further discussion at the May meeting. **Carried Forward**

Action 0204: DESC members (all) to review the DESC Technical Workgroup membership on the Joint Office website (<https://www.gasgovernance.co.uk/DESC/TWGRrepresentatives>) to ensure it is correct and notify Joint Office of any changes that need to be made.

Update: Zoe Ireland (ZI) confirmed Lisa Li has now left and can be removed. MP believed Simon Geddes and Usman Bagudu may no longer be the appropriate contacts for National Grid. It was suggested that the Joint Office should write and request an update from National Grid. **Carried Forward**

Post Meeting Note: All notified changes have been actioned.

Action 0205: CDSP (MP) to consider the development of guidelines for Shippers to address data quality issues.

Update: MP noted that the provision of 3rd Party data has seen a host of different issues with the data, each party has been contacted and advised of the issues found. Simon Bissett (SB) confirmed all Shippers contacted have been given feedback on the common scenarios and this will continue as an ongoing exercise. **Closed**

Action 0206: DESC members (all) to review the UNC Section H requirement at paragraph 2.2.2 and consider the approach to this work.

Update: See item 5.0. **Carried Forward**

2. Gas Demand EUC Modelling 2020/21: Phase 1: Collection of Daily Gas Consumption Data for EUC Modelling

Simon Bissett (SB) provided a presentation on the Data Validation and Aggregations – Spring 2020.

2.1. Background and Summary of Gas Consumption Data for EUC Modelling

SB provided the background confirming that for each Gas Year, DESC will develop or revise the definitions of the EUCs for the LDZ and the Demand Models for each EUC. The CDSP will then implement these decisions. The annual process for determining the EUCs and Demand Models for the following gas year begins with the production of a document called the “Modelling Approach”. The Modelling Approach provides an overview of the proposed EUC definitions and how the modelling shall be performed, including a reference to the sample data required in order to produce the relevant demand models.

SB confirmed that DESC approved the latest version of the Modelling Approach after its meeting in February.

SB provided an overview of the Demand Modelling Framework and on page 5 he provided information on each of the timescales/milestones coming up.

This followed with a diagram to explain the purpose of the Gas Demand EUC Model which is to represent the behaviour and reactions of the EUC population, a further timetable was provided.

SB explained that the objective of the Model Definition phase is to agree how the sample points available for modelling should be deployed in the next phase.

Mark Perry (MP) explained that the objective of today's meeting is for Technical Workgroup (TWG) to:

- Review the sample points available for period 01 April 2019 to 31 March 2020
- Confirm the EUC definitions which require demand models
- Agree the most appropriate data sets / aggregations to be used
- And agree the Winter Annual Ratio (WAR) Band Thresholds for Bands 3 and above

Within Section 2 SB provided a summary of the validated daily consumption data that had been provided (pages 10 & 11) and provided a further table (page 12) to show the total number of MPRs received from all avenues (Xoserve, Networks and Shippers).

SB went on to provide a summary of the validated data for each of the EUC Bands and highlighted the significant reduction in Pre-Payment figures in 2019/20 from 2018/19

EUC Bands: Range <i>Source data</i>	2019/20 data	2018/19 data
Band 1: 0 to 73.2 MWh pa <i>Xoserve-managed, Third party provided</i>	4,052 Domestic 3,432 Non-Domestic 22 Pre-Payment	4,258 Domestic 2,510 Non-Domestic 1,120 Pre-Payment
Band 2: 73.2 to 293 MWh pa <i>Xoserve-managed, Transporter-managed and Third party provided</i>	109 Domestic 4,968 Non-Domestic 1 Pre-Payment	109 Domestic 5,274 Non-Domestic 2 Pre-Payment
Bands 3 to 4: 293 to 2,196 MWh pa <i>Transporter-managed and Third party provided</i>	6,265	6,908
Bands 5 to 9: > 2,196 MWh pa <i>Transporter-managed and Third party provided</i>	2,776	2,354

2.2. Small NDM – Proposed EUC Modelling Runs and WAR Band Limits

Within Section 3 of the presentation SB provided a review of Sample Date for Small NDMs (page 15) and the proposed EUC Bands/ Consumption Ranges (page 16).

SB explained that Xoserve had not received enough data to formulate a model. After validation there were only 22 Band 1 domestic pre-payment sites, which was not enough data to produce a sound model and he confirmed the workgroup would need to consider what to do next.

This was also the case for Band 1 Pre-payment Meter (PPM) I&C sites.

New Action 0401: DESC TWG to consider Band 1 sample size and ability to model Band 1 Pre-payment Domestic Sites and I&C - EUC Demand Modelling

SB explained that Xoserve/CDSP have not been able to source enough sample points to derive an EUC demand model. Last year, following some unconvincing modelling results the TWG agreed to use the demand model developed for UNC Modification 0451AV - Individual Settlements for Pre-Payment & Smart Meters.

In the absence of any other sources of daily gas consumption data for pre-payment supply points, SB outlined 2 options:

1. Use the equivalent Non-PPM demand model (so profiles will be the same as credit)
2. Roll forward the current PPM demand model

LOS asked for views on the preferred option, Zoe Ireland (ZI) preferred the roll forward option. Louise Hellyer noted with a small portfolio she was not able to provide much in the way of comments and asked if any others on the call with a PPM demand were in a position to comment. No further comments were provided.

The Workgroup considered the options further. MP explained Xoserve are not entirely comfortable with using old models, as they are not able to undertake enough analysis or test if the profiles look okay. He confirmed that Xoserve had contacted the larger pre-payment Shippers to contribute additional data however unfortunately data has not been made available. MP explained that Xoserve have no desire for either option. It was suggested by E.ON if there was an option to adjust profiles using a hybrid.

The Workgroup considered the availability of data and which option to consider going forward. After further consideration, the TWG agreed to take forward the Roll forward option.

Agreement: Workgroup Representatives agreed to Roll forward the current PPM demand model.

Emma Buckton (EB) asked about last year's sample and the significant drop in data. SB explained that last year most of the samples were provided by a single Shipper but this was not provided this year hence the drop. The Workgroup considered obtaining data from pre-payment smart meters.

New Action 0402: Xoserve/CDSP (SB) to consider what information could be reported to PAC and the ability to obtain additional sample data.

SB went on to review the NDM Consumption Bands 2-4 and asked TWG which models they would like to take forward from page 19.

SB referred to the supply point count spreadsheet and asked for feedback/views on the proposed runs which will be presented at the May meeting.

SB proposed individual LDZ analysis for all LDZs except for WN which will be combined with NW. He clarified NW would still have an individual LDZ analysis for Band 2, with market sector code i. It was proposed that Band 4 would also individual LDZ analysis.

SM continued with Section 3 of the presentation to provide a review of the sample data for Small NDM, sample numbers, the proposed aggregations and the WAR band thresholds for EUC WAR Bands 3-4.

SB confirmed the WAR value of a supply point is defined as the actual consumption in the months December to March divided by the new supply point AQ. Since the numerator is actual demand and the denominator is weather corrected annual consumption, WAR values change from year to year. SB clarified that the WAR band ratio boundaries will be defined at 3 decimal points to make it easier to get closer to the target percentage splits and for practical reasons Xoserve can only proceed to the modelling stage with one WAR band definition per band.

SM referred to the supporting spreadsheet and proposed individual LDZ analysis for all LDZs except for WN which will be combined with NW. He clarified NW would still have an individual LDZ analysis for small NDM WAR Bands 3-4.

2.3. Large NDM – Proposed EUC Modelling Runs and WAR Band Limits

Within section 4 of the presentation SB provided a review of Sample Date for Large NDMs and the proposed aggregations for EUC Consumptions Bands 5-9

SB confirmed that for Band 5 again NW was below the threshold, so proposed to combine WN with NW. Band 6 was also below the threshold so again a combination was required.

For Bands 7&8 individual analysis was proposed for most LDZs except WS to be combined with SW, EA combined with NT, SE combined with SO and NW combined with WN (these were confirmed on page 28 of the presentation).

SB provided further recommendations on Page 30 for the Large NDM WAR Bands 5-8.

Agreement: Workgroup Representatives agreed to all of Xoserve's proposals and agreed to commence EUC modelling for presentation at the May meeting.

3. Unidentified Gas Analysis – Use of Uplift Factors: Gas Year 2019/20

Mike Maguire (MM) provided a presentation on the Unidentified Gas (UiG) analysis and the use of uplift Factors. MM explained the objective of today's meeting would be to review the effect of the uplift factors which have been applied to Demand Estimation parameters throughout Gas Year 2019/20 and discuss their future use during Gas Year 2020/21.

MM confirmed in 2018, ahead of Gas Year 2018/19, DESC agreed to the application of uplift factors to the Annual Load Profiles (ALPs) for 01B and to the Daily Adjustment Factors (DAFs) for all EUCs. These factors were calculated in order to reduce the volumes of UiG which since the implementation of Project Nexus were higher and more volatile than the industry expected.

Following analysis of the uplift factors and their impact on UiG during Gas Year 2018/19, DESC agreed in April 2019 that for gas year 2019/20 an adjustment would continue to be made to the Daily Adjustment Factors (DAFs) only.

MM provided a simulation on the daily National Average UiG with and without the uplifts and a breakdown of the average per LDZ. MM reported that all LDZs have had a positive average UiG value so far in Gas Year 2019/20 and the application of the DAF uplift factors had seen a slight increase in average daily UiG levels. Except for Scotland which had seen a reduced average.

MM explained that historically, DAF uplifts have had minimal effect on overall UiG levels. During Gas Year 2018/19 most of the difference between uplifted and non-uplifted UiG levels was due to the uplifts applied to ALPs.

MM recommended in light of the information that uplifts were no longer necessary.

Agreement: Workgroup Representatives agreed to removing the uplift factors.

MP suggested DESC members are informed of this decision via correspondence to ensure the appropriate governance for this change can be managed within the required timescales.

New Action 0403: Xoserve/CDSP (MP) to seek approval from DESC Members to remove the UiG uplift (via correspondence).

4. Seasonal Normal Review Updates

MP provided a recap of the Seasonal Normal Review activities completed in 2019 / early 2020 and the work performed since the last DESC meeting in February 2020. MP confirmed that DESC approved the revised CWV formula and parameters in October 2019.

MP reported in quarter 1 2020, the 2019 Gas Demand EUC Modelling was refreshed using revised weather variables in order to provide indicative views of the impacts to the EUC Demand Models. The subsequent Gas Demand Profiles results were presented in February 2020.

MP confirmed the focus since February has been to ensure awareness is increased across the industry about the implementation of the Seasonal Normal Review. MP reported that a set of core slides have been created and made available on the main DESC webpage to ensure parties are kept informed. MP also confirmed that various forums have been presented with information.

MP explained that from a Shipper perspective where Shippers have an AQ calculation process within their own system, they need to be aware that data is being refreshed and updates will be required. MP confirmed news articles will be provided to ensure customers are kept up to date. MP also provided (on page 5) confirmation of where to find documents in the Xoserve secure area.

MP went on to explain the next key milestones which will be to carry on with Industry communications, to publish the draft Gas Demand Profiles (ALPs, FAF and PLFs) in early Junes and deliver the system changes related to the CWV formula system changes (XRN4772).

MP confirmed in quarter 3 following industry consultation, the next phase will be to produce: revised WAALPs for all EUCs using new ALPs, DAFs, CWVs and SNCWVs to support AQ calculations in September 2020. He clarified this is likely to be of key interest for any Shippers who are replicating AQ calculations. And produce 'Seasonal Normal Ratios' for each EUC which will be applied to those Supply Meter Points which fail to calculate in the September 2020 AQ calculation run.

MP welcomed feedback on the communications.

5. Review of NDM Algorithm (Section H 2.2.2)

MP provided an update on the review of the NDM Algorithm and explained the objective to consider obligations under UNC Section H 2.2.2, review the Supply Meter Point Demand Formula (NDM Algorithm) and the next steps.

MP explained the current formula for determining Supply Meter Point demand, and that this should be reviewed every 3 years. MP clarified that the UNC obligation to review every 3 years is new and this has not been carried out formally since its introduction as part of UNC Modification 0432 - Project Nexus - Gas Demand Estimation, Allocation, Settlement and Reconciliation reform. MP confirmed that by the end of September 2020, a third complete Gas Year under the new regime will have been completed (Gas Years 2017/18, 2018/19 and 2019/20).

MP went on to explain that the current formula is now a standalone 'bottom up' estimate of NDM demand and is no longer the balancing figure (a role now taken up by UiG, meaning its accuracy/performance is more open to scrutiny. Analysis completed by the UiG Task Force has focussed on the performance of the NDM Algorithm and has provided findings which suggest an approach which utilises 'Machine Learning' which could offer improvements to the daily estimation of NDM demand.

MP confirmed that DESC and the DESC TWG need to consider the approach of the review and reminded representatives of Action 0206.

Although DESC have the obligation to review the Supply Meter Point Demand Formula, MP explained that there is already a wider industry interest in the possible use of Machine Learning, this has been floated at a number of forums and needs to be considered as part of the DESC review. MP was keen for DESC to understand the Pros and Cons and how this could enhance the modelling. MP confirmed an options paper is due to be presented to the industry in July.

MP provided an overview of Xoserve's Demand Estimation team's requirement for completing the review, which needs to include: the Approach/Methodology, the Success Criteria, the Key Stakeholders, Timescales, and Industry Consultation. MP believed this would be a significant piece of work which could be considered as part of the Adhoc Work Plan review in late July and welcomed feedback/views/questions on the process over the few weeks ahead of formally discussing this again at the July DESC meeting.

MP confirmed at the July DESC meeting that the majority of the work needed for the new Gas Demand Profiles should have been completed and the Machine Learning options paper should also be available to consider as part of the overall NDM Algorithm review.

<p>New Action 0404: DESC and DESC TWG to consider and feedback to Xoserve any suggestions on the NDM Demand approach document ahead of the July DESC meetings.</p>

6. Ad-hoc Work Plan

LOS confirmed this was a standard agenda item. There were no additional elements which needed to be discussed under item 5.0.

7. DESC Related Modification/Change Updates

MP confirmed there are two DESC related changes to bring to the Workgroups attention. These were:

XRN4772 which relates to changes to the CWV formula. MP confirmed that Xoserve is currently testing the final changes in UK Link and confirmed that this is on track for the June change release to take effect from October 2020.

XRN5143 which related to the transfer of the NDM sampling obligations from DNs to CDSP. This was tabled at the 08 April DSC Change Management Committee where it was suggested that DESC need to be consulted with about the change. MP noted that the key thing is that any proposed change to the sampling obligations must not impact the ability to create demand models.

8. Communication of Key Messages

MP confirmed the agreements will be captured and communicated via the DESC key messages process. The Key Messages will be published at:

<https://www.gasgovernance.co.uk/desc/summarykeymessages>

9. Any Other Business

9.1. UNC User Appointment Process DESC

It was confirmed that the UNC User Representative Appointment process is due to commence for membership nominations for all Committees. Shippers were encouraged to ensure they have a nominated a Single Point of Contact (SPoC) registered for their organisation to be involved in the process and were advised that DESC membership nominations will be requested in due course. It was clarified that the current DESC members would not be automatically carried forward, DESC members were therefore encouraged to ensure their SPoC completes a nomination form for membership effective from October 2020 when requested.

9.2. Short Notice Papers for DESC TWG

MP asked workgroup if prior agreement could be confirmed during the meeting to provide short notice papers on 14 May for the next TWG meeting due on 18 May. Short notice papers were agreed.

9.3. Teleconference Feedback

LOS welcomed feedback on today's proceedings via the feedback forms which would be sent by the JO.

10. Diary Planning

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

Time / Date	Venue	Workgroup Programme
DESC Technical Workgroup Meetings		
10:00 Monday 18 May 2020	Via Teleconference <i>Short notice papers agreed 14 May</i>	Standard agenda, plus <ul style="list-style-type: none"> Review progress on Single Year Modelling Results
DESC Meetings		
10:00 Monday 06 July 2020	TBC	Standard agenda, plus <ul style="list-style-type: none"> 2020/21 NDM Algorithms: Review TWG responses Seasonal Normal Review update (including update on action 0201)

10:00 Wednesday 22 July 2020	TBC	Standard agenda, plus <ul style="list-style-type: none"> • 2020/21 NDM Algorithms: • Response to Industry Representations • Weather Station Review • Review Adhoc Workplan • Seasonal Normal Review Update
10:00 Monday 05 October 2020	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Standard agenda, plus <ul style="list-style-type: none"> • NDM Sample Update • Seasonal Normal Review Update
10:00 Monday 07 December 2020	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Standard agenda, plus <ul style="list-style-type: none"> • Evaluation of Algorithm Performance for Gas Year 2019/20 • Modelling Approach – Spring 2021

Action Table (as at 27 April 2020)

DESC Actions					
Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
0201	10/02/20	2.0	CDSP (MM) to provide more information and detail on the calculations in relation to AQ Ratios including the checks undertaken as part of the update on Seasonal Normal Review at the 06 July meeting.	CDSP(MM)	Carried Forward
0202	10/02/20	2.0	CDSP (MM/MP) to provide an update to the Performance Assurance Committee (PAC) of the DESC work on Seasonal Normal Review.	CDSP (MM/MP)	Closed
0203	10/02/20	3.0	Jason Blackmore (JB) to provide more information on a formal validation check of the Stratification approach for EUC Bands 01 and 02 for discussion at the April meeting.	Jason Blackmore (JB)	Carried Forward
0204	10/02/20	3.0	DESC members (all) to review the DESC Technical Workgroup membership on the Joint Office website (https://www.gasgovernance.co.uk/DESC/TWGRepresentatives) to ensure it is correct and notify Joint Office of any changes that need to be made.	DESC members (ALL)	Carried Forward
0205	10/02/20	4.0	CDSP (MP) to consider the development of guidelines for Shippers to increase data quality issues.	CDSP (MP)	Closed
0206	10/02/20	6.0	DESC members (all) to review the UNC Section H requirement at paragraph 2.2.2 and consider the approach to this work	DESC members (ALL)	Carried Forward
DESC TWG Actions					

TWG 0401	27/04/20	2.2	DESC TWG to consider Band 1 sample size and ability to model Band 1 Pre-payment Domestic Sites and I&C - EUC Demand Modelling	DESC TWG	Pending
TWG 0402	27/04/20	2.2	Xoserve/CDSP (SB) to consider what information could be reported to PAC and the ability to obtain additional sample data.	CDSP (SB)	Pending
TWG 0403	27/04/20	3.0	Xoserve/CDSP (MP) to seek approval from DESC Members to remove the UiG uplift (via correspondence).	CDSP (MP)	Pending
TWG 0404	27/04/20	5.0	DESC and DESC TWG to consider and feedback to Xoserve any suggestions on the NDM Demand approach document ahead of the July DESC meetings.	DESC & DESC TWG	Pending