Joint Office of Gas Transporters

Demand Estimation Sub-Committee Minutes
Monday 08 July 2019
at Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA

Attendees

Chris Shanley (Chair)	(CS)	Joint Office	
Helen Cuin (Secretary)	(HCu)	Joint Office	
Anupa Purewal	(AP)	E.ON	Voting Member Alternate
Dave Mitchell*	(DM)	Scotia Gas Networks	Voting Member
Emma Buckton*	(EB)	Northern Gas Networks	Voting Member
Fiona Speake	(FS)	npower	
Guv Dosanjh	(GD)	Cadent	Voting Member
Jason Blackmore	(JB)	British Gas	Voting Member
John Jones*	(JJ)	Scottish Power	
Josh Mallett	(JM)	npower	
Joseph Lloyd	(JL)	Xoserve	
Louise Hellyer	(LH)	Total Gas & Power	Voting Member
Mark Jones*	(MJ)	SSE	Voting Member
Mark Perry	(MPe)	Xoserve	
Mark Palmer*	(MPa)	Orsted	
Nick Pollard*	(NP)	Northern Gas Networks	
Sallyann Blackett*	(SB)	E.ON	
Simon Geddes	(SG)	National Grid	
Smitha Coughlan*	(SC)	Wales & West Utilities	Voting Member

Apologies

Lorraine Edgcumbe	(LE)	E.ON	Voting Member
Toby Thornton	(TT)	National Grid	Voting Member

via teleconference

Copies of papers are available at: http://www.gasgovernance.co.uk/DESC/080719

1. ### Introduction and Status Review

   CS welcomed everyone to the meeting.

   1.1. #### Apologies for Absence

   Please refer to the above table.

   1.2. #### Note of Alternates

   Anupa Purewal for Lorraine Edgcumbe.

   1.3. #### Approval of Minutes (01 April 2019 DESC and 10 June DESC TWG)

   The minutes from the previous DESC and DESC TWG meetings were approved.

1.4. Review of Outstanding Actions

DESC 0401: Reference the Demand Estimation Methodology document - Xoserve (MPe) to prepare both a change marked and clean version of the updated document for DESC approval via an email communication.
Update: CS referred to the provided publication '1.4 DESC Demand Estimation Methodology Document Approval Summary April 2019' and confirmed that revised documents had been published. **Closed**

DESC TWG 0601: DESC Technical Workgroup members to provide comments on the proposed CWV+ calculation (CWV+ Description paper) by email to British Gas (JB) by 12 June 2019.
Update: Complete. **Closed**

DESC TWG 0602: DESC Technical Workgroup members to provide feedback on the new approach (outlined in slide 7) to optimise on the total SSE across all years by 12 June 2019.
Update: Complete. **Closed**

DESC TWG 0603: DESC Technical Workgroup members to provide any further views on whether to retain the 2015, V1, V2, q or 2020 parameters (supported by DESC TWG) to benchmark CWV by 12 June 2019.
Update: Complete. **Closed**

DESC TWG 0604: Xoserve (FC/JL) to issue a communication to DESC and DESC TWG members on the impact of the change of date to the early May Bank Holiday 2020. Members are asked to provide a response asap.
Update: CS confirmed a communication had been issued and the topic would be covered under item 2. **Closed**

2. 2019/20 NDM Algorithms: Review TWG and DESC Representations

MPe provided a presentation in response to the Representations on the 2019/20 NDM Algorithm.

JL outlined the timetable stressing that the final EUCs and Demand Models must be approved and submitted to the Authority and loaded to CDSP systems by 15 August 2019, summarising the progress made so far.

Model outcomes were provided on pages 9 and 10 for the smoothed models for the Small NDM and Large NDM populations.

JL outlined the representations received from DESC and DESC TWG members, and the aim was to provide members with the opportunity to understand the queries that had been submitted and Xoserve's response.

Representations had been received from 3 parties with queries regarding:
- The Victory in Europe (VE) Bank Holiday announcement
- Xoserve Pre-Payment EUC models
- General comments on ALP / DAF profiles

JL confirmed that the early May Bank Holiday will be moved from Monday 04 May to Friday 08 May and a detailed note had been issued explaining the impacts on the holiday profiles. JL summarised the two options which involved either swapping the holiday codes for the 2 days (Option 1) or shifting the whole holiday period (Option 2). He confirmed that 5 responses and been received, 4 supported Option 1 and 1 supported Option 2.

JL then advised that the modelling system had been updated to reflect Option 1 and revised ALPs and DAFs had been published on the 21 June 2019. He then asked if DESC were happy to proceed with Option 1 and no objections were raised. Finally, JL suggested that this issue has further highlighted the need to look at the holiday codes but that the topic had already been captured on the adhoc workplan.

MPe provided an overview of the new Pre-Payment EUC Models which are being reviewed, confirming some concerns have been raised. He reported that for 5 of the 13 LDZs, the draft Peak Load Factors (PLFs) and Annual Load Profiles (ALPs) for the Prepayment domestic EUC are 'peakier' than the equivalent Non-Prepayment domestic EUC. A number of pre-payment profiles were provided as an illustration to show the differences and an overview of the sample data used.

MPe noted that 12 of 13 LDZs showed a bigger reduction for 01BPD Christmas Holiday Code 1, when compared to the equivalent 01BND model. The Summer Holiday codes were also considered.

MPe reported that the draft ALPs and PLFs for the Pre-Payment models are inconsistent with previous analysis. He explained the general industry view is that Prepayment consumers follow a 'flatter' profile and are less weather sensitive. It was noted that the models had been derived from data provided by a single 3rd party supplier. MPe confirmed that Xoserve had checked the source data and were satisfied that the supply points did not contain any data issues. The third party which provided the SMART metered data also confirmed that the supply points used in the modelling represent Domestic Pre-payment consumers. It was acknowledged that there were less sites than would have been liked for the samples and that this could make the data more volatile. MPe advised that the sample sizes were circa 80 per LDZ and the optimum level was circa 384.

For this year's Prepayment models Xoserve only had one year to use. MPe explained that the results highlight the reason why traditionally a combined 'smoothed' model of 3 individual years is used to derive the profiles each year. In addition to this, Prepayment consumers by their nature are likely to be less predictable in their consumption patterns due to other factors outside of the current modelling approach.

MPe summarised the range of options for DESC to consider on Prepayment Domestic models. These were:

- Do Nothing, 'Let the data decide' and use ALPs, DAFs and PLFs as published
- Where Prepayment Domestic PLFs are lower than standard Domestic values (i.e. peakier) or for ALL Domestic PLFs use the Non-Prepayment Domestic PLFs but retain ALPs and DAFs as published
- Apply the Domestic PPM demand model used in the Modification 0451 adjustments process (based on a larger sample size using weekly reads and holidays included)
- Produce a single National model based on all data collected
- For this year select the standard Non-Prepayment Domestic profiles until additional years data is available to produce a more robust model

AP expressed concern about the number of sample sites and wouldn't support using the initial data, the 'do nothing' option. If the outcome was as expected there would be more comfort using the model.

AP enquired if it would be worthwhile undertaking a comparison to look at the lower seasonality of the standard profile for one year, to ensure it was a fair representation. Without this it would be difficult to determine if this model could be right. SB clarified that the industry can't use set ALFs and DAFs or the peak load factors.

SB enquired whether it would be worthwhile undertaking a comparison with the pre-nexus profiles. MPe suggested, that if the industry want a more robust pre-payment model DESC may want to look at the model used for Modification 0451 - Individual Settlements for Pre-Payment & Smart Meters and apply proportions to the new standard domestic model, and not rely on single years prepayment data.

It was considered if the industry ought to obtain more data and have a three-year smoothed model. It was noted that recent modifications would improve the provision of sample data in the forthcoming years.

MPe noted the need to calculate a new Load Factor, and the need for some simulation, to do this. MPe confirmed Xoserve have undertaken a calculation using the prepayment models, and the initial results were promising.

DESC considered the extent of the work involved and the ability to revise the pre-payment profiles in the time available. It was agreed to further consider two options; use either a revised Mod 0451 profile (preferred option) or use the standard domestic profile (fall back option).

DESC went on to consider the general comments on ALP / DAF profiles. JL highlighted that for several EUCs (Bands 3, 4, 7) Xoserve are seeing that the profiles are becoming flatter with the introduction of less weather sensitive modelling for 2018/19 and the dropping off, of the more weather sensitive year 2015/16. The reasons for this have been examined by looking at a number of illustrations that were provided.

The conclusions and next steps were summarised:

- DESC approved the use of Option 1 for the modelling of the early May Bank Holiday. Version 2 of the ALPs and DAFs will be available within Xoserve's secure area and Version 1 will be removed.
- More work is to be undertaken on the modelling of the Domestic Prepayment models before DESC are asked to approve the smoothed EUC demand models which have produced this year's draft Derived Factors (ALPs, DAFs and PLFs).
- Once DESC approval is gained on this year's process, Xoserve can apply the uplift factors to the DAFs as agreed earlier this year when changes were made to the NDM Demand Estimation Methodology document. MPe advised that Xoserve are analysing the impacts to UIG for Gas Year 2018/19 from using the uplifted DAFs only and this will be provided ahead of the meeting to assist with the DESC decision to use the uplift factors to the DAFs for the next period.
- DESC meeting on 22 July 2019 will provide the final opportunity to consider and approve this year's proposals.

3. **Seasonal Normal Review Update**

MPe provided two papers, a Seasonal Normal Review DESC Presentation and a Seasonal Normal Review (SNCWV Review Appendix 1).

MPe summarised the milestones. These were for DESC to:

- Decide whether to consider a revision to the existing CWV formula and confirm the template for its 'benchmark' results (01 April)
- Define proposed CWV formula for next period i.e. Gas Year 2020/21 onwards (08 July)
- Confirm parameters for use in proposed CWV formula for Gas Year 2020/21 (07 October)
- Decide whether to revise existing SNCWV (01 April)
- Confirm revised SNCWV values (09 December)

3.1. **Decision on the CWV Formula definition**

JB provided a presentation on the Trial CWV+ Optimisation Results and a further paper on the Seasonal Normal Effective Temperature (SNET) and Seasonal Normal Effective Solar (SNES) Description.

JB highlighted that since the last meeting, EDF had enquired about using hourly solar reading before taking the daily average. JB said that this was difficult to calculate due to zero solar hours, but it could be considered as part of future work.

JB then provided the optimisation results for two methods (the initial x years method (optimisation is undertaken after each year) against the new method total SSE (optimisation is undertaken once on the total of all years) and explained the benefits of using solar in both approaches for the 2015, 2020 and CWV+ models. He also highlighted that Xoserve had also recommended using one goal seek and this has been applied to the total SSE and was marginally the best.

DESC considered the results and the range of improvement between the different approaches and models.

JB provided the SNES Profile which was similar to the SNET.

He then explained how Rainfall could be included to future proof CWV. This could be achieved by either building in a Rainfall parameter with an initial value of 0 or having a Rainfall measurement calculated for each gas day.

MPe asked for further clarity in how this could be built into the system and the expectations of data usability. The value of making the change was discussed further, along with considering the use of a simple option to build in some future proofing parameters, with recognition the approach may change, when the data and its impact is better understood. DESC discussed the collation of rainfall data, how this could be built into the calculation and the use of a weighting to take into account the timing of the rainfall having less impact at particular times in the day such as during the night. There was a general consensus that the CWV should be future proofed as much as possible with a view to using Rainfall data. DESC considered the average weighting over the day, rather than just considering wet days verses dry days. It was agreed to build into the parameter an hourly collation of data with a possible weighting for each slot with the ability to build a weighted average. JB then provided an overview of the detailed results (from slides 10 onwards) and the SNET and SNET Description document.

Referring back to the Seasonal Normal Review DESC Presentation, DESC approved the revision to the CWV formula to include solar, as described on slide 5. This was a unanimous vote of the members present at the meeting.

MPe agreed to return to the next meeting a further revision to the CWV formula that will include rainfall, for approval.

New Action 0701: Xoserve (MPe) to provide a proposed revision to the CWV formula to include rainfall, for consideration and approval.

3.2. Review of Seasonal Normal Basis (SNCWV)

MPe continued with the Seasonal Normal Review DESC Presentation (slide 6).

MPe provided a summary of the illustrative charts provided:

- Overall the Seasonal Normal CWV appeared to have a good benchmark of average weather as the results showed a close fit to observed CWV in terms of level and shape for majority of the LDZs.
- October to December and April to June have been warmer than Seasonal normal, with the reverse being true of January to March and August to September. July was closest to normal with 6 LDZs being colder and 7 being warmer than normal.
- In the event DESC use the Climate Change Methodology (CCM) output (but moved on 5 years) for setting the SNCWV from October 2020, the analysis would appear to support this decision

MPe summarised the expected next steps for DESC, these were:

CWV Formula Review:

- Respond to any actions/issues raised
- Optimise the coefficients for all LDZs, publish final values and present to DESC in Q3 2019

Setting SNCWV:

- Engage with the Met Office to gain an up to date view of the provisional decision made by DESC in 2017 to continue with Climate Change Methodology (CCM) output produced in 2014
- Prepare a draft approach for deriving the SNCWV in Q4 2019

DESC considered the climate models, confidence in the models, and if it was worthwhile understanding from the Met Office if there are any results from recent climate studies which may contradict the models used in the production of CCM data, for DESC to consider as a sense check. It was agreed a sense check would be worthwhile.

New Action 0702: Xoserve (MPe) to contact Met Office to discuss current CCM output and its relevance to latest climate studies.

SB enquired about the 5 Year period and a rolling period, and the options to use the middle of the 5-year period, or an end point. MPe confirmed that all options were possible and would be captured in the methodology to be discussed in October.

MPe then asked about Seasonal Normal and how to revise CWV history considering the solar revision.   It was noted that DESC may need to consider a gap filling exercise for historical solar data, for effectively calculating the base.

4. UIG Taskforce Recommendations for DESC – Machine Learning Next Steps

Item deferred. Parties were asked to note the meeting material published - UIG Task Force Machine Learning Next Steps. CS highlighted that he had made a few suggestions on the presentation content that he hoped would make the proposal for DESC clearer. A presentation will now be provided at the next meeting on 22 July.

5. Update on the Enhanced Information Provision Initiative (National Grid)

CS referred to the publication of the material for the Operational Data Enhancements Project. Item deferred until 22 July.

6. DESC Related Modification/Change Updates

MPe provided a brief update on two DESC related Change Proposals.

XRN4772 Composite Weather Variable (CWV) Improvements. This is still being discussed as to which release this will feed into. It was noted this change needs to be tabled before October 2020, so June 2020 would seem to be the best release available.

XRN4665 Creation of new End User Categories (v7 18 March 2019) - it was highlighted that part a and b would be implemented in August.

7. Adhoc Work Plan Review

MPe confirmed that the next DESC meeting will review the Adhoc Work plan.

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. Replacement Modelling System

MPe advised that Xoserve are in the process of designing a replacement modelling system.

Feedback was requested on the outputs produced by Xoserve, such as the requirement of text files and if they would be needed going forward.

JB enquired about the availability for the daily total AQ by EUC Band, which he believed would be useful. It was confirmed this data is available in the Xoserve secured area. MP agreed to provide a post meeting note to provide further details.

Post Meeting Note: On a monthly basis, a report is published in the secure Xoserve area under Folder 18. NDM Profiling and Capacity Estimation Algorithms / UIG / UIG_Additional National Data_yyyymm. This satisfies the request raised by JB at the meeting

10. Diary Planning

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

Time / Date	Venue	Workgroup Programme
10:00 Monday 22 July 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Standard agenda, plus • Update on the Enhanced Information Provision Initiative (National Grid) • 2019/20 NDM Algorithms: Response to Industry Representations • Seasonal Normal Review Update • Current Weather Station Review • Agreement of Ad-hoc Work Plan • UIG Taskforce Recommendations for DESC – Machine Learning Next Steps
10:00 Monday 07 October 2019	Radcliffe House, Blenheim Court, Warwick Road, Solihull B91 2AA	Standard agenda, plus • 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	Standard agenda, plus • Evaluation of Algorithm Performance for Gas Year 2018/19 • Modelling Approach – Spring 2020 • Seasonal Normal Review Update • Communication of Key Messages

DESC Action Table (as at 09 July 2019)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
DESC 0401	01/04/19	2.	*Reference the Demand Estimation Methodology document -* Xoserve (MPe) to prepare both a change marked and clean version of the updated document for DESC approval via an email communication.	Xoserve (MPe)	**Closed**
DESC 0701	09/07/19	3.1	Xoserve (MPe) to provide a proposed revision to the CWV formula to include rainfall, for consideration and approval	Xoserve (MPe)	**Pending**
DESC 0702	09/07/19	3.2	Xoserve (MPe) to contact Met Office to discuss current CCM output and its relevance to latest climate studies.	Xoserve (MPe)	**Pending**

DESC TWG Action Table (as at 09 July 2019)

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
DESC TWG 0601	10/06/19	2.1	DESC Technical Workgroup members to provide comments on the proposed CWV+ calculation (CWV+ Description paper) by email to British Gas (JB) by 12 June 2019.	ALL	**Closed**
DESC TWG 0602	10/06/19	2.1	DESC Technical Workgroup members to provide feedback on the new approach (outlined in slide 7) to optimise on the total SSE across all years by 12 June 2019.	ALL	**Closed**
DESC TWG 0603	10/06/19	2.1	DESC Technical Workgroup members to provide a view on whether to retain the 2015, V1, V2, q or 2020 parameters to benchmark CWV.	ALL	**Closed**
DESC TWG 0604	10/06/19	5.1	Xoserve (FC/JL) to issue a communication to DESC and DESC TWG members onto assess the impact of the change of date to the early May Bank Holiday 2020. Members are asked to provide a response asap.	Xoserve (FC/JL) /ALL	**Closed**