

UNC Demand Estimation Sub-committee Minutes
Tuesday 15 November 2016
Consort House, 6 Homer Road, Solihull B91 3QQ

Attendees

Helen Cuin (Chair)	(HC)	Joint Office
Lorna Dupont (Secretary)	(LD)	Joint Office
Andy Smith	(AS)	British Gas
Daniel Rowley	(DR)	Xoserve
Fiona Cottam	(FC)	Xoserve (Alternate for 3 Transporters)
Fiona Speak	(FS)	RWE npower
Janet Coley	(JC)	National Grid NTS (Alternate)
Jason Blackmore	(JB)	British Gas (Member)
Joseph Lloyd	(JL)	Xoserve
Mandeep Pangli	(MPa)	Xoserve
Mark Perry	(MP)	Xoserve
Martin Attwood	(MA)	Xoserve
Robert Wigginton	(RW)	Wales & West Utilities (Alternate)
Sallyann Blackett	(SB)	E.ON UK (Member)
Tony Davey	(TD)	SSE (Member)
Dr Xiaolin Chen*	(XC)	EDF Energy (Member)

Apologies

Chris Warner	(CW)	National Grid Distribution (Member)
Hilary Chapman	(HCh)	Scotia Gas Networks (Member)
Joanna Ferguson	(JF)	Northern Gas Networks (Member)
Phil Clough	(PC)	National Grid NTS (Member)
Richard Pomroy	(RP)	Wales & West Utilities (Member)

* *via teleconference*

Copies of papers are available at: <http://www.gasgovernance.co.uk/DESC/151116>

1. Introduction

HC welcomed all to the meeting.

1.1 Note of Alternates

R Wigginton for R Pomroy (Wales & West Utilities).

J Coley for P Clough (National Grid NTS).

F Cottam (Xoserve) for Transporters: National Grid Distribution, Northern Gas Networks and Scotia Gas Networks.

2. Review of Minutes (26 July 2016)

The minutes of the previous meeting were approved.

3. Update on Ad Hoc Workplan items

3.1 Progress on Summer Algorithm Performance

MP gave a presentation “Review of Summer Modelling Performance”, recapping on the ad hoc work plan items agreed as priorities, which included a consideration of possible measures to improve algorithm performance over the summer period.

Xoserve was tasked with investigating whether the accuracy of the NDM modelling over the summer months can be improved whilst ensuring the winter performance is not adversely affected, and to ensure any improved accuracy in the NDM modelling also flows through to reducing the volatility of the Unidentified Gas (UG) values during the same period. MP described the scope and the approach taken, and then presented the results of each level of the analysis.

‘1.1) Reviewing previous algorithm performance results (NDM sample strand) over recent gas years to confirm any patterns/trends in summer across the bands’

MP explained that initial investigation focused solely on the 01B sample results as at a population level this represented circa 75% of the NDM market. The results were presented and described. There appeared to be a north/south divide, and similar patterns were evident across each Gas Year period. Over the 3 years analysed there was a clear trend of the models over allocating during the summer and under allocating during the winter. The percentage error in the summer appeared bigger than in the winter; in practice the volume of energy difference is likely to be lower. Actual summer demands are lower than in the winter, which can mean percentage errors are greater.

Further analysis was then undertaken, looking at a breakdown of the differences by quarter. Over the three years analysed it appeared that Q3 (July to September) was where the biggest differences were seen. There appeared to be a split observed in the results; for LDZs EA, NT, SE and SO there appeared different outcomes to the other LDZs, in terms of accuracy and trends. A further breakdown of Q3 was analysed showing the daily differences, and multiple graphs were presented; the weather for each year and the outcomes were discussed.

MP summarised that over the 3 years analysed it was clear that for 01B the models are over allocating in the summer and under allocating in the winter, and posited various reasons for this conclusion. Xoserve believed there to be a need to investigate options available within the existing modelling approach which could assist in improving the overall performance.

‘1.2) Reviewing previous similar DESC analysis and its conclusions to confirm why current parameters / test criteria are used’

MP recapped on why certain decisions had been made in the past, regarding non-application of summer cut-off criteria, the treatment of holiday days, and the accepted breakpoints in consumption ranges. It had not been possible to identify when/why the current parameters for summer reductions had been set up.

Results of previous analysis

ALPs/DAFs - The previous decision of not allowing cut-offs for 01B EUCs still appeared to be valid. As the current models appear to be over allocating it would seem unwise to reintroduce an additional restriction to the models which mean the forecast demand is not allowed to drop below a certain level.

Holiday Days - As the summer does include holiday periods it is possibly advisable to check whether the approach for 01B EUCs of including holiday days in the Monday to Thursday model is still valid by reviewing more recent years’ sample data.

Breakpoints - The possibility for changing the band breakpoints has been reviewed over the years, but in all cases there was no compelling evidence for changing the existing band. As the last analysis was done some time ago it may be worth considering as a future ad hoc

work area, however it cannot be achieved in time for Spring 2017. This was discussed and it was suggested that other bands also be looked at, as well as considering cross band effects. Anything that could be implemented fairly quickly should be considered.

Summer reductions - The flipping of models from summer reductions to no reductions was discussed. It was observed that if the test was easier to pass then the model was more likely to flip. It was suggested that variables should be tried in isolation and combination to see what effect each has individually/in combinations on the modelling.

'1.3) Reviewing results from simulated UG analysis in order to provide additional understanding on how demand models are performing'

MPa gave a brief presentation, observing there was a new concept of daily Unidentified Gas (UG) in the post Nexus regime, that Xoserve believed there may be an association between allocation accuracy and the simulated levels of UG, and had explored to see if there was any relationship between the two variables. MPa confirmed the data used in the analysis and the approach taken. The results were displayed in various forms.

MPa summarised that the results from the hypothesis testing indicated that there is an association between allocation accuracy being under/over and Unidentified Gas being positive/negative. Previous analysis on UG has been unable to establish any individual variables explaining a large proportion of the variation in UG. The results from the regression analysis confirmed that 50-60% of the variation in UG is explained by the accuracy in 01B allocation; 40% still remains unexplained. It was observed that UG percentages appeared to be larger in the summer months, particularly July - September, which coincided with when allocation accuracy performs at its worst.

FC added that any testing of the model would also look at the effects on UG.

Results for Current Modelling Profiles

'1.4) Seeking feedback from DESC/TWG for any additional information/evidence they have that could assist with investigations'

MP reported that Xoserve had written to DESC and TWG in September inviting comments on this ad hoc work plan item. One response had been received, which indicated that the respondent was happy with the definition of summer period (April to September). Other observations were made, that the models do not seem to reflect continued demand reduction during peak summer (where CWV is capped); that there appears to be increased variability where temperatures are further away from seasonal normal (this differs by season) – this is hard to reflect in parameters that are CWV rather than date specific; and that Shoulder periods are also variable in their behaviour but this may be more tricky to reflect in the modelling.

Modelling System

'2.1) Confirming all parameters available within existing modelling system influencing summer profiles e.g. summer reductions, cut offs, holidays'

MP outlined the key areas of the Spring Approach document that could be revisited to assess if they were still valid in their application. There may be some parameters that could be reassessed to see if they make a significant difference to the modelling, and perhaps this needs an early discussion? SB thought this might depend on what was identified, starting with what could be flexed quickly to achieve sufficient measurable movement. SB would prefer it to fall naturally out of the analysis rather than be an artificial construct. Consideration might have to be given to what could be overlaid.

FC explained that Xoserve's analysis had simulated what Nexus might do, but it was not known what it actually would do, e.g. the impact of rolling AQs. SB observed this analysis is better than what we see in practice because it is based on more up-to-date AQs; The system AQs post go-live may be less up-to-date meaning the gap initially is likely to be

worse.

Asked for views on what parameters should be revisited, the exclusion of holidays in the Monday to Thursday model and changes to the summer reductions criteria were suggested. MP said that Xoserve would try some different parameters to see what if any improvements can be identified/applied. This approach was agreed.

Conclusion

MP summarised that the performance reviewed over the past three gas years indicates that the models for 01B are generally over allocating in the summer and under allocating in the winter. The reasons that underpinned the approach to the modelling for 01B have not been reviewed for some time and these may need to be reassessed. As there is an association between Unidentified Gas (UG) being positive/negative and allocation accuracy it would be beneficial to target improving the modelling performance, particularly in the period July to September (which is when allocation accuracy has the largest percentage error).

Next Steps

MP outlined the way forward, whereby Xoserve would create new profiles using different parameters and test them by replicating the NDM algorithm and comparing to the sample data over a number of years, and exploration of other EUC Bands would be undertaken to see if there is an association with their allocation accuracy and UG being positive/negative.

It was hoped to conclude this analysis by the next DESC meeting in February 2017. Following a brief discussion on timeframes, it was agreed that approval of the Spring Approach to modelling 2017 would be sought by email a week after the February DESC meeting.

3.2 Progress on New Algorithm Performance measures

MA gave a presentation on the Post Nexus Algorithm Performance Measures, outlining the background and clarifying the approach taken. It was noted that the values in the illustrations/graphs were for example purposes only, to show what could be displayed/made available, etc, to try and get a balance between visual and statistical assessments in the future.

Strand 1 Weather Analysis

MA described the assessment and the comparison techniques, explained the benefits of the analysis and presented statistics/graphs for illustration purposes. MPa explained what had been considered for analysis. JB asked if a pictorial format could be produced and MA asked if a seasonal or monthly assessment would help. It was suggested adding WCF to the analysis would help to give a better feel over a number of areas, including climate prediction.

Strand 2 Unidentified Gas Analysis

MA described the assessment and the comparison techniques, explained the benefits of the analysis and presented statistics/graphs for illustration purposes. Xoserve is looking to have data available at different levels, which may help with more detailed analysis.

Strand 3 NDM Daily Demand Analysis

MA described the assessment and the comparison techniques, explained the benefits of the analysis. It was proposed to complete the analysis on two bases - Model and Retro - and various data sources would be used; it would be looking to introduce different sets of data, which would be the most radical change. Referring to NDM Sample Data (Xoserve and Third Party) SB suggested that Class 2 data could also be used (as any site below the Mandatory DM threshold can be Class 2 under the new regime). SB suggested that the absence of any UG allocation to Class 2 might encourage uptake of the service, and FC clarified that although the Interim Table of UG Weighting Factors does not assign any UG to Class 2, that this Table will only apply until the end of September 2017, after which the new

AUGE will determine the Factors for all Classes and EUCs. FC added that some assessment needed to be done of Class 2 data against Class 3 and 4 before using it in Spring Analysis or Algorithm Performance. Much depends on the relevant data being available at the right time to provide sufficient useable read history. The timeframe for the availability of data and history was discussed; The Spring Analysis performed in 2019 is when the first full period of daily data in the UK Link replacement system is likely to be available. SB suggested that some data might be able to be back populated.

MA then presented statistics/graphs for illustration purposes. Slide 15 was a new presentation of data. There was a general observation made that a consistent use of colour(s) across graphs/presentations would be appreciated.

Strand 4 Reconciliation Analysis

MA described the assessment and the comparison techniques and explained the benefits of the analysis. In future the analysis will use reconciliation data from Class 4 sites (non-daily metered, with periodic meter readings).

Next Steps

MA summarised that in order to fully benefit from Algorithm Performance Reporting, results and any future modelling proposals are required as soon as possible following completion of the Gas Year, and pointed out that a November DESC meeting did not allow sufficient time to assess all analysis strands, and perhaps consideration should be given to moving to a mid December DESC meeting.

Following a brief discussion it was agreed that an additional meeting be arranged for December 2017 to provide this flexibility. It was agreed to leave the November 2017 meeting in place for the present and cancel if, nearer the time, it was deemed to be no longer required.

Xoserve will complete interim (part Gas Year) analysis for the remaining months of Gas Year 2016/17, following implementation of UK Link replacement (December 2017 delivery), and will carry out full Gas Year analysis for future Gas Years and report Algorithm Performance findings (starting December 2018).

4. NDM Sample Update

MA gave a presentation on the NDM Sample position.

4.1 Update on sample size and disposition

Xoserve Managed Sample

A table was displayed comparing the Target Sample Size with the Actual Sample Size across all LDZs. MA gave an overview of the condition of the sample sizes, observing that numbers have fallen below target in 7 LDZs, and briefly outlined the main reasons for reductions. To maintain an appropriate sample, Xoserve continues to assess consumption data on a weekly basis so that potential issues can be resolved quickly with the aim of minimizing any data loss. Bi-monthly reports on the position are issued to Shippers, and a weekly identification of those sample sites that have had meter exchanges completed now takes place.

Network Managed Sample

A table was displayed illustrating the Current Sample Size and indicating active/inactive sites across all EUCs and LDZs. MA explained the current position. The Inactive number had halved since last year (biggest loss is due to site closures).

A table was displayed comparing the Target Sample Size with the Actual Sample Size

across all LDZs. A similar picture to last year, Active Sample sites have again fallen below sample requirements.

Xoserve continues to work with the Transporters to address sample deficits, providing them with a Quarterly Report detailing all active and in-active sites, and providing lists of potential new sites to support Transporters' installation programmes. Approximately 170 new devices have been installed since the last DESC update in November 2015. Terminations are primarily due to site closures and meter removals, and Xoserve continues to work with the Transporters to investigate inactive sites.

4.2 Request for Third Party sample data

MA reported that Third Party sample data was first employed during the Spring 2016 modelling and had assisted in improving the validated dataset. In September 2016, Xoserve updated the guidance document "*Third Party Supplied NDM Sample Data Guidance and File Format Document*", which is published on Joint Office DESC webpage at <http://www.gasgovernance.co.uk/desc> and Xoserve has since received further Third Party data to support the NDM Sample Analysis (for the period October 2015 to September 2016).

MA advised that Xoserve was now seeking additional help from parties in providing data for use in the Spring 2017 modelling, explaining that by 04 April 2017 Xoserve required Third Party NDM sample data covering the period from 24/02/2016 to 01/04/2017 inclusive. Parties were encouraged to contact Xoserve in the event they could assist in the provision of data.

5. Spring Approach 2017

MP outlined changes for the forthcoming year, observing that Spring Approach 2017 is required ultimately to deliver a set of Derived Factors for use for Gas Year 2017/18. MP confirmed there is no anticipated industry change scheduled for 01 October 2017.

The NDM algorithm formula, for which the DESC is responsible for providing factors, is due to change on 01 June 2017. MP reminded that the Scaling Factor (SF) will no longer be needed, and that the Weather Correction Factor (WCF) will be based on weather variables, hence there will no longer be a requirement to create a set of pseudo SNDs. Also the Daily Adjustment Factor (DAF) will no longer need aggregate NDM output.

There has been a minor amendment to the review and consultation window, and MP advised that, depending on the outcome of the review of the ad hoc assignment looking into summer modelling performance, the Technical Workgroup (TWG) may potentially propose a change which would require an update to the approach. However, as such any proposal would have to be feasible within the existing modelling system. There are no anticipated major changes to the Spring Approach.

The first draft of the Spring Approach document for the 2017 analysis has been published and is now available for review. MP confirmed that Xoserve would write out to the Technical Workgroup representatives to advise that the Spring Approach document had now been published and was available for review. Any comments should be provided to: <mailto:Xoserve.demand.estimation@xoserve.com>.

The DESC will consider any comments received at its next meeting on 15 February 2017, with a view to providing approval of the final version a week after that.

6. Workplan 2017

MP gave an overview of the Work Plan for 2017, and explained the new elements of the approach to the review and consultation window. A checkpoint summary of the programme of activities was provided.

7. Communication of Key Messages

It was confirmed there were no key decisions from today's meeting that needed to be communicated to all UNC parties.

8. Review of Actions Outstanding

DESC/0565 0701: *UNC TPD H1.15.1(c)* – CW to capture UIG in Section TPD H1.15.1.

Update: FC reported that CW had been advised that there is no need to reference UG as a Direct Function – this will be done in UNC TPD Section E. **Closed**

DESC 0703: *UNC TPD H5.1.1* – SB to articulate Shippers' concerns regarding the use of different weather stations by the CDSP and the Transporter and provide to CW for further consideration with the Transporters.

Update: FC reported that CW had advised that an exchange of information between SB and CW was completed on 02 August 2016, and that NGGDL's Control Centre DNCC function has advised that the existing weather provider is to have their contract renewed for another year (so there should be no impact on Shippers).

SB commented that there was still a potential risk existing that different weather stations could be employed and there was nothing in UNC currently to prevent this from occurring; Code was silent. It was acknowledged that although this scenario had been identified as a latent risk, it would be difficult to put anything in place to ameliorate what was currently seen to be very hypothetical in nature. Transporters were now aware of Shippers' views with regard to the possibility of any such changes, and it was noted that should it become an actual issue then there was a clear expectation that Shippers would be very likely to immediately raise a UNC Modification to address any perceived adverse consequences. **Closed**

9. Any Other Business

9.1. Agree approach to review Terms of Reference (FGO/UNC 0565)

It was suggested that DESC should review both the DESC's and the Technical Workgroup's Terms of Reference and consider the changes in response to the requirements under the FGO arrangements and Modification 0565 (in relation to the governance structures, management of alternate members, and how the CDSP may need to be featured at future DESC meetings, etc). All comments to be provided to the Joint Office: enquiries@gasgovernance.co.uk prior to the next meeting (by 06 February 2017).

The DESC ToR and the Technical Workgroup ToR are located at: <http://www.gasgovernance.co.uk/desc>.

Both sets of ToR will be reviewed at the next meeting, with a view to finalising and submitting to the February 2017 Uniform Network Code Committee (UNCC) for its approval.

Action DESC 1101: DESC to review both the DESC's and the Technical Workgroup's Terms of Reference and identify the changes to be made in response to the requirements under the FGO arrangements and Modification 0565. All comments to be provided to the Joint Office: enquiries@gasgovernance.co.uk prior to the next meeting (by 06 February 2017).

10. Diary Planning

Further details of planned meetings are available at: www.gasgovernance.co.uk/Diary

DESC and DESC Technical Workgroup Meetings 2017

Time/Date	Venue	Meeting	Programme
10:00, Wednesday 15 February 2017	Consort House, 6 Homer Road, Solihull B91 3QQ	DESC	<ul style="list-style-type: none"> Evaluation of Algorithm Performance for GY 15/16 Spring Approach 2017 – Approve approach Review DESC and DESC TWG Terms of Reference Communication of Key Messages
10:00, Wednesday 26 April 2017	<i>Teleconference</i>	DESC Technical Workgroup	<ul style="list-style-type: none"> Confirm modelling runs to take forward based on aggregations/WAR band definitions
10:00, Wednesday 17 May 2017	Consort House, 6 Homer Road, Solihull B91 3QQ	DESC Technical Workgroup	<ul style="list-style-type: none"> Review single year modelling results and approve commencement to model smoothing
10:00, Wednesday 12 July 2017	Solihull (<i>venue to be confirmed</i>)	DESC Technical Workgroup, followed by DESC	<ul style="list-style-type: none"> Review TWG and DESC responses to draft proposals Communication of Key Messages
10:00, Wednesday 26 July 2017	Solihull (<i>venue to be confirmed</i>)	DESC	<ul style="list-style-type: none"> Review industry representations Agree Ad hoc work plan Current Weather Station review Communication of Key Messages
10:00, Wednesday 15 November 2017	Solihull (<i>venue to be confirmed</i>)	DESC	<ul style="list-style-type: none"> Ad hoc analysis progress and NDM sample update Communication of Key Messages
10:00, Monday 11 December 2017	Solihull (<i>venue to be confirmed</i>)	DESC	<ul style="list-style-type: none"> Evaluation of Algorithm Performance for GY 16/17 Communication of Key Messages

DESC Action Table (as at 15 November 2016)					
Action Ref	Meeting Date(s)	Minute Ref	Action	Owner	Status Update
DESC/0565 0701	06/07/16	4.	<i>UNC TPD H1.15.1(c)</i> - CW to capture UIG in Section TPD H1.15.1	National Grid (CW)	Closed
DESC 0703	06/07/16	4.	<i>UNC TPD H5.1.1</i> - SB to articulate Shippers' concerns regarding the use of different weather stations by the CDSP and the Transporter and provide to CW for further consideration with the Transporters.	E.ON (SB)	Closed
DESC 1101	15/11/16	9.1	DESC to review both the DESC's and the Technical Workgroup's Terms of Reference and identify the changes to be made in response to the requirements under the FGO arrangements and Modification 0565. All comments to be provided to the Joint Office: enquiries@gasgovernance.co.uk prior to the next meeting (by 06 February 2017). (The DESC ToR and the Technical Workgroup ToR are located at: http://www.gasgovernance.co.uk/desc)	DESC Members	Comments to the JO by 06 Feb 17 Pending