

UNC Demand Estimation Sub-Committee Minutes

Tuesday 21 November 2017

The Arden Hotel and Leisure Club, Coventry Road, Solihull, B92 0ED

Attendees

Helen Cuin (Chair)	(HCu)	Joint Office	Joint Office
Kully Jones (Secretary)	(KJ)	Joint Office	Joint Office
Alexander Holbourne	(AH)	Corona Energy	Voting Member
Andy Smith	(AS)	British Gas	Non-Voting
Carl Whitehouse	(CWh)	First Utility	Non-Voting
Chris Warner	(CW)	Cadent	Voting Member
Darren Lond	(DL)	National Grid NTS	Non-Voting
David Carroll	(DC)	Gazprom	Non-Voting
Dean Pearson*	(DP)	NGN	Non-Voting
Fiona Cottam	(FC)	Xoserve	Non-Voting
Fiona Speak	(FS)	RWE npower	Voting Member
Gareth Evans	(GE)	Waterswye	Non-Voting
Helen Bennett	(HB)	Joint Office	Joint Office
Hilary Chapman*	(HCh)	Scotia Gas Networks	Voting Member
Jason Blackmore	(JB)	British Gas	Voting Member
Justin Price	(JP)	Corona Energy	Non-Voting
Louise Hellyer	(LH)	Total Gas & Power	Non-Voting
Mandeep Pangli	(MPa)	Xoserve	Non-Voting
Mark Jones	(MJ)	SSE	Voting Member (alternate)
Mark Palmer*	(MP)	Orsted	Non-Voting
Martin Attwood	(MA)	Xoserve	Non-Voting
Rebecca Hailes	(RH)	Joint Office	Joint Office
Robert Wigginton	(RW)	WWU	Voting Member
Sallyann Blackett	(SBI)	E.ON	Voting Member

*Via teleconference

Apologies

Phil Clough	(PC)	National Grid	Voting Member
Tony Davey	(TD)	SSE	Voting Member

Copies of papers are available at: <https://www.gasgovernance.co.uk/desc/211117>

1. Introduction and Status Review

1.1. Apologies for absence

Phil Clough (National Grid) and Tony Davey (SSE)

1.2. Note of Alternates

Mark Jones for Tony Davey (SSE); and Dean Pearson for Joanna Ferguson (Northern Gas Networks).

DL advised that there is likely to be a change in the National Grid representative and this would be notified soon.

1.3. Review of Minutes (26 July 2017)

The minutes of the previous meeting were approved.

1.4. Review of Actions Outstanding

DESC 0701: Xoserve to provide an update on the NDM data sample size and how much Shipper data is being obtained at the November meeting, with a view to considering a Cross Code Modification if deemed necessary.

Update: FC confirmed that this would be addressed under agenda item 4.0, so this can be closed. **Closed**

DESC 0703: Xoserve (FC) to update DESC members on results of analysis of suitability of current CCM and arrange an ad-hoc t-con if needed.

Update: FC confirmed that this would be addressed within the presentation Season Normal Review under agenda item 2.0, so this can be closed. **Closed**

2. Seasonal Normal Review

MPa took members through the presentation titled *Seasonal Normal Review* which can be accessed on the website at: <https://www.gasgovernance.co.uk/desc/211117>. She gave a brief overview of the objectives of the meeting which were for DESC members to review the analysis of the Climate Change Methodology (CCM) data used within current calculations of the Seasonal Normal Composite Weather Variable (SNCWV) in order to decide whether:

- a. A new CCM is required or
- b. Whether existing data set can continue to be used for gas years 2020/21 to 2024/25.

She explained that the Seasonal Normal Review consists of two stands:

- a. Reviewing the CWV formula – if DESC agree to continue with the current formula, the decision on revisiting the existing CWV parameters is made. If DESC decide to revise the parameters – the CWV optimisation process would take place
- b. Reviewing the output from the CCM – DESC to be asked to make a decision on whether to continue with the existing CCM (and extend the period of data) or require a new CCM. It was noted that a new CCM project would need to be approved by the DSC Change Management Committee. MPa took DESC members through the slides in more detail, providing more background in relation to the CCM, the methodology of deriving the SNCWV including the main features of the current approach, details of the data used in the analysis, confidence intervals analysis, monthly average temperature comparisons and T-test results.

The following observations/comments/questions were raised during the presentation:

- a. Slide 5 – in relation to the current CCM, it was noted that the period agreed to base the average increments on was 5 years. To change this period would require a DESC members decision.
- b. Slide 5, in response to a question from RW, SBI explained that due to the difficulty of consistency of weather stations, pseudo weather data was created for this exercise back to 1960. The data was backfilled to create a consistent dataset for current weather stations.
- c. Slide 6 – MPa confirmed that analysis included data for 4 years of actual

temperatures (2012/13 to 2015/16) and that DESC members would be asked to consider if new CCM is needed or whether to continue using the existing data. In response to a concern from RW, SBI explained that there are no rules defined in the UNC or a formulaic approach. FC stated that there is a one-off obligation within the UNC to procure a climate change methodology which was future-proofed for 10 years. The methodology looks at projections not actual weather forecasts as well as trends and statistical analysis to determine if climate change forecasts are consistent. Xoserve was looking to gain DESC's judgement as to whether this data is adequate for the next 5 years.

- d. Slide 7 – MPa provided an update on Action 0703. She explained that the CCM used 2 models:
 - I. QUMP (Quantifying uncertainty in model predictions – Met Office) – there are no plans to update this at present but the UKCP18 will produce an updated set of climate projections
 - II. CIMP (Coupled Model Inter-comparison project) – this is still current, model output/evaluation would be available within 2-3 years

She summarised, to state that there is limited new modelling available at present within the Met Office on which to base an update to the CCM. The action was closed.

- e. Slides 10 and 11 – FC confirmed that the graphs show climatological averages and not actual data.
- f. Slide 14 – Monthly average temperature comparisons SC – MPa stated that 11 out of 12 months, the average actual temperatures were colder than the average climatological predicted values. RW suggested that a logical approach was needed to determine tolerance levels. SBI asked if the climate change data was over-estimating the trends and whether the data should continue to be used. In response, FC suggested that a later exercise would be to determine which years of CCM data should be used in the 2020-2025 SNCWV values.
- g. Slide 18 – Monthly average comparisons slide showing the difference between the actual temperatures (for 4 years) and the average climatological predicted values (for 4 years). SBI stated that in all cases the difference was within one degree.
- h. Slide 19 - T-test Results for 4 years of data suggest that there is no significant difference between the average actual temperature and the average projected temperature. In addition, the projected temperatures for the majority of weather stations are warmer in comparison to the actual temperatures. In discussion, it was suggested that consideration be given to adjustment of the averages before further analysis is undertaken. It was also suggested that DESC compare actual Seasonal Normal on an annual basis in the context of the Algorithm performance. MPa confirmed in response to JP's question that generally the CCM temperatures are slightly warmer than actuals. JP also suggested that 4 years of data analysis is too short to assess Seasonal Normal Climatology.

MPa concluded by stating that the analysis suggests there is no statistically significant difference between the average actual temperatures and projected temperatures for the 4 the years analysed. It was suggested that the first bullet on Slide 20 be re-phrased to say that there is "no significant statistical difference". Based on this Xoserve recommended to continue with the current dataset and review the data again in 2022.

Following the recommendation from Xoserve, DESC Members voted unanimously to continue with the existing dataset.

3. Evaluation of Algorithm Performance for Gas Year 2016/17

3.1. Strand 1 – Weather Analysis

MA took DESC Members through a detailed presentation titled *NDM Algorithm Performance (Gas Year 2016/17)* which can be accessed here <https://www.gasgovernance.co.uk/DESC/211117>. He briefly explained that the implementation of Project Nexus on 01 June 2017 introduced a revised NDM demand formula meaning some of the previous Algorithm Performance measures became redundant. The objective for this meeting was to focus on Strands 1 and 2 only.

The following observations/comments/questions were raised during the presentation of slides 4 to 12:

- a. Slide 4 – Weather analysis: JB requested that Xoserve provide the weightings (based on LDZ throughput over the five-year period 2009 to 2013) that were used to derive GB CWV and GB SNCWV values.

Action 1101: *NDM Algorithm Performance (Gas Year 2016/17) - Xoserve (MA) to provide details of the weightings used to derive GB CWV and GB SNCWV values.*

Post-meeting note:

LDZ	SC	NO	NW	NE	EM	WM	WN	WS	EA	NT	SE	SO	SW
Version	32	32	32	32	32	32	32	32	32	32	32	32	32
GB Weighting	9.1%	5.4%	12.1%	6.5%	10.3%	9.1%	1.1%	3.6%	8.2%	11.1%	10.5%	7.2%	5.8%

- b. Slides 6 and 7 – Weather analysis: monthly assessment showing the mean GB CWV for November and March respectively (last 50 years) – ranked coldest to warmest. It was agreed that data range for future analysis should be extended back to 1960.
- c. Slide 8 – Confidence interval analysis. RW asked if DESC were happy using a 95% CI level? SBI confirmed this is the normal statistical level used and DESC members agreed. MA in response to a question from SBI confirmed that WCF values used in the Confidence Interval analysis were based on the Post Nexus formula (i.e. CWV minus SNCWV).
- d. Slide 11 – RW made an observation that the WCF Confidence Interval results for LDZ WS appeared better than in other LDZs.

MA concluded his presentation to state that overall, the observed weather during Gas Year 2016/17 when compared to seasonal normal is generally colder for Quarter 1 and 4 and warmer for Quarters 2 and 3. He also highlighted the stand out periods of unusual weather. Following a general discussion about how algorithm performance can take into account extreme weather conditions and the importance of WAR band analysis, JB requested that the Monthly Assessment bar charts for future iterations of weather analysis should indicate the years which contributed to the 3 years of smoothing data for the gas year being analysed.

3.2. Strand 2 – Unidentified Gas Analysis

MA introduced slides 13 – 21 of his presentation in relation to Unidentified Gas Analysis (UiG). He stated that following Nexus Go-live, UiG is now the balancing figure in each LDZ each day. The objective of the presentation was to share with DESC Members:

- UiG levels for Gas Year 2016/17 (from 1 June 2017)
- Share insights into the causes and impacts of UiG
- Monitor movement of UiG values throughout closeout window.

The following observations/comments/questions were raised during the presentation of

slides 14 to 21:

- a. Slide 14 – MA confirmed the analysis is based on allocated UiG at close out.
- b. Slides 16 - Brief discussion about the negative UiG values prominent in LDZ SO in June and July 2017. It was recognised that there is a known issue in relation to read rejections for a number of DM sites, impacting UiG levels.

It was agreed that the data analysis for LDZ SO be reviewed to identify what factors could be responsible for the negative UiG values. SBI informed Members that data for LDZ by LDZ of total UiG would be helpful to DESC but there is limited published data available. NG historically published data on national positions of all Shippers but they don't publish total UiG.

Action 1102: Xoserve (MA) to investigate the factors that might lead to negative UiG values for LDZ SO.

- c. Slide 17 – MA briefly introduced this slide showing factors contributing to UiG levels and volatility. SBI asked if there was anyway of identifying LDZ metering errors for Transporters. FC informed Members that a tolerance screen had been added to Gemini to show if UiG levels are inside/outside tolerance levels. Concern was raised about the performance of Gemini which was leading to issues in pulling off timely reports. Shippers normally access Gemini at 6am but have found that data is missing and the performance is slow first thing. The suggested time of post-10am to run reports is not helpful to Shippers who want to make decisions based on earlier data. SBI stated that API issues have become worse in the last 3-4 weeks.

Action 1103: Xoserve (FC) to investigate the delays leading to API issues with Gemini in relation to nomination availability.

- d. Slide 18/19 – a discussion took place in relation to UiG through closeout. MA highlighted that Xoserve monitor UiG levels during working days and notify the Control room so that any issues can be investigated. FC confirmed that following an EU obligation the UNC was amended to include extra nominations. JP challenged data availability and accuracy stating that information is provided at 11am and 1pm and the latter provides more reliable data. It was highlighted that the 11am day-ahead values are less reliable as they do not use forecast weather for the coming gas day. It was also suggested whether additional weather data be purchased by Shippers who are making decisions and need reliable data but there is a financial implication of additional weather forecast data. FC stated that D-1 weather forecasts would need each DN to change their contracts with their weather provider. JB asked if DESC is picking up the cost of this additional data as it is the main driver of nomination variability? As a result of discussion, 3 actions were agreed:

Action 1104: DNs to investigate their current contract arrangements to assess if it is possible to procure day ahead (D+1) 8am weather forecasts.

Action 1105: Xoserve (FC) to investigate whether 8am weather can be used in the day ahead calculations.

Action 1106: DNs to clarify the EU requirement for publication of 11am nomination run data at day ahead (D+1).

MA concluded his presentation to state that:

- Average UiG (LDZ and month) has been positive in most cases between June to September 2017
- Daily UiG is difficult to predict
- UiG magnitude and volatility can be influenced by various elements – for example LDZ and DM measurement errors, accuracy of NDM AQs and the supply meter

point demand formula, erroneous weather data and incorrect LDZ mapping.

MA advised that the 0631 Workgroup continues to assess options to reduce UiG volatility for the industry.

It was suggested that Xoserve might undertake the following further analysis to support the work of DESC:

- to show the relationship between UiG and CWV
- reconciliation at EUC level for the February'18 meeting
- re-test the assumptions for the causes of UiG.

4. NDM Sample Update

MA provide an update through a small presentation titled *NDM Sample Update*.

Slide one illustrates the changes between actual and target sample sizes between October 2016 and October 2017 for Band 01 (up to 73,200 kWh). MA stated that overall, the actual sample size was 307 sites below the ideal target and the movement since October 2016 was a reduction of 308 sites. Sites are reducing mostly due to the fitting of Smart Meters. It was suggested that a Modification would be needed to mandate the requirement for Shippers to provide daily consumption data for sites with smart meters to be used in the sample.

The Xoserve managed sample numbers have fallen below target in 11 LDZs with Smart meter rollout being a significant impact. Non-loggable meters (including Smart Meters) have accounted for almost 75% of all terminations in the past 12 months.

DESC Members discussed options for preventing losses, suggesting a Modification would be required to access data from DCC. Members also discussed sample size. The 250 sample size was challenged; SBI stated that analysis had been undertaken on minimum size and that a formula was used for sample size depending on variability. JB said there was a similar requirement on sample sizes in the electricity industry. JP suggested the introduction of a penalty for shippers not providing data from their Smart Meter portfolio.

Action 1107: Members to consider a new Modification to improve NDM sample sizes and to mandate the use of Smart meter data.

MA presented slides 3 and 4 to illustrate the current sample size for Band 02 and above (i.e. above 73,200 kWh). Overall, the number of active sample sites is 4,674 below the ideal sample requirements and that this shortfall has increased from October 2016 (4,241). He informed Members that Xoserve are continuing to support Transporters to address sample deficits through *Quarterly Reports* and individual requests by providing details of new sites to Transporters to support installation programmes. Approximately 90 new devices have been installed since the last DESC update in November 2016. Terminations are mainly due to site closures and meter removals.

MA concluded his presentation by summarising future initiatives. Third Party Data was first used in Spring 2016 modelling to help boost numbers, MA requested help from Members to promote the need for additional NDM sample data by 03 April 2018.

Action 1108: Xoserve (MA) to issue a communication seeking voluntary information from Shippers to help increase NDM sample sizes.

To conclude, MA presented analysis on the possible use of Class 3 site data. The graph shown in Slide 7 illustrates Class 3 site take up by month, since Nexus go-live along with a count of those Class 3 sites which have available daily reads in UKLink. A breakdown by LDZ and site type was also provided. The total number of sites at November 2017 is

approximately 70,000 and those with available daily reads was approximately 20,000. He highlighted 2 issues. The first issue was the relatively small proportion of class 3 sites with available daily read information. The second issue is in relation to market sector flag populated on UKLink not being reliable. Members discussed the possible reasons why Class 3 read data is not being submitted monthly. The possible reasons may be because of technology issues or the 4-month anniversary and no facility to force sites back to Class 4. It was suggested that this is a transitional issue. It was suggested that PAC consider the potential impacts of sites registered as Class 3 not meeting their obligations and how more daily reads might be encouraged. It was also suggested that if a site does not provide daily reads they should no longer be classified as Class 3.

CW highlighted that Section M of the UNC places a requirement on the CDSP to inform Shippers of their performance in relation to meter reading submissions.

5. Communication of Key Messages

FC suggested 2 key messages to be communicated to industry:

- a. DESC agreed not to have an update of CCM prior to reviewing SN data in 2019 to go live in 2020.
- b. Xoserve communication seeking voluntary Shipper data to help increase NDM sample sizes (Band 01B in particular) for use in future demand modelling.

6. Any Other Business

None raised.

7. 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, Monday 11 December 2017	Solihull (<i>venue to be confirmed</i>)	DESC	<ul style="list-style-type: none"> • Evaluation of Algorithm Performance for Gas Year 2016/17 <ul style="list-style-type: none"> ○ Strand 3 – NDM Daily Demand Analysis • Modelling approach – Spring 2018 • Communication of Key Messages

DESC Action Table (as at 21 November 2017)

Action Ref	Meeting Date(s)	Minute Ref	Action	Owner	Status Update
DESC0701	10/07/17	1.4	Xoserve to provide an update on the NDM data sample size and how much Shipper data is being obtained at the November meeting, with a view to considering a Cross Code Modification if deemed necessary. Update: The criteria can be found in Section H.	Xoserve (FC)	Closed

DESC0703	26/07/17	3.0	Xoserve (FC) to update DESC members on results of analysis of suitability of current CCM and arrange an ad-hoc t-con if needed.	Xoserve (FC)	Closed
DESC1101	21/11/17	3.1	<i>NDM Algorithm Performance (Gas Year 2016/17)</i> - Xoserve (MA) to provide details of the weightings used to derive GB CWV and GB SNCWV values.	Xoserve (MA)	Pending
DESC1102	21/11/17	3.2	Xoserve (MA) to investigate the factors that might lead to negative UiG values for LDZ SO.	Xoserve (MA)	Pending
DESC1103	21/11/17	3.2	Xoserve (FC) to investigate the delays leading to API issues with Gemini in relation to nomination availability.	Xoserve (FC)	Pending
DESC1104	21/11/17	3.2	DNs to investigate their current contract arrangements to assess if it is possible to procure day ahead (D+1) 8am weather forecasts.	DNs	Pending
DESC1105	21/11/17	3.2	Xoserve (FC) to investigate whether 8am weather can be used in the day ahead calculations.	Xoserve (FC)	Pending
DESC1106	21/11/17	3.2	DNs to clarify the EU requirement for publication of 11am nomination run data at day ahead (D+1).	DNs	Pending
DESC1107	21/11/17	4.0	Members to consider a new Modification to improve NDM sample sizes and to mandate the use of Smart meter data.	ALL	Pending
DESC1108	21/11/17	4.0	Xoserve (MA) to issue a communication seeking voluntary information from Shippers to help increase NDM sample sizes.	ALL	Pending