



respect > commitment > teamwork

Demand Estimation Sub-Committee

Seasonal Normal Review for October 2015

Summary

22nd December 2014

Seasonal Normal is the gas industry benchmark of what constitutes "typical" weather conditions, and is important because Annual Quantities for Non Daily Metered sites are set at the level of consumption expected under Seasonal Normal conditions. Weather for the gas industry is expressed in terms of the **Composite Weather Variable (CWV)**, which is an amalgamation of actual and seasonal normal weather, with various parameters determining how those items are blended and how the values are "flexed" under extreme conditions.

The periodic review of the **Seasonal Normal CWV** is now the responsibility of the Demand Estimation Sub-Committee (DESC). This review normally happens every 5 or so years and the current basis has been in place since 1 October 2010. The rules are set out in UNC Section H. DESC has been working towards a new SN basis throughout 2014. UNC now includes the concept of a Climate Change Methodology and DESC agreed a detailed approach to create a new SNCWV from the outputs from this Methodology (which was developed by the Met Office).

At a meeting on 3 December, DESC reviewed and accepted the resulting values. DESC invited the wider Gas Industry to comment or ask questions on the proposed values. No further feedback or comments were received. At its subsequent meeting on 17 December 2014, DESC confirmed that the Gas Transporters would be asked to implement the new values from **1 October 2015**.

xserve



respect > commitment > teamwork

Summary of new Seasonal Normal Basis

- The new Seasonal Normal basis uses the outputs from the Weather Station Substitution Methodology (a new Gas Industry agreed weather history) for the first time
- 50 years of actual weather history have been used, and then uplifted to be consistent with Met Office projections of the impact of Climate Change over the 5 years commencing 1 October 2015 (output from the Climate Change Methodology project)
- The output is a new Seasonal Normal CWV for each day in a 365-day Gas Year for each LDZ, using the revised CWV parameter values, as agreed by DESC at its November meeting
- A notable feature is that the proposed values are in general a little cooler than the current basis: this is consistent with the fact that in most LDZs only one of the last five years and two of the last 10 years have been warmer than current seasonal normal, in overall “degree days” terms – see next slide for an explanation of “degree days”

xserve



respect > commitment > teamwork

Explanation of Degree Days

- The method for assessing weather conditions in each historic gas year was to use “degree days” – a technique which allows a quick comparison of CWV historic levels
- Degree Days – an explanation:
 - For any gas day, in any LDZ the value of degree days is given by:
degree days (on gas day t) = CWV Threshold – Actual CWV on gas day t
- Since CWV is defined in terms of the fit to aggregate NDM demand in each LDZ, the threshold value used is that applicable to aggregate NDM demand in each LDZ
- The choice of threshold ensures that degree day values are never negative
 - The degree day thresholds applied are provided on the next slide
- The following slide summarises the change in Seasonal Normal in “degree day” terms

Xserve



respect > commitment > teamwork

NW/WN LDZ – Impact of Weather Station Change

- Weather for NW and WN LDZs was derived from Manchester Hulme Library weather station until October 2013
- Station closed at short notice and DESC selected Manchester Rostherne No. 2 as a replacement
- New weather station is more rural and returns colder temperatures
- Initial results for NW / WN presented to DESC displayed the straight difference between the current SNCWV (based on Hulme Library) and the new SNCWV (based on Rostherne)
- The results will have therefore included an element associated with the move to a quite different weather station

xserve



respect > commitment > teamwork

Overall % change by LDZ

LDZCODE	AggThresh	% change from current SN basis
SC	16.9	2.6%
NO	16.6	0.1%
NW	18.3	10.7%
NE	18.4	2.2%
EM	17.5	3.1%
WM	17.4	2.3%
WN	18.3	10.7%
WS	18.2	1.6%
EA	18.9	1.8%
NT	19.3	1.6%
SE	18.7	1.9%
SO	18.2	2.4%
SW	17.7	1.6%
Avge		3.3%
Avge (less NW/WN)		1.9%

- Averages provided incl./excl. NW/WN figures
- Note: The change in weather station for NW/WN has impacted their results i.e. location of new station being more rural (and therefore cooler) – **see previous slide**

Xserve



respect > commitment > teamwork

Extent of change in Seasonal Normal Basis (AQ)

- Overall % cooling in new Seasonal Normal basis is approx 2% nationally
- Annual aggregate NDM AQ changes in previous years have been:
 - 2.5% (reduction) in 2014/15
 - 0.7% (reduction) in 2013/14
 - 5.8% (reduction) in 2012/13
 - 1.0% (reduction) in 2011/12
- The past 4 years have seen an average reduction of 2.5% in aggregate NDM AQ. This effect is as a result of general demand reduction. Irrespective of the seasonal normal basis change, it is not unreasonable to assume a further reduction in 2015/16 (statistics suggest this could be 2.5%)
- Overall, therefore, the above suggests minimal change in the overall NDM AQ levels in 2015/16

- Note: The change in weather station for NW/WN will not translate fully into an AQ increase, as additional weather correction due to a cooler weather history will partly offset the increase.

Xserve



respect > commitment > teamwork

Extent of change in Seasonal Normal Basis (SOQ)

- At the last Seasonal Normal review (performed in 2009), the new AQs (effective from 2010) reduced by approx 9%, part related to change in Seasonal Normal basis and part related to demand reduction
- The SOQs, however, only moved by the % related to demand reduction because the Load Factors flexed to effectively 'cancel out' the % reduction in Seasonal Normal terms. The weather history in 2009 was also consistent with previous reviews
- This time round there has been a complete update to the weather history used in the demand estimation process. The 1 in 20 peak demand simulations, which are a key input to the Load Factor calculations, will be compiled using:
 - a) a new weather history (WSSM)
 - b) a reduced period of weather (54 years [1960-2014] instead of 84 years [1928-2014])
- Due to this change in data it is not possible at this stage to assess the likely changes in SOQ levels until the 1 in 20 peak demand simulations are run. This output will become available during Spring 2015

Xserve



respect > commitment > teamwork

Next Steps: Application of New SNCWVs and CWVs in 2015

- Work to be done in **Jan/Feb/Mar 2015:**
 - Spring 2014 NDM ALPs and DAFs reworked using new CWVs and SNCWVs
 - Produce revised WAALPs for all EUCs from 01/10/2011 onwards using new CWVs and SNCWVs – required for 2015 AQ review
 - Produce AQ factors for each EUC (applied when AQs fail to calculate for 2015)
- Work to be done in **Apr/May/June 2015:**
 - Spring 2015 NDM analysis (using new CWVs and SNCWVs)
 - Continue with off-line production of revised WAALPs for use in AQ Amendment phase
- New SN basis becomes effective 1st October 2015

xserve



respect > commitment > teamwork

- The proposed new Seasonal Normal can be seen in graphical form in the presentation material under the December 17 DESC meeting
 - www.gasgovernance.co.uk/DESC/171214
 - “Seasonal Normal Review”
- The numeric values can be found on the Xoserve website UKLink Documentation (Folder 18 / 2015_16 Gas Year / 6. SN 2015)
- Contact any DESC member for further information:
 - Members list on Joint Office page: www.gasgovernance.co.uk/desc
- Contact Xoserve Demand Estimation team:
 - Xoserve.Demand.estimate@xoserve.com

xoserve



respect > commitment > teamwork

Glossary of Abbreviations

- ALP *Annual Load Profile*
- AQ *Annual Quantity*
- CCM *Climate Change Methodology*
- CWV *Composite Weather Variable*
- DESC Demand Estimation Sub-Committee
- DD Degree day – see slide 4
- EUC *End User Category*
- LDZ Local Distribution Zone
- NDM Non-Daily Metered (i.e. *Non Daily Read*)
- SNCWV *Seasonal Normal CWV*
- SN Seasonal Normal
- SNET Seasonal Normal Effective Temperature
- SOQ *System Offtake Quantity* i.e. Peak Day Load – used in Capacity charges
- TWG Technical Workgroup (of DESC)
- UNC Uniform Network Code
- WAALP Weather Adjusted ALP (used in AQ calculation)

Italics = UNC Defined Term

xserve



respect > commitment > teamwork