Demand Estimation Sub Committee Approach to 2017 Modelling

15th February 2017

Background

- The Spring Approach document describes the methodology which is to be followed when completing the modelling process for the coming year

- Full details of the proposed approach to be applied to gas year 2017/18 can be found in the 'Approach_to_Spring2017' document

- The document includes a summary of all key decision / interaction points with the TWG and DESC and the likely dates they will occur

- The process of finalising this document includes a 'TWG review' phase followed by a request for DESC approval

Industry Change

- Spring Approach 2017 is required ultimately to deliver a set of derived factors for use from Gas Year 2017/18

- On 1st June 2017 the NDM Algorithm formula, which DESC are responsible for providing factors for, will have changed:

  - Scaling Factor (SF) will no longer be needed

  - Weather Correction Factor (WCF) will be based on weather variables, hence no longer requirement to create a set of pseudo SNDs

  - Daily Adjustment Factor (DAF) will no longer need agg. NDM output

- Note: Profiles (i.e. the DAF) using the new calculation were created last summer for Gas Year 2016/17 and so these will be used from 1st June 2017

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Demand Estimation Changes

- Last Spring there were some Demand Estimation changes implemented in the approach to the Spring 2016 analysis – these were:

  - Use of Third party supplied sample data in the models
  - Changes to the Large NDM Load Factor calculation
  - Updates to the NDM Algorithms Booklet and associated supporting files

- This year there are no anticipated major changes to the modelling approach

  - There has been a minor amendment to the review and consultation window
  - Pending the decision made by DESC at today's meeting regarding the approach to how EUC 01B is modelled it is possible a further revision to the relevant section of the Spring Approach document will be required and circulated to DESC members for their approval

TWG Review

- The first draft of the Spring Approach document for the 2017 analysis was published last November and TWG representatives were invited to review the document

- Since then Xoserve has received one response from a TWG representative relating to this document and that was in support of the approach

Spring Approach

Summary of Spring Approach 2017
- Principles

Modelling Approach 1

- <u>Demand Data:</u>
  - This year's new modelling dataset will be a 13 month validation period: 1st March 2016 to 31st March 2017. This is necessary because on this occasion the usual 12 month period would not include an 'Easter holiday period' – in 2016 Easter occurred during March

  - Third party (e.g. Shipper) supplied sample data will be included, subject to Xoserve receiving it in the required format and it passing the standard validation criteria

    - We are now seeing a steep decline in the established sample of NDM gas consumers, particularly as Smart Meters replace our recording equipment, and this reduction is likely to impact the number of supply points available for modelling, especially domestic consumers in 01B

    - If Shippers are able to provide us with daily consumption data for 01B sites it would be very much appreciated. Further details of what is required can be viewed in the document located on DESC's home page on the Joint Office website

Modelling Approach 2

- <u>Demand Data continued:</u>

  - The historical LDZ aggregations plus the additional ones created in Spring 2014 will ensure several combinations are available when individual LDZ analysis not possible

  - Model Re-runs will be performed using approved datasets from 2014/15 and 2015/16. This is required for the model smoothing process

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Modelling Approach 3

- ▪ <u>Weather Data:</u>
  - • Weather data to be used in this year's analysis will mainly be based on the output derived from the Weather Station Substitution Methodology (WSSM) project (upto 30th Sept 2012). UK Link data thereafter

  - • The EUC demand modelling will use the CWVs and SNCWVs based on the parameters and Seasonal Normal basis effective from 1st October '15

- ▪ <u>Modelling Principles:</u>
  - • Band 01 modelled as a single band - 0 to 73.2 MWh with Domestic only supply points

  - • Band 7 & 8 consumption and WAR bands to be merged for modelling purposes only as per DESC decision in Spring 2014

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Modelling Approach 4

- <u>Modelling Principles continued:</u>

  - Holiday code rules will be the same as used in Spring '16, which for the Christmas and New Year holiday period will be those agreed by DESC in November 2011

  - Warm weather analysis in order to identify those models which exhibit 'Summer Reductions' * and or 'Cut-Offs'

  - Analysis performed to assess if 'Weekend and/or Holiday effects' are necessary *

  - 3 year model smoothing to continue along with existing weightings for each individual year (33:33:34)

- *The approach to modelling for 01B may change as a result of DESC's decision today regarding the summer modelling review*

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Modelling Output

- <u>Derived Factors (ALP, DAF, PLF):</u>

  - The Daily Adjustment Factors (DAF) for Gas Year 2017/18 will no longer require the computations from an agg. NDM demand model

  - The formula for the Peak Load Factor (PLF) remains unchanged including the methodology for deriving the estimate of peak day demand for Small NDM and Large NDM EUCs i.e. simulation

  - For the avoidance of doubt the definition of the Annual Load Profile (ALP) remains unchanged

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Fall-back Arrangements

- <u>Fall-back position:</u>

  - In the event the NDM proposals derived from the Spring 2017 analysis are rejected by DESC, the models from Spring 2016 will be used (UNC Section H) – referred to as 'fall-back' proposals

  - The fall-back proposals that would apply is that EUC definitions and their derived factors would be based on the underlying EUC demand models from the <u>Spring 2016 </u>NDM analysis

  - For the avoidance of doubt the fall-back proposals, created in Spring 2016, would be available using the rules applicable post the implementation of UNC Modification 432

Reporting and Publication

- Reporting output:

  - An NDM Report summarising the process followed, will be produced

  - Parameters for all smoothed models will be published in an Appendix to the 2017 NDM Report. All other model parameters will be provided in electronic form

  - The performance evaluation summary (Section 12) will reflect the review of algorithm performance (NDM sample analysis only) for Gas Year 2015/16

  - The location of all supporting documents and files will be on Xoserve's secure SharePoint site (UK Link Documentation):
    - 18.NDM Profiling and Capacity Estimation Algorithms / 2017-18 Gas Year

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Interaction and Timetable

- Spring 2017 will be the 6th modelling cycle with the DESC / TWG collaborative approach to decision making and transparency

- As such please review decision / interactions timetable (Appendix 2 of Spring Approach document) which provides summary of the anticipated DESC / TWG involvement during the modelling cycle

  Change: The review cycle has been amended for DESC and TWG so that it runs in parallel which has allowed more time available to review

- To ensure that the correspondence during the Spring Analysis period (April to July) between Xoserve and the TWG remains productive, please ensure the TWG representative within your organisation (as displayed on the master list on the Joint Office website) is still the most appropriate contact

Checkpoint Summary for 2017 work plan

Spr. Approach DESC 15 Feb → **Process 'Back-Runs' and validate sample data** ← Data received for Analysis Year

↓

Form data aggregations and define WAR band limits

TWG 26 April → **Small & Large NDM single year EUC modelling**

TWG 17 May → **Model smoothing and calculation of Derived Factors**

TWG / DESC review of Derived Factors (ALP,DAF,LF)

TWG / DESC 12 July → **Wider industry review and manage any representations**

DESC 26 July → **Final Derived Factors for Gas Year 2017/18 are announced**

All systems updated with Derived Factors for 2017/18

Today's TWG checkpoint

Completed DESC/TWG checkpoints

Future DESC/TWG checkpoints

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