respect › commitment › teamwork

Approach to Spring 2015 Modelling

Supporting Document: Approach_to_Spring2015_draft.pdf

TWG – 19th January 2015

Background

- The ‘Spring Approach document’ describes the methodology which is to be followed when completing the modelling process for the coming year
- The main issues requiring investigation need to be debated and resolved prior to TWG making its recommendations to DESC in February
- Full details of the approach to be used for proposals to be applied to gas year 2015/16 can be found in ‘Approach_to_Spring2015_draft’ document. There are significant changes from last year’s approach document due to industry changes and the data used for modelling
- The document includes a summary of all key decision / interaction points with the TWG and DESC and the likely dates they will occur

Industry Change

- Spring Approach 2015 is required ultimately to deliver a set of derived factors for use from Gas Year 2015/16
- On 1st October 2015 the NDM Algorithm formula, which DESC are responsible for providing factors for, will change:
  - 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
- As a result of EU reform, the start of the gas day will also change from 6am to 5am on 1st October 2015 which will impact the temperature timeslots used in the Composite Weather Variable (CWV) calculation

Demand Estimation Changes

- A new weather data series will be used in the modelling, namely the output from the Weather Station Substitution Methodology (WSSM)
- The new weather data series (1960 onwards) is shorter than the gas industry history (1928 onwards) which was used in previous analysis
  - Likely to impact peak day demand calculations
- From 1st October 2015 there will also be a revised set of CWV parameter definitions and a new Seasonal Normal basis
- From 1st October 2015 Rostherne No.2 (unadjusted) will formally become the weather station for NW and WN LDZs

Modelling Approach 1

- Considering the significant changes on the modelling already explained, it is suggested that the remainder of the lower level principles remain unchanged

- <u>Demand Data:</u>
  - This years new modelling dataset will be a 12 month validation period - 1st April 2014 to 31st March 2015, which includes a full Easter period. Note:If feasible this will include shipper supplied data
  - 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 2012/13 and 2013/14. This is required for model smoothing process

Modelling Approach 2

- Weather Data:
  - Weather data to be used in this years 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 and agg. NDM demand modelling will use the new CWVs and SNCWVs (as presented at 3rd December 2014 DESC meeting)
- Modelling Principles:
  - 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

Modelling Approach 3

- Modelling Principles continued:
  - Holiday code rules will be the same as used in Spring ’14, 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)

Modelling Output

- <u>Derived Factors (ALP, DAF, LF):</u>
  - The Daily Adjustment Factors (DAF) for Gas Year 2015/16 will no longer require the computations from an agg. NDM demand model
    - During Spring Analysis, DAFs will also be calculated under the current methodology to aid comparison to 2014/15, as well as provide a contingency in the event of any delays to UK Link implementation
  - The formula for the Load Factor (LF) remains unchanged, however the values are likely to be different from recent years due to the number of changes in the underlying data used in the calculations of estimated peak day demands (see previous slides)
  - For the avoidance of doubt the definition of the Annual Load Profile (ALP) remains unchanged

Fallback Arrangements

- Fallback Position:
  - In the event the NDM proposals derived from the Spring 2015 analysis are rejected by DESC, the models from Spring 2014 will be used (UNC Section H)
  - In a 'normal' year the fallback models produced the previous Spring would be able to be used without too many concerns, however in order to satisfy the new arrangements the Spring 2014 models will need to be adapted to calculate appropriate DAFs
  - The Spring 2014 fallback proposals will also need to be created using the new weather variables (CWV and SNCWV)

Reporting and Publication

- Reporting output:
  - NDM Report summarising the process followed will be produced
  - Parameters for all smoothed models will be published in an Appendix to the 2015 NDM Report. All other model parameters will be provided in electronic form
  - The performance evaluation summary (Appendix 13) will reflect the review of algorithm performance for Gas Year 2013/14, due to be reported at February DESC

- Publication:
  - The location of all supporting documents and files will be on Xoserve's extranet site (UK Link Documentation):
    - 18.NDM Profiling and Capacity Estimation Algorithms / 2015/16 Gas Year

Interaction and Timetable

- Spring 2015 will be the 4th 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
- 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