



# Approach to Spring 2016 Modelling

**TWG – 17<sup>th</sup> November 2015**

- 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 2016/17 will be described in a word document published after this meeting
- The document will include a summary of all key decision / interaction points with the TWG and DESC and the likely dates they will occur
- This presentation aims to identify the main discussion points specific to the 2016 Spring analysis ahead of publishing the detailed document

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- Spring Approach 2016 is required ultimately to deliver a set of derived factors for use from Gas Year 2016/17
- On 1<sup>st</sup> October 2016 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 aggregate NDM output

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# Modelling Approach 1

- Demand Data:

- This year's new modelling dataset will be a 12 month validation period - 1<sup>st</sup> April 2015 to 31<sup>st</sup> March 2016, which includes a full Easter period. Note: Depending on DESC views expressed today this may / may not 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 (plus potentially any additional ones agreed at today's DESC meeting)
- Model re-runs will be performed using approved datasets from 2013/14 and 2014/15. This is required for the model smoothing process

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# Modelling Approach 2

- Weather Data:

- As in Spring '15 the 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 30<sup>th</sup> Sept 2012). UK Link data thereafter
- The EUC and agg. NDM demand modelling will again use CWVs based on the new definitions and the new SNCWVs (both effective from 1<sup>st</sup> October 2015)

- 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 '14

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- Modelling Principles continued:
  - Holiday code rules will be the same as used in Spring '15, 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) – pending DESC decision today

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- Derived Factors (ALP, DAF, LF):
  - The Daily Adjustment Factors (DAF) for Gas Year 2016/17 will no longer require the computations from an aggregate NDM demand model
    - During Spring Analysis, DAFs will also be calculated under the current methodology to aid comparison to 2015/16 (as well as providing contingency)
  - The formula for the Load Factor (LF) for Small NDM includes deriving the Peak Day Demand (PDD) estimate using simulation, however for Large NDM the PDD is derived using a high level calculation which will need to be reviewed following the industry change (explained in Slide 3). See next slide for Xoserve proposal
  - For the avoidance of doubt the definition of the Annual Load Profile (ALP) remains unchanged

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# Modelling Output 2 – Large NDM Load Factors

- The calculation of the Load Factors for Small NDM and Large NDM are different
- An important component of the LF calculation is the Peak Day Demand (PDD). For Small NDM EUCs this is currently derived using simulation, however for Large NDM EUCs this is currently derived using a 'high level top down' LDZ approach mainly because historically computer power could not support simulation for all NDM EUCs
- The current approach for Large NDM is described in Appendix 10 of the NDM report. With the change in how the DAF is derived there will be a need to update this approach to reflect the new industry arrangements
- Xoserve propose to make the approaches consistent by using simulation for both Small and Large NDM thus providing a more thorough and EUC specific result for Large NDM PDD going forward – TWG thoughts ?

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# Fallback Arrangements

- Fallback Position:
  - In the event the NDM proposals derived from the Spring '16 analysis are rejected by DESC, the models from Spring '15 will be used (UNC Section H)
  - In Spring '15 there were two sets of models produced, including a set which suited the arrangements of the new UK Link system and based on the new definitions of both CWV and SNCWV
  - Therefore, there are fall back models available from the Spring '15 modelling process which would be able to be used should DESC decide to reject next year

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# Reporting and Publication

- Reporting output:
  - Efficiencies and improvements have been identified by Xoserve which could potentially mean some changes to the package of information provided to the industry via the NDM report and Supporting Files – TWG to discuss these shortly
  - There will still be an NDM Report summarising the process and a set of parameters from the smoothed model provided in electronic form
  - The performance evaluation summary (Appendix 13) will reflect the review of algorithm performance for Gas Year 2014/15 using the NDM sample data, due to be reported at February DESC
- Publication:
  - The location of all supporting documents and files will be on the secure area of Xoserve's website: 18.NDM Profiling and Capacity Estimation Algorithms / 2016/17 Gas Year

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# Interaction and Timetable

- Spring 2016 will be the 5<sup>th</sup> modelling cycle with the DESC / TWG collaborative approach to decision making and transparency
- Decision / interactions timetable (Appendix 2 of Spring Approach document) 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

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- Before the end of the year Xoserve shall publish the first draft of the Spring 2016 Approach document
- TWG will then be invited to comment on the document and ultimately provide its approval to recommend the approach to DESC in time for the February meeting next year

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