Demand Estimation Sub Committee

4.1 Ad Hoc Work Plan Item 1 - Review of Existing Cleansing and Validation Processes

5th October 2022

Objective

- Following approval at the DESC meeting in July, the Adhoc work plan was set out for the Autumn/Winter of 2022/23

- The next presentations will give a progress update on the 3 Adhoc workplan proposals:

  - Review of the existing cleansing and validation processes
  - Review of the existing End User Category (EUC) definitions
  - Review of existing meeting material

Review of Existing Cleansing and Validation Process

- We want to review the existing cleansing and validation rules for managing submissions of daily gas consumption data, prior to its use in Demand Modelling and NDM Algorithm Performance (Strand 3)

    - The current rules have never been reviewed since being in place
    - Sample numbers have significantly increased – can we be stricter with our validation?
    - New validation tool allows us to easily amend validation parameters making testing easier

- The current rules used in validation can be found in Section 1 of the NDM Algorithms Booklet which is published on the UK Link Secure Area in the following folder:

    18. NDM Profiling and Capacity Estimation Algorithms \ 2022-23 Gas Year \ 4 NDM Algorithms Booklet

    - Or alternatively can be found in the latest modelling approach document here
    - Links to secured area and access request form can be found by following this link

Current Validation Rules

- The current validation rules are separated by provider and Small / Large EUCS

- The Xoserve Managed sample was used for the final time in this years Modelling, this will no longer be a data source

- Table shows validation rules for a 12 month period, they differ slightly for a 13 month

Small NDM: 0 to 2,196 MWh p.a.

Source	EUC Bands	Missing Days		Consecutive Zeros		Spike Ratios	
		Summer	Winter	Summer	Winter	Summer	Winter
Xoserve Managed sample (and any third party data)	01 and 02	15 or more	15 or more	N/A	33 or more	15:01	08:01
Network Managed sample (and any third party data)	02, 03	28 or more	28 or more	N/A	20 or more	13:01	05:01

Large NDM: >2,196 MWh p.a.

Source	EUC Bands	Missing Days		Consecutive Zeros		Spike Ratios	
		Annual	Winter	Annual	Winter	Annual	Winter
Network Managed sample (and any third party data)	05, 06, 07 and 08	40 or more	20 or more	N/A	20 or more	08:01	N/A

MOD754R Workgroup Update

- Although the analysis associated with MOD754R is coming to a close, the investigations and recommendations around sample validation will be carried forward by the Demand Estimation team

- There were 2 objectives identified:

  - Explore the use of Advanced Analytics to develop and improve validation process prior to modelling

  - Identify potential weakness, development opportunities and make recommendations which link to evidence in reduction in NDM modelling error

MOD754R Focus Areas

- Utilise Advanced Analytics to enhance our existing validation routines, to help identify suspicious demand patterns in assessing sample MPRs

  - Uncertainty Estimator: UIG Task Force validation suggestions (UIG TF 1328)
  - Individual MPR Regression: Use of computer processing capability to target individual MPRs patterns - regression test Monday to Thursday for each MPR for high level pattern
  - Winter Zero Consumption: Analysis of the number of zero consumption in the winter period, December to March) (i.e. targeting questionable patterns)

- See workgroup material here

Next Steps

- Continue the investigation and analysis proposed in MOD754R

- Consecutive Zero Consumption
  - Why is it only for consecutive zeroes?
  - Would a count work better to highlight erroneous data?
- Volume Spikes
  - Can we improve the way volume spikes are identified?
  - How do we classify a spike?
- Incorrect Market Sector Codes
  - How can we identify them?
- Missing Days
  - Why does it differ by site size when the infill method is the same?

- We will share ideas we have on this during the next few DESC meetings but we do welcome your feedback / ideas on this

- Expect to report at the December and March DESC meetings with any proposed changes / recommendations in place for Spring 2023