



Demand Estimation Sub Committee
Work Plan 2018-19

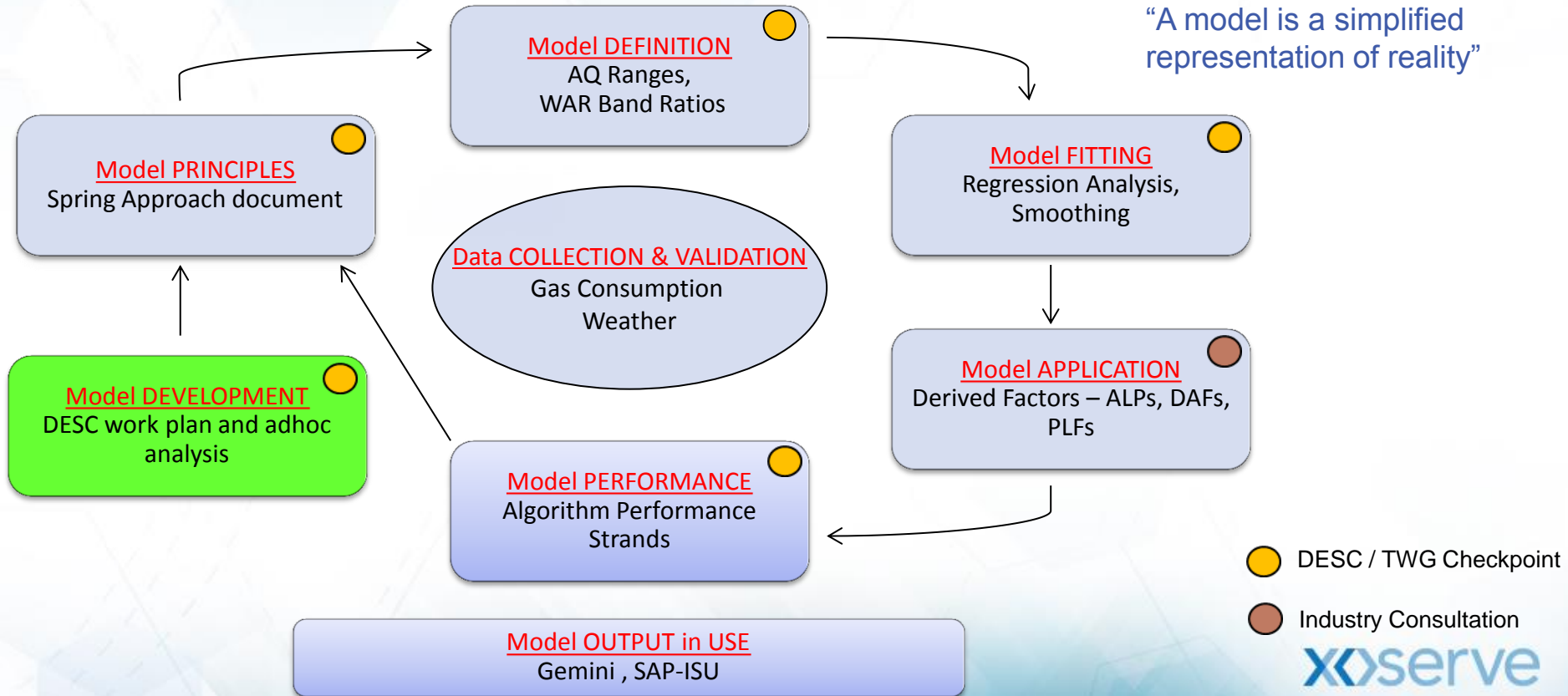
24th July 2018

Objective:

- The process of deriving the 2018/19 EUCs and Demand Models and loading their profiles to the various systems is nearing its conclusion. All of this has been achieved during the period of March to August
- It is now time to focus on the work to be carried out during September to February
- This is an opportunity for DESC to agree which areas it would like the CDSP and the TWG to look into in order to review and improve the modelling process
- Objective of today's meeting is:
 - To agree DESC's work plan for Autumn 2018 / Winter 2019

Background - EUCs and Demand Model Lifecycle

The purpose of the **EUC Demand Model** is to represent the behaviour and reactions of the **EUC Population**



Demand Estimation Timetable - 2018

High Level View of Demand Estimation Timetable 2018 - Key Checkpoints

PHASE	JAN'18	FEB'18	MAR'18	APR'18	MAY'18	JUN'18	JUL'18	AUG'18	SEP'18	OCT'18	NOV'18	DEC'18
1. MODEL PRINCIPLES												
Spring Approach 2018 Approved (DESC)		13th Feb										
2. Data COLLECTION & VALIDATION												
Sample data validated (CDSP)				13th Apr								
3. MODEL DEFINITION												
Agree Data Aggregations / WAR Band Limits (TWG)				24th Apr								
4. MODEL FITTING												
Small & Large NDM Single Year modelling review (TWG)					15th May							
5. MODEL APPLICATION												
Publication of Draft Derived Factors (CDSP)						1st June						
Derived Factors Approved for wider industry (TWG/DESC)							9th July					
Final Approval of Derived Factors (DESC)							24th July					
6. MODEL OUTPUT IN USE												
SAP-ISU and Gemini updated (CDSP)								15th Aug				
7. MODEL DEVELOPMENT												
Adhoc Work-plan approved (DESC)							24th July			8th Oct		
8. MODEL PERFORMANCE												
Strands 1 to 4 reviewed (DESC)												10th Dec

Background

- The areas to discuss for the upcoming Autumn / Winter period consists of:
 - Standard regular work items performed year on year
 - Adhoc work areas which naturally get raised through discussions at DESC or TWG and captured by Xoserve on an adhoc work plan log
- DESC have the responsibility of reviewing the list and prioritising those it wishes CDSP / TWG to focus on during the next Autumn and Winter period in addition to the standard work plan items
- The next 2 slides summarise the standard work plan items for the upcoming Autumn / Winter period and additional work identified by Xoserve

Standard Work Plan – Autumn/Winter ‘18/19

- Algorithm Performance for Gas Year 2017/18
 - Produce reviews of all 4 strands of analysis, as agreed by DESC
- Spring Approach 2019 preparations (for Gas Year 2019/20)
 - Approach document approved, model re-runs and updates to modelling systems
- Review of Model Smoothing methodology
 - Normally performed every 2 years, last review in Autumn 2015
 - DESC suggested next review in 2018 (3 years), meaning analysis now due
- Seasonal Normal Review 2020
 - Review of CWV formula and Seasonal Normal basis to commence in 2019

Additional Work – Autumn/Winter ‘18/19

- CDSP continuing to work towards implementing a set of processes on upgraded software in time for Spring 2019 modelling analysis – this is a significant piece of work which Xoserve must focus on
- Potential for more ongoing support to industry around UiG, in particular any associated Modifications such as 659 (improving CWV and WCF)

TWG Adhoc work areas log

- The DESC 'Ad-hoc Work Plan' was established in 2012 to capture any issues and ideas which arise during the year that DESC decide they may like to review at a later stage. The list of items is maintained by the CDSP
- The last review session of the list of adhoc work areas was carried out at the DESC meeting on 26th July 2017 which helped plan the Autumn/Winter '17/18 schedule of work
- The next few slides cover the work items that (i) have been raised as a potential area to investigate but as yet have not been identified as a priority and (ii) items carried forward from last year
- All "Completed" items since the TWG was established are provided as an Appendix at the end of the presentation

Record of OUTSTANDING Adhoc Work Plan Items

Adhoc Work Plan Items: OUTSTANDING

Source	Description of Work item	Estimated Effort *	Potential Approach	Next Steps	Ownership	Status
TWG 20/04/12	Consider the application of weather correction to WAR Bands	High	Analysis to assess impacts of switching approach, and system implications of making changes	To be considered at Adhoc Work Plan review meeting in July 2018	Xoserve	Awaiting Prioritisation
TWG 25/06/14	Review day of the week demand behaviours, particularly whether the modelling of Monday to Thursday demands together is still valid (Ref: E.Ons 14/15 rep – qry 1)	Medium	Statistical analysis using daily sample demands to establish if 'day of week' behaviours are consistent for Monday to Thursday	To be considered at Adhoc Work Plan review meeting in July 2018	Any TWG party	Awaiting Prioritisation
TWG 25/06/14	All parties to suggest different ways that the EUC banding might be split, based on consumption levels or customer attributes, this was a post UKL replacement consideration (DE0202)	Low	Partly being addressed by potential introduction of new EUCs in bands 1 and 2 using new attributes	To be considered at Adhoc Work Plan review meeting in July 2018	Any TWG party	Awaiting Prioritisation
DESC 13/02/18	Review appropriateness of current AQ boundaries for Large NDM EUCs (>2,196 MWh pa), currently requires 21 demand models for population of c.7,000 supply points	High	Detailed statistical analysis required, using daily sample data to try and identify unique end user categories i.e. consumers with specific consumption profiles and weather sensitivities	To be considered at Adhoc Work Plan review meeting in July 2018	Any TWG party	Awaiting Prioritisation

Key *

- High:** Detailed analysis / consultation required (>10 days effort)
- Medium:** Moderate amount of analysis required (2 to 10 days effort)
- Low:** 'Quick wins' e.g. request for data / minor analysis (<2 days effort)

Adhoc Work Plan Items: OUTSTANDING

Source	Description of Work item	Estimated Effort *	Potential Approach	Next Steps	Ownership	Status
DESC 13/02/18 (MOD 0644)	<p>Part 1: Establish whether any additional weather data items (excl. temperature and wind speed) have a consistent relationship to daily gas demand</p> <p>Part 2: In the event that relationships exist, investigate possibilities of how this could be defined and incorporated into the CWV formula</p>	High	<p>Part 1: Detailed statistical analysis required using daily NDM gas demand and [x] weather data items</p> <p>Part 2: Extensive analysis required to define the relationship which can be incorporated with CWV formula</p>	Feb'18: JB from British Gas agreed to start looking into Part 1	<p>Part 1: Any TWG party</p> <p>Part 2: Any TWG party</p>	Awaiting Prioritisation
Post DESC Feb' 18 meeting (MOD 0644)	Investigate if the weather sensitivities expressed by the DAF parameter for each EUC could be enhanced to improve the performance of the demand models when there are [X%] differences observed in the WCF i.e. CWV-SNCWV	High	Using daily sample gas demand review the performance of demand models and levels of daily UiG under certain WCF conditions - e.g. is it worse when WCF differences are larger ?	To be considered at Adhoc Work Plan review meeting in July 2018	Any TWG party	Awaiting Prioritisation
Post DESC Feb' 18 meeting	Review whether the treatment of EUC Cut-Offs in the approach to demand modelling is still applicable	High	Using daily sample gas demand investigate EUC models which have exhibited a CWV Cut-Off and review whether their application has improved the performance of the models.	To be considered at Adhoc Work Plan review meeting in July 2018	Any TWG party	Awaiting Prioritisation

Key *

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Adhoc Work Plan Items: OUTSTANDING

Source	Description of Work item	Estimated Effort *	Potential Approach	Next Steps	Ownership	Status
TWG 15/05/18	Following review of outliers in single year modelling results it revealed that potentially a Christmas holiday effect may have started earlier than currently modelled. TWG suggested that existing holiday code rules are reviewed to assess if they are still appropriate	High	<p>Use daily sample data from recent years as the base for analysis</p> <p>Assess whether current rules which define each holiday period are valid by reviewing residuals between fitted and actual</p> <p>Assess effectiveness of holiday code allocation within the various holiday period rules using analysis of variance</p>	To be considered at Adhoc Work Plan review meeting in July 2018	Any TWG party	Awaiting Prioritisation

Key *

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DESC Views

- DESC are invited to review the standard work plan items, additional work already identified and items on adhoc work areas log and provide their views on priorities for Autumn/Winter 2018/19 work plan
- Are all items on adhoc work areas log still relevant / wanted ?
- CDSP has provided its recommendation on the next slide

CDSP Recommendations

- CDSP recommends the following work areas should be focused on over the Autumn '18 / Winter '19 period:
 - Review of Model Smoothing methodology
 - Algorithm Performance for Gas Year 2017/18
 - Spring Approach 2019 preparations (for Gas Year 2019/20)
 - Seasonal Normal Review 2020
 - Support UiG related analysis e.g. MOD 0659 (improving CWV and WCF)
 - Work on upgrades to CDSP's modelling processes / systems which develop Demand Estimation deliverables

Record of COMPLETED Adhoc Work Plan Items

Adhoc work areas log: COMPLETED

Source	Description	Status
TWG 20/04/12	<i>Review of appropriateness of current EUC definitions for Small and Large NDM</i>	<i>Completed - DESC TWG Meeting 15/01/2014</i>
TWG 20/04/12	<i>Investigate possibility of providing TWG with data during the Spring analysis WAR Band definitions review</i>	<i>Completed - Spring 2013 Analysis</i>
TWG 15/08/12	<i>Complete analysis and investigations into Options A,C and E in order to conclude views on final algorithm to take forward</i>	<i>Completed - DESC TWG Meeting 19/03/2013</i>
TWG 15/08/12	<i>'Maintenance work' on EUC modelling system / processes following first run through of annual cycle – including re-write of systems, updates to existing ones and documentation updates</i>	<i>Completed - Winter 12/13</i>
TWG 15/08/12	<i>Prepare for impacts of weather station change at Hulme Library impacting NW and WN LDZs</i>	<i>Completed - DESC Meeting 08/10/2013</i>

Adhoc work areas log: COMPLETED

Source	Description	Status
TWG Dec'12	<i>Analysis to understand relationship between Birmingham Edgbaston and Winterbourne following announcement of Edgbaston closure</i>	<i>Completed - DESC TWG Meeting 28/01/2013</i>
TWG 24/04/13	<i>Review current LDZ aggregations used for EUC modelling and agree any potential new groupings. Followed by system updates and testing</i>	<i>Completed - DESC TWG Meeting 27/11/2013</i>
TWG 20/04/12	<i>Review of 'spike' validation rules applied to sample data during Spring (and Autumn) analysis</i>	<i>Completed - DESC TWG Meeting 12/02/2014</i>
XOS 15/05/13	<i>Windows 7 and Microsoft Office 2010 upgrades</i>	<i>Completed - Winter 14/15</i>

Adhoc work areas log: COMPLETED

Source	Description	Status
<i>DESC 30/07/14</i>	<i>TWG to explore options for measuring Algorithm Performance in the Post UK Link replacement world.</i>	<i>Completed - DESC TWG Meeting 16/09/2015</i>
<i>TWG 27/04/15</i>	<i>TWG proposed that list of data aggregations for modelling should be reviewed in advance of Spring analysis to see what might be preferred/substituted</i>	<i>Completed - DESC TWG Meeting 17/11/2015</i>
<i>DESC 21/05/14</i>	<i>DESC and Xoserve to work together to establish a process of using Shipper consumption data to boost data available to modelling. Target Date October 2014 to assist Algorithm performance</i>	<i>Completed - DESC TWG Meeting 17/11/2015</i>
<i>XOS 06/07/15</i>	<i>Review of contents of NDM Booklet and modelling supporting files</i>	<i>Completed - Summer 2016</i>

Adhoc work areas log: COMPLETED

Source	Description	Status
<i>DESC 13/11/13</i>	<i>Perform another review of Model Smoothing methodology in Autumn 2014 (following results presented in Autumn 2013)</i>	<i>Superseded. DESC agreed not to do this in 2014</i>
<i>TWG 23/05/12</i>	<i>Further consideration given to parameters / tests used for defining Warm Weather Cut off models</i>	<i>Completed - DESC Meeting 15/02/2017</i>
<i>TWG 26/06/13</i>	<i>Review actual sample consumption versus summer profiles in order to try and improve allocation process during summer months (linked to above)</i>	<i>Completed - DESC Meeting 15/02/2017</i>

Adhoc work areas log: COMPLETED

Source	Description	Status
XOS 13/07/16	Support to UK Link replacement, including ongoing simulation of UiG levels	Completed – New Regime implemented. UiG Monitoring now part of Standard Work plan
XOS 13/07/16	Establish process for Algorithm Performance measures for 'new world' algorithm	Completed – First delivery of Strands 1 to 4 presented to DESC DESC Meetings 21/11/2017, 19/12/2017, 13/02/2018
XOS 13/07/16	Update to modelling systems to accommodate new UK Link data structure (Spring 2018)	Completed – Spring 2018