respect › commitment › teamwork

Technical Work Group

Presentation of 2015 Models

24th June 2015

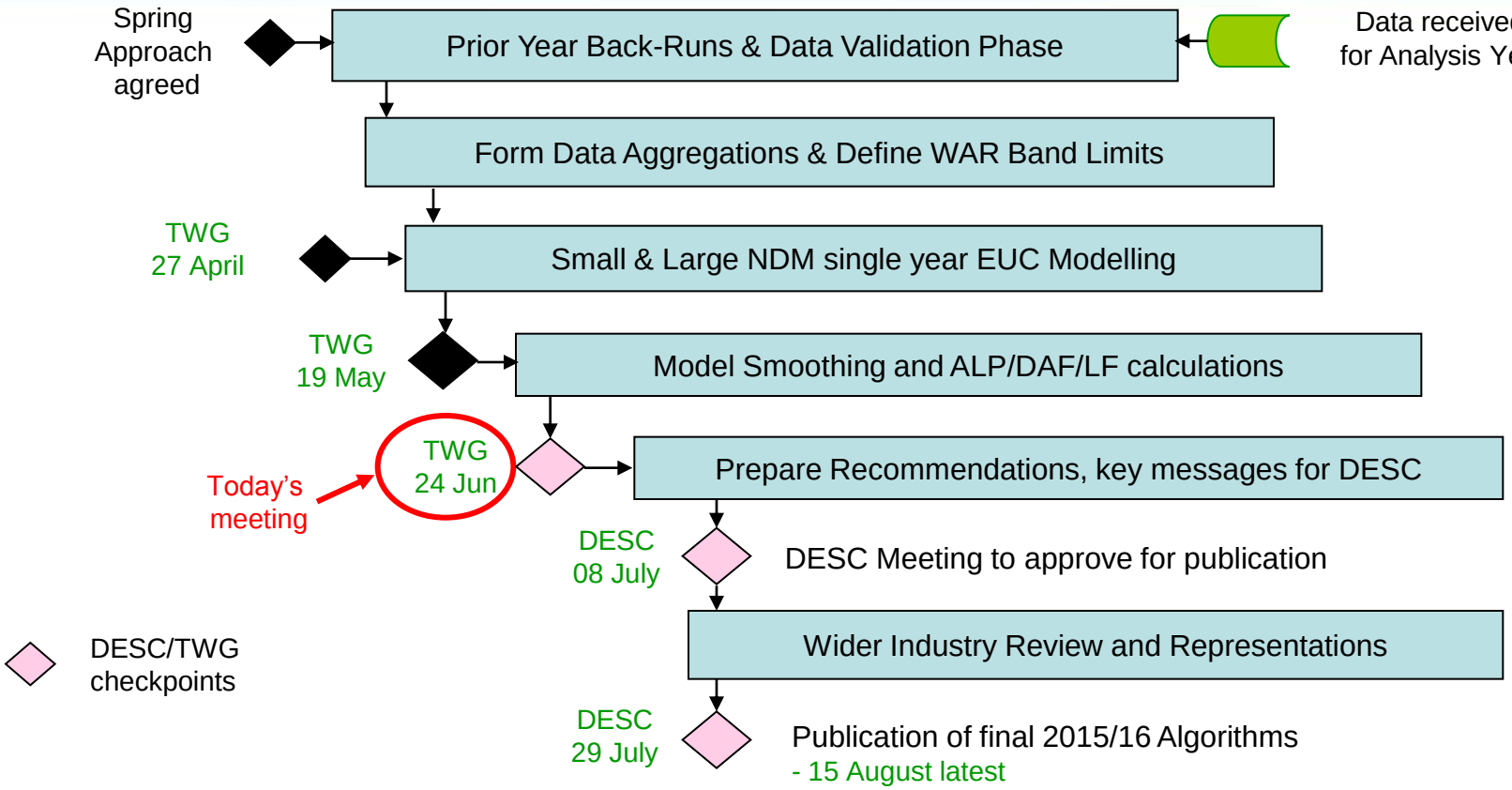
Agenda

- Recap on Timetable
- Summary of 2015 Algorithms
- Summary of TWG responses to proposed Algorithms and Xoserve clarifications
- Conclusions and next steps

Agreed 2015 Modelling Work plan

- Work plan for 2015 Modelling agreed at Feb DESC meeting
- Work plan aims to provide more transparency of process and introduce checkpoints for DESC/TWG review
  - 2 TWG meetings to date – April and May
  - Further interaction via email

Agreed 2015 Timetable



Objectives of this Meeting

- Third meeting of Technical Work Group. Checkpoint following review of proposed Algorithms by TWG
- Key objectives of this meeting
  - Review TWG comments and agree any actions
  - Agree approach to presentation of proposals to DESC
- Required Outcome – TWG support for proposals prior to DESC review and discussion

Summary of modelling

- Data aggregations & WAR Band limits agreed at April meeting and single year modelling approved at May meeting
- Model smoothing process followed with proposed NDM Algorithms published 5th June
  - Key model statistics summarised on slides 8 and 9
- All modelling / output parameters produced using new Composite Weather Variable (CWV) definitions and new Seasonal Normal (SN) basis effective 01/10/2015 and so are not directly comparable to last year's proposals

Summary of modelling cont.

- Revised parameters on the new SN basis for historical years were produced to support the AQ review process and are available in Folder “6.SN 2015 data”

- Modification 0432 (Project Nexus – Gas Demand Estimation, Allocation, Settlement and Reconciliation Reform) likely to be implemented during 2016. This requires the Daily Adjustment Factor (DAF) to be expressed differently
  - DAFs have been calculated and published in the current format (ALPDAF15.txt) and post 0432 format (ALPDAF_MOD432.txt)
  - The Annual Load Profile (ALP) calculation remains unchanged

Small NDM – Summary of Models

	2015	2014 (NW*)
Straight Models	49	61
Cut-Off Only	27	31
Summer Reductions Only	70	55
No Slope	0	0
Cut-Off and Reductions	10	9
Total Number of EUCs	156	156

*NW – New Weather

- Small NDM represents approx. 89% of current NDM AQ

Large NDM – Summary of Models

	2015	2014 (NW*)
Straight Models	190	178
Cut-Off Only	19	23
Summer Reductions Only	49	55
No Slope	0	3
Cut-Off and Reductions	15	14
Total Number of EUCs	273	273

*NW – New Weather

- Large NDM represents approx. 11% of current NDM AQ

TWG Responses / Comments on Proposals

- Email sent on 5th June asked for feedback by no later than close of play 19th June in order to prepare for meeting on 24th June

- As of close of play 11th June there have been no comments received from any TWG representatives

- Updated:
  Comments received from E.On on 23rd June – summary of comments and responses follow…

E.On Query 1: "DAF Flatness for EM:E06W01"

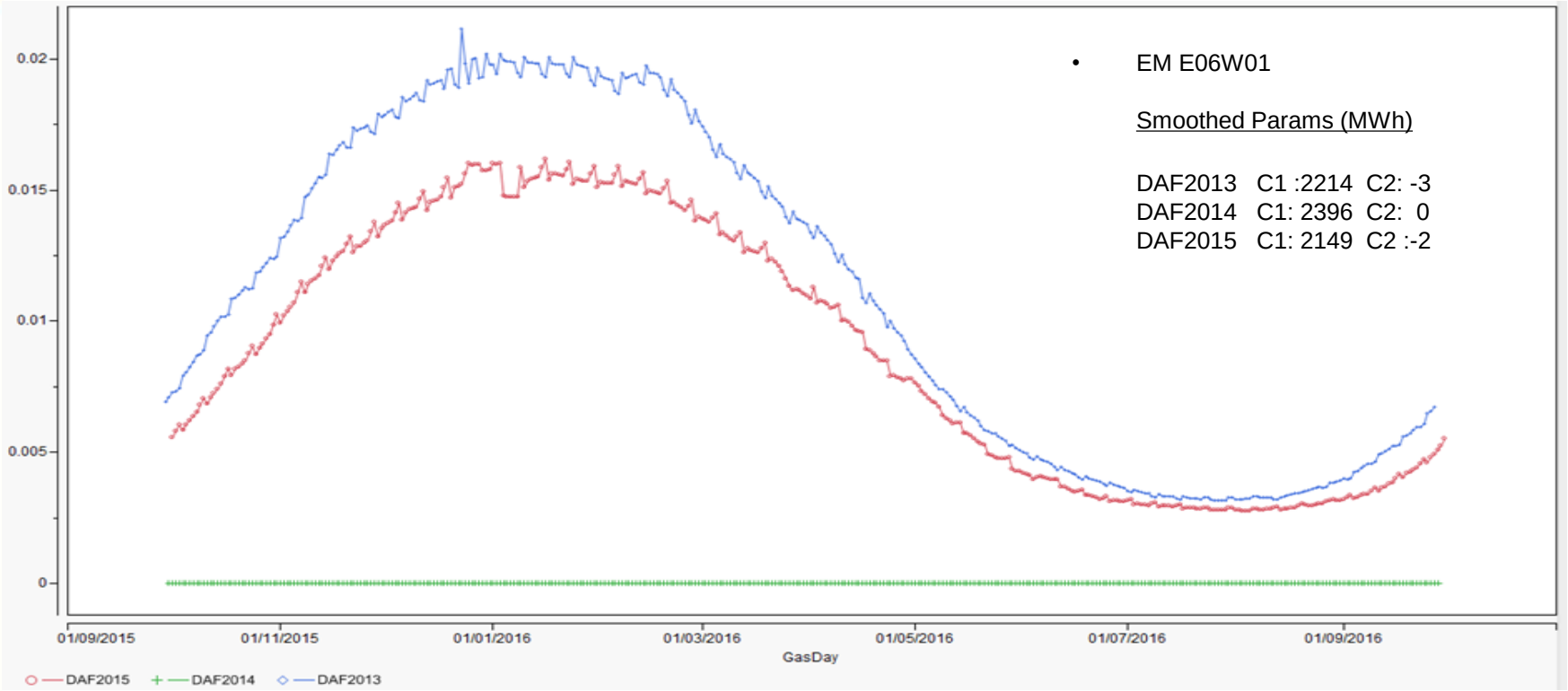


Fig 1. DAF values for EM:E06W01. Years prior to 2015/2016 mapped to match day of week with 2015/2016

- Q) There are a few EUCs that have had the DAFs for 2014/2015 flat and now have a yearly shape. However for the year 2014/2015 EM:E06W01 had a flatness to it which is no longer present for the DAFs in 2015/2016 and also didn't appear in the DAFs for 2013/2014. What is it that drives this behaviour in the changes for this EUC?
- **A) Scale very small – see smoothed parameters which confirm no or very little weather sensitivity**
  Sample data driven. There are no flat models for 2015
  Further consideration – 2013 and 2014 are on old CWV definitions and SN basis

E.On Query 2: “Inverse summer shape for several EUCs”

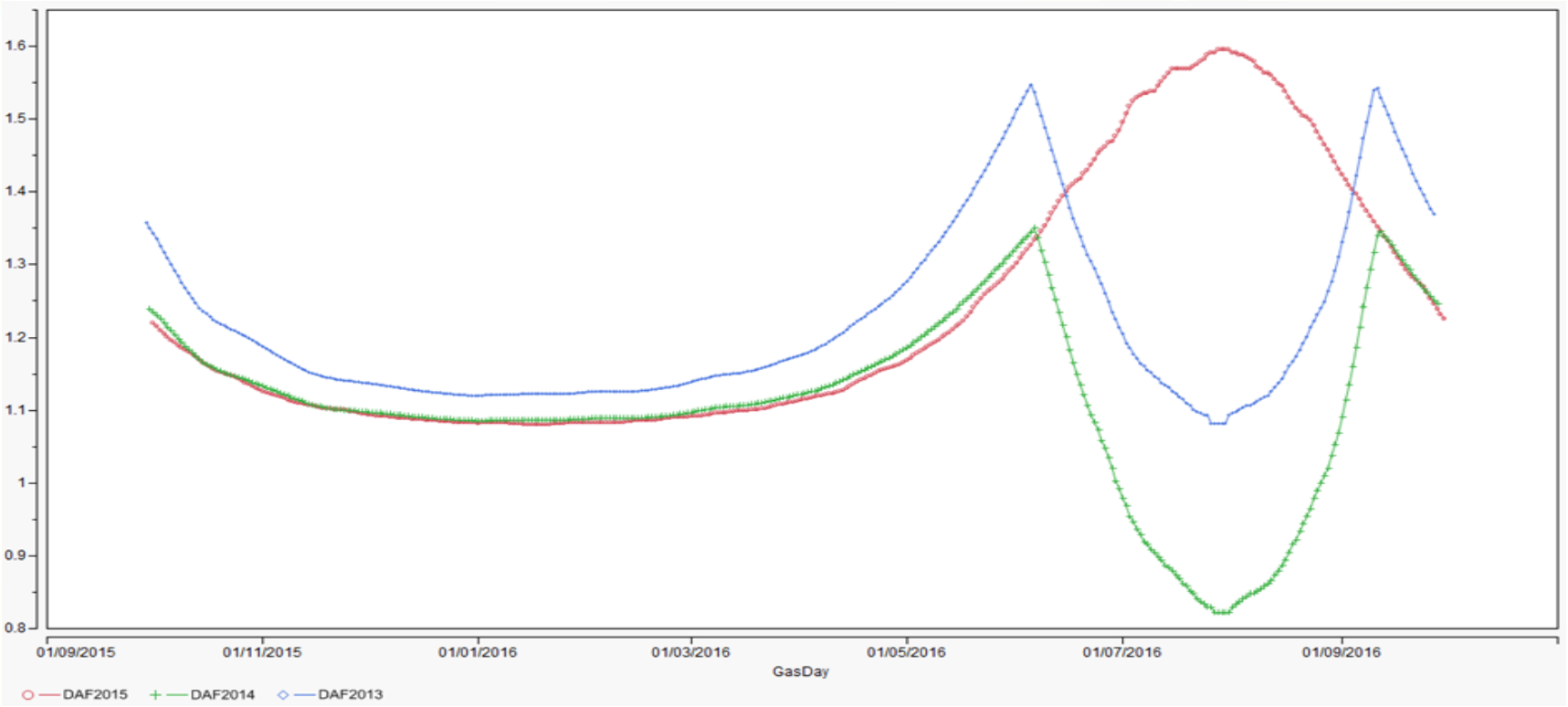


Fig 2. DAF values for SC:E03W02. Years prior to 2015/2016 mapped to match day of week with 2015/2016

- Q) There are several EUCs that have a summer shape applied to them, in most which there is a significant dip over the summer. However in several of these EUCs the dip no longer appears in the DAFs for 2015/2016. Instead it continues at an upward trend before it begins to drop off. What has caused this sudden change as it was not seen in the previous years?
- **A) We believe this model is SC:E03W03 ? as we couldn’t replicate this chart. If this is correct then earlier smoothed models have exhibited cut-offs – i.e. 2013 (14.5) and 2014 (14.5). The smoothed 2015 model does not exhibit a cut-off**

E.On Query 2: “Inverse summer shape for several EUCs”

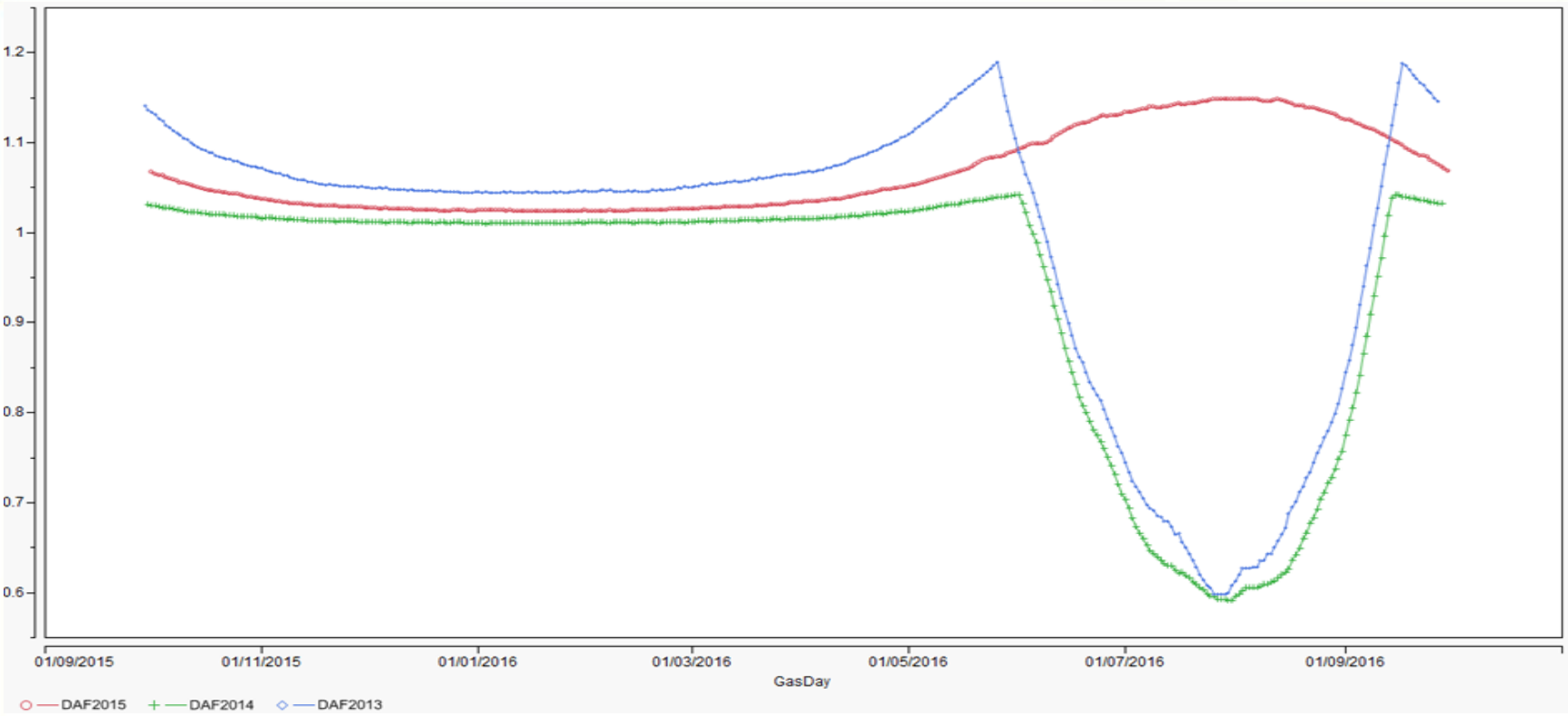


Fig 3. DAF values for NW:E06W04. Years prior to 2015/2016 mapped to match day of week with 2015/2016

- Q) There are several EUCs that have a summer shape applied to them, in most which there is a significant dip over the summer. However in several of these EUCs the dip no longer appears in the DAFs for 2015/2016. Instead it continues at an upward trend before it begins to drop off. What has caused this sudden change as it was not seen in the previous years?
- **A) Smoothed models have exhibited cut-offs – i.e. 2013 (16.2) and 2014 (16.5). The smoothed 2015 model does not exhibit a cut-off**
  Further consideration – 2013 and 2014 are on old CWV definitions and SN basis

E.On Query 3: “Christmas Flatness”

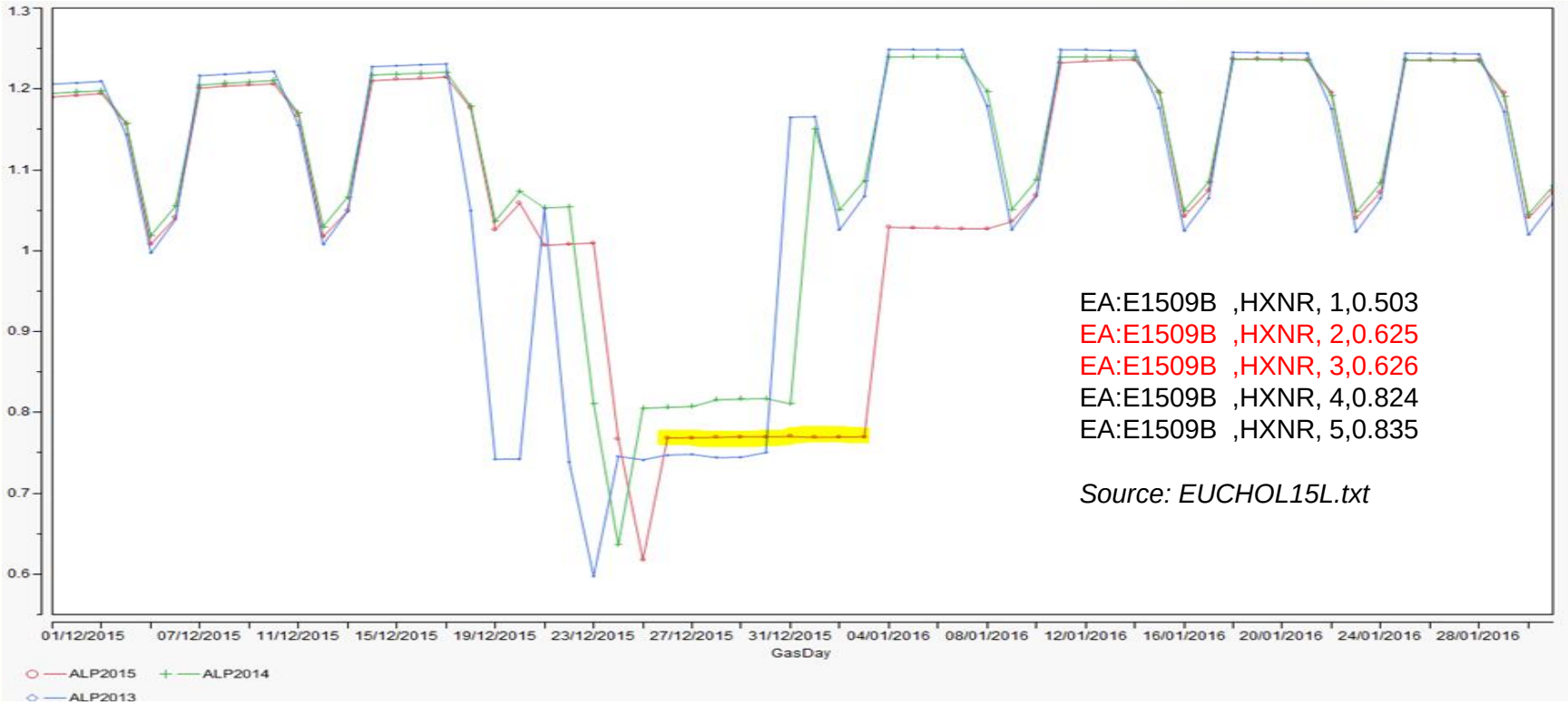


Fig 4. ALP values for EA:E09B. Years prior to 2015/2016 mapped to match day of week with 2015/2016. Covers Christmas period with highlighted extended holiday shape not seen in other EUCs.

- Q) We are aware that the ALPs for 2015/2016 have an extended Christmas holiday shape applied to it for the first time. To build upon this the EUC EA:E09B shows a flatness to its Christmas shape that isn’t seen at other EUCs ranging from 26/12/2015 to 4/1/2016. What has caused this extended holiday shape compared to other EUCs?
- **A) Holiday codes 2 and 3 virtually identical. Majority of sites in 09B sample data will be DM**

E.On Query 3: “Christmas Flatness”

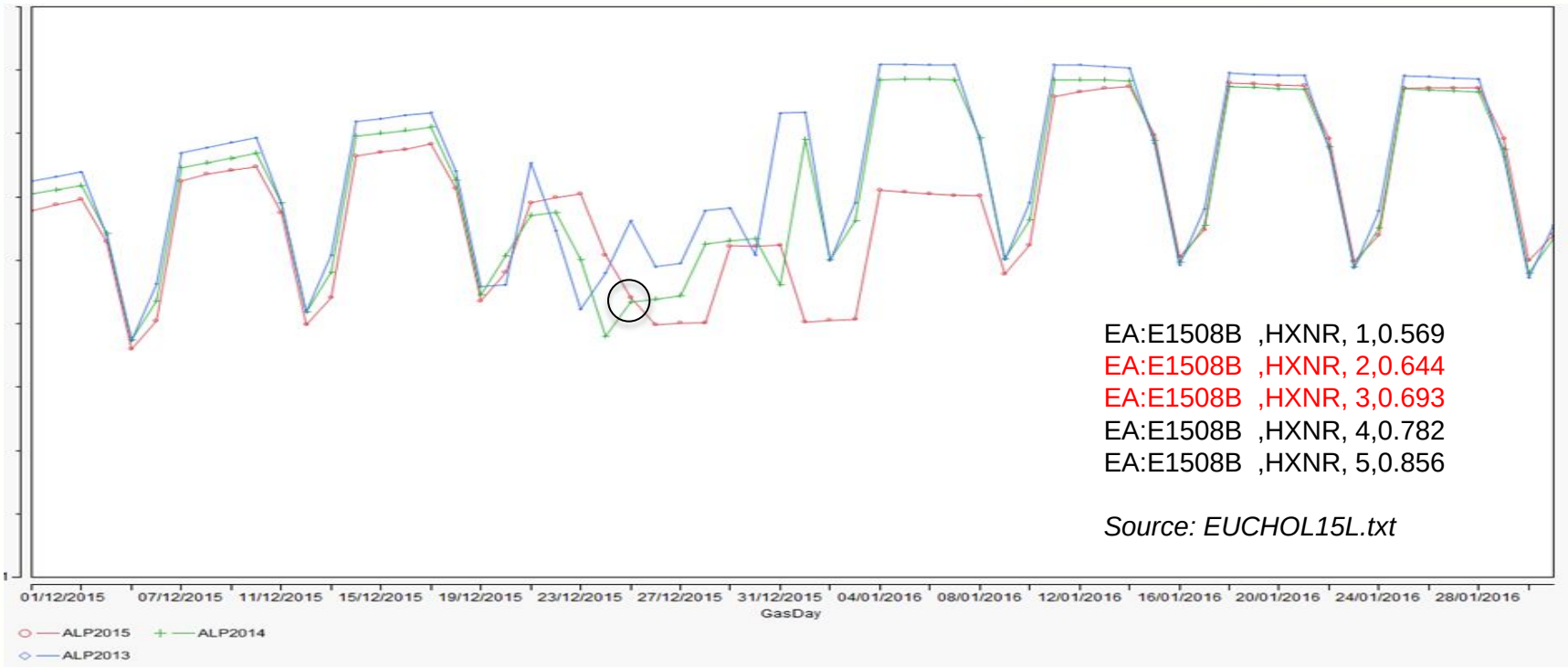


Fig 5. ALP values for EA:E08B. Years prior to 2015/2016 mapped to match day of week with 2015/2016. Covers Christmas period without the extended holiday shape.

- Q) We are aware that the ALPs for 2015/2016 have an extended Christmas holiday shape applied to it for the first time. To build upon this the EUC EA:E09B shows a flatness to its Christmas shape that isn’t seen at other EUCs ranging from 26/12/2015 to 4/1/2016. What has caused this extended holiday shape compared to other EUCs?

- **A) We cannot replicate this chart. No evidence of Xmas day in ALP2015 ?**
  Holiday codes 2 and 3 show a 5% difference

E.On Query 4: General Christmas query

- "We understand that the amendments to the holiday parameters were implemented in 2011, and therefore didn't get agreed in time for implementation in 2011/12 however we would like to know why the holiday shaping for Christmas has been applied for the 2015/2016 ALPs and was not to the prior year of 2014/2015 ALPs."

Test Gas Year	18/12/2015	19/12/2015	20/12/2015	21/12/2015	22/12/2015	23/12/2015	24/12/2015	25/12/2015	26/12/2015	27/12/2015	28/12/2015	29/12/2015	30/12/2015	31/12/2015	01/01/2016	02/01/2016	03/01/2016	04/01/2016	05/01/2016	06/01/2016	07/01/2016
2015	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu
								12										1			
GasYear	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
2006					4	2	2	1	2	3	3	3	2	2	2	5	5	5	5		
2007				4	2	2	3	1	2	3	3	2	2	3	2	5	5	5			
2008					4	4	3	1	2	2	2	3	3	3	2	5					
2009				4	4	4	3	1	2	2	2	3	3	3	2	2	2	5	5	5	5
2010			4	4	4	4	3	1	2	2	2	3	3	3	2	2	2	5	5	5	5
2011		4	4	4	4	4	2	1	2	2	3	3	3	2	2	2	5	5	5	5	
2012				4	2	2	3	1	2	3	3	2	2	3	2	5	5	5			
2013			4	2	2	4	3	1	2	3	2	2	3	3	2	5	5				
2014					4	4	3	1	2	2	2	3	3	3	2	5					
2015				**4**	**4**	**4**	**3**	**1**	**2**	**2**	**2**	**3**	**3**	**3**	**2**	**2**	**2**	**5**	**5**	**5**	**5**
2016		4	4	4	4	4	2	1	2	2	3	3	3	2	2	2	5	5	5	5	

EUC Modelling System Holiday Code Rules as per DESC agreement – November 2011

Start of Period: Monday before 25th December (but if 25th December falls on a Monday, Tuesday or Wednesday, it starts on the Friday before 25th December).

End of Period: First Friday on or after second Scotland New Year bank holiday.

Adds an extra 6 days of holiday codes for 2015 compared to 2014

Holiday code 1: 25th December
Holiday code 2: 26th December, January 1st and any remaining bank holidays (except second Scotland New Year bank holiday) and any other Saturdays and Sundays in the period.
Holiday code 3: Any remaining Mondays to Fridays between 24th December and day before second Scotland New Year bank holiday inclusive
Holiday code 4: Remaining days before 24th December
Holiday code 5: Remaining days (will always include second Scotland New Year bank holiday)

Conclusions/Next Steps

- Are TWG happy with the explanations given above?
- Are TWG happy to recommend the proposals for DESC review:
  - 2015/16 ALPs, DAFs, Load Factors
  - DAFs for 2015/16 post-Nexus
  - Prepayment/Smart meter profiles
- Consider approach to next DESC meeting – July 8th …

Approach to July DESC meeting

- Required Outcome – DESC approval of proposed Algorithms, agreement to proceed to wider industry review

- Suggested approach
  - High level summary of process and outputs
  - Summary of TWG involvement and decisions
  - Summary of TWG reps and any agreed actions
  - TWG recommendation