SVG228/02 – PEG RECOMMENDATIONS: TPDS, AFYCS, AND DEFAULT EACS

MEETING NAME	SVG 228

Meeting number	228/02
Date of meeting	4 February 2020
Owner/author	Andy Ferreira
Purpose of paper	Decision
Classification	Public
Synopsis	The Profiling Expert Group (PEG) has reviewed the profiling Technical Product Deliverables (TPDs), the Average Fraction of Yearly Consumption (AFYC) and Default Estimated Annual Consumption (EAC) data. The PEG recommends that the TPDs are used in Settlement from 1 April 2020. The PEG also recommends that certain AFYCs and Default EACs are also updated in Market Domain Data (MDD) for use in Settlement from 1 April 2020.

1. Introduction

1.1 The PEG reports to the Supplier Volume Allocation Group (SVG) on matters related to profiling, Supplier Volume Allocation (SVA) and certain Settlement parameters. The PEG periodically reviews the Settlement profiles (Technical Product Deliverables (TPDs)) which ELEXON receives from the Profile Administrator (PrA) on a bi-annual basis, before recommending to the SVG whether new TPDs should be approved and used in Settlement.

1.2 The PEG has reviewed the TPDs for the Spring, Summer and High Summer 2020 seasons. This data was pooled over three years (2017, 2018 and 2019). The PEG has also reviewed the results of the yearly recalculation of Average Fraction of Yearly Consumption (AFYC) and Default Estimated Annual Consumption (EAC) data undertaken by the Supplier Volume Allocation Agent (SVAA), and the Half Hourly (HH) Default EAC data undertaken by ELEXON. This has been calculated over the period 1 November 2018 to 31 October 2019. All of the data is designed for use in Settlement from 1 April 2020.

1.3 The review process for the TPDs has been the same as previous years, whereby ELEXON checks for formats and completeness and conducts an initial qualitative review. The PEG undertakes a further qualitative review before making a recommendation to the SVG.

2. Profiling TPDs

2.1 The new TPDs are made up of:

- Regression data for the Spring, Summer and High Summer profiling seasons, based on a pooled set of the latest three years' data (2017, 2018 and 2019);
- Group Average Annual Consumption (GAAC) data calculated for the following BSC Year (1 April 2020 to 31 March 2021); and
- Default Profile Coefficients for use in the Half Hourly (HH) market in 2020/21.

2.2 The Autumn and Winter data is made up of a pooled set of the latest three years of data (2016/17, 2017/18 and 2018/19), and have not been updated in this set of TPDs.

2.3 ELEXON and the PEG have undertaken a technical review of the profiles to be used in Settlement from 1 April 2020.

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Evaluation and analyses of the new dataset

2.4   The new TPDs were subjected to a number of standard ELEXON checking procedures. The data passed all tests on content and format. Some further checks (e.g. negative evaluation counts at extreme Noon Effective Temperatures (NETs)) were also undertaken. The complete checklist is provided in Appendix 1 of this paper.

2.5   ELEXON identified an issue in Group Average Annual Consumptions (GAACs) for Profile Class 2s.

2.6   The PrA subsequently rectified the issues and resubmitted the new files which have successfully passed our validation.

PEG's review

2.7   At its meeting on 13 January 2020, the PEG confirmed that the new TPDs are appropriate to use. The PEG therefore unanimously recommends that the SVG approves the new TPDs for use in Settlement from 1 April 2020.

3.   AFYC and Default EAC data

3.1   The SVAA is required to recalculate the AFYC data annually. The process recalculates the following three sets of values that are held in Market Domain Data (MDD):

- AFYC values;
- GSP Group Profile Class Average EAC values (GGPCAEACs); and
- GSP Group Profile Class Default EAC values (GGPCDEACs).

3.2   The SVG agreed the AFYC review approach, timetable and calculation period at its meeting on 3 December 2019 (SVG226/04).

3.3   At its January 2020 meeting, the PEG reviewed ELEXON's analysis of the recalculated AFYC and Default EAC data. The analysis rejected 28 new GGPCDEAC values as these fell outside the tolerances on population and difference percentage when compared against the previous values. The current methodology specifies that when a GGPCDEAC is rejected, its related GGPCAEACs will also be rejected. All 28 of the rejected GGPCDEAC values were from Profile Classes 5 to 8. The PEG believes that the new values reflect genuine changes in the data population (following BSC Modification P272), and that there would be merit to accepting the GPCDEACs and their related GGPCAEACs, which are based on the most recent data, rather than keep the existing values.

3.4   In addition, ELEXON has reviewed the HH Default EAC values for Measurement Classes (MC) C, D, E, F and G, last approved by the SVG in January 2018 (SVG204/02). These were recalculated actual Consumption Component Class (CCC) level data from the ELEXON Market Indicator database. Comparison data, in MWhs, can be found in Table 1.

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Table 1 – Comparison between live HH Default EACs and new calculated values

MC	Live in MDD	New proposed values
C	850	800
E	100	100
F	4	4
G	60	60
D	7,000	6,000

3.5 The PEG recommends to the SVG that MDD is updated with:

- All 112 GGPCDEACs;
- 753 GGPCAEACs, and their associated sets of AFYCs; and
- The new set of HH Default EAC values.

4. Recommendations

4.1 We invite you to:

a) **APPROVE** the new TPDs for use in Settlement from 1 April 2020;

b) **APPROVE** that 112 GGPCDEACs, 753 GGPCDEACs and their corresponding sets of AFYCs are updated with effect from 1 April 2020;

c) **APPROVE** the new set of HH Default EACs for Measurement Classes C and D;

d) **NOTE** that ELEXON will raise the necessary Change Requests to update all data items in MDD; and

e) **NOTE** that the SVAA systems will be updated with the new TPDs.

Appendices

Appendix 1 – Profiling TPDs checklist

For more information, please contact:

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APPENDIX 1 – PROFILING TPDS CHECKLIST

Reporting period: Year 24_1 (Spring to High Summer 2020/21)

Period of Operational Use: Spring to High Summer 2020 (01/04/2020 – 03/09/2020)

Check	Results	Comments
Date of receipt	Monday 22 November 2019	Within timeframes according to TPDs timetable
Data completeness (FF)	We received all expected files. Expected files: - x6 .csv Regression data (PC 1, 2b, 2s, 3, 4b, 4s) - x6 .csv GAACs - x8 .csv Profile coefficients (PC 1 to 8) - x48 .csv Algorithmic stretched coefficients	
Data format (FF)	All files in correct format. No issues.	

Data completeness (NFF)
 	
Record Count of:
Regression Coefficients
	We received all expected files as shown below.
	
	Regressions
	
	         Actual Expected
	
	Records 597552 597552
	GSP 1400 1400
	PFL 100 100
	RES 2500 2500
	COF 527600 527600
	PER 65950 65950
	ZHD 1 1
	ZPT 1 1
	
	Profile Coefficients
	
	         Actual Expected
	ZHD 1 1
	PFC 8 8
	DPP 140160 140160
	ZPT 1 1
	
	Total 140170 140170	

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Check	Results	Comments
Data format (NFF)	All files in correct format. No issues.	
SVAA Test Loading	SVAA test loading results awaited.	
Friendly (FF) Vs Non-friendly (NFF) data comparisons	Basic Regression Coefficients are the same in both files. 14 Settlement Period stretch for Switched Load Profile Classes 2 and 4 also match.	
Eval (new reg) vs. GAD	Y24_1 regression data evaluated for 2019 Spring to High Summer (April to September) and the outturn NET. This evaluated demand is compared with GAD. Comparisons indicate regressions look okay. Differences spotted: **PC2b:** 20/04/19 (day after Good Friday); high discrepancy between GAD and Eval cause by Eval zero value at SP23, but GAD's shape looks ok. **PC2s:** 20/04/19 (day after Good Friday); high discrepancy between GAD and Eval, but GAD's shape looks ok.	
Y24_1 Vs Y23_1 evaluated regressions at 10-year average NETs for 2019/20	No overall issues identified. **PC2s -** 08/05/2020 (May BH is on a Friday in 2020): The evaluated 23_1 is higher than 24_1, however the shape looks ok. **PC4b and PC4s -** 13/04/2020 (Easter Monday BH): The evaluated 23_1 is higher than 24_1, however the shape looks ok.	
Data Analyst analysis for Y24_1 GADs	<table><tr><th>PC</th><th>Avg Demand</th><th>Avg Std Error</th><th>Precision 2019/20</th></tr><tr><td>1</td><td>0.3704</td><td>0.0223</td><td>6.02%</td></tr><tr><td>2b</td><td>0.4175</td><td>0.037</td><td>8.86%</td></tr><tr><td>2s</td><td></td><td></td><td></td></tr><tr><td>3</td><td>1.3065</td><td>0.0927</td><td>7.10%</td></tr><tr><td>4b</td><td>2.0244</td><td>0.132</td><td>6.52%</td></tr><tr><td>4s</td><td></td><td></td><td></td></tr></table>	Table presented by Data Analyst at the last PEG meeting.

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Check	Results	Comments
Evaluated algorithmic stretched coefficients all sum to same value per stretch	Differences in all Profile Class 2 stretches are inside tolerable limits. Differences in all Profile Class 4 stretches are inside tolerable limits.	
Group Average Annual Consumptions (GAACs)	Potential issue identified in PC2s. PC2s: The average GAAC per PC (1,250 kWh) is 117% higher than the evaluated annual average consumption per PC (1,071 kWh). Update 10/12/2019: Meniscus sent corrected GAAC values for PC2s. ELEXON have re-completed check on GAAC values. Average GAAC for PC2s is 1,070kWh, which now appears correct compared to the evaluated PC2s average annual consumption of 1,071kWh.	GAAC values now look correct following correction of PC2s issue.
Negative evaluation counts at long run average NETs +/- 10ºF for an evaluated matrix of 365 x 48 values. (17,520 half-hourly evaluations)	<table><tr><td>**Profile Class**</td><td>**HH Count + 10ºF**</td><td>**HH Count - 10ºF**</td></tr><tr><td>PC1</td><td>0</td><td>0</td></tr><tr><td>PC2b</td><td>3</td><td>0</td></tr><tr><td>PC2s</td><td>17</td><td>0</td></tr><tr><td>PC3</td><td>0</td><td>0</td></tr><tr><td>PC4b</td><td>0</td><td>0</td></tr><tr><td>PC4s</td><td>1</td><td>0</td></tr></table>	

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