

## PEG RECOMMENDATIONS: TPDS, AFYCS, AND DEFAULT EACS

### Supplier Volume Allocation Group (SVG)

Date of meeting	<b>2 February 2021</b>	Paper number	<b>240/06</b>
Owner/author	<b>Andy Ferreira</b>	Purpose of paper	<b>Decision</b>
Classification	<b>Public</b>	Document version	<b>V1.0</b>

**Summary**      **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 2021, and that certain Default EACs are updated in Market Domain Data (MDD) for use in Settlement from 1 April 2021. The PEG also recommend that the new AFYC values are not approved.**

### 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 2021 seasons. TPDs were created using two methodologies: One based on pooled data over three years (2018, 2019 and 2020), and the other based on a single year's data (2020). This allowed the PEG to make a later decision on which methodology to use closer to the deadline, given the ever changing COVID-19/lockdown situation.
- 1.3 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 2019 to 31 October 2020. All of the data is designed for use in Settlement from 1 April 2021.
- 1.4 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 PEG decided that the best methodology to use for the new TPDs was the three year pooled data set. PEG members felt that the pooled TPD were better than a single year set which could be more volatile, and may not be reflective of the situation in 2021. Therefore there was no good reason to reject the new pooled data or deviate away from the usual methodology used in previous years.
- 2.2 As such, 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 (2018, 2019 and 2020);

- Group Average Annual Consumption (GAAC) data calculated for the following BSC Year (1 April 2021 to 31 March 2022); and
- Default Profile Coefficients for use in the Half Hourly (HH) market in 2021/22.

2.3 Elexon and the PEG have undertaken a technical review of the profiles to be used in Settlement from 1 April 2021.

### Evaluation and analyses of the new datasets

2.4 Both set of TPDs were subjected to a number of standard ELEXON checking procedures. Both data sets 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.

### PEG's review

2.5 At its meeting on 14 January 2021, the PEG decided that the new TPDs based on the three year pooled data set were appropriate to use. The PEG therefore unanimously recommends that the SVG approves these 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 6 October 2020 ([SVG236/08](#)).

3.3 At its January 2020 meeting, the PEG did not approve the AFYC re-calculation data, and recommended keeping the current GAEs, GDEs and their associated AFYCs unchanged from 1 April 2021. The PEG did not feel the recalculated values would be appropriate going forward since the data reflected the zero EACs set by Suppliers during the 2020 lockdown.

3.4 In addition, Elexon has reviewed the HH Default EAC values for Measurement Classes (MC) C, D, E, F and G which were last approved by the SVG in February 2020 ([SVG228/02](#)). 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.

3.5 The PEG recommend that only the HH Default EAC values for Measurement Classes C and G should be changed (see Table 1). The PEG agreed to update the two values proposed since they had been derived from actual data, and the update would not have any material impact on Settlement.

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

Measurement Class	Live in MDD	New proposed values
C	800	725
E	100	100
F	4	4
G	60	50
D	6,000	6,000

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

- 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 2021;
- b) **APPROVE** the new set of HH Default EACs for Measurement Classes C and G;
- c) **APPROVE** that the new set of AFYC figures are not used;
- 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.

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## Appendices

Appendix 1 – Profiling TPDs checklist

**For more information, please contact:**

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## APPENDIX 1 – PROFILING TPDS CHECKLIST

**Reporting period:** Year 25\_1 (Spring to High Summer 2021/22)

**Period of Operational Use:** Spring to High Summer 2021 (01/04/2021 – 05/09/2021)

Check	Results	Comments																																													
Date of receipt	Monday 26 November 2020	Within timeframes according to TPDs timetable																																													
Data completeness (FF)	<p>We received all expected files.</p> <p>Expected files:</p> <ul style="list-style-type: none"> <li>• x6 .csv Regression data (PC 1, 2b, 2s, 3, 4b, 4s)</li> <li>• x6 .csv GAACs</li> <li>• x8 .csv Profile coefficients (PC 1 to 4s)</li> <li>• x48 .csv Algorithmic stretched coefficients</li> </ul>																																														
Data format (FF)	All files in correct format. No issues.																																														
Data completeness (NFF)	<p>We received all expected files as shown below.</p> <p><b>Regressions</b></p> <table border="1"> <thead> <tr> <th></th> <th>Actual</th> <th>Expected</th> </tr> </thead> <tbody> <tr> <td>Records</td> <td>597552</td> <td>597552</td> </tr> <tr> <td>GSP</td> <td>1400</td> <td>1400</td> </tr> <tr> <td>PFL</td> <td>100</td> <td>100</td> </tr> <tr> <td>RES</td> <td>2500</td> <td>2500</td> </tr> <tr> <td>COF</td> <td>527600</td> <td>527600</td> </tr> <tr> <td>PER</td> <td>65950</td> <td>65950</td> </tr> <tr> <td>ZHD</td> <td>1</td> <td>1</td> </tr> <tr> <td>ZPT</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p><b>Profile Coefficients</b></p> <table border="1"> <thead> <tr> <th></th> <th>Actual</th> <th>Expected</th> </tr> </thead> <tbody> <tr> <td>ZHD</td> <td>1</td> <td>1</td> </tr> <tr> <td>PFC</td> <td>8</td> <td>8</td> </tr> <tr> <td>DPP</td> <td>140160</td> <td>140160</td> </tr> <tr> <td>ZPT</td> <td>1</td> <td>1</td> </tr> <tr> <td>Total</td> <td>140170</td> <td>140170</td> </tr> </tbody> </table> <p><u>Record Count of:</u> <u>Regression Coefficients</u></p>		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		Actual	Expected	ZHD	1	1	PFC	8	8	DPP	140160	140160	ZPT	1	1	Total	140170	140170	
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SVAA Test Loading	<p>SVAA test loading results showed no issue for all GSP Groups.</p> <p>There were 'warnings' for the GSP Groups _N and _P. However this was expected since the Scottish GSP Groups were not originally included, as they had their own profiles before BETTA.</p>																																														
Friendly (FF) Vs Non-friendly (NFF) data comparisons	<p>Basic Regression Coefficients are the same in both files.</p> <p>14 Settlement Period stretch for Switched Load Profile Classes 2 and 4 also match.</p>																																														

<p>Eval (new reg) vs. GAD</p>	<p>Regression data evaluated (Y25_1) for 2021/22 Spring to High Summer (April 2021 to September 2021) and the outturn NET.</p> <p>This evaluated demand is compared with GAD.</p> <p>Comparisons indicate regressions look okay.</p>																													
<p>Y25_1 Vs Y24_1 evaluated regressions at 10-year average NETs for 2020/21</p>	<p>No overall issues identified.</p>																													
<p>Data Analyst analysis for Y25_1 GADs</p>	<table border="1"> <thead> <tr> <th>PC</th> <th>Avg Demand</th> <th>Avg Std Error</th> <th>Precision 2020/21</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.40912</td> <td>0.0205</td> <td>5.02%</td> </tr> <tr> <td>2b</td> <td>0.48286</td> <td>0.04388</td> <td>9.09%</td> </tr> <tr> <td>2s</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>1.0099</td> <td>0.0564</td> <td>5.59%</td> </tr> <tr> <td>4b</td> <td>1.6701</td> <td>0.1227</td> <td>7.34%</td> </tr> <tr> <td>4s</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	PC	Avg Demand	Avg Std Error	Precision 2020/21	1	0.40912	0.0205	5.02%	2b	0.48286	0.04388	9.09%	2s				3	1.0099	0.0564	5.59%	4b	1.6701	0.1227	7.34%	4s				<p>Table presented by Data Analyst at the last PEG meeting.</p>
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<p>Evaluated algorithmic stretched coefficients all sum to same value per stretch</p>	<p>Differences in all Profile Class 2 stretches are inside tolerable limits.</p> <p>Differences in all Profile Class 4 stretches are inside tolerable limits.</p>																													
<p>Group Average Annual Consumptions (GAACs)</p>	<p>The percentage ratios between the average GAACs and the average annual consumption per PC are 100%</p>																													
<p>Negative evaluation counts at long run average NETs +/- 10°F for an evaluated matrix of 365 x 48 values. (17,520 half-hourly evaluations)</p>	<table border="1"> <thead> <tr> <th>Profile Class</th> <th>HH Count + 10°F</th> <th>HH Count - 10°F</th> </tr> </thead> <tbody> <tr> <td>PC1</td> <td>0</td> <td>0</td> </tr> <tr> <td>PC2b</td> <td>0</td> <td>0</td> </tr> <tr> <td>PC2s</td> <td>7</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>0</td> <td>0</td> </tr> </tbody> </table>	Profile Class	HH Count + 10°F	HH Count - 10°F	PC1	0	0	PC2b	0	0	PC2s	7	0	PC3	0	0	PC4b	0	0	PC4s	0	0								
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