
Recommendations on Profiling Deliverables to be used in Spring/Summer 2023

Supplier Volume Allocation Group

Date of meeting **7 February 2023**

Paper number **SVG263/02**

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Purpose of paper **Decision**

Classification **Public**

Document version **V1.0**

Summary **Subject Matter Experts (SMEs) within Elexon have reviewed the profiling Technical Product Deliverables (TPDs), the Average Fraction of Yearly Consumption (AFYC) and Default Estimated Annual Consumption (EAC) data. The SMEs recommend that the new TPDs and certain AFYCs and Default EACs are updated in Market Domain Data (MDD) for use in Settlement from 1 April 2023.**

1. Introduction

- 1.1 In Previous years, the PEG would report to the Supplier Volume Allocation Group (SVG) on matters related to profiling. However, in October 2022, the SVG approved the dissolution of the PEG and agreed to replace this committee with SMEs from Elexon who would report directly to the SVG.
- 1.2 Elexon periodically reviews the Settlement profiles (Technical Product Deliverables (TPDs)) which it 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.
- 1.3 For Spring to High Summer 2023 seasons, a single set of TPDs were created based on the latest three years of pooled data available. The review process for the TPDs is the same as for previous years; Elexon checks for formats and completeness and conducts an initial qualitative review.
- 1.4 Elexon has also reviewed the results of the recalculation of Average Fraction of Yearly Consumption (AFYC) and Half Hourly (HH) Default Estimated Annual Consumption (EAC) data.
- 1.5 Note all profiling data is designed for use in Settlement from 1 April 2023.

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 (2020, 2021 and 2022);
 - Group Average Annual Consumption (GAAC) data calculated for the following BSC Year (1 April 2023 to 31 March 2024); and
 - Default Profile Coefficients for use in the Half Hourly (HH) market in 2023/24.
- 2.2 The Autumn and Winter data, approved last year for use from September 2022 onwards, has not been updated in this set of TPDs.
- 2.3 SMEs within Elexon have undertaken a technical review of the profiles to be used in Settlement from 1 April 2023.

3. Evaluation and analysis of the new dataset

- 3.1 The new TPDs were subject 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.

4. Elexon SME review

- 4.1 SMEs within Elexon have confirmed that the new TPDs are appropriate to use. Elexon therefore recommends that the SVG approves the new TPDs for use in Settlement from 1 April 2023.

5. AFYC and Default EAC Data

- 5.1 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).
- 5.2 The SVG agreed the AFYC review approach, timetable and calculation period at its meeting on 4 October 2022 ([SVG260/02](#)).
- 5.3 At its January 2023 meeting, Elexon reviewed the recalculated AFYC and Default EAC data. The analysis rejected 53 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.
- 5.4 44 of the rejected GGPCDEAC values were from Profile Classes 5 to 8. Elexon believes that the new values reflect genuine changes in the data population (following BSC Modification P272¹), and that there would be merit to accepting the GGPCDEACs and their related GGPCAEACs, which are based on the most recent data, rather than keep the existing values.
- 5.5 In addition, Elexon has reviewed the HH Default EAC values for Measurement Classes (MC) C, D, E, F and G. These were recalculated using actual Consumption Component Class (CCC) level data from 1 November 2021 to 31 October 2022.
- 5.6 Elexon recommends that the HH Default EAC values for Measurement Class C, D and F be changed to the new proposed values shown in Table 1 below (note current “live” HH Default EACs are also shown for comparison):

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

MC	Live in MDD	New proposed values
C	675	725
D	5500	4500
E	100	100
F	4	5
G	50	50

- 5.7 Elexon therefore recommends to the SVG that MDD is updated with:
- All 112 GGPCDEACs;
 - 521 GGPCAEACs, and their associated sets of AFYCs; and
 - The new set of HH Default EAC values for MC C, D and F.

¹ P272, ‘Mandatory Half Hourly Settlement for Profile Classes 5-8’

6. Recommendations

6.1 We invite you to:

- a) **APPROVE** the TPDs for use in Settlement from 1 April 2023;
- b) **APPROVE** that 112 GGPCDEACs, 521 GGPCAEACs and their corresponding sets of AFYCs are updated with effect from 1 April 2023;
- c) **APPROVE** the new set of HH Default EACs for Measurement Classes C, D and F;
- 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

PrA TPDs checklist (Pooled Regression)

Reporting period: Year 27_1 (Spring - High Summer 2023)

Period of Operational Use: Spring - High Summer 2023 (01/04/2023 – 05/09/2023)

Check	Results	Comments																																										
Date of receipt	Friday 25 November 2022	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"> x6 .csv Regression data (PC 1, 2b, 2s, 3, 4b, 4s) x6 .csv GAACs x8 .csv Profile coefficients (PC 1 to 4s) x48 .csv Algorithmic stretched coefficients 	Note stretched coefficients provided for PR2 and PR4; 24 .csv files for each																																										
Data format (FF)	All files in correct format. No issues.	Done																																										
Data completeness (NFF) <u>Record Count of:</u> <u>Regression</u> <u>Coefficients</u>	<p>We received all expected files as shown below.</p> <p>Regression Coefficients:</p> <table> <tr> <th></th><th>Actual</th><th>Expected</th></tr> <tr> <td>Records</td><td>597552</td><td>597552</td></tr> <tr> <td>GSP</td><td>1400</td><td>1400</td></tr> <tr> <td>RES</td><td>100</td><td>100</td></tr> <tr> <td>COF</td><td>2500</td><td>2500</td></tr> <tr> <td>PER</td><td>527600</td><td>527600</td></tr> <tr> <td>ZHD</td><td>1</td><td>1</td></tr> <tr> <td>ZPT</td><td>1</td><td>1</td></tr> </table> <p>Profile Coefficients:</p> <table> <tr> <th></th><th>Actual</th><th>Expected</th></tr> <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>140544</td><td>140544</td></tr> <tr> <td>ZPT</td><td>1</td><td>1</td></tr> <tr> <td>Total</td><td>140170</td><td>140170</td></tr> </table>		Actual	Expected	Records	597552	597552	GSP	1400	1400	RES	100	100	COF	2500	2500	PER	527600	527600	ZHD	1	1	ZPT	1	1		Actual	Expected	ZHD	1	1	PFC	8	8	DPP	140544	140544	ZPT	1	1	Total	140170	140170	Done – note increase in DPP for Profile Coefficients of 344 due to 2024 being a leap year
	Actual	Expected																																										
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Data format (NFF)	All files in correct format. No issues.	Done																																										
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>	<p>Done.</p> <p>SVAA Test load results received on 15/12/2022</p>																																										

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.	Done																												
Eval (new reg) vs. GAD	Regression data evaluated (Y27_1) for 2023 Spring to High Summer (April 2023 to September 2023) and the outturn NET. This evaluated demand is compared with GAD comparisons indicate regressions look okay.	Done																												
Y27_1 Vs Y26_1 evaluated regressions at 10-year average NETs for 2021/22	No overall issues identified.	Done																												
Data Analyst analysis for Y27_1 GADs	<table><tr><th>PC</th><th>Avg Demand</th><th>Avg Std Error</th><th>Precision 2021/22</th></tr><tr><td>1</td><td>0.349359</td><td>0.0251</td><td>7.18%</td></tr><tr><td>2b</td><td>0.436832</td><td>0.037911</td><td>8.68%</td></tr><tr><td>2s</td><td></td><td></td><td></td></tr><tr><td>3</td><td>1.192174</td><td>0.074901</td><td>6.28%</td></tr><tr><td>4b</td><td>1.999199</td><td>0.1657</td><td>8.29%</td></tr><tr><td>4s</td><td></td><td></td><td></td></tr></table>	PC	Avg Demand	Avg Std Error	Precision 2021/22	1	0.349359	0.0251	7.18%	2b	0.436832	0.037911	8.68%	2s				3	1.192174	0.074901	6.28%	4b	1.999199	0.1657	8.29%	4s				Table presented by Data Analyst at discussion on GADs
PC	Avg Demand	Avg Std Error	Precision 2021/22																											
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4b	1.999199	0.1657	8.29%																											
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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.	Done Note incorrect PC4 stretches sent initially; revised set sent and all correct																												
Group Average Annual Consumptions (GAACs)	The percentage ratios between the average GAACs and the average annual consumption per PC are 100%	Done Small differences in % due to rounding																												
Negative evaluation counts at long run average NETs +/- 10°F for an evaluated matrix of 365 x 48 values (17,520 half-hourly evaluations).	<table><tr><th>Profile Class</th><th>HH Count + 10°F</th><th>HH Count - 10°F</th></tr><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>3</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></table>	Profile Class	HH Count + 10°F	HH Count - 10°F	PC1	0	0	PC2b	0	0	PC2s	7	3	PC3	0	0	PC4b	0	0	PC4s	0	0	Small number of negative evaluations in PC2s – within accepted limits							
Profile Class	HH Count + 10°F	HH Count - 10°F																												
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PC2b	0	0																												
PC2s	7	3																												
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