ELEXON

Recommendations on Profiling Deliverables for Spring/Summer 2024

Supplier Volume Allocation Group

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Owner/author	**David Thomas**	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 2024.

1. Introduction

1.1 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.

1.2 For Spring to High Summer 2024 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.

1.3 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.

1.4 Note all profiling data is designed for use in Settlement from 1 April 2024.

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 (2021, 2022 and 2023);
- Group Average Annual Consumption (GAAC) data calculated for the following BSC Year (1 April 2024 to 31 March 2025); and
- Default Profile Coefficients for use in the Half Hourly (HH) market in 2024/25.

2.2 The Autumn and Winter 2023/24 data has not been updated in this set of TPDs.

2.3 SMEs within Elexon have undertaken a technical review of the TPDs, Default HH EACs and AFYC values to be used in Settlement from 1 April 2024.

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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 On 16 January 2024, SMEs within Elexon met and 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 2024.

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 AFYC and Default HH EAC review approach/timetable remains unchanged from previous years, with the calculation period used being 1 November 2022 to 31 October 2023.

5.3 Elexon has also reviewed the recalculated AFYC and Default EAC data. The analysis rejected 46 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 38 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 P272[1]), 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 2023 to 31 October 2023.

5.6 Elexon recommend with the new proposed HH Default EAC values for Measurement Class C, D and F Comparison data, in MWhs, of current vs. proposed values can be found in Table 1 below:

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

MC	Live in MDD	New proposed values
C	725	675
D	4500	4250
E	100	100
F	5	4
G	50	50

5.7 Elexon therefore recommends to the SVG that MDD is updated with:

- All 112 GGPCDEACs;
- 591 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 2024;

b) **APPROVE** 112 GGPCDEACs, 591 GGPCAEACs and their corresponding sets of AFYCs are updated with effect from 1 April 2024;

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 28_1 (Spring - High Summer 2023)
Period of Operational Use: Spring - High Summer 2024 (01/04/2024 – 03/09/2024)

Check	Results	Comments
Date of receipt	First data set received on 28 November 2022 (v1) Second data set of revised regressions received on 12 December 2023 (v2), as potential issue found by Elexon checks. All checks therefore repeated with new data.	First set delayed due to Callisto. Second set needed due to error in SPR regressions
Data completeness (FF)	We received all expected files for both v1 and v2 data sets (see list below): • x6 .csv Regression data (PC 1, 2b, 2s, 3, 4b, 4s) • x6 .csv GAACs • x8 .csv Profile coefficients (PC1 to 8) • 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 for both data sets - no issues found	Done
Data completeness (NFF)	We received all expected files (counts identical across both data sets): Record count of Regression Coefficients Records 597552 597552 GSP 1400 1400 PFL 100 100 RES 2500 2500 COF 527600 527600 PER 65950 65950 ZHD 1 1 ZPT 1 1 Record count of Profile Coefficients ZHD 1 1 PFC 8 8 DPP 140160 140160 ZPT 1 1 Total 140170 140170	Done Actual values match Expected values for Regression and Profile Coefficients
Data format (NFF)	All files in correct format for both data sets - no issues found	Done
SVAA Test Loading	SVAA test loading results showed no issue for all GSP Groups. 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.	Done. SVAA Test load results received on 28/12/2023
Friendly (FF) Vs Non-friendly (NFF) data comparisons	Basic Regression Coefficients are the same in both files for both data sets 14 Settlement Period stretch for Switched Load Profile Classes 2 and 4 also match.	Done

<table>
<tr><td>Eval (new regression) vs. GAD</td><td>Regression data evaluated (Y28_1) for 2023 Spring to High Summer (April 2023 to September 2023) vs GADs, using the outturn NET and sunset variables.
Comparisons indicate regressions look okay in data set v2 (possible issue flagged for data set v1)</td><td>Done</td></tr>
<tr><td>Y28_1 Vs Y27_2 evaluated regressions at 10-year average NETs for 2022/23</td><td>Compared to Yr27_2 due to profile coefficients being re-run due to sunset variable issue in 2023.
No overall issues identified in comparisons for data set v2.</td><td>Done</td></tr>
<tr><td>Data Analyst analysis for Y28_1 GADs</td><td><table>
<tr><th>PC</th><th>Avg. Demand</th><th>Avg. Std. Error</th><th>Precision 2022/23</th></tr>
<tr><td>1</td><td>0.312366</td><td>0.0283</td><td>9.06%</td></tr>
<tr><td>2b</td><td>0.401210</td><td>0.0481</td><td>11.99%</td></tr>
<tr><td>2s</td><td></td><td></td><td></td></tr>
<tr><td>3</td><td>1.147446</td><td>0.0897</td><td>7.82%</td></tr>
<tr><td>4b</td><td>1.954973</td><td>0.1682</td><td>8.60%</td></tr>
<tr><td>4s</td><td></td><td></td><td></td></tr>
</table></td><td>Table presented by Data Analyst at GADs discussion.</td></tr>
<tr><td>Evaluated algorithmic stretched coefficients all sum to same value per stretch</td><td>Differences in all Profile Class 2 stretches are inside tolerable limits (for data set v2).
Differences in all Profile Class 4 stretches are inside tolerable limits (for data set v2).</td><td>Done; small differences due to rounding.</td></tr>
<tr><td>Group Average Annual Consumptions (GAACs)</td><td>The percentage ratios between the average GAACs and the average annual consumption per PC are 100%.</td><td>Done; small differences in % due to rounding.</td></tr>
<tr><td>Negative evaluation counts at long run average NETs +/- 10ºF for an evaluated matrix of 365 x 48 values. (17,520 half-hourly evaluations)</td><td><table>
<tr><th>Profile Class</th><th>HH Count + 10ºF</th><th>HH Count - 10ºF</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>8</td><td>7</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></td><td>Small number of negative evaluations in PC2s – within accepted limits</td></tr>
</table>