CVA REFERENCE DATA

This document outlines the methodology used to assess the Settlement Risk related to reference data including Line Loss Factors (LLFs), Transmission Loss Factors (TFLs), Market Index Data Provider (MIDP) data and Balancing Mechanism Reporting Agent (BMRA) data. We are not seeking to exhaustively outline all aspects considered during this assessment; our aim is to draw out the main data items considered and any key assumptions when estimating a future impact range.

The risk that... CVA reference data is created incorrectly or not at all or not used correctly **resulting in...** erroneous, estimated or missing data in Settlement.

Category: Registration and Appointments

Sub category: Reference data

Estimated impact in 2019/20

Lower	Middle	Upper
£0	£420k	£888k

Covers: LLFs, TLFs, Transmission Loss Multipliers (TLMs), Credit Assessment Load Factor (CALF), Generation Capacity (GC) / Demand Capacity (DC), Production / Consumption (P/C) flags, MPID data, BMRA data

Does not cover: Reference data used in the Supplier Volume Allocation (SVA) market which is covered by risk 015 SVA Reference Data

Please note: we have not analysed CALF data or GC / DC data as this feeds into Credit as opposed to Settlement. We have not identified any useful BMRS or P/C data that we can use to calculate the value of the risk.

At risk population

As part of this assessment, we seek to understand the population at risk in the upcoming period, i.e. how many times will the underlying process occur where the risk can manifest.

The at risk population for this risk is the number of CVA Metering System Identifiers (MSIDs) with LLFs applied and the number of BM Units with TLFs applied. Note that one TLF is calculated to each zone (equivalent to each GSP Group) and all BM Units in this zone have the same TLF applied.

Data point considered

	2015/16	2016/17	2017/18
Number of CVA MSIDs with LLFs applied	134	129	152
Number of BM Units with TLFs applied		3,368	3,565

TLF values for 2016/17 came from the Network Mapping Statement (NMS) produced in that period for the TLFs to first applied from 1 April 2018. TLFs values for 2017/18 came from the NMS produced in that period for the TLFs to be applied from 1 April 2019. This does not include any BM Units registered within year.

Forecast

Below are the key considerations and assumptions when forecasting the at risk population in the 2019/20 period:

- We have taken an average from previous years of the number of MSIDs with LLFs applied and number of BM Units will TLFs applied to give us a forecast of possible affected MSIDs and BM Units. This gives us 138 MSIDs and 3,467 BM Units.

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Failure rate

From the population at risk, we need to estimate the proportion where the risk will manifest, i.e. the failure rate. To do this, we assess historical performance in the area and consider any upcoming changes that have the potential to impact future performance.

Data points considered

When assessing historical performance in the area, we considered:

- Trading Disputes relating to LLFs
- BSC Audit issues
- Results of the annual LLF Audit

There was a single medium rated Audit issue related to TLFs spanning two Audit periods but the Auditor did not find any actual issues with the values of Transmission Loss Factors.

There have been no Trading Disputes in the period 2015/16 to 2017/18 relating to Line Loss Factors and Transmission Loss Factors. There was one historic Trading Disputes relating to Line Loss Factors:

- Effective From and To Settlement Dates: 21/2/10 – 6/10/11
- Impacted days: 592
- Total materiality: £315,000
- Annualised materiality: £194,214.50

We looked at the results of the Annual LLF Audit for the past three years.

	2015/16	2016/17	2017/18
Number of material issues	14	10	11

The audit of LLFs is carried out in advance of the LLFs being used in Settlement and all issues were resolved before the LLFs were used in Settlement.

Forecast

Below are the key consideration and assumptions when forecasting failure rates in the 2019/20 period:

There is very little data to base a forecast on. For the LLF part of the risk we have assumed a mid-point failure rate of one and a range of zero to 12. The 12 is based on the number of material issues we have seen in the LLF audit on average over the past three years. The zero and one is based on there only having been one issue with LLFs that has caused a Trading Dispute since the New Electricity Trading Arrangements (NETA) in 2001.

Zonal TLFs were introduced into Settlements in April 2018 so we have very little information on failure rates. We have forecast a mid-point failure rate of one and a range of zero to 300. The zero and one is based on one TLF against one BM Unit identified as being calculated incorrectly in the two years that TLFs have been calculated. This was identified and corrected before it was used in Settlement. An upper limit of 300 has been applied as the same TLF is applied across all the BM Units in the zone, and so if one figure was incorrect it could affect every BM Unit in the zone. The 300 was calculated by looking that the trend of BM Units with LLFs applied, extrapolating this to the 2019/20 year and dividing by 14.

Impact

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To estimate the impact of a risk we need to understand the days impacted and error volume on average per instance.

Average days impacted

For both LLFs and TLFs we have assumed a mid-point average days impacted of 16 and a range of zero to 365 days. The only Trading Dispute we have seen lasted over a year so we have assumed that the whole period could be impacted. We have chosen 16 as a mid-point on the basis that any recent errors have been resolved before the values have been used in Settlements and so we assume that they can be resolved quickly. Two historic SVA LLF Trading Disputes lasted for 15 and 17 days respectively.

Average Annualised materiality

For this risk we have taken the materiality direct from the single relevant Trading Dispute. We have assumed that the upper materiality is equal to its annual materiality of £194k. We have picked a value of £100,000 as the mid-point value of approximately half of the upper value and assumed a lower value of £0. We have used the same figures for TLFs.

Errors relating to Market Index Data

To estimate the impact of Market Index Data being incorrect in Settlement a historic occurrence has been used. Market Index Data was incorrectly calculated between November 2017 and August 2018. Since the implementation of BSC Modification P305 in November 2015, the Market Index Price is used in two defaulting scenarios in the System Price calculation. The Market Index Price has set the System Price in around 2% of Settlement Periods since November 2015.

ELEXON calculated the difference in Imbalance Cashflow for BSC Parties by using the incorrect and corrected Market Index Data when the Market Index Price set the System Price in the affected period. The estimate of the absolute error to BSC Parties for this error was £220k. This has been used to provide a middle estimated impact for 2018/19. An upper estimate is based on if the Market Index Data error lasted for a more prolonged period or the Market Index Price was used more frequently than 2% of Settlement Periods.

	Lower	Middle	Upper
Estimated impact of Incorrect Market Index Data in 2018/19	£0	£220k	£500k