METERING EQUIPMENT TECHNICAL DETAILS QUALITY

This document outlines the methodology used to assess the Settlement Risk related to Meter Technical Detail quality. 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… SVA Metering System technical details are created incorrectly **resulting in…** erroneous or estimated data in Settlement.

Category: Metering

Sub category: Technical details quality

Estimated impact in 2019/20

Market	Lower	Middle	Upper
NHH	£1.1m	£2.3m	£7.4m
HH	£955.7k	£3.9m	£9.7m

Impact to remain unchanged for the 2020/21 PAOP

Covers: Initial production and subsequent changes to Meter Technical Details and Site Technical Details

Does not cover: Incorrect technical details due to non-provision, which is captured under a different risk

Please note: This assessment has focused on incorrect Meter Technical Detail (MTDs) following the installation of a Meter, as this where the majority of MTD creation activity is understood to occur.

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 any event that results in the production of a MTD. This will be Meter installations and any reconfigurations that impact data items within MTDs

Data point considered

To assess the population at risk, we considered MTDs sent over the Data Transfer Network (DTN), quarterly snapshots of the Supplier Meter Registration Service (SMRS) and Performance Assurance Reporting and Monitoring System (PARMS) Serials NM11[1] and HM11[1]. The below tables provides Meter exchanges observed through DTN data.

Market	2015/16	2016/17	2017/18
NHH	1.8m	2.5m	3.3m
HH 100 kW	7.6k	6.4k	7.0k
HH sub 100 kW	0.3k	1.6k	4.1k

- DTN data does not provide a complete view of the market, however we estimate coverage of MTDs to be >90%
- These volumes relate to Meter exchanges only, i.e. an existing Meter replaced with a new Meter. As such, it does not include new connections
- The ramp up in NHH Meter exchanges can be attributed to the smart Meter rollout
- The increase in Meter exchanges in the sub 100 kW market ca be attributed to the increase in the HH market following P272

Forecast

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

- We are expecting NHH Meter installations to increase in the period as a result of the smart Meter rollout. When forecasting future smart Meter installations in the upcoming year, we estimated an overall rollout completion of between 60% and 90%

[1] Sending of MTDs to Data Collectors following a change to or of the Metering System

- We have not used figures reported through PARMS Serials HM11 and NM11 as an assessment into these Serials identified material reporting errors

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:

- The PARMS Serial that reports on corrections to HH MTDs (HM13)
- Corrections to MTDs observed through DTN data
- HH faults related to MTD quality observed through DTN data
- Non-compliances raised by the Technical Assurance Agent (TAA) during the annual audit of HH 100 kW Metering Systems

From the population of Meter exchanges noted in the previous table, the following table provides the proportion where we have observed a back dated correction to a key field within the MTDs.

Market	2015/16	2016/17	2017/18
NHH	1.18%	1.20%	0.82%
HH 100 kW	4.20%	4.15%	4.66%
HH sub 100 kW	16.77%	9.03%	4.88%

- The fact that a MTD has not undergone a correction doesn't mean it is accurate
- A drop in corrections in the most recent year, as seen in NHH, could be attributed to the corrections not being identified and applied as of yet
- Corrections in the HH market are significantly higher than the NHH market. This could be due to the higher complexity of HH MTDs or a lower identification and correction rate in NHH

From the ~1,500 inspections of HH 100 kW Metering Systems during 2017/18 Technical Assurance Agent's annual audit, 0.34% had a Settlement impacting (Category 1) non-compliance related to incorrect standing data held by the Data Collector (Category 1.01).

Based on a random sample of 2,500 HH fault investigations observed through DTN data in the last year, approximately 9.8% were related to MTD quality. This was the second largest fault category.

Forecast

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

- A key risk in NHH related to MTD quality will be the high volume of Meter exchanges as part of the smart Meter rollout. We have used metrics adopted for the smart Meter Technical Detail report to estimate future MTD quality issues
- For HH 100 kW and sub 100 kW markets, we have used the faults analysis to estimate the impact of corrected MTD quality issues. However, we observed that in excess of 80% of the faults related to MTD quality were resolved before the initial Settlement Run (SF). This suggests that most HH MTD quality issues that are identified are resolved quickly. We only considered the proportion resolved after SF as having a material impact
- As the previously discussed figures are from identified MTD quality issues, for the HH 100 kW market, we have used the findings from the TAA's annual audit to estimate the impact of MTD quality issues that are

unidentified. To account for the TAA's audit being a sample of a wider population, we have applied a margin-of-error calculation based on a 95% confidence interval

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Impact

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

Average days impacted

To provide a view of potential days impacted in future, for NHH, we assessed the average days that MTDs are corrected as observed through DTN data, which was **198** days. For HH, we used data from the random sample of faults related to MTD quality that were resolved after SF, which was **68** days.

Average error per day

We considered that the primary impact of incorrect MTDs will be estimated data, i.e. without a set of valid MTDs, the DC will be unable to validate metered data and it will revert to estimating consumption. Whilst we acknowledge that incorrect MTDs can result in erroneous actual consumption values, we are assuming this is for a lower proportion of exceptions.

When estimating the error per day, we used the standard rate card related average daily inaccuracy when estimating consumption for the associated markets. Please see the rate card for erroneous actual consumption values for more detail.

We convert the error volume into a monetary value by the forecast system buy and sell price for the upcoming period.

Other considerations for this risk

- We observe on average £2.6m of annual materiality for Trading Disputes related to incorrect MTDs. In the 2015/16 period, there was a single dispute with a materiality of £6.7m related to an incorrect MTD