NOTIFICATION OF CHANGE TO METERING EQUIPMENT

This document outlines the methodology used to assess the Settlement Risk related to notification of change to Metering Equipment. 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… Changes to Metering Equipment are not notified, such that all members of the Supplier Hub do not use the correct Meter Technical Details **resulting in…** erroneous or estimated data in Settlement

Category: Metering

Sub category: Notification of change to Metering Equipment

Estimated impact in 2020/21

Market	Lower	Middle	Upper
NHH	£770.2k	£1.7m	£3.4m
HH	£234.4k	£919.2k	£3.1m

Covers: Notification of a Meter installation, exchange, removal or reconfiguration and changes to measurement transformers

Does not cover: Transfer of MTDs on a change of agent or notification of changes of energisation status, which are captured under Risks 006 and 016 respectively.

At risk population

As part of this assessment, we seek to understand the population at risk in the upcoming period, i.e. the number of instances in which underlying process (where the risk can manifest) will be operated during the period.

The at risk population for this risk is the total volume of updates to Metering Equipment which need to be notified either through updated Meter Technical Details (MTDs) or other means, such as Site Technical Details (delivered through the D0215 dataflow) provided by the Licensed Distribution System Operator (LDSO). These events can be triggered by routine Metering System activities or metering installation work in the case of new connections.

Data points considered

To assess the population at risk, we considered MTDs and Site Technical Details 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 table provides the volume of Meter exchanges observed through DTN data.

Market	2016/17	2017/18	2018/19
NHH	2.5m	3.3m	3m
HH 100 kW	6.4k	7.0k	7.2k
HH sub 100 kW	1.6k	4.1k	5.4k

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

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

- When identifying historical changes notified by LDSOs, we found assessing updates to Measurement Transformer ratios through Site Technical Details (D0215) or MTDs to be unreliable. We suspect this is linked to the on-going issues with the quality of D0215s. Whilst we have used updated Measurement Transformer ratios provided through MTDs to give a high level estimate, in future we may wish to find an alternative data source. One option the Risk Owner is exploring is to undertake a review of material Trading Disputes which have been raised due to incorrect CT/VT ratios and investigate the D0215s sent in those instances in order to identify whether missing/erroneous D0215 data may have been part of the root cause.
- To forecast future new connections, we assessed the number of new energised Metering Systems by comparing quarterly Supplier Meter Registration Service (SMRS) data snapshots.

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 timely notification of Meter exchanges through updated MTDs. The following table provides a view of the proportion of late MTDs following a Meter exchange as per analysis of DTN extracts.

Market	2016/17	2017/18	2018/19
NHH	6.07%	4.24%	6.9%
HH 100 kW	7.70%	5.54%	4.00%
HH sub 100 kW	32.19%	11.23%	6.00%

- For timeliness of the notification to be assessed it needs to be received, i.e. this does not cover instances that are currently missing
- When assessing lateness, we looked at notifications that were received outside of BSC timescales and had the potential to impact the Initial Settlement Run (SF)
- We have seen a significant reduction in the failure rate for HH sub 100 kW which has continued to drop in 2020/21 possibly as the newly HH Metering System population stabilizes following P272.

Forecast

Below are the key considerations and assumptions when forecasting failure rates in the 2020/21 period:

- The failure rate in respect of NHH Meter Exchange events has fallen significantly thanks to engagement by ELEXON's assurance teams through the application Technical Assurance of Performance Assurance Parties (TAPAP) Audits and Error and Failure Resolution. We hope to see a continued decline in failure rates in the coming period.
- We are also forecasting a slight decline in the proportion of late MTDs in the HH 100 kW market to that previously seen
- With the migration to HH Settlement required under Modification P272 all but complete, we are forecasting continued improvements in the proportion of late MTDs in the HH sub 100 kW market.
- For Meter installations on a new connection, we are assuming a proportion of late notifications comparable to that seen for Meter exchanges.
- With limited data on delayed notification of changes to Measurement Transformers by LDSOs, we are assuming a proportion of late notifications comparable to that seen for Meter exchanges. However the volume of late and missing D0215 flows seen from LDSOs indicates that failure rates for notification of changes to Measurement Transformers could be significantly higher.

Impact

To estimate the impact of a risk we need to determine reasonable values for the days impacted and the average error volume per instance.

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Average days impacted

Considering the data points previously discussed, we looked at the average number of days that notifications following a Meter exchange have been late. The following table provides a view of the average calendar days MTDs are late following a Meter exchange as per analysis of DTN extracts.

Market	2016/17	2017/18	2018/19
HH 100 kW	57	61	112
HH sub 100 kW	207	84	130
NHH	96	109	90

- The limitations with DTN extracts previously noted are the same for this data
- These figures represent the average days late MTDs, however the data display a downward curve in terms of the proportion late as the number of days increases
- We have continue to observe large fluctuations in average days late in the HH sub 100 kW market

With no comparable data available for late notifications of changes to Measurement Transformers by LDSOs, we considered other information such as Trading Disputes. We are forecasting a longer average days impacted than those observed in the table above.

Average error per day

When estimating average error per day for late notifications of Meter exchanges and installations on a new connection, we assumed the primary impact will be estimated data. I.e. if the Data Collector is not notified of the current Meter details, it will be unable to process Meter readings.

When estimating average error per day for late notifications of changes to measurement transformers by LDSOs, we used the standard rate card related to error associated with erroneous actuals. I.e. if the MOA is not notified of a change to the measurement transformers, it will not adjust the settings of its Meter appropriately and therefore the Meter will record erroneous consumption values.

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