

MHHS SERVICES: SUMMARY GUIDE

The Processing Service (Smart) [PSS]

The Processing Service (Smart) is responsible for obtaining, validating and estimating Settlement Period level data (using both SP level data and Register Reads (RRs)) from smart and non-smart Meters. It receives data from Meter Data Retrieval (MDR) Service and Meter Reading Service (MRS) and passes validated Settlement Period (SP) level data to the Load Shaping Service (LSS) and the Aggregation Service (AGS).

The PSS processes meter data from:

1. Smart Meters that are registered with the Data and Communications Company (DCC). The PSS will process Settlement Period Level data collected from the smart Meter. The PSS will also process Register Readings and daily consumption values for smart Meters where SP level data is unavailable; and
2. Non-smart Meters (e.g. legacy or dumb) not accessed via the DCC, e.g. manually read. The PSS will process Register Readings (RRs) from any non-smart Meters that are still in the populations following the end of the smart Meter roll out. Some smart Meters may also require RRs provided by the Meter Reading Service on an interim basis where there are communications issues.

There are 3 main elements to the service: obtaining the meter data from the Meter Data Retrieval (MDR) and Meter Reading (MRS) Services, validating and estimating the meter data (including the application of Load Shapes to Settlement Periods) and notifying it to the Aggregation Service (AGS). These main elements are described below:

How will the PSS obtain the smart and non-smart Meter data?

The PSS will be responsible for defining and sending a schedule of Meter data requests to the Meter Data Retrieval (MDR) service. The schedule will specify the Metering Point Administration Numbers (MPANs) for which data is to be collected. The schedule will define which type of Service request is required for each MPAN. There requests may be for Settlement Period level data, daily consumptions, daily register reads or reading of the total cumulative register. The MDR will schedule the request from the PSS with the DCC. Once the MDR has received the Meter data it will provide access to the data to the PSS. There may be requirements to obtain and process additional data such as Maximum Demand data or Reactive Power data that may be required for network charging.

For non-smart Meters and smart Meters with communication issues, the PSS may also require RRs from the Meter Reading Service (MRS). The PSS will request RRs on a transactional basis as and when they are required. The PSS will provide the MRS with the MPAN and associated Meter Technical Details (MTDs), together with the timescales in which the RRs are required. The MRS will obtain RRs from the non-smart Meters and provide access to them to the PSS.

How does the PSS process the data?

On receipt of the data the PSS will validate the data received from the MDR or the MRS. The PSS will follow a set of validation rules designed to identify missing or erroneous data. Any data identified as erroneous will be reported and passed on for further processing. Where RR data has been received the PSS will calculate Meter Advances by differencing the latest RRs for the RRs previously received from the same MPAN. Where data has been received from a non-smart Meter from the MRS, the PSS will calculate Meter Advances for each register on the Meter.

For Meters with more than one register, the PSS will combine the Meter Advances for each register into a single cumulative Meter advance. Meter Advances for smart Meters can also be used to reconcile and validate SP level data by comparing the Meter Advance to the sum of the SP level data over the same period. Following the calculation of a Meter Advance, the PSS will calculate a Daily Advances Estimate (DAE) using the Meter Advance and the Meter Reading Period. The DAE is used in the estimation process where no Meter data is available for a Settlement Day.

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What are the estimation processes?

Where data has been deemed to be invalid or Meter Advances have been calculated and no SP level data is available the PSS will need to estimate SP level data. The PSS will use a set of defined 'Estimation Methods'. The estimation Method to be used will depend on the available data at the time of estimation. If no data is available for estimation the PSS will default to the most appropriate Load Shape from the LSS.

Who does the PSS notify validated or estimated meter data to?

What happens to valid Settlement Period Level data?

Valid Settlement Period level data will be passed to the Aggregation Service (AGS). Valid SP level data will also be passed to the Load Shaping Service (LSS) according to a defined schedule. In both cases, the data notified will be SP level data at Metering System level with appropriate identifiers to enable the LSS or AGS to process the data. The LSS will process the data and provide Load Shapes back to the PSS for use in their estimation processes.

What happens to estimated Settlement Period Level data?

Following estimation the PSS will notify the estimated SP level data to the AGS.

What are the timescales?

The service will operate 365 days per year. The processing service will validate, estimate meter data and provide SP level data as it is available to the AGS. Data from the LSS will be available between [4] and [10] calendar days after the Settlement Date to which the data relates.

Service Summary:

This service will be responsible for:

- Accessing the Active Import and Active Export profile data log (Settlement Period level) data for smart Meters from the Meter Data Retrieval Service for smart Meters where required for Settlement;
- Accessing Register Readings for Active Import Registers and the Active Export Register smart Meters from the Meter Data Retrieval Service for smart Meters where required for Settlement;
- Accessing Meter Register Read data for non-smart Meters from the Metering Reading Service (MRS) according to the PSS defined reading schedule.
- Validating Settlement Period level consumption data for Active Import and Active Export, or Register Readings, for smart and non-smart Meters using a common set of agreed validation rules to be implemented electronically where possible;
- Estimating or defaulting Settlement Period Level consumption data for Active Import and Active Export where such data fails validation or is missing or unavailable;
- Calculating Meter Advances for Register Read data;
- Conversion of Register Readings into Settlement Period level data using Meter Advance and Load Shapes data provided by the Load Shaping Service;
- Maintenance of standing data as appropriate;
- Exception reporting to other services or interested parties (such as the BRP) for any Metering Systems where data is deemed to be invalid or where access or issues with Metering Systems are identified;

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- Providing validated Settlement Period level data to the Load Shaping Service and Aggregation Service(s); and
- Providing access to validated Settlement Period level data to any other parties as appropriate.