

PUBLIC

# The Target Operating Model for Market-wide Half Hourly Settlement

Attachment B – DWG’s development of the  
TOM



ELEXON  
Version 1.0  
24 January 2019

# MARKET-WIDE HALF HOURLY SETTLEMENT

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## CONTENTS

<b>PURPOSE OF THIS DOCUMENT</b> .....	<b>3</b>
<b>HOW THE DWG USED WORKGROUPS TO DEVELOP THE TOM SERVICE REQUIREMENTS</b> .....	<b>3</b>
<b>OFGEM'S RELATED POLICY AREAS AND ITS 'LEAST-REGRETS' DESIGN STEERS TO THE DWG</b> .....	<b>3</b>
Access to data .....	4
Supplier Agent functions .....	4
<b>THE DWG'S DECISION TREE APPROACH TO SELECTING A PREFERRED TOM</b> .....	<b>6</b>
Should central Settlement receive disaggregated or aggregated HH data?.....	7
Should Retrieval and Processing be separate or combined? .....	9
<b>SUMMARY OF DWG'S PREFERRED TOM</b> .....	<b>10</b>
<b>DWG'S REASONS FOR NOT PROGRESSING THE OTHER TOMS</b> .....	<b>11</b>
<b>DWG'S DISCUSSION AND ANALYSIS ON REDUCING THE SETTLEMENT TIMETABLE</b> .....	<b>16</b>
Current Timetable.....	16
Key drivers for initial and final Settlement Runs .....	16
Settlement performance issues.....	17
Workgroup Recommendations to DWG on Settlement timetable .....	17
DWG view on analysis of changes between Settlement runs .....	17
<b>AREAS OF DESIGN DETAIL WHERE THE DWG RECOMMENDS FURTHER CONSIDERATION</b> .....	<b>19</b>
Time of Use Scaling Weights .....	19
MHHS requirements for Registration services and potential systems impacts .....	19

# MARKET-WIDE HALF HOURLY SETTLEMENT

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## PURPOSE OF THIS DOCUMENT

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This is an attachment to the Design Working Group's (DWG's) report to Ofgem on its recommended Target Operating Model (TOM) for Market-wide Half Hourly Settlement (MHHS).

It sets out the process that the DWG has followed, between May 2018 and January 2019, to develop the TOM as part of its Stage 2 work.

It gives further information on:

- The workgroup process which the DWG has used to develop the TOM service requirements;
- The related policy workstreams on which Ofgem has still to make a decision under its [Significant Code Review \(SCR\) on Electricity Settlement Reform](#);
- The '[least-regrets' design steers](#) that Ofgem has given the DWG in these areas so that the DWG can proceed with the TOM development in the absence of the final policy decisions;
- The decision tree approach used by the DWG, in conjunction with Ofgem's 'least-regrets' steers, to evaluate the original five 'skeleton' (high-level) TOMs from its Stage 1 consultation and recommend an overall preferred TOM to Ofgem;
- The majority and minority views of DWG members on the preferred TOM;
- The DWG's discussions and analysis on the appropriate reduced Settlement timetable for MHHS; and
- Areas of design detail that the DWG recommends are explored further during the implementation phase:
  - introducing Time of Use Scaling Weights; and
  - using the Registration Service as the 'single source of truth' for service provider appointments.

## HOW THE DWG USED WORKGROUPS TO DEVELOP THE TOM SERVICE REQUIREMENTS

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The DWG established four workgroups to support it in developing the TOM service requirements:

- Workgroup 1: Metering, Meter Reading and Retrieval Services;
- Workgroup 2: Processing and Load Shaping Services and Registration Interaction;
- Workgroup 3: Settlement Period Unmetered Supplies Service and Distribution Business Interaction; and
- Workgroup 4: Aggregation and Volume Allocation Services and Registration Interaction.

The workgroups ran between June and November 2018. You can find details of their membership and Terms of Reference (including the specific scope of each group) [here](#). ELEXON provided updates from the workgroups at the [June](#), [July](#), [August](#), [September](#) and [October](#) DWG meetings and workgroup reports to the [September](#) and [November](#) DWG meetings (papers 11/01 and 13/01).

## OFGEM'S RELATED POLICY AREAS AND ITS 'LEAST-REGRETS' DESIGN STEERS TO THE DWG

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The DWG's development of the TOM forms a key output of Ofgem's SCR. It will feed into Ofgem's final Business Case decision on when and how to implement MHHS. The SCR comprises the following two related workstreams, under which Ofgem is still developing policy in parallel with the DWG's TOM design work:

- Access to half-hourly (HH) data for settlement purposes; and
- Supplier Agent functions.

# MARKET-WIDE HALF HOURLY SETTLEMENT

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Ofgem's policy decisions in these areas will also feed into its final Business Case decision on MHHS.

## Access to data

In July 2018, Ofgem issued its [consultation on Access to half-hourly electricity data for settlement purposes](#). This set out three core options as follows:

1. **Opt-in:** Access to HH electricity consumption data for settlement purposes would be subject to existing data access rules, giving domestic consumers the choice to opt in (the status quo for domestic consumers).
2. **Opt-out:** There would be a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only, unless the consumer opts out (HH data for microbusinesses is currently collected on an opt-out basis).
3. **Mandatory:** There would be a legal obligation on the party responsible for settlement to process HH electricity consumption data for settlement purposes only.

In addition, the consultation considered two potential 'Enhanced Privacy' options which would both result in all smart or advanced metered consumers being HH settled:

- 4a. **Anonymisation:** Consumers could choose to have their data retrieved, processed and aggregated by a centralised body, rather than by suppliers and their agents, with HH data anonymised after settlement processes are complete.
- 4b. **Hidden Identity:** HH electricity consumption data would be retrieved by a new 'pseudonymisation service'. This would replace the information which can be used to identify an individual with a new unique identifier – obscuring their identity, as the data could no longer be attributed to individual consumers without a key. This pseudonymised data would then be processed for settlement purposes by the usual parties responsible for settlement. All smart and advanced metered consumers would be settled using their HH data.

The consultation set out Ofgem's view that the 'Opt-out' option 2 offers the best balance between preserving consumer choice over sharing data and realising the system benefits/savings associated with MHHS. However, the consultation invited stakeholders to submit evidence and noted that Ofgem wished to examine this evidence before reaching its final policy decision.

In November 2018, Ofgem provided the DWG with a '[least-regrets](#)' steer. While the steer did not prejudge Ofgem's final policy decision on data access, it allowed the DWG's TOM design work to continue in the absence of this decision. The intention of the steer was to have the least impact on overall programme timescales, while minimising the risk of doing nugatory work.

Ofgem's steer to the DWG on data access was as follows:

*'For the purposes of the design work at this time, we would like the DWG to proceed with the design of a TOM without Enhanced Privacy.'*

*'There is remaining access to half-hourly data policy questions that we are still working through. As previously discussed however, as the outcome of these decisions does not materially affect the TOM design, we are satisfied that we can provide these to you in the future at such a time that they are resolved, without impacting on the TOM design project timeline.'*

When evaluating the five skeleton TOMs, and choosing a preferred TOM, the DWG has therefore assumed that an Enhanced Privacy solution is not required. It notes that if the final Ofgem decision differs from the steer then, at that point, it will need to discuss with Ofgem what revisions may be required to its work.

## Supplier Agent functions

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# MARKET-WIDE HALF HOURLY SETTLEMENT

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In September 2018, Ofgem issued its [Consultation on supplier agent functions under market-wide settlement reform](#). This considered whether or not to centralise functions currently performed by Supplier Agents.

In November 2018, and in parallel with its steer on data access, Ofgem provided the DWG with a 'least-regrets' steer on Supplier Agent functions. This noted that Ofgem has yet to make its final policy decision, but asked the DWG to continue with its TOM design on the basis of Ofgem's position as set out in its consultation. The steer was as follows:

*'For the purposes of the design work at this time, we would like the DWG to work on a design based on our proposed approach, published in our consultation document of 17 September 2018. Our proposed position was that our work on market-wide settlement reform should not include centralisation of agent functions. Additionally, we said that we think there may well be a case for future models where data is not aggregated for submission into central settlement systems and that the data aggregation role may no longer be required in its current form. For the purposes of the design work at this stage, we would like the Design Working Group to consider the design questions set out at paragraphs 3.14 – 3.16 of our consultation document.'*

If Ofgem's decision differs from its least regrets steer, the DWG will discuss with Ofgem what revisions may be necessary to its work.

The further design questions set out in the consultation (and referred to in the steer) were, in summary, a request to the DWG to:

- Consider Ofgem's view that submitting aggregated data into the central settlement systems is not inherently desirable;
- Consider Ofgem's view that submission of disaggregated (MPAN<sup>1</sup>-level) HH data into Settlement could provide more flexibility to implement future changes, such as developing new aggregations of data;
- Consider whether this could 'future-proof' the TOM in order to support, or facilitate a transition to, potential future supply market models;
- Consider related points of detail such as:
  - Whether any changes to data aggregation should apply to smart Meters only, to smart and advanced Meters, or to all Meters;
  - Who would take on responsibility for other tasks currently performed by Data Aggregators, such as checks against registration data; and
  - How to maintain a high degree of security; and
- Make a design choice in this area, taking into account the TOM Design Principles set out in Appendix 2 of Ofgem's [SCR Launch Statement](#), when deciding on its preferred TOM.

The consultation noted that Ofgem will ultimately take the decision on the TOM developed by the DWG. It advised that Ofgem will take into account (among other things):

- The quality of the DWG's rationale for its proposed TOM;
- Any stakeholder views on the proposed TOM;
- Advice from Ofgem's Design Advisory Board (DAB); and
- The cost-benefit analysis which Ofgem will carry out as part of its Business Case.

When evaluating the five skeleton TOMs, and choosing a preferred TOM, the DWG has therefore considered the views and questions raised in Ofgem's steer.

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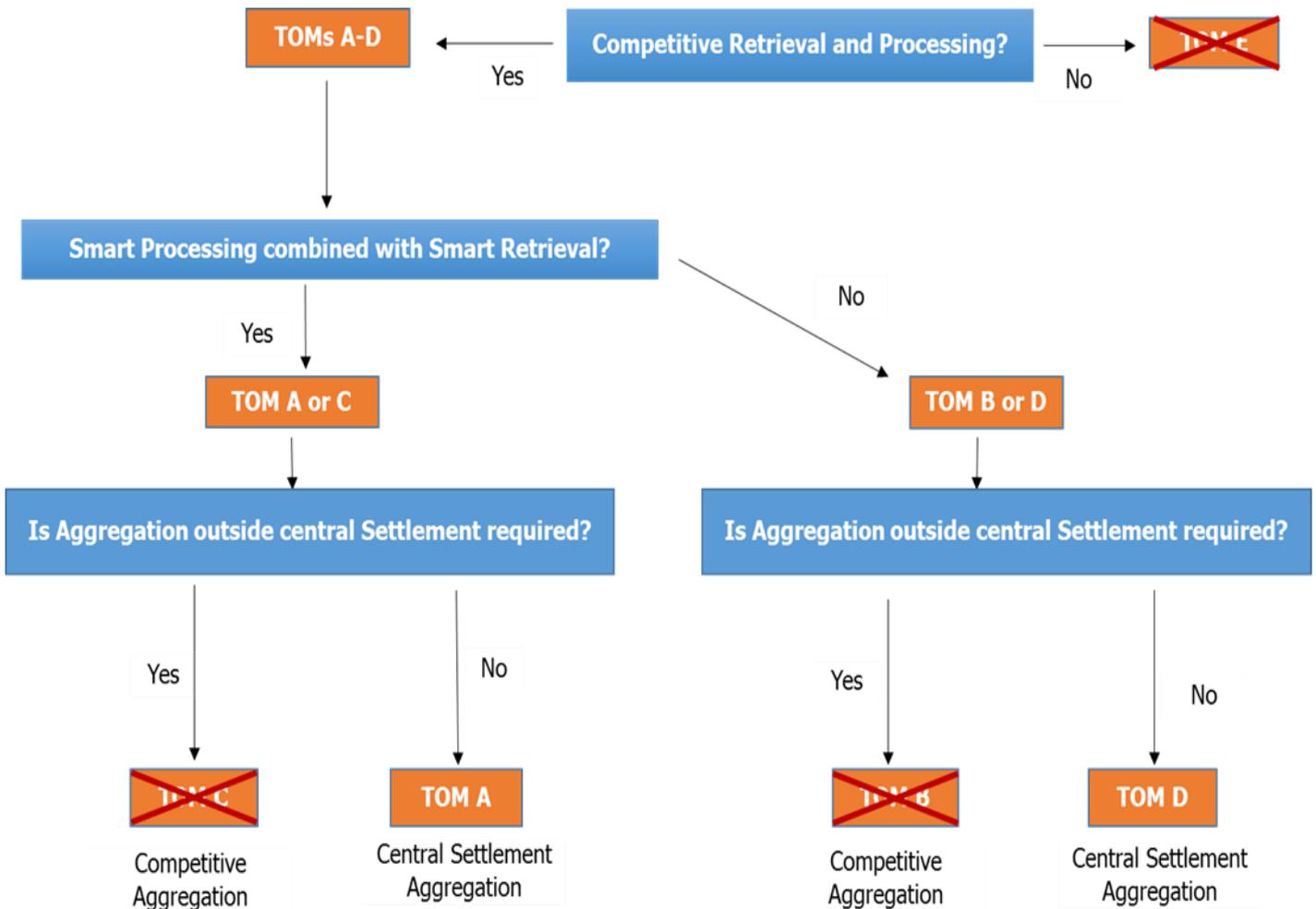
<sup>1</sup> Meter Point Administration Number (also known as a Metering System ID).

# MARKET-WIDE HALF HOURLY SETTLEMENT

## THE DWG'S DECISION TREE APPROACH TO SELECTING A PREFERRED TOM

The DWG agreed that all five skeleton TOMs deliver Ofgem's Design Principles and score the same against its [Stage 1 Evaluation Criteria](#) (page 27 of the Stage 1 report on the Skeleton TOMs). It considered that these are useful to confirm the viability of the TOMs, but not necessarily to choose between them.

The DWG therefore developed the following 'decision tree' approach to evaluating the TOMs, taking into account Ofgem's 'least-regrets' steers.



The DWG agreed that Ofgem's steer on Supplier Agent functions removed TOM E 'Single central service covering Retrieval through to Volume Allocation' from consideration, along with any other fully-centralised variants of the other TOMs.

This left four remaining TOMs:

- TOM A 'Combined Retrieval and Processing with Separate Aggregation';
- TOM B 'Separate Retrieval with combined Processing and Aggregation';
- TOM C 'End to end service covering Retrieval through to Aggregation'; and
- TOM D 'Separate Services'.

# MARKET-WIDE HALF HOURLY SETTLEMENT

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Of these, both TOMs A and D had two remaining variants:

- One where the central Settlement services receive and add-up disaggregated MPAN-level HH data directly (the 'Central Settlement Aggregation' variant in the decision tree); and
- One where aggregation of Settlement data remains a separate competitive service outside of central Settlement, and the central Settlement services continue to receive aggregated data from Data Aggregators ('the Competitive Aggregation' variant in the decision tree).

The DWG agreed that its two remaining decisions in choosing a preferred TOM were as follows:

- Whether the central Settlement services should receive disaggregated (MPAN-level) or aggregated (Supplier BM Unit-level) HH data; and
- Whether the Retrieval Service and Processing Service should be a combined service or two separate services.

## Should central Settlement receive disaggregated or aggregated HH data?

At its [September](#), [October](#) and [November](#) 2018 meetings, the DWG considered the views and questions set out by Ofgem in its consultation and 'least-regrets' steer on Supplier Agent functions.

### How might central Settlement receive/store disaggregated data?

The DWG discussed different potential conceptual system architecture options for the TOM, as detailed in Section 9 of its main report. It noted ELEXON's advice that it is feasible for the central Settlement services to receive disaggregated, MPAN-level, HH data directly. It also noted that ELEXON and Ofgem would need to confirm that there are no fundamental security/privacy barriers to this (for example, to storing all MPAN-level HH data in a single hub). The DWG agreed that it would proceed with its TOM evaluation on the assumption that this was not an issue, but that its selection of a preferred TOM would remain subject to ELEXON/Ofgem's confirmation. It noted that Ofgem intends to conduct a National Security Threat Assessment as part of its Final Business Case.

A DWG member suggested that it could be possible for central Settlement to access disaggregated MPAN-level HH data in multiple stores, and not necessarily in a single hub. They considered that this could have lesser security concerns.

ELEXON clarified that it would still run a competitive procurement process for the central Settlement services, and that references to 'competitive' in the context of aggregation meant the existing model of multiple, competitive Data Aggregators. The TOM does not prohibit the ability of Supplier Agents to use data aggregators for their own purposes, including associated value-added services. It solely eliminates the requirement that Supplier Agents aggregate the data before passing onto central systems for settlement purposes only, and thus opening up the possibility that data aggregation can take place within central systems.

### What could the disaggregated data be used for?

The DWG noted that Ofgem's parallel policy work on data access means that ELEXON could only use/share MPAN-level HH data 'for Settlement purposes'. It noted ELEXON's clarification that the definition of 'Settlement purposes' would include providing aggregations of data for core non-BSC purposes such as Project TERRE, network charging and Electricity Market Reform (EMR) Settlement.

The DWG noted Ofgem's advice that other third-party uses for the data would require a separate access regime and that this is outside the scope of the TOM design.

### Majority DWG view in favour of central Settlement receiving disaggregated HH data

A majority of DWG members considered that establishing separate Data Aggregators had been the most efficient approach for the 1998 Programme because, historically:

- Settlement only needed aggregated Metered Volumes; and

# MARKET-WIDE HALF HOURLY SETTLEMENT

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- IT limitations meant that the central Settlement systems could not receive/process disaggregated MPAN-level data.

These DWG members:

- Noted the undesirability of maintaining multiple copies of data;
- Considered that Settlement receiving disaggregated data could benefit the Reconciliation Run process, by drip-feeding data as it becomes available – thereby giving earlier sight of completeness and issues before undertaking Runs;
- Noted, and agreed with, the DAB's view that maintaining a single hub of MPAN-level HH data would give the ability to support network charging, flexibility and innovation – even though the requirements in these areas currently remain uncertain;
- Clarified that removing the need for separate aggregation of Settlement data would not prevent other entities offering non-Settlement, value-added data aggregation services – subject to appropriate access/privacy rules outside of the TOM; and
- Considered that Settlement receiving disaggregated data could facilitate 'non-Settlement' activities – either by introducing a separate regime for third-party access to the disaggregated data (outside of the TOM), or by enabling the central Settlement services to aggregate data in many different ways and then share this less-sensitive aggregated data with third parties.

At the DAB's request, the DWG considered whether Settlement holding MPAN-level HH data could:

- Support Archetypes 1-3 of the smart Meter data use cases ([Stimulus paper 5](#)) developed by the Public Interest Advisory Group (PIAG): The DWG agreed that, while none of these use cases can be considered to be for 'Settlement purposes', they can all be supported in the future subject to an appropriate data access regime for third parties.
- Create unintended costs for Distributors: The DWG agreed that, while the Targeted Charging Review (TCR) may require use of HH data for network charging, any associated costs to Distributors will be a consequence of the TCR rather than the TOM.

A majority of DWG members concluded that there would be no benefit in having different aggregation approaches for different market segments. Some members suggested that, if the central Settlement services received disaggregated data for smart Meters but aggregated data for advanced Meters, this could avoid impacting the established advanced Meter market. They also suggested that it would be easier to resolve exceptions under a multiple Data Aggregator model, since organisations usually provide both Data Aggregator and Data Collector services. However, a majority of members were unconvinced that this was compatible with Ofgem's 'least-regrets' steer. These members:

- Considered that the current system is inefficient by design and questioned why a separate entity should be needed to add up data before passing it to Settlement;
- Argued that the TOM design should reduce the need for exceptions and ensure that validation rules are in the right place;
- Believed that avoiding an impact is not sufficient reason to preserve a legacy model with no other obvious benefit;
- Agreed that the 'Competitive Aggregation Service' variants of TOMs A and D would satisfy neither viewpoint, since they would still compartmentalise MPAN-level data but would keep the Aggregation Service separate to the Processing Service; and
- Noted that the plan for transitioning to the TOM will consider how to mitigate any potential destabilising effects on existing market segments, and can include different transition approaches for different segments.

# MARKET-WIDE HALF HOURLY SETTLEMENT

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**By majority, the DWG agreed that the central Settlement services should receive disaggregated MPAN-level HH data.**

## **Minority DWG view in favour of Settlement receiving aggregated HH data**

One DWG member disagreed with the majority DWG view. This member believed that aggregation of Meter data for Settlement purposes (for both the advanced and smart market segments) should continue to be a separate, competitively-provided service outside of the central Settlement services.

This member believed that:

- There is no good reason to centralise aggregation and remove competition in the service;
- It is not proven that centralisation will deliver greater quality, efficiency, cost-effectiveness or innovation than a competitive service (the member cited the costs of the existing Non Half Hourly (NHH) Data Aggregation systems maintained by ELEXON on behalf of Data Aggregators);
- Creating a central hub of MPAN-level HH data creates risks to Settlement if this is not secure; and
- Centralisation removes an opportunity for Data Aggregation to become an area for greater differentiation between agents in the future.

As the DWG's design recommendation in this area was not unanimous, the DWG Chair informed Ofgem's TOM team of the majority and minority views in accordance with the DWG's [Terms of Reference](#).

## **Should Retrieval and Processing be separate or combined?**

At its [October](#) and [November](#) 2018 meetings, the DWG discussed the pros and cons of combining the Retrieval Service and Processing Service.

During its initial October discussion, a majority of members believed that these services should be combined because:

- The Retrieval Service, as defined, would be very 'thin' and appeared to add little value as a stand-alone service (as it would simply send requests to the Data and Communications Company (DCC), 'unpack' the data received and pass it to the Processing Service);
- Having two separate services would give the potential for disagreements over who is accountable for any performance issues – a single accountable entity would therefore be preferable from an assurance perspective;
- There would be inefficiencies in designing two separate services – due to the need to define interfaces between them and duplicate certain requirements;
- Any entity fulfilling the combined service could still, if they wished, subcontract elements of it to third parties (e.g. if a Supplier wanted to act as the Retriever but subcontract the Processor role) – however, this would still give the benefit of a single responsible entity;
- Combining the services would not, similarly, prevent the Retriever receiving Meter data from multiple sources (e.g. from subcontracted Meter reading services); and
- If a single entity wanted to perform both the Retrieval and Processing Services, it would be inefficient to have to appoint and Qualify them twice.

However, these members believed that there might be a case for a separate Processing Service if Ofgem required the inclusion of a 'hidden identity' solution.

A minority of DWG members initially believed that it would be more flexible to have separate services. These members questioned the benefit of combining the services and considered that it would result in entities having to go through Qualification for the full service even if they preferred to subcontract parts of it to third parties.

# MARKET-WIDE HALF HOURLY SETTLEMENT

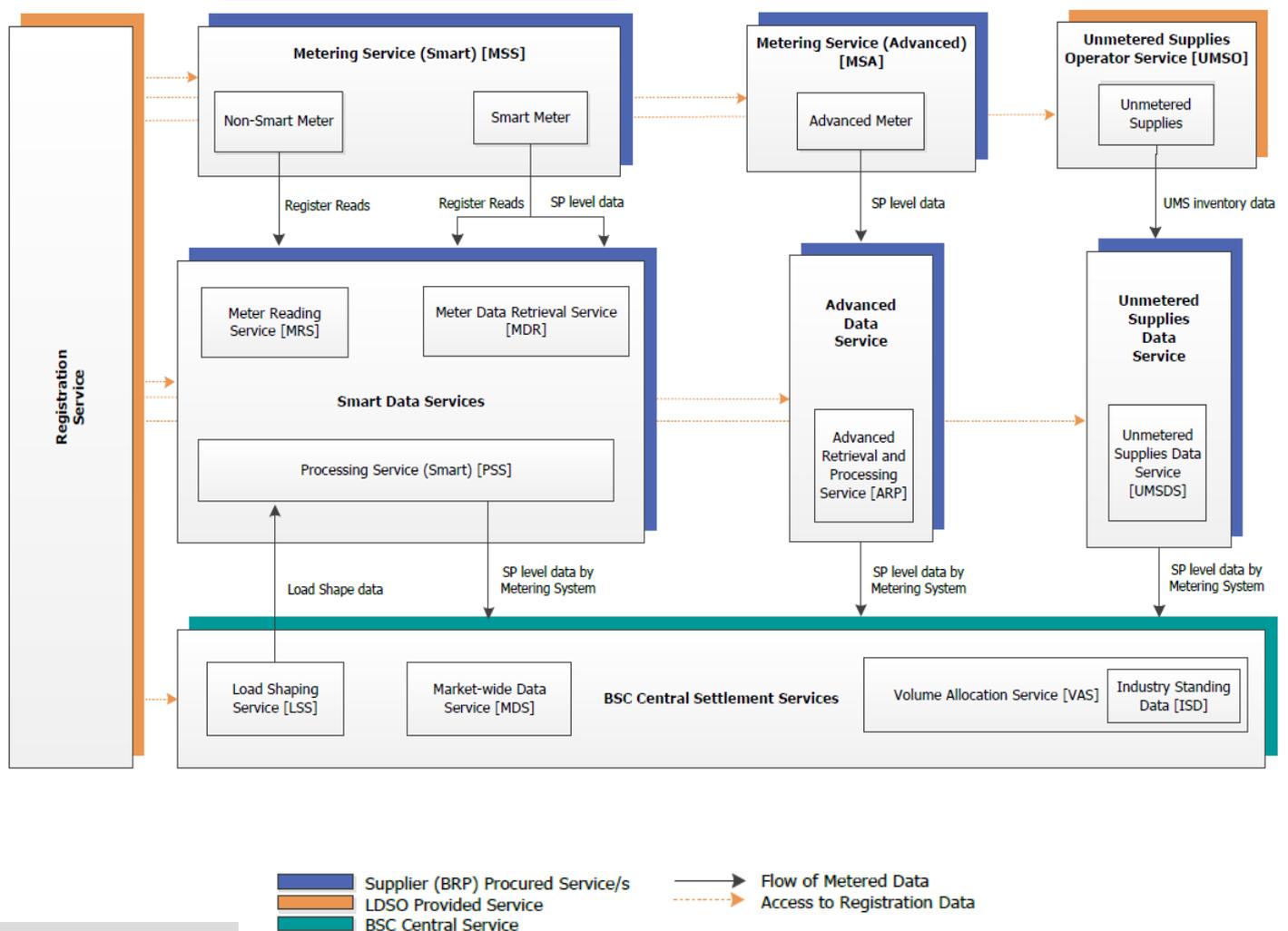
At its subsequent November meeting, the DWG noted that Ofgem’s ‘least-regrets’ steer on data access had removed the need to consider any ‘Enhanced Privacy’ solution for the TOM design at this time. A member noted ELEXON’s clarification that, while a single entity would need to have overall accountability for the combined service, it could choose to sub-contract the actual provision of any elements if it wished to do so. On this basis, the member advised that they now supported the majority view and believed that the ‘Central Settlement Aggregation’ variants of TOMs A and D were indistinguishable in practice.

The DWG unanimously agreed that the Retrieval and Processing Services should be combined.

## SUMMARY OF DWG’S PREFERRED TOM

By majority, the DWG’s preferred TOM is therefore the ‘Central Settlement Aggregation’ variant of TOM A as shown below. One member disagreed and advised that their preferred TOM would instead be the ‘Competitive Aggregation’ variant of TOM A, for the reasons given in the aggregation discussion above.

### DWG’s preferred TOM: ‘Central Settlement Aggregation’ variant of TOM A



# MARKET-WIDE HALF HOURLY SETTLEMENT

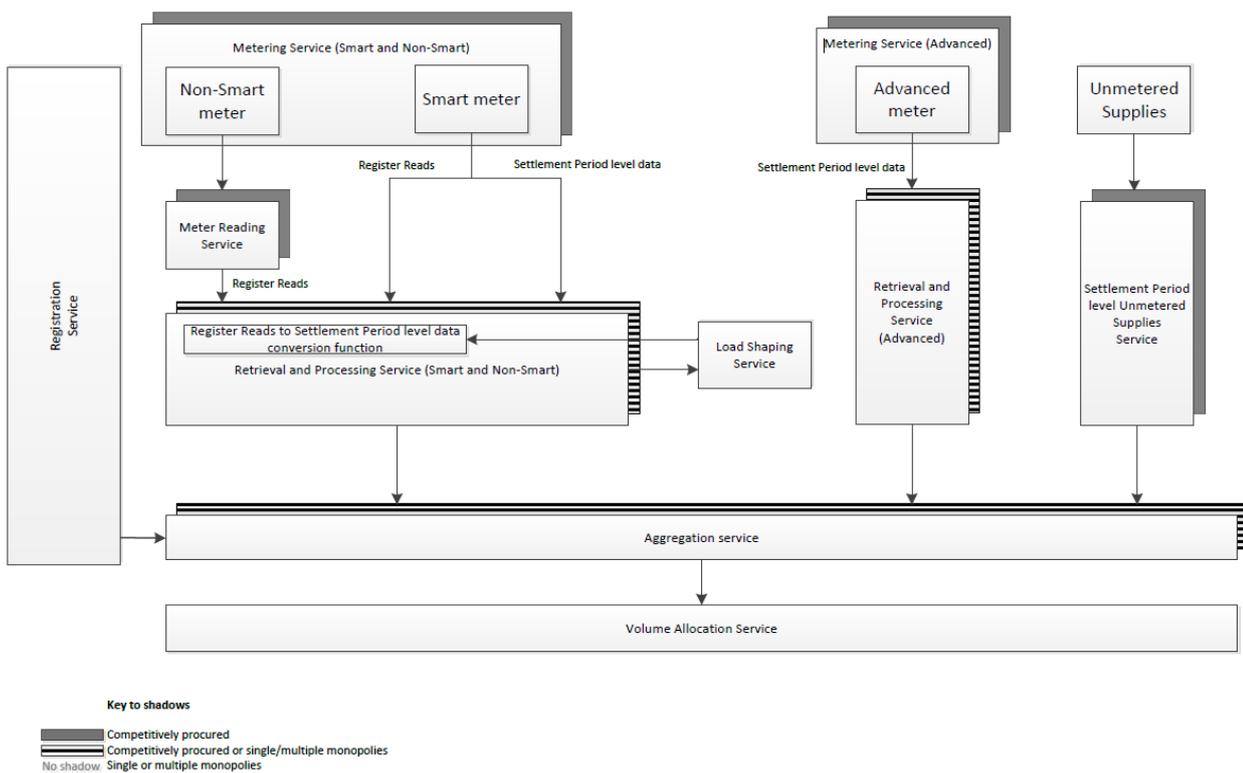
## DWG'S REASONS FOR NOT PROGRESSING THE OTHER TOMS

### TOM A: Combined Retrieval and Processing with Separate Aggregation

**Rationale for rejection (specific variants):** The DWG's preferred TOM is a variant of the original TOM A set out in the diagram below. However, the DWG's decision that the BSC Central Settlement Services should receive disaggregated MPAN-level HH data means that the separate Aggregation Service level in this original diagram is no longer a feature. Other variants of this TOM with multiple monopoly services were also ruled out following Ofgem's 'least-regrets' steer on Supplier Agent functions.

#### Description of Original TOM A:

The basis of this TOM is that Retrieval and Processing are bundled into a single service, one variant for Smart (including non-smart) and one for Advanced. This reflects the different ways of communicating with these Meters and the different Meter functionality and configurations. The Retrieval and Processing Service (smart and non-smart) will also apply conversion where Settlement Period level data is not available before providing access to Settlement Period data to the Aggregation Service that covers all market Segments. The Aggregation Service will sum up the data provided for all market Segments before providing access to aggregated volumes to a single Volume Allocation Service.



# MARKET-WIDE HALF HOURLY SETTLEMENT

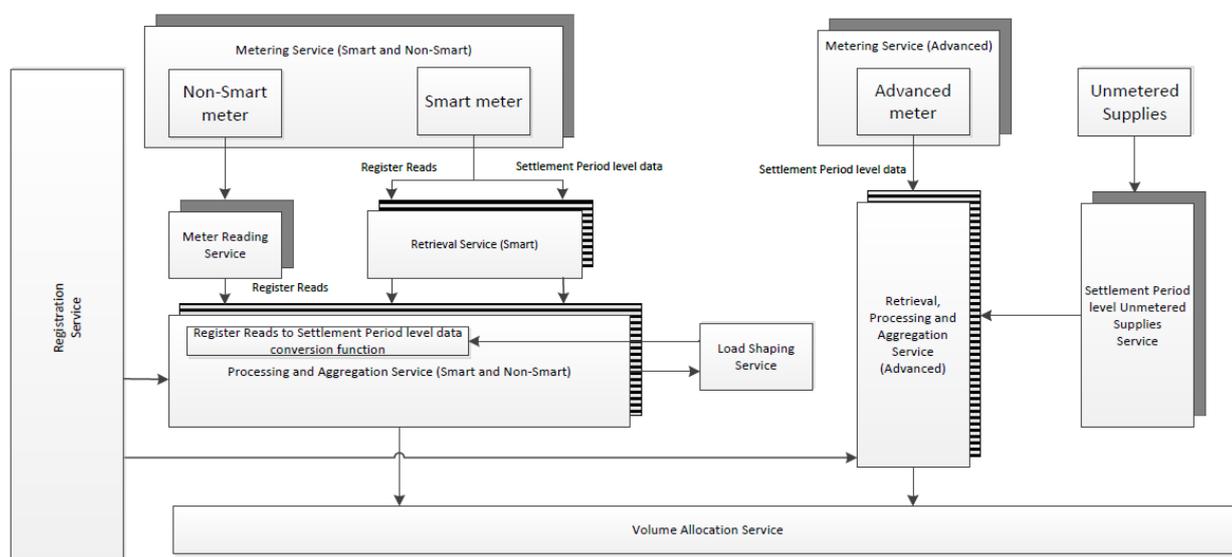
## TOM B: Combined Processing and Aggregation with Separate Retrieval

**Rationale for rejection:** The DWG's decision that the BSC Central Settlement Services should receive disaggregated data means that the Aggregation Services set out below could not be combined with the Processing Services. The DWG also agreed that there are efficiencies in joining the smart Meter data Retrieval Service to the Processing Service, which this TOM with multiple monopoly services were also ruled out following Ofgem's 'least-regrets' steer on Supplier Agent functions.

### Description of TOM B:

The basis of this TOM is that Processing and Aggregation are bundled into a single service for smart (and non-smart) Meters. The retrieval of readings via the DCC is separated out to allow more flexibility in who might deliver that Retrieval Service.

With Aggregation done as part of Processing, it means that with multiple Processing Services operating the data will be aggregated first before reaching the Volume Allocation Service which covers the whole market. That would mean that there is no single view of MPAN-level data across Balance Responsible Parties (BRPs).



**Key to shadows**

- Competitively procured
- Competitively procured or single/multiple monopolies
- No shadow: Single or multiple monopolies

# MARKET-WIDE HALF HOURLY SETTLEMENT

## TOM C: End to End Service Covering Retrieval Through to Aggregation

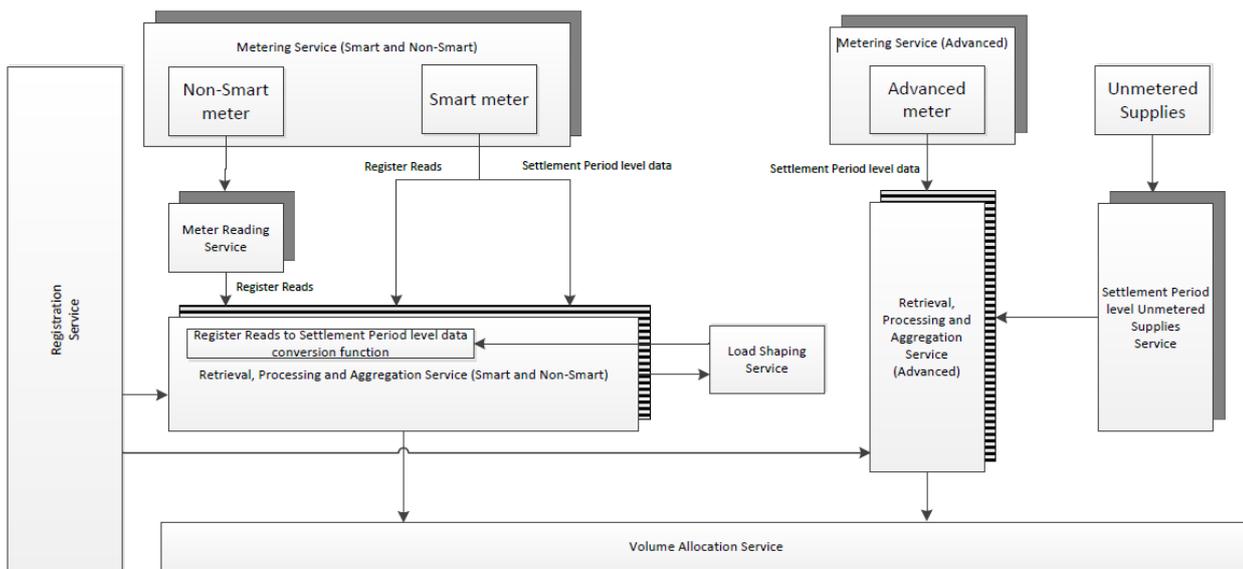
**Rationale for rejection:** The DWG's decision that the BSC Central Settlement Services should receive disaggregated data means that the Aggregation Services set out below could not be combined with the Processing Services. Other variants of this TOM with multiple monopoly services were also ruled out following Ofgem's 'least-regrets' steer on Supplier Agent functions.

### Description of TOM C:

The basis of this TOM is that Retrieval, Processing and Aggregation are bundled into a single service, one variant for smart (including non-smart) and one for Advanced Metering Systems. This reflects the different ways of communicating with these Meters. The Retrieval, Processing and Aggregation Services will sum up the data provided before providing access to aggregated volumes to a single Volume Allocation Service.

With Aggregation done together with Retrieval and Processing, it means that with multiple Retrieval, Processing and Aggregation Services operating the data will be aggregated before reaching the Volume Allocation Service which covers the whole market. There is no single market segment-wide view of Meter-level data.

The key feature of this model is the reduction in defined interfaces between services. Meter-level data is accessed once for Settlement, validated then aggregated with the aggregated data going straight into the Volume Allocation Service.



#### Key to shadows

- Competitively procured
- Competitively procured or single/multiple monopolies
- No shadow Single or multiple monopolies

# MARKET-WIDE HALF HOURLY SETTLEMENT

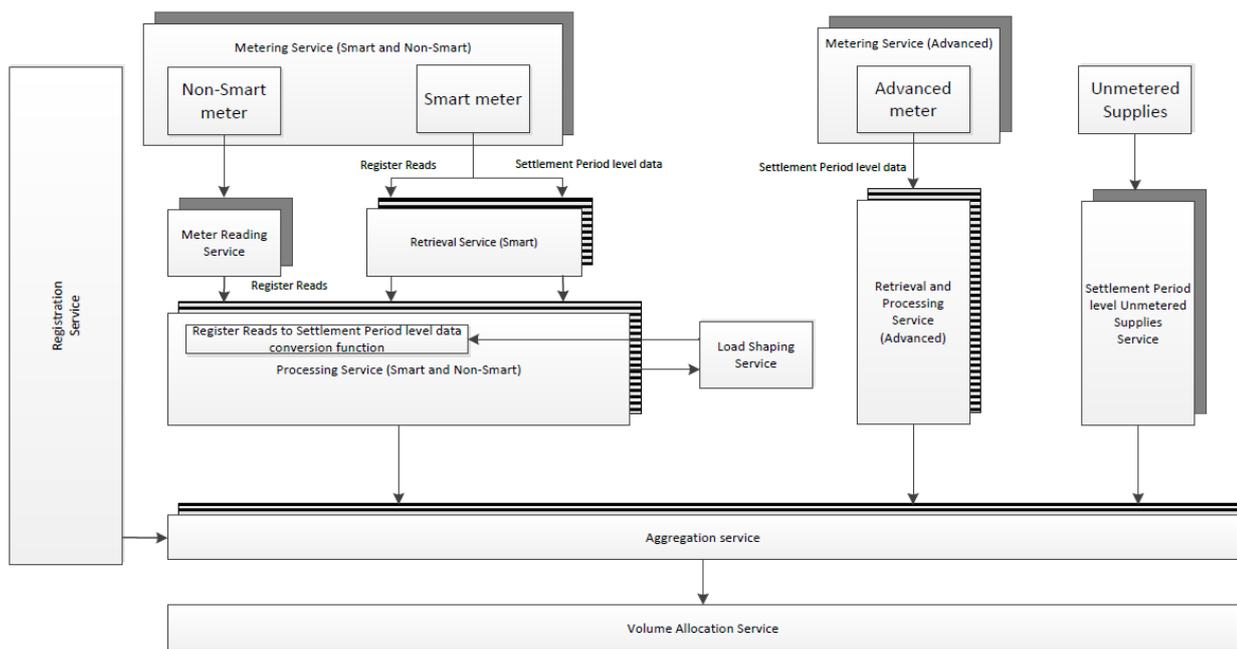
## TOM D: Separate Services

**Rationale for rejection:** The DWG's decision that the BSC Central Settlement Services should receive disaggregated data means that the separate Aggregation Service level in the below diagram could not be a feature of the DWG's preferred TOM. The DWG also agreed there are efficiencies in joining the smart Meter data Retrieval Service to the Processing Service, which this TOM does not define. The DWG's preferred TOM allows for the Smart Data Service to outsource the services for which it is responsible. The variant set out below does not define a single responsible Service for delivery of all the smart Services. Other variants of this TOM with multiple monopoly services were also ruled out following Ofgem's 'least-regrets' steer on Supplier Agent functions.

### Description of TOM D:

The basis of this TOM is that Retrieval, Processing and Aggregation are kept as separate services. Smart (including non-smart) and Advanced Metering Systems are also separated, reflecting the different ways of communicating with these Meters. The retrieval of readings via the DCC is also separated out, which allows more flexibility in who might deliver that Retrieval Service.

The smart Meter (and non-smart Meter) Processing Service will also apply conversion where Settlement Period-level data is not available, before providing access to Settlement Period-level data to the Aggregation Service that covers all market segments. The Aggregation Service will sum up the data provided before providing access to aggregated volumes to a single Volume Allocation Service.



**Key to shadows**

- Competitively procured
- Competitively procured or single/multiple monopolies
- No shadow Single or multiple monopolies

# MARKET-WIDE HALF HOURLY SETTLEMENT

## TOM E: Single Central Service Covering Retrieval Through to Volume Allocation

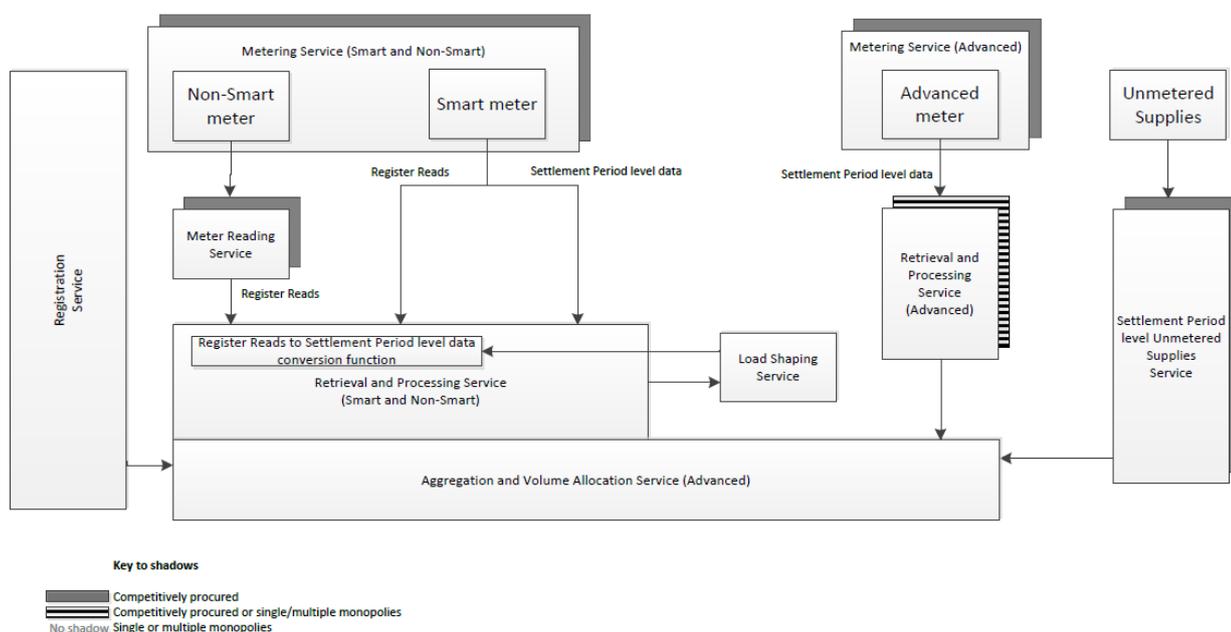
**Rationale for rejection:** This TOM was ruled out by the DWG on the basis of Ofgem’s ‘least-regrets’ steer on Supplier Agent functions.

### Description of TOM E:

The basis of this TOM is that Retrieval, Processing, Aggregation and Volume Allocation are all provided by a single central Service for smart and non-smart Meters. Retrieval and Processing for Advanced Meters and Unmetered Supplies are left separate with the option that these services could be competitively or centrally procured.

The central Retrieval and Processing Service will also apply conversion where Settlement Period-level data is not available, before providing access to Settlement Period-level data to the internal Aggregation Service that covers all market Segments. The central Aggregation Service will sum up the data provided before providing access, to aggregated volumes, to the associated Volume Allocation Service.

This TOM has the fewest defined interfaces for the transfer of Meter data.



# MARKET-WIDE HALF HOURLY SETTLEMENT

## DWG'S DISCUSSION AND ANALYSIS ON REDUCING THE SETTLEMENT TIMETABLE

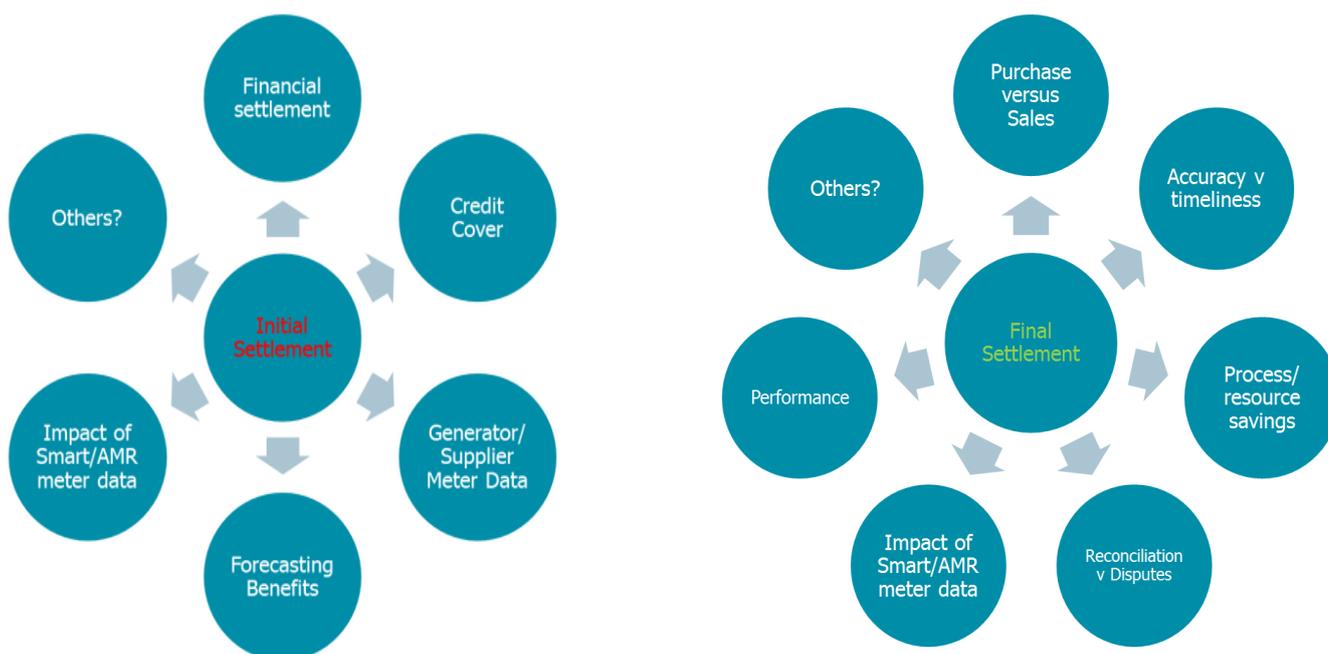
The Settlement timetable was initially discussed by a DWG work group which looked at previous work undertaken on the Settlement timetable by the ELEXON Profiling and Settlement Review Group (PSRG) and Ofgem's [Electricity Settlement Expert Group \(ESEG\)](#) in 2015. The work group considered the existing timetable, key drivers for initial and final Settlement and issues affecting Settlement performance for smart Meters:

### Current Timetable

- There are seven settlement run types;
- The Interim Information (II) Run is used to identify any issues with Central Volume Allocation (CVA) data for generators and Grid Supply Point (GSP) metering so that they can be resolved prior to the Initial Settlement (SF) Run;
- Timings for interim Reconciliation Runs (R1 to R3) were set around traditional meter reading cycles;
- Current timescales between Settlement Date and SVAA Run Date set out below.

Run	II	SF	R1	R2	R3	RF	DF
<b>Working Days</b>	4	15	33	78	148	287	587
<b>Calendar Days (approx.)</b>	4	24	51	116	215	417	843

### Key drivers for initial and final Settlement Runs



# MARKET-WIDE HALF HOURLY SETTLEMENT

## Settlement performance issues

The workgroup looked at previous performance issues identified by Ofgem's [Electricity Settlement Expert Group](#).

Issue	Consideration/Impact
Incorrect Meter Technical Details	Unlikely, since majority will be simple whole current domestic customers. Information can also be obtained from the Smart Meter.
Communications issues	It is likely that these will only affect small numbers of customers in rural areas and the Data Communications Company has high service requirements in this respect.
Data quality	Data quality should be better from the Smart Meter also data can be re-read from the Smart Meter and remote diagnostics may also be available where issues arise.
Data hand-offs	These issues are less clear as there is a lack of clarity on how BRPs will pass smart Meter data to their agents and issues that may arise in this area.

Additional clarity on Data hand-offs has now been provided in the TOM design.

## Workgroup Recommendations to DWG on Settlement timetable

ELEXON presented the recommendations of Workgroup 4 ('Aggregation and Volume Allocation Services and Registration Interaction') on reducing the Settlement timetable under Market-wide Half Hourly Settlement (MHHS).

ELEXON walked the DWG through previous analysis undertaken by the Electricity Settlement Expert Group (ESEG) and Profiling and Settlement Review Group (PSRG) in 2014, and the assessment conducted by Workgroup 4. ELEXON advised that the workgroup's key recommendations on Settlement timescales are as follows:

- Interim Information (II) Run – 4 Working Days (unchanged from now)
- Initial Settlement (SF) Run – 10 Working Days (reduced from 15 Working Days)
- Interim Reconciliation Run – 33 Working Days, similar to current R1 Run timing
- Final Reconciliation (RF) Run – 4 months (reduced from 14 months), similar to current R2 Run timing
- Final cut-off for Disputes (DF) Run – 12 months (reduced from 28 months), aligns with BRPs' existing 12-month limit on back billing.

ELEXON advised that the recommendations relate purely to Settlement timings and do not prejudice any subsequent review of the Performance Assurance Framework (PAF) targets.

## DWG view on analysis of changes between Settlement runs

ELEXON presented its [analysis](#) of the total changes in volume (both actuals and estimates) in the HH market between Reconciliation Runs, divided by HH market segment. The DWG commented that they believe the analysis shows that HH volumes are relatively stable and that the earlier runs tend to overstate the volumes. Furthermore, they believed that taking a year's data and applying the Credit Assessment Price (CAP) demonstrates that the total financial error is not enormous. The DWG concluded that they are less concerned about the proposed shortening of the Settlement timetable than they had been before reviewing the analysis.

# MARKET-WIDE HALF HOURLY SETTLEMENT

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## GSP Group Take

ELEXON undertook an analysis of the [GSP Group take data](#) for the DWG - from which it was concluded that few changes in total volume occur in later runs.

## Analysis of Performance and dispute data

ELEXON provided the DWG with PAB (Performance Assurance Board) paper [208/15](#) 'NHH Settlement by Meter type' and the [Annual Performance Assurance Report](#) for 2017/18. In addition, it has analysed the age and materiality of Settlement Errors.

## DWG recommendation on Settlement timetable

Following a steer from the Design Advisory Board (DAB) and the Ofgem Senior Responsible Owner for the SCR, the DWG recommended that an appropriate Settlement timetable for the TOM would be:

Run	Timing
Interim Information (II) Run	4 WD
Initial Settlement (SF) Run	5-7 WD (depending on DCC read capability)
Interim Reconciliation Run	33 WD
Final Reconciliation (RF) Run	4 months
Disputes Final (DF) Run	12 months or longer

# MARKET-WIDE HALF HOURLY SETTLEMENT

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## AREAS OF DESIGN DETAIL WHERE THE DWG RECOMMENDS FURTHER CONSIDERATION

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### Time of Use Scaling Weights

If Ofgem's data access policy decision is that customers can opt out of having their Half Hourly (HH) Meter data used for Settlement, there is a risk that BRPs could encourage customers with 'peaky' load to opt out of Market-wide HH Settlement (MHHS) – thereby 'gaming' against the load shapes that are applied to opted-out customers under the Target Operating Model (TOM), but which are created using the Meter data from customers who have not opted out. A paper was presented to the DWG proposing using [Time of Use Scaling Weights](#) to mitigate this risk.

ELEXON presented its proposed approach to preventing the risk that BRPs could 'game' the load shapes, should Ofgem's policy decision allow customers to opt out of MHHS. It clarified that the risk is that BRPs could encourage customers with 'peaky' load to opt out, thereby favourably skewing the load shapes. It advised that this potential risk has been noted previously by Ofgem, the DWG, Workgroup 2 'Processing and Load Shaping Services and Registration Interaction' and respondents to Ofgem's consultation on access to HH data for Settlement purposes. To mitigate this risk, ELEXON proposes to use ToU Scaling Weights within GSP Group Correction.

The DWG discussed the risk, whether it would arise in practice and whether the effect of GSP Group Correction would be sufficient to outweigh any financial benefit of gaming. It also discussed whether there could be any unintended consequences for opted-out customers, noting that these could include vulnerable customers. ELEXON noted that if the consumption of opted-out customers is not 'peaky' then the proposed approach makes no difference to them. It noted that GSP Group Correction is not intended to be a penalty, as it concerns the apportionment of error and the correction can be in either direction. The DWG agreed that the intention is not to penalise 'peaky' customers.

ELEXON clarified that it is not proposing to decide the detail now, but asking the DWG to recommend that this solution is explored further during the implementation phase. The DWG agreed to recommend in this report to Ofgem, that the implementation phase includes a review of how Settlement applies GSP Group Correction to different market segments. It agreed that this is only needed if Ofgem chooses the 'opt out' option in its policy decision on data access. The DWG agreed that the application of GSP Group Correction will need reviewing anyway, since the NHH market will cease to exist under the TOM.

### MHHS requirements for Registration services and potential systems impacts

The [Meter Point Administration Services \(MPAS\)](#) (also known as the Supplier Meter Registration Services (SMRS) under the BSC) operate systems that contain a register of all electricity metering points in the UK. The data held in these systems will need to be amended to reflect the new services defined in the preferred TOM. Some of the existing data items will be redundant in the Target End State since they are only required for NHH Settlement. Additional data items may be required for Load Shape Categorisation. These will include Active Import (AI) and Active Export (AE) flags unless already included by other market changes such as the [Faster Switching Programme](#).

The DWG has also discussed an approach where an enhanced MPAS/SMRS acts as the 'single point of truth' for notifying TOM Services of their appointment to Metering Systems. If this proposal is progressed the implementation should consider new interfaces between the TOM Services and the MPAS/SMRS. If not progressed, the appropriate mechanism for the appointment of services to Metering Points will need to be agreed for implementation.