

Public

Design Working Group

Meeting 12

18 October 2018
ELEXON



Health & Safety

In case of an emergency

An alarm will sound to alert you. The alarm is tested for fifteen seconds every Wednesday at 9.20am

Evacuating 350 Euston Road

- If you discover a fire, operate one of the fire alarms next to the four emergency exits.
- Please do not tackle a fire yourself.
- If you hear the alarm, please leave the building immediately.
- Evacuate by the nearest signposted fire exit and walk to the assembly point.
- Please remain with a member of ELEXON staff and await further instructions from a Fire Warden.
- For visitors unable to use stairs, a Fire Warden will guide you to a refuge point and let the fire brigade know where you are.

When evacuating please remember

- Do not use the lifts.
- Do not re-enter the building until the all clear has been given by the Fire Warden or ground floor security.

Our team on reception is here to help you, if you have any questions, please do ask them.



Agenda

Agenda item	Paper no.	Lead
1. Introduction, apologies and meeting objectives	Verbal	Kathryn Coffin
2. TOM architectural options	Slides to be presented at meeting	Zeeshan Qadir / Justin Andrews
3. Evaluation of remaining TOMs (including update from Design Advisory Board)	Slides to be presented at meeting	Matt McKeon
4. Update from Workgroup 4 and Design Advisory Board on Settlement timetable	Slides to be presented at meeting*	Kevin Spencer
5. Ofgem update	Verbal	George Huang
6. Time of Use Scaling Weights	DWG12/01	Kevin Spencer
7. Gantt chart and 2019 DWG meeting dates	Gantt chart	Kathryn Coffin
8. DWG11 Headline Report and actions log	Actions log	Kathryn Coffin
9. Summary, actions and next steps	Verbal	Kathryn Coffin

Public

Evaluation of the remaining TOMs

Taking account of Ofgem's policy steer

18 October 2018
Matthew McKeon

ELEXON

Updating the TOMs in light of Ofgem's policy steer

Ofgem has requested that it would like the DWG to:

- Assume retrieval and data processing services are competitively provided;
- Assume metering and meter reading services are competitively provided;
- Assess whether or not [...] having an aggregation service outside of central settlement is inherently desirable or necessary given technological developments [...] and update the TOM options accordingly; and/or
- If the DWG considers that aggregation outside central settlement should be maintained, then assume the aggregation service is competitively provided.

Of the four TOMs A to D, two pairs of TOMs (A/D and B/C) differ only by virtue of whether Smart Retrieval is grouped with Processing or kept separate.

- What approach should be used in determining a DWG view on both issues?

DAB steer on Aggregation (1/2)

The DAB agreed that having aggregation outside of central settlement was there for historical purposes and that pre-aggregating data is no longer needed.

Members also felt strongly that the energy market needs disaggregated data to realise the full benefits of settlement reform.

When thinking about this issue, the DAB would like the DWG to consider:

- Would having disaggregated data in settlement create costs for DNOs (such as having to upgrade billing systems)?
- How difficult would it be to change our mind in the future, i.e. changing an aggregated model to a dis-aggregated one later on?

DAB steer on Aggregation (2/2)

When considering the broader value and risks that central settlement having disaggregated data may have, the DWG should give consideration to:

- The security risks of central settlement holding disaggregated data and how long data should be stored in central settlement in disaggregated form. Ofgem to also consider this issue.
- Consider how central settlement holding disaggregated MPAN level data could support archetypes 1-3 of smart meter data use-cases developed by the Public Interest Advisory Group.

Public Interest Advisory Group Smart Meter Data use cases

1. National and sub-national domestic sector energy statistics

Smart meter energy data could enhance the detail available in national and sub-national statistics about domestic energy consumption.

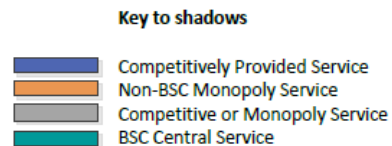
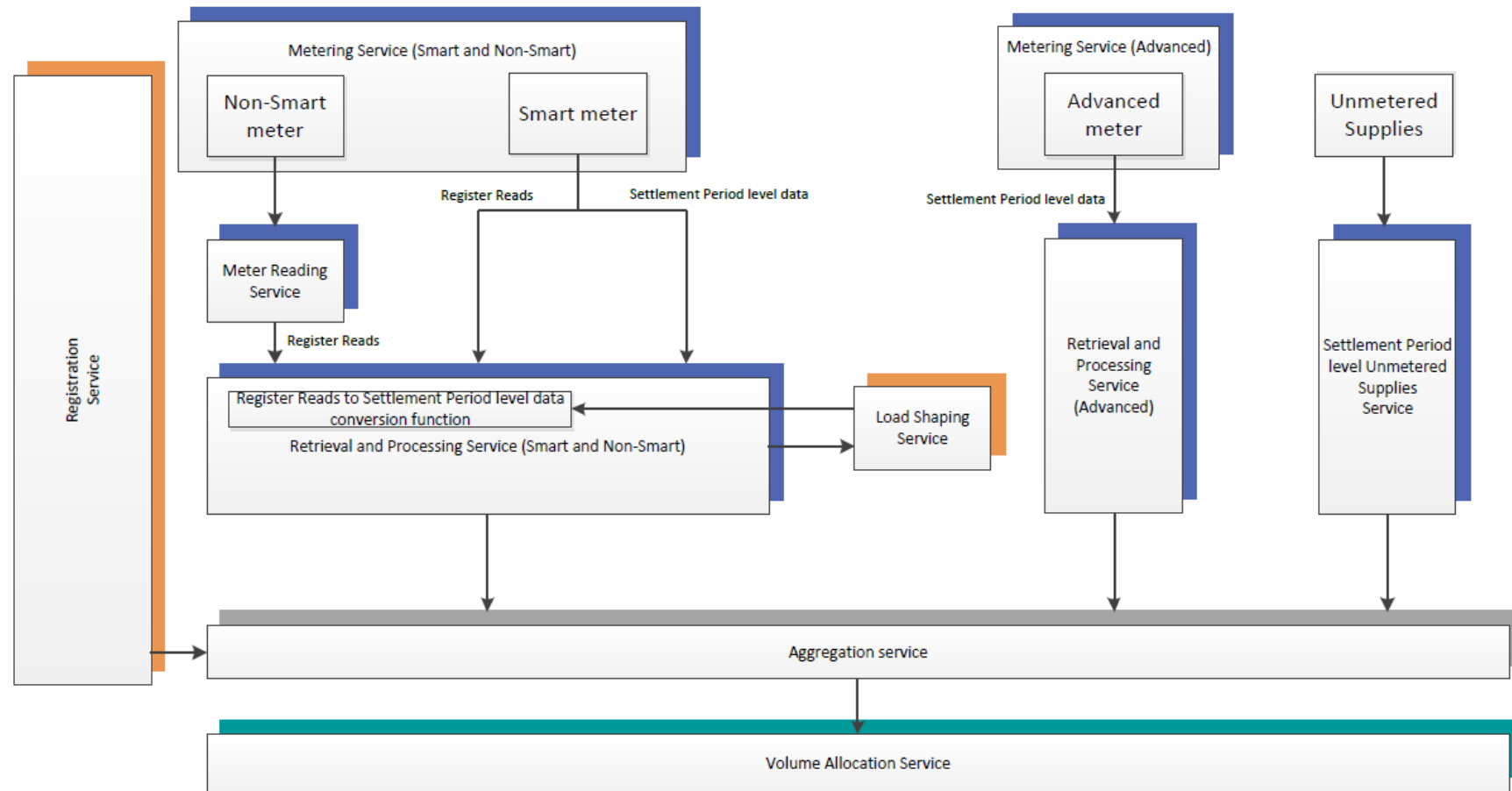
2. Local level energy system planning

There is a public interest in enabling local actors (such as local authorities and community interest groups) to establish a detailed picture of their local energy system and the fine-grain patterns of energy supply and demand within it.

3. Data for analysis and modelling to support policy making, research and insights

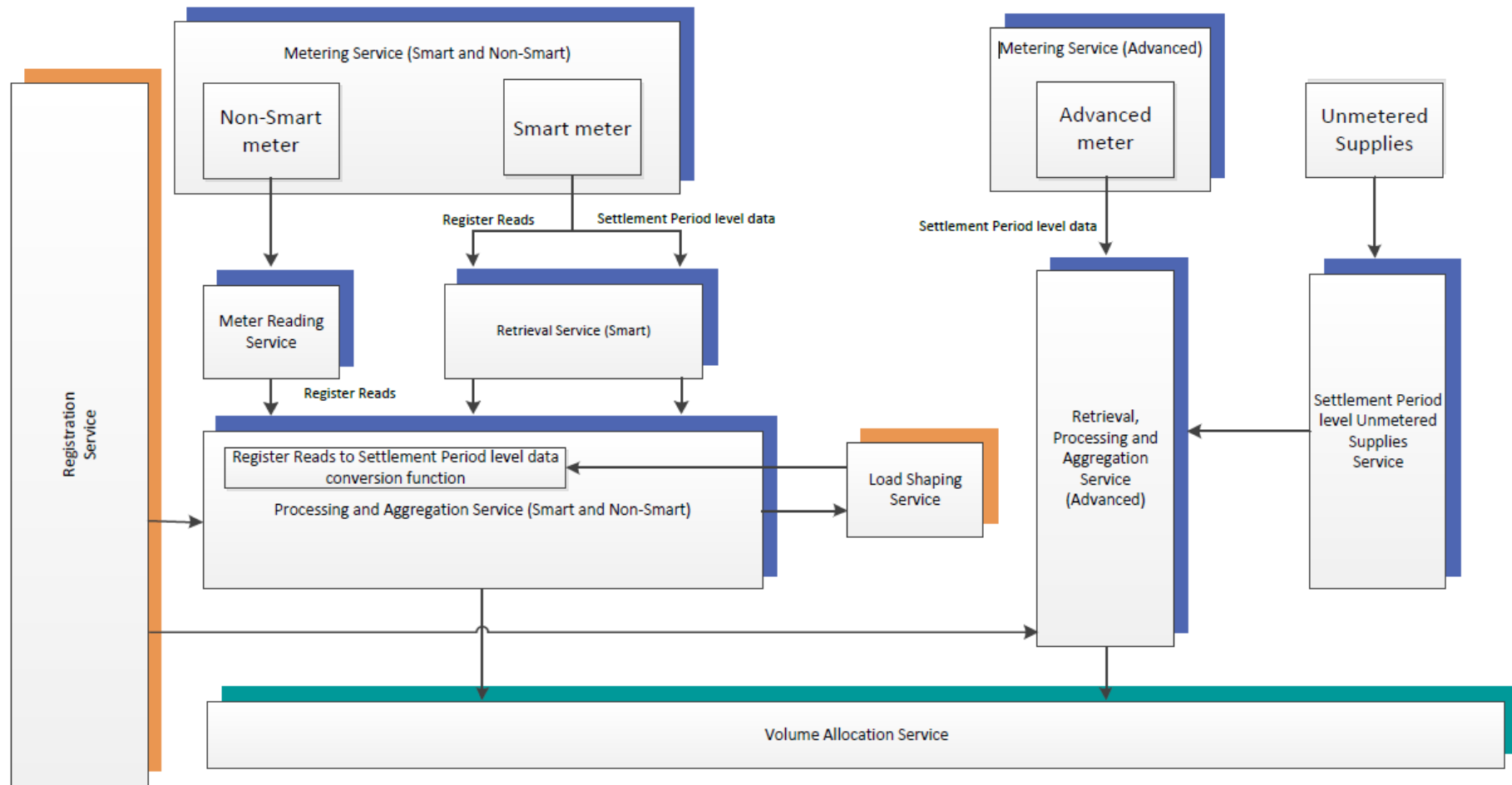
Smart meter data could offer a significant opportunity to improve the quality of data analysis, modelling and research to support policy-making, by providing finer grain energy data alongside other household attributes of policy interest.

Updating the TOMs in light of Ofgem's policy steer



TOM A

Updating the TOMs in light of Ofgem's policy steer

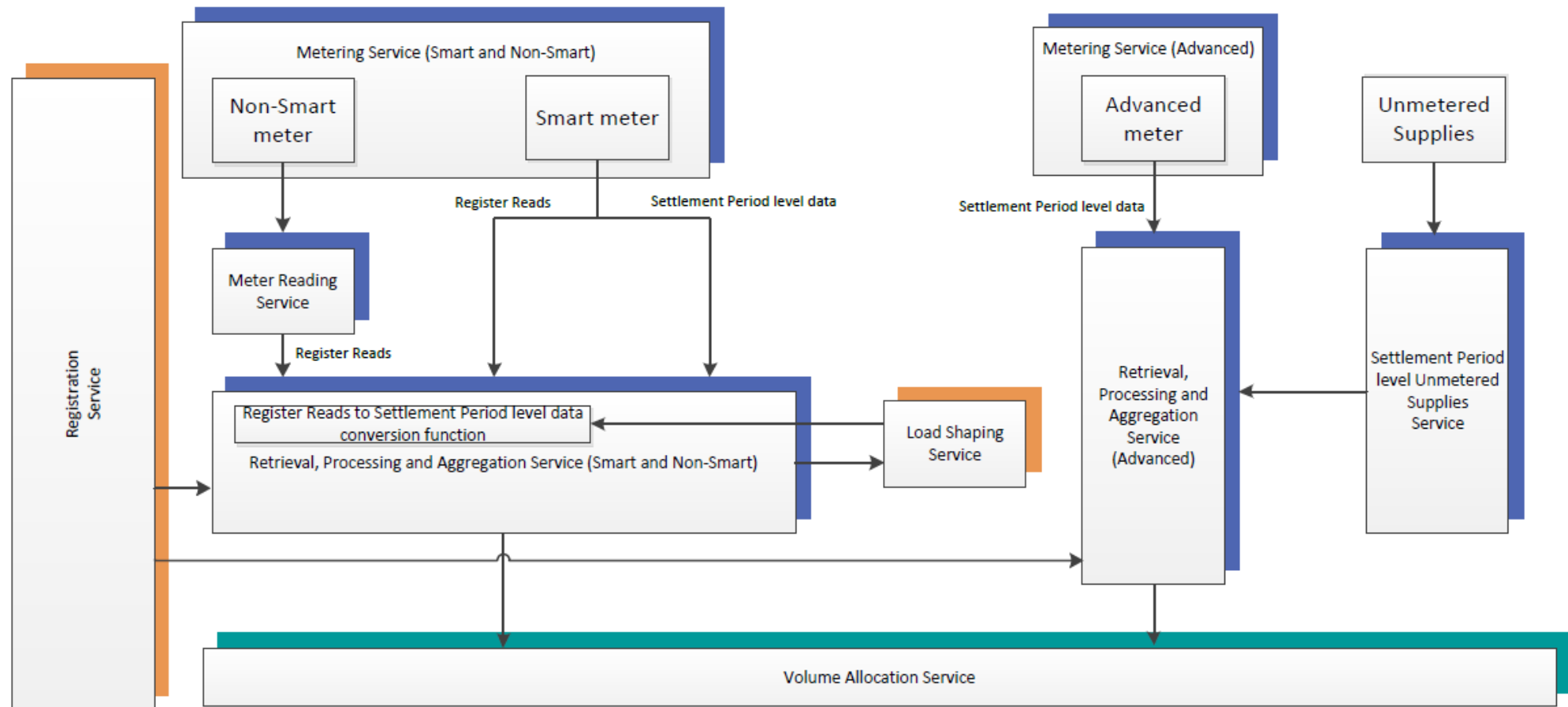


Key to shadows

- Competitively Provided Service
- Non-BSC Monopoly Service
- BSC Central Service

TOM B

Updating the TOMs in light of Ofgem's policy steer

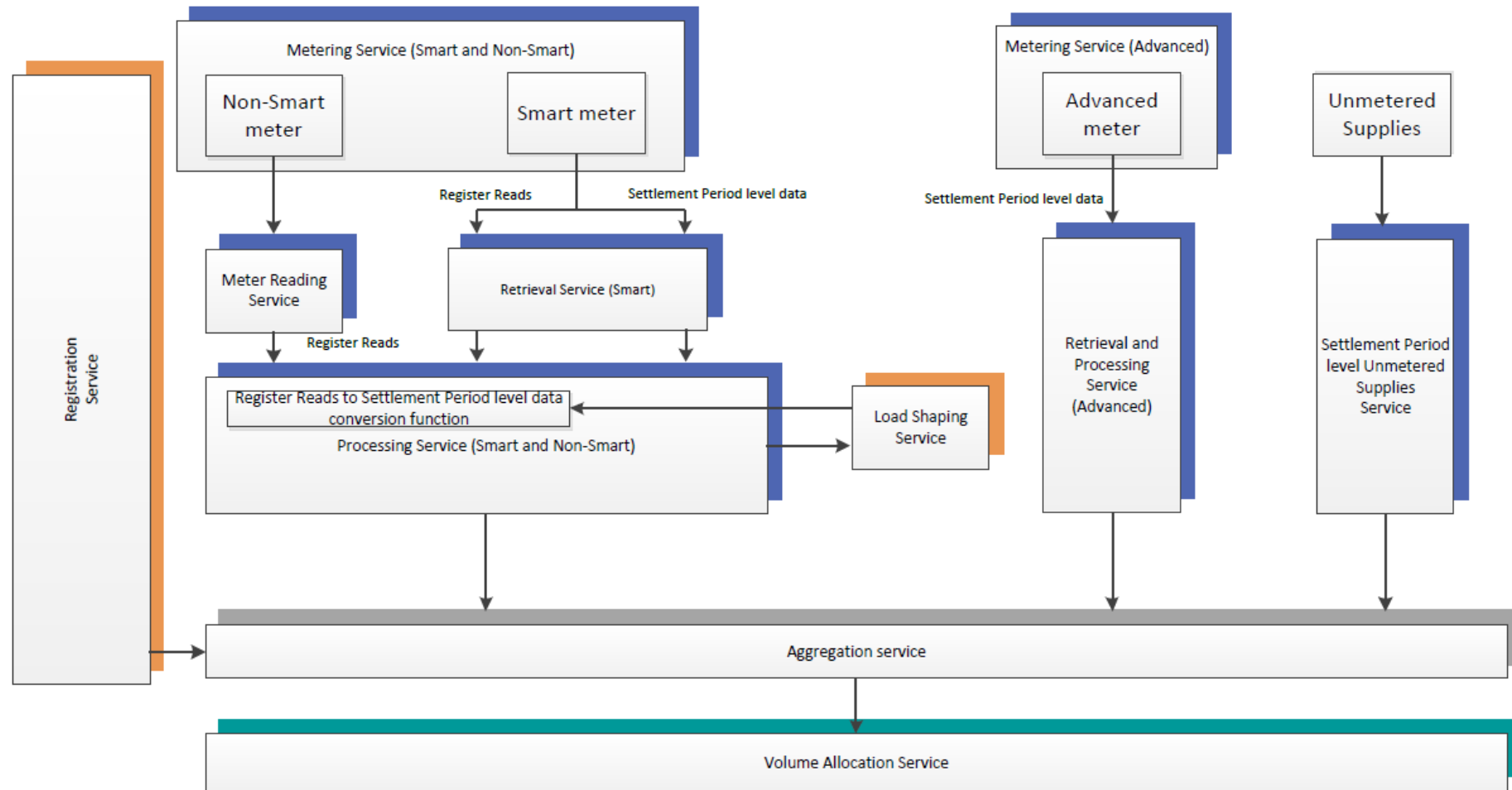


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- BSC Central Service

TOM C

Updating the TOMs in light of Ofgem's policy steer

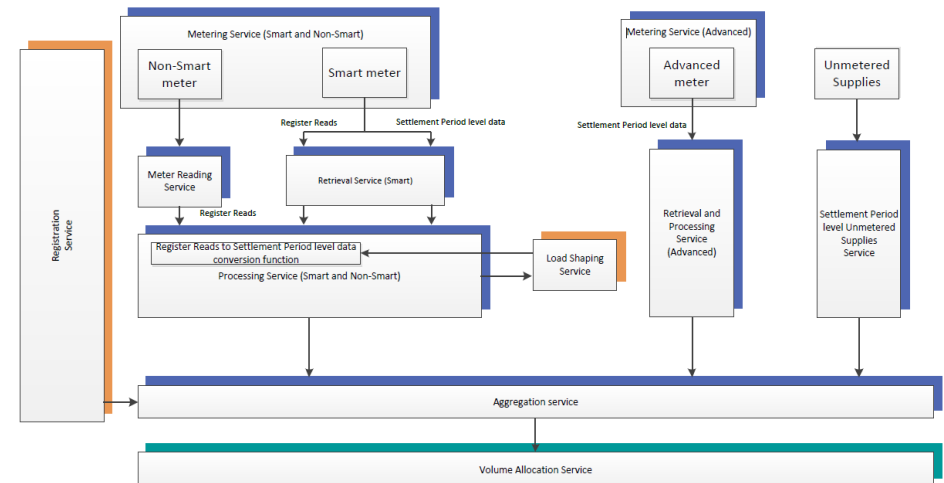
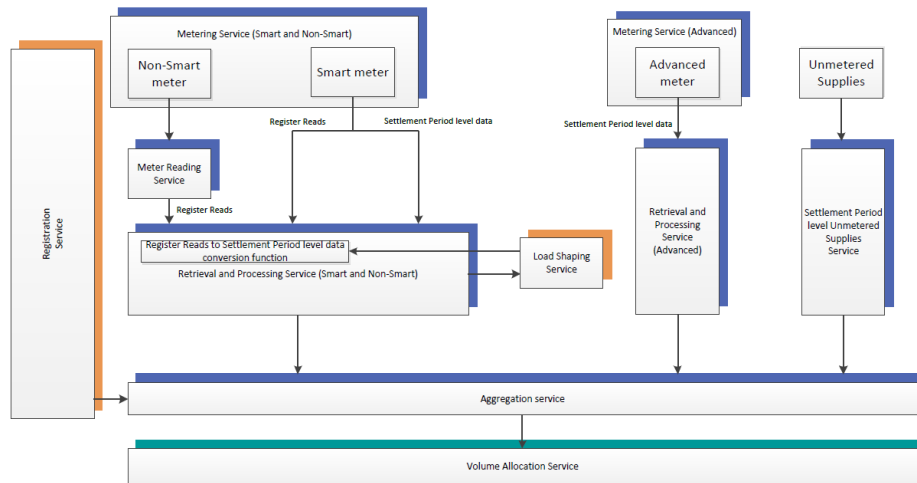


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- Non-BSC Monopoly Service
- Competitive or Monopoly Service
- BSC Central Service

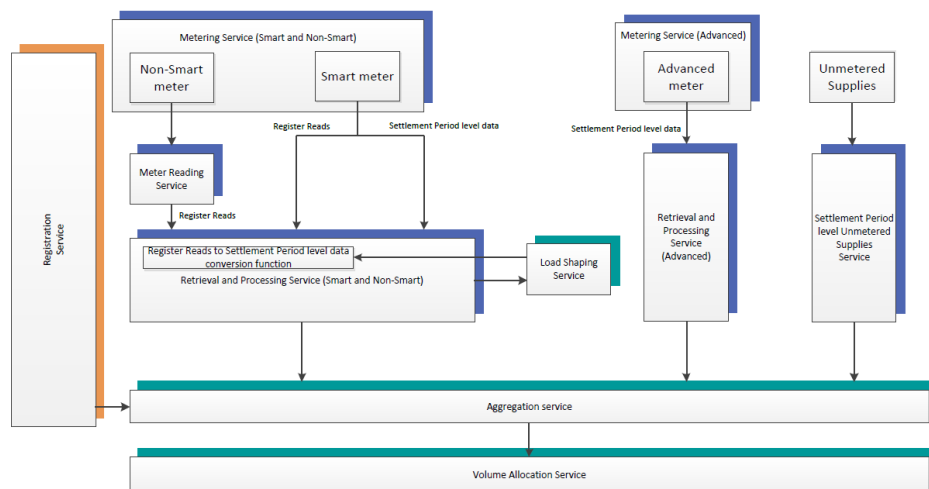
TOM D

TOMs A/D support two implementations for Aggregation.



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 Competitively Provided Service
 Non-BSC Monopoly Service
 BSC Central Service

TOM A_1

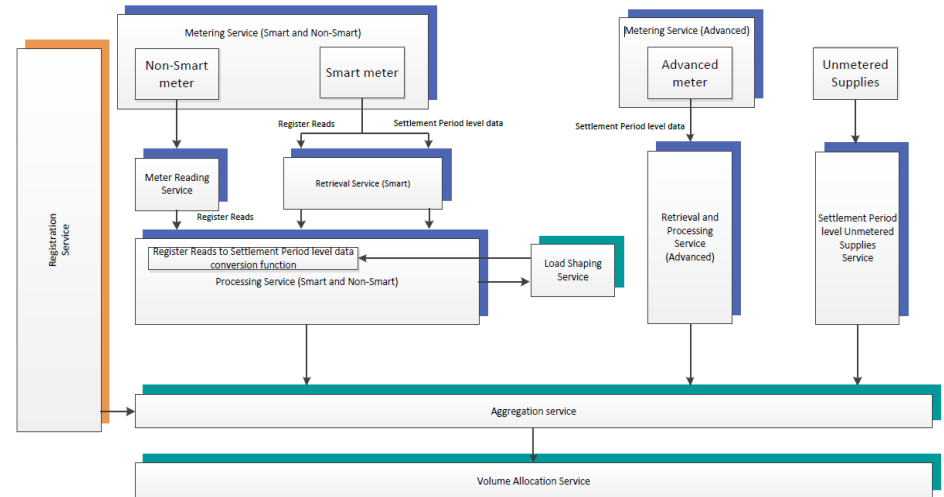


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 Non-BSC Monopoly Service
 BSC Central Service

TOM A_2

Key to shadows
 Competitively Provided Service
 Non-BSC Monopoly Service
 BSC Central Service

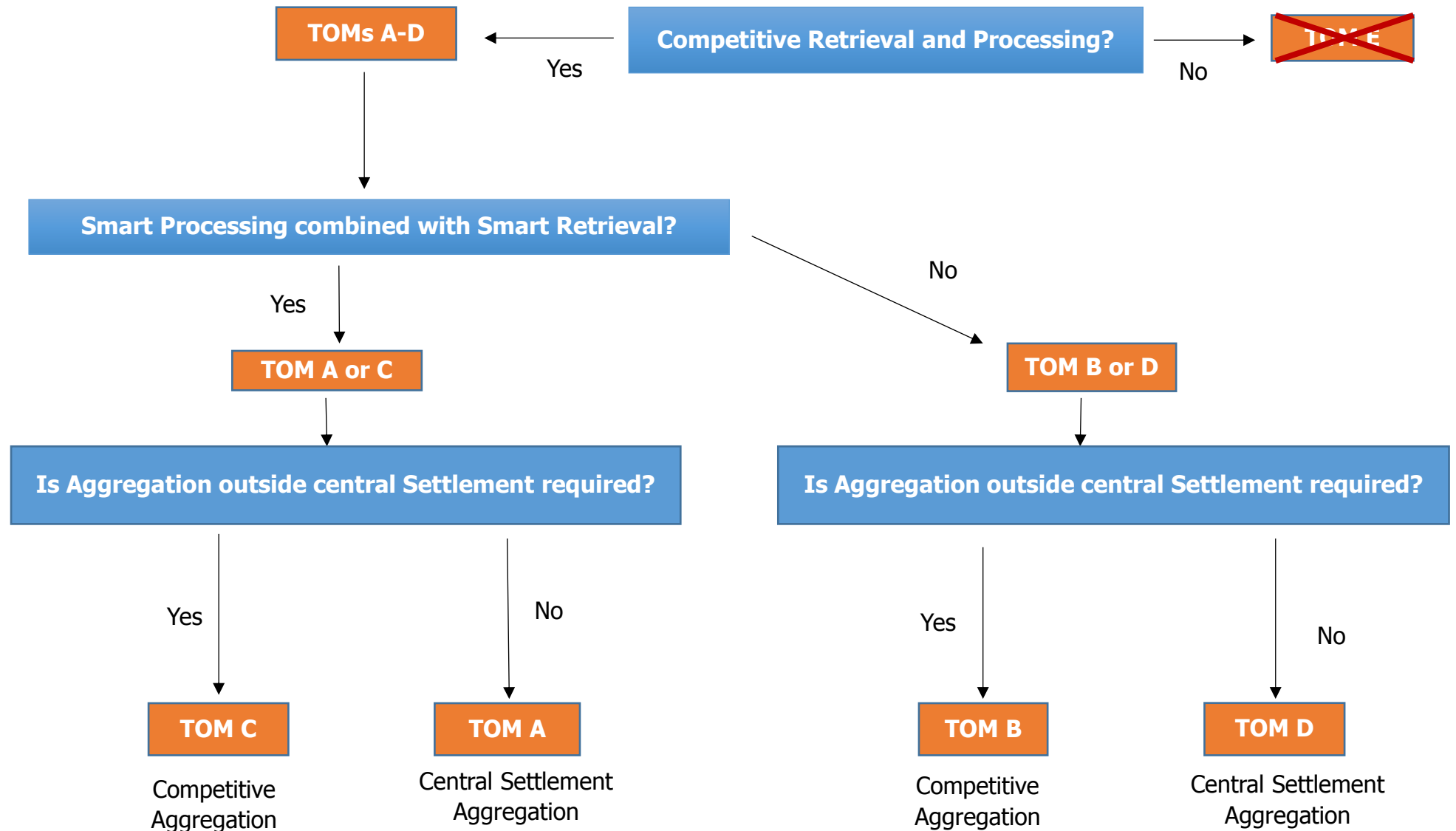
TOM D_1



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 Competitively Provided Service
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 BSC Central Service

TOM D_2

Proposed Decision Tree Approach



Is Aggregation outside central Settlement required?

What are the impacts of this decision for the DWG to consider, e.g.:

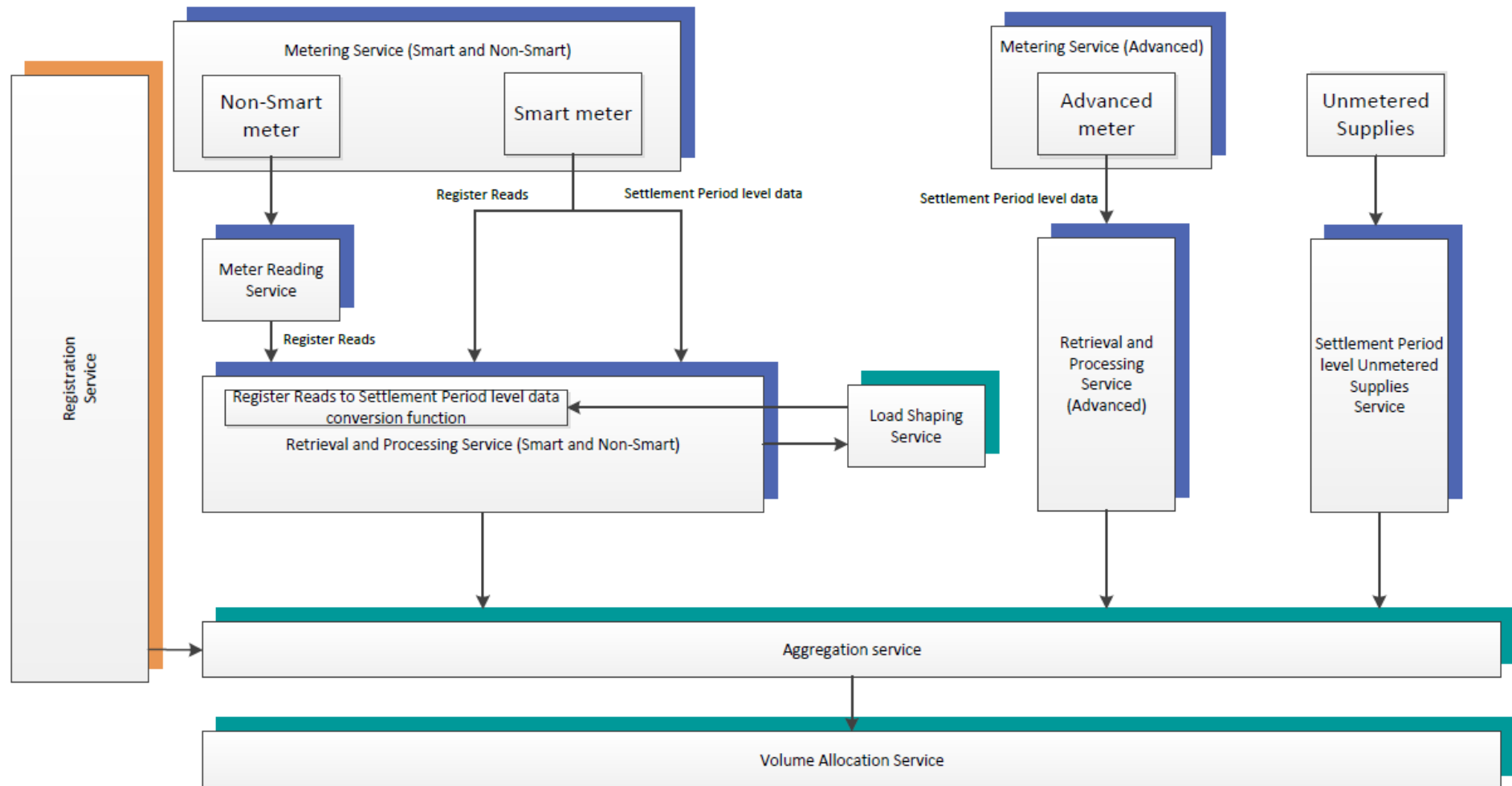
- **Design:** could the TOM facilitate aggregations across multiple Suppliers/BRPs?
- **Efficiency:** what are the challenges of separating Processing and Aggregation?
- **Governance:** are there benefits for upgrading and managing future change?
- **Data Access/Privacy:** how would data access differ across the two options?
- **Assurance:** are there any performance benefits from earlier sight of data?
- **Other:** What other factors could be considered?
 - Registration
 - Security
 - Data retention
 - Non-settlement activities
 - Data accessibility

Should Smart Processing and Retrieval be combined?

What are the impacts of this decision for the DWG to consider, e.g.:

- **Design:** data quality and co-ordination between the two services?
- **Efficiency:** could separation lead to better performance from each service?
- **Governance:** how will the services interact with the Smart Energy Code (SEC)?
- **Data Access/Privacy:** would either option offer benefits in this area?
- **Assurance:** who will be responsible for Retrieval performance?
- **Other:** What additional requirements would a separate Retrieval service have?
 - Registration
 - Security
 - Data retention
 - Non-settlement activities
 - Qualification (BSC and/or SEC)

TOM A shown as only the central Settlement variant (A₂)

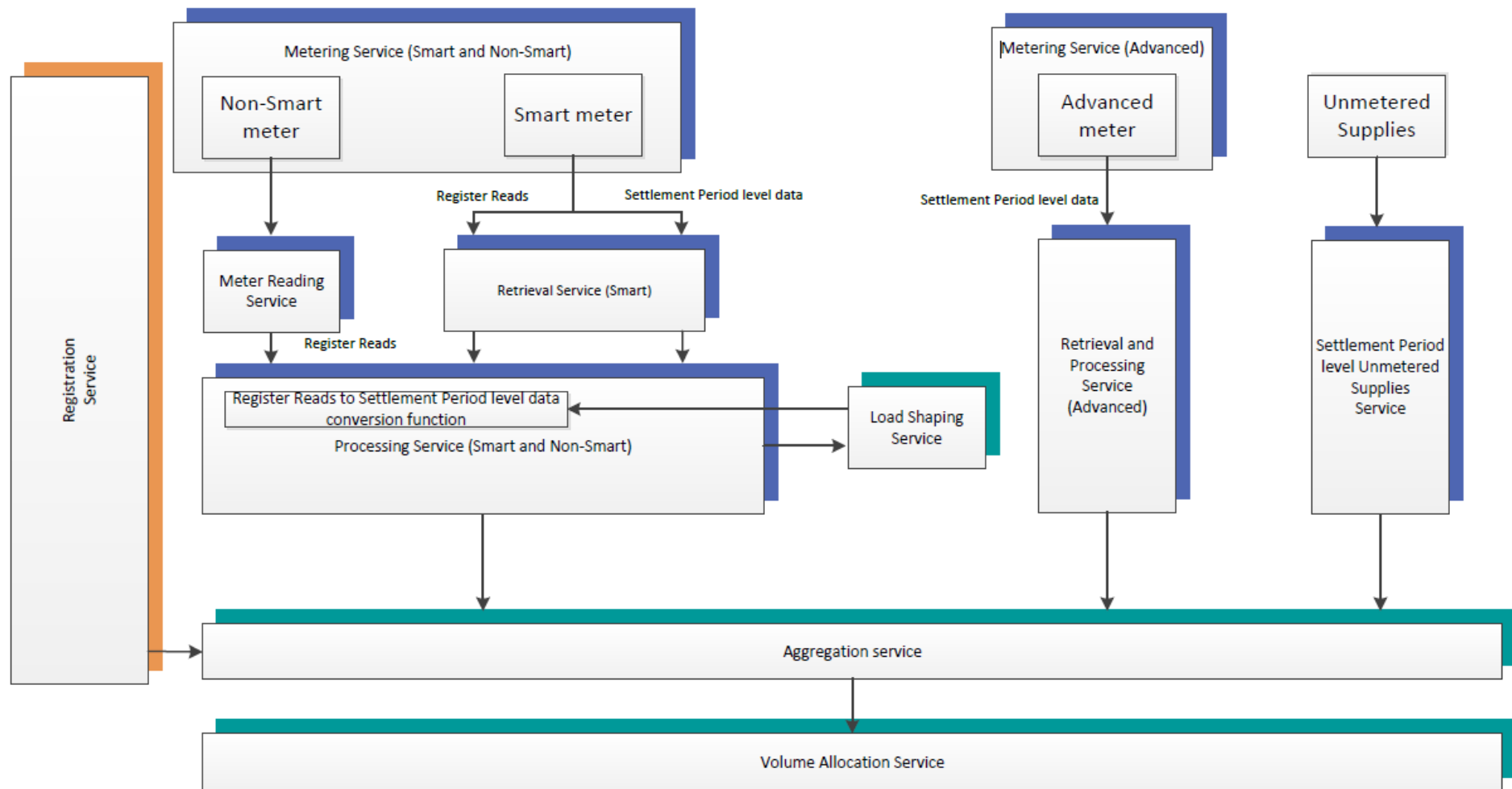


Key to shadows

- Competitively Provided Service
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TOM A

TOM D shown as only the central Settlement variant (D₂)

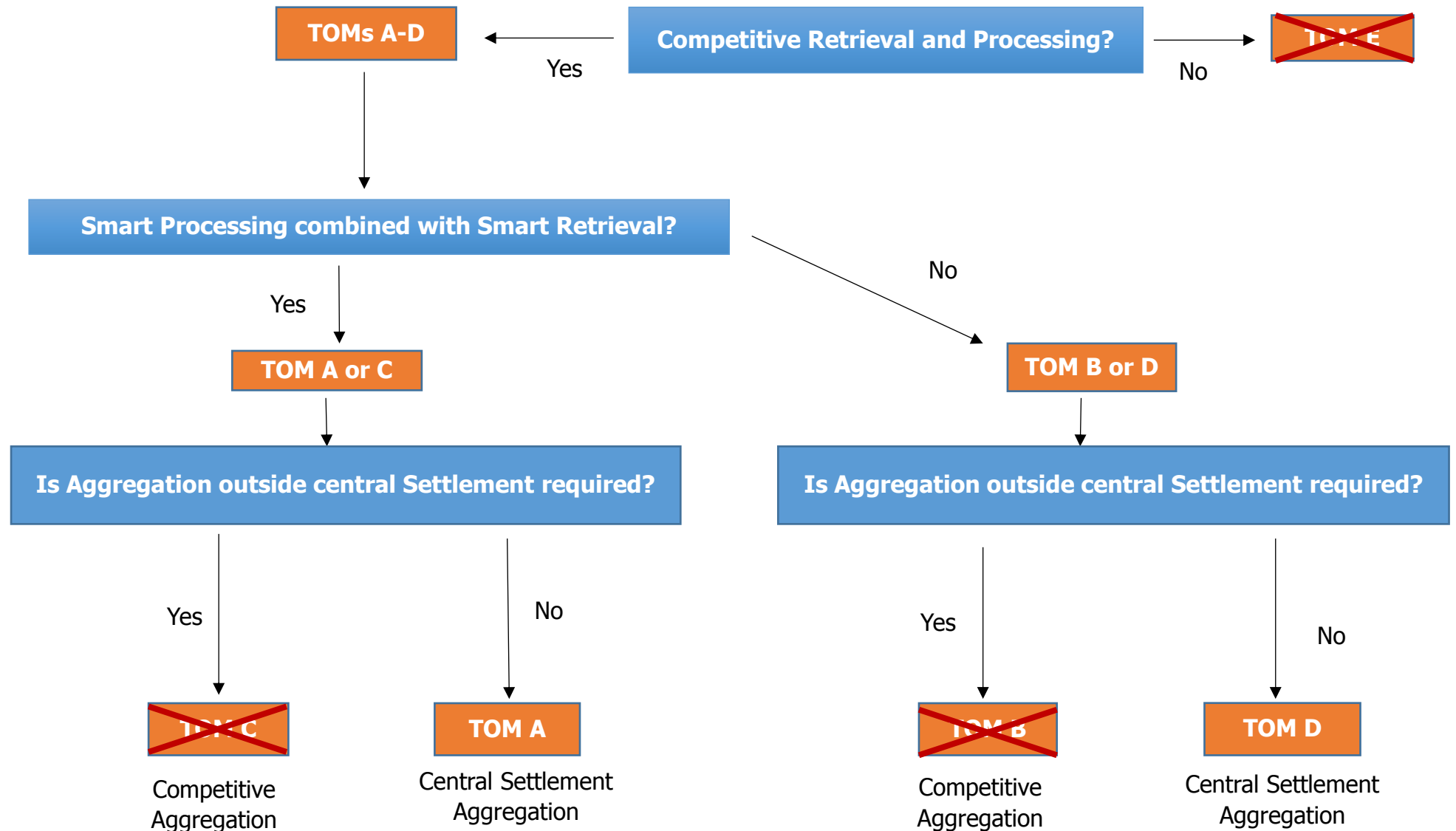


Key to shadows

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- BSC Central Service

TOM D

Updated Decision Tree following DWG discussion



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Settlement timetable

Update from Workgroup 4 and Design
Advisory Board

18 October 2018
Kevin Spencer

Settlement Timetable (1) WG4 initial view

At DWG 11 we shared the initial thinking of Work Group 4 on the Settlement Time table:

- RF should be moved 4 months (R2) in the Target end state;
- The potential DCC costs for shorter collection timescales should be established;
- That the initial Settlement Run should be set at 10 WD;
- That an interim reconciliation run be undertaken after the first month of data collection (similar to the R1 timing);
- That a dispute run should be set to 12 months to align with Supplier back billing limitations; and
- That the Interim Information run be retained at 4 WD to identify any issues with the identify any issues with Central Volume Allocation (CVA) data for generators and Grid Supply Point (GSP) metering such that they could be resolved prior to Initial Settlement (SF).

Settlement Timetable(2)

The DWG views were:

- The workgroup should be clear on the fundamental purpose of each Settlement Run.
- ELEXON and other DWG members noted that establishing the existing DCC baseline of read capability is proving difficult ELEXON noted that it is meeting with Ofgem and the DCC to discuss this.
- The DWG asked for further analysis to be undertaken by the workgroup on existing Settlement performance, and whether any further analysis can be undertaken in this area
- The DWG discussed the trade-off between shortening the timing of RF and increasing the potential number of Trading Disputes. It asked the workgroup to ensure that it has considered the following, and not just Disputes relating to the Supplier Volume Allocation (SVA) metered market:
 - Central Volume Allocation (CVA) errors, for example in Grid Supply Point metering or Aggregation Rules, which can have a significant materiality but may remain undetected for a long time; and
 - Errors in the Unmetered Supplies (UMS) market, where some data is still recalculated after a year.
- A DWG member suggested that there might be merit in reviewing the scope of the Dispute service more widely, for example the Settlement Error criteria. They also suggested that Disputes could be easier to settle following the introduction of a single cash-out price. ELEXON agreed to feed this back to its PAF Review team for consideration and confirm to what extent the PAF Review is considering the Disputes process.

Settlement Timetable (3)

The Design Advisory Board and the SRO discussed the WG4 proposed timescales and provided a steer on Settlement timetable to the DWG:

- That RF can be at 4 months but that there should be no Disputes except in cases of significant materiality (i.e. this means raising the Disputes threshold).

(If the DWG believes this isn't possible, it should explain why. Ofgem is very unlikely to be convinced by arguments based on how long it takes to detect and resolve faults/errors now, as it believes Parties aren't working hard enough to do this currently.

Ofgem is clear that the MHHS timetable should absolutely not be based on historic performance, and that we should assume the quality of Meter data under MHHS is better than now.)

- Reduce the SF Run from the proposed 10WD. The steer to the DWG is to consider how/when this can be reduced and to clarify the constraints. We noted that this is partly TOM-dependent (e.g. it's easier to do if Aggregation/VAS are combined, reducing the interfaces between services).

Settlement Timetable (4)

ELEXON and Ofgem provided overview of DWG views on settlement timetable (concern that dispute run might be too short at 12 months) and SRO/DAB view (4 month RF not as ambitious as possible, questioning necessity of dispute run with 4 month RF)

- Considered whether dispute run is within scope of DWG WG4. Decided they could set principles behind disputes run but not necessarily limits or thresholds.
- Agreed that disputes run should retain 'long tail' time limit (i.e. 12 months or longer) but with a sufficiently high level of materiality that a disputes run is an exceptional occurrence.

This was agreed after discussing a number of options, listed below;

- Different dispute lengths for different customer classes (e.g. CVA, smart segment, non-smart segment). Discounted as any dispute could have an impact via GCF, impacting all customer segments
- Same length but different thresholds for different classes was also considered. Discounted because it wasn't obvious which classes should have higher thresholds – and would ultimately depend on the size of the segment which then means higher thresholds for bigger segments

Settlement Timetable (5)

- Work Group 4 agreed that SF run could move to 5-7 working days, depending on final TOM and decision on Supplier Agent Functions. If disaggregated data is provided to central systems and DCC can provide sufficiently frequent data, efficiencies could reduce SF to 5WD, otherwise probably 7WD based on receiving sufficient data from Load Shaping Service.
- Work Group 2 agreed this point and discussed an option to base the initial Settlement run for customers without Settlement Period Level data on the average load shapes (i.e. not apply meter advances at the SF run.)
- The latter point would potentially cut out 2 days in the process.
- The DCC is looking at the implications of collecting data more frequently and we have provided some assumptions for them to work with.

Settlement Timetable (6)

NHH Settlement by meter type at R2

Meter type	MSID count (R1)	Energy share (R1)	R1	R2	R3	RF
ADM	1,256,313	3.21%	36.96%	77.83%	92.67%	97.94%
AMR	901,346	11.44%	67.45%	85.85%	91.95%	96.76%
Legacy	22,213,989	70.97%	33.63%	68.62%	86.87%	96.00%
SMETS	5,580,370	14.38%	59.79%	92.64%	97.16%	98.88%
Total	29,952,018					

Elective HH Settlement by Measurement Class at R3

	RF Total Energy [MWh]	RF Performance [%]	R3 Total Energy [MWh]	R3 Performance [%]
MC C	10,998,642.11	99.28%	11,268,988.54	99.28%
MC E	705,748.75	95.95%	813,241.77	95.89%
MC F	902.76	79.40%	865.76	90.50%
MC G	278,968.22	94.20%	327,355.81	93.71%

Trading Disputes raised during 2017/18 – root causes

No. of disputes	Root causes	Materiality
1	Aggregation Rule not updated with new generation plant unit resulting in export data not accounted for in Settlement	£7,221
8	Current Transformer (CT) ratio mismatch between physical CT and CT ratio programmed in the Meter resulting in Meter over or under - recording	£114,022
3	Data Aggregation issue – files not submitted or files submitted with erroneous data by Data Aggregators (DAs) for a Settlement Run resulting in incorrect volumes in Settlement Runs	£55,562
3	Data estimation issue – Data Collectors (DCs) estimating zeros where there was consumption on site resulting in incorrect energy volumes in Settlement	£210,049
1	Disconnection issue – Metering System registered as disconnected in error resulting in missing energy volumes in Settlement	£1,034
2	Energisation status issue – incorrect Energisation status recorded for Metering System resulting in missing energy volumes in Settlement	£47,743
4	Faulty Meter – fault with a Meter resulting in consumption being over or under recorded	£2,635,042

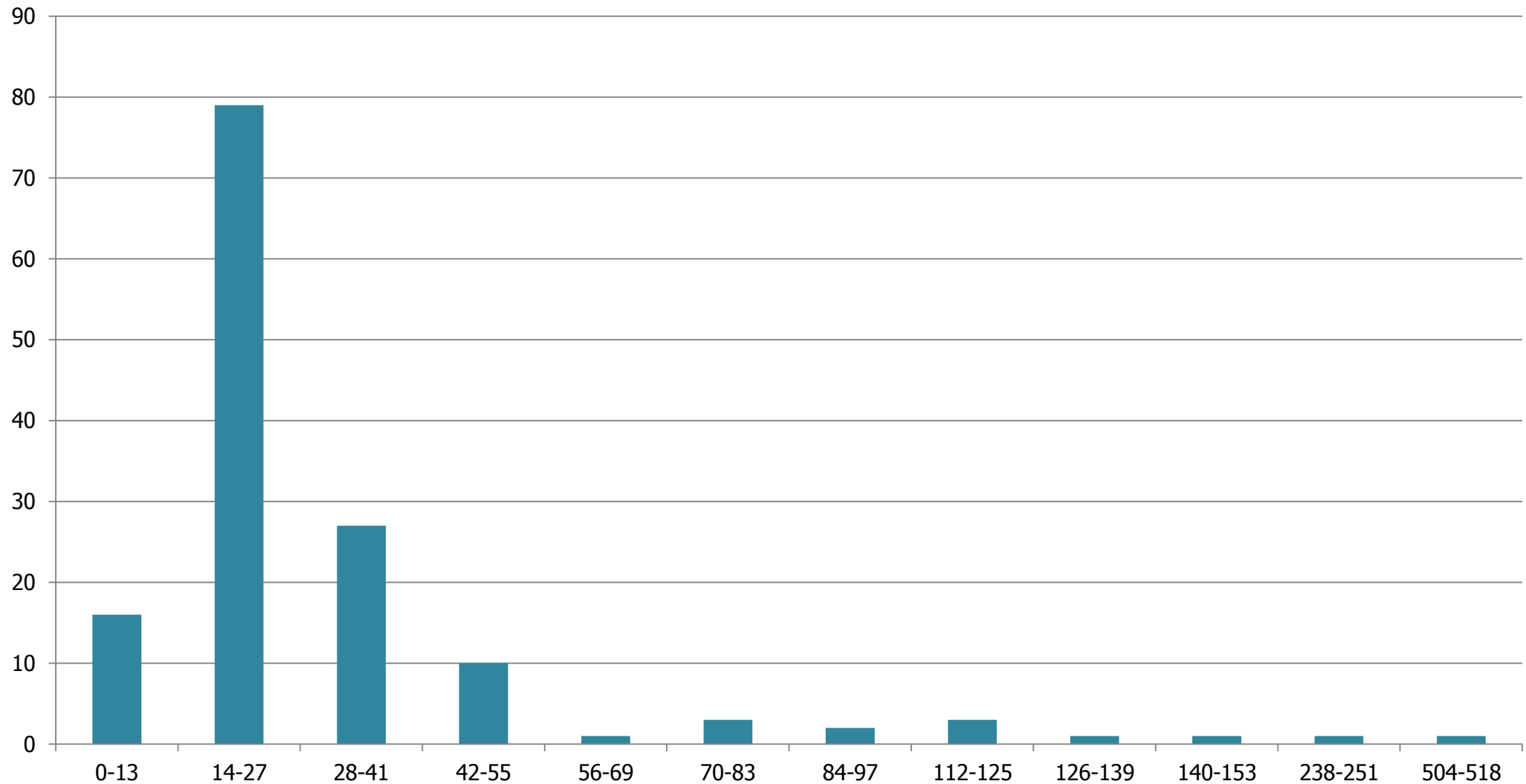
Trading Disputes raised during 2017/18 – root causes

1	Incorrect MTDs	£42,207
30	Erroneously Large EAC/AA uncorrected before Final Reconciliation (RF) run	£227,963
5	National Grid Data issue - Incorrect Non-Balancing Mechanism (BM) Short Term Operating Reserve (STOR) Balancing Services Adjustment Costs were included in some Balancing Services Adjustment Data (BSAD).	£252,043
2	Phase Failure caused the Meter to under-record consumption on site	£385
1	Unregistered Metering System resulting in missing energy volumes in Settlement	£87,639
2	Voltage Transformer (VT) mismatch between physical VT	£3,448

	and VT ratio programmed in the Meter resulting in Meter over or under - recording	
2	Data Collection system issues upon system upgrade and MTDs being transposed, resulting in erroneously high consumption being recorded in Settlement	£4,480,352
Total 65		£8,213,894

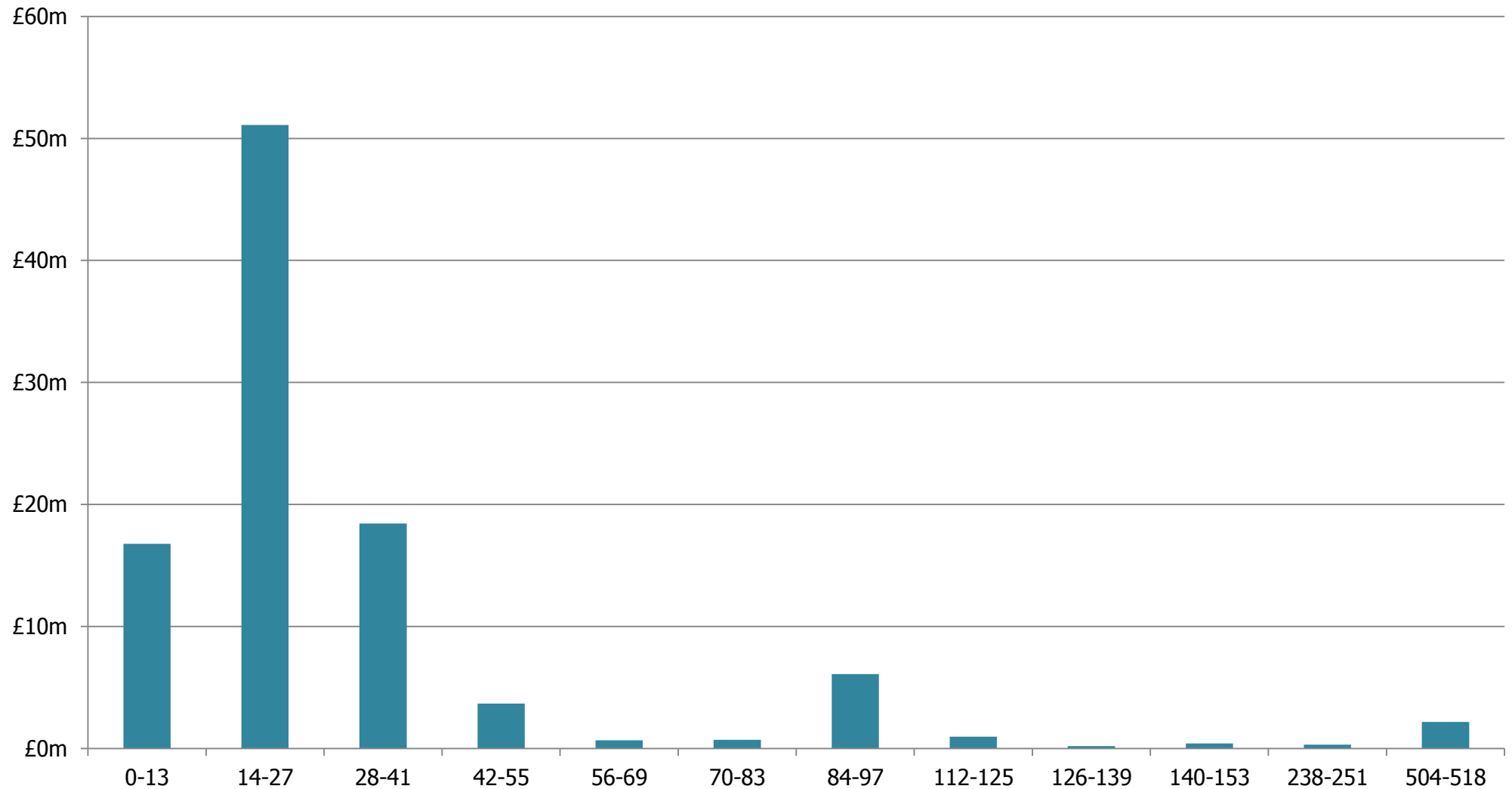
Trading Disputes raised since 2015 (1/3)

Trading Disputes - age of issues identified (months)



Trading Disputes raised since 2015 (2/3)

Trading Disputes - age of issues identified (months)



Trading Disputes raised since 2015 (3/3)

Trading Disputes - age of issues identified (months)

