PUBLIC

The Target Operating Model for Market-wide Half Hourly Settlement

Attachment A – Detailed TOM Service and Data requirements

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CONTENTS

PURPOSE OF THIS DOCUMENT

This is an attachment to the Design Working Group's (DWG's) report to Ofgem on its recommended Target Operating Model for Market-wide Half Hourly Settlement (MHHS). It sets out detailed requirements, developed by the DWG with support of four Working Groups, for the Services required for MHHS.

This attachment also includes a list of data items that may be required from each type of meter in the Target End State, plus list of standing data items (based on existing Market Domain Data) required by the TOM Services.

For the Services listed below, this attachment includes:

- High-level diagrams to illustrate the main functions and interfaces
- More detailed process diagrams to provide deeper insights in to the activities that comprise the Services
- Detailed lists of requirements for each service, including categorisations indicating how optional each requirement is

Market Segment/Service	Service Id	Service Name
Advanced Market Segment and Advanced Data Service	MSA	Metering Service (Advanced)
	ARP	Advanced Retrieval and Processing Service
Smart and non-smart Market Segments and Smart Data Services (SDS)	MSS	Metering Service (smart)
	MDR	Meter Data Retrieval Service
	MRS	Meter Reading Service
	PSS	Processing Service (smart)
Unmetered Supplies Market Segment and Unmetered Data Service	UMSO	Unmetered Supplies Operator Service
	UMSDS	Unmetered Supplies Data Service
BSC Central Settlement Services	MDS	Market-wide Data Service
	LSS	Load Shaping Service
	VAS	Volume Allocation Service

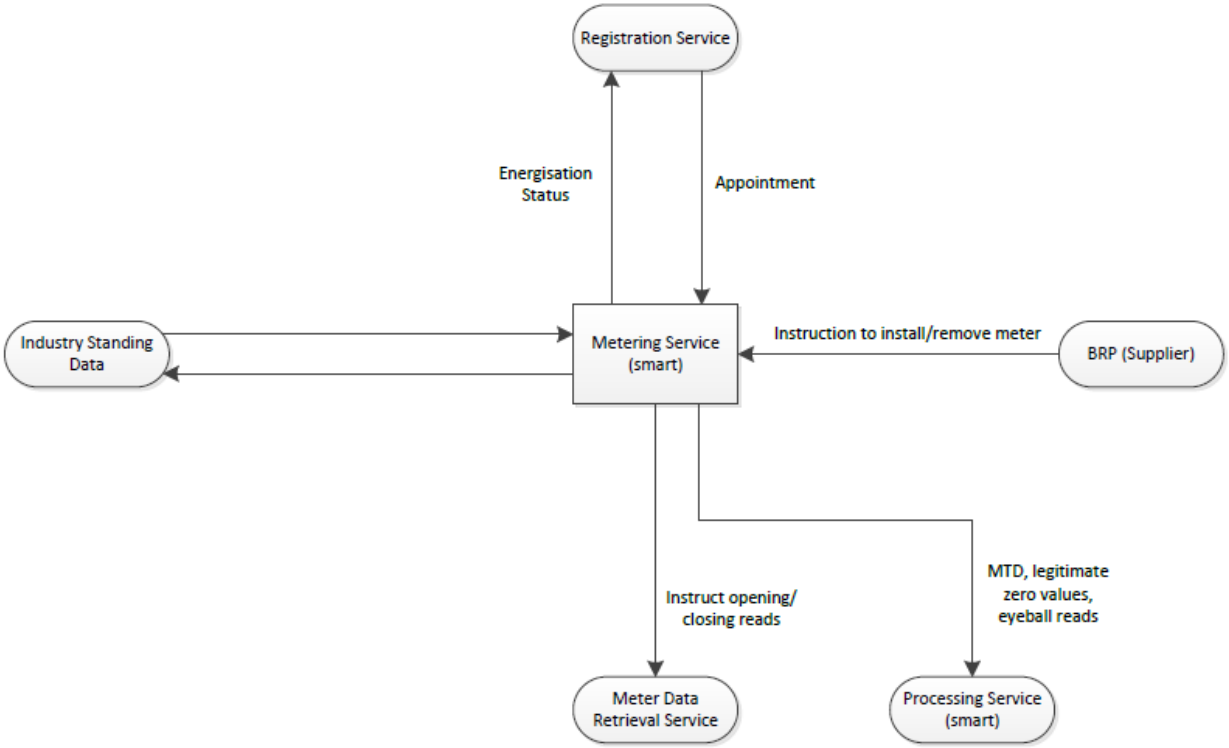
DETAILED SERVICES REQUIREMENTS

The following tables list the Service requirements for the TOM. They are prioritised as follows:

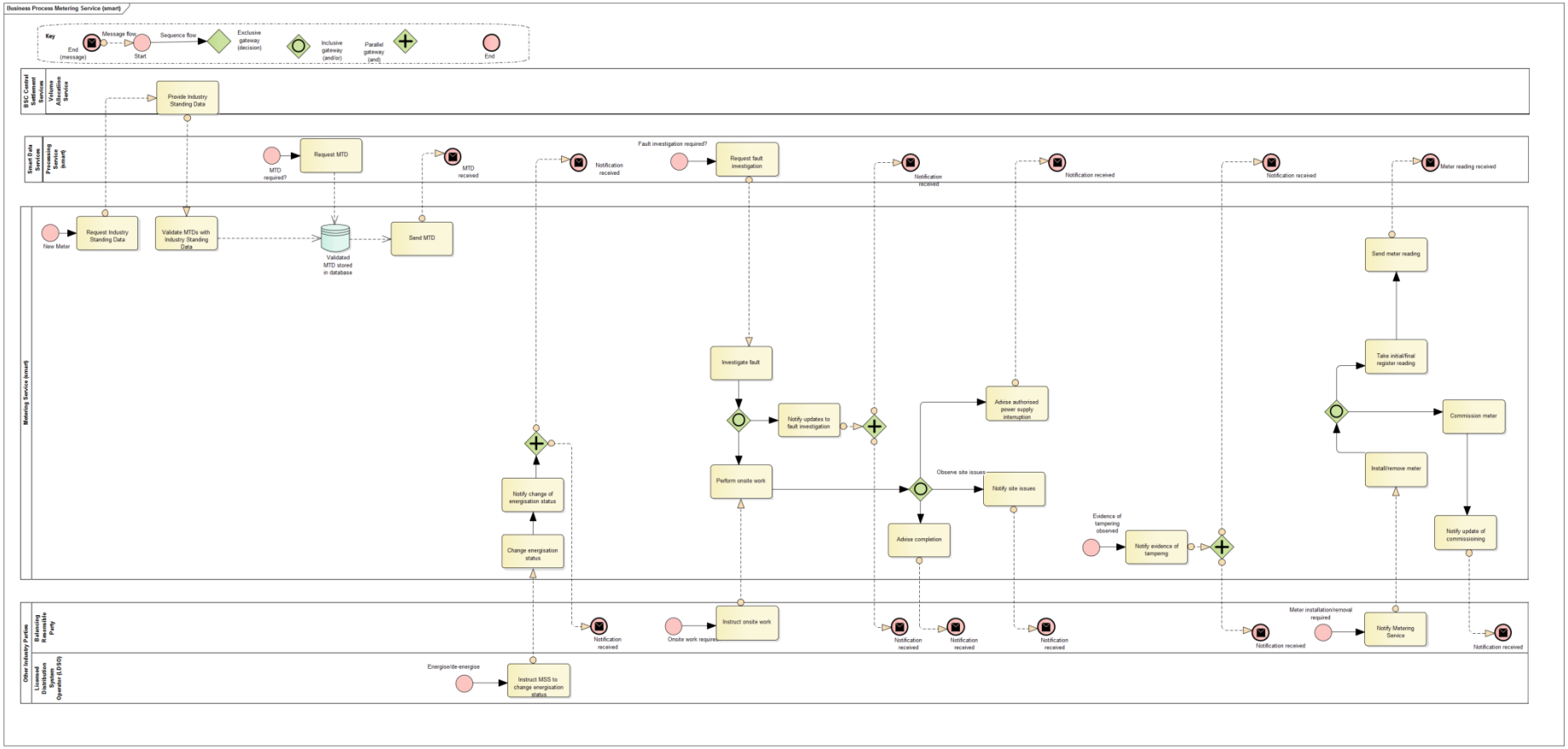
Must have - solution cannot exist without this
Should have - requires a workaround if this requirement is not met
Could have - optional, dependent on implementation
Won't have - not considered necessary

Metering Service (smart) (MSS)

The principle functions of a Metering Service (Smart or Advanced) are to install, commission, test, maintain and rectify faults in respect of Metering Equipment (including, where applicable, associated Communications Equipment). The MSS and MSA will also maintain and make available Meter asset information and, where required, Meter configuration information.



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

MSS1	Installing, commissioning and maintaining smart and non-smart Meters;
MSS2	Configuration of non-smart Meters;
MSS3	Maintaining an accurate register of Physical Meter Technical Details;
MSS4	Energisation and de-energisation of smart and non-smart Meters;
MSS5	Connection and disconnection of smart and non-smart Meters; and
MSS6	Meter and communication equipment fault investigation where a site visit is required.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
MSS1.1	Adherence to Industry Codes and Agreements	Governance	Code Compliance	The MSS shall comply with all relevant Industry Codes and Agreements and must implement changes to the MSS as required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	Agreements include MOCOPA for this service.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
General									
MSS2.1	System Qualification	General	Code Compliance	The MSS operate a qualified system	Must have	Service Design	Non-Functional	Non-Functional	
Interfaces									
MSS3.1	MSS accesses Industry Standing Data	I/O Interface	Input interface	The MSS must be able to access ISD from the VAS as appropriate	Must have	Operations	MSS1	Functional	
MSS3.2	MSS Interfaces with Processing Service(s) (Output)	I/O Interface	Output Interface	The MSS must be able to interface with the PSS to notify Meter Technical details and other data as appropriate.	Must have	Operations	MSS1	Functional	
MSS3.3	MSS Interfaces with Processing Service(s) (Input/Output)	I/O Interface	Input/ Output Interface	The MSS must be able to interface with the PSS to access requests for Metering fault investigation. The MSS must notify updates to the PSS on Metering fault investigations.	Must have	Operations	MSS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS3.4	MSS receives Notification of [appointment/de-appointment]	I/O Interface	Input Interface	The MSS must be able to access Notifications of [Appointments and De-appointments] to MPANs by Balancing Responsible Party (BRP) [Supplier])	Must have	Operations	MSS1	Functional	
MSS3.5	MSS responds to Notification with acceptance or rejection of [appointment]	I/O Interface	Output Interface	The MSS must be able to accept or reject [appointment/de-appointment] to BRP (Supplier) with reasons (reasons include unable to support meter type, do not operate in geography, etc.)	Must have	Operations	MSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS3.6	MSS receives notification of request to carry out site work	I/O Interface	Input Interface	The MSS must be able to access notification of requests to carry out physical/site work. E.g. install, remove, energise, de-energise, investigate (fault). Also to cancel/amend planned work.	Must have	Operations	MSS1	Functional	BRP (supplier), LDSO or fault investigation directed by PSS.
MSS3.7	MSS notifies of updates on requests for physical work	I/O Interface	Output Interface	The MSS must be able to notify updates on requested work (physical). Such as advising date/time work actually scheduled	Must have	Operations	MSS1, MSS6	Functional	This could be the result of the site visit or the current status e.g. booked
MSS3.8	MSS inform other parties of commissioning	I/O Interface	Output Interface	MSS must be able to inform other parties of the outcome of commissioning	Must have	Operations	MSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS3.9	MSS informs other parties of energisation status change	I/O Interface	Output Interface	The MSS must be able to notify change in energisation status to other parties	Must have	Operations	MSS4	Functional	
MSS3.10	The MSS notifies PSS to collect data on meter power down	I/O Interface	Output Interface	The MSS must be able to notify the PSS to collect SP level data prior to meter power down/removal. Also collect meter register reads	Must have	Operations	MSS5	Functional	Change to PSS
MSS3.11	The MSS must be able to notify other services of final read on meter power down	I/O Interface	Output Interface	The MSS must be able to notify other services of final & start total cumulative, ToU and PPM reads taken on site during meter remove/install	Must have	Operations	MSS5	Functional	Requirement includes BRP (Supplier)
MSS3.12	MSS notifies other services of site metering issue	I/O Interface	Output Interface	The MSS must be able to notify to other service of site issues	Must have	Operations	MSS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS3.13	MSS notifies other service of authorised power loss	I/O Interface	Output Interface	The MSS must be able to notify to other services of authorised interruption of power to meter (identify if no usage = whole current [or usage continue = CT], will influence energy estimation or not)	Must have	Operations	MSS4	Functional	Processing service and retrieval service may need to take account of know periods where there will be no consumption. Suppliers and LDSO may need to know to ignore any alerts of power downs
MSS3.14	MSS notifies of request to carry out non-site work	I/O Interface	Input Interface	The MSS must be able to access notification of request to carry out non-physical/non-site work e.g. share physical MTD, investigate records	Must have	Operations	MSS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS3.15	MSS carries out request to notify physical MTD	I/O Interface	Output Interface	The MSS must be able to notify changes of physical MTD to Parties as appropriate (these include ECOES/MPAS, MAP, Data Processor, BRP (Supplier) and Distributor) e.g. meter serial number, meter make and model, location, [CT ratio]	Must have	Operations	MSS3	Functional	
MSS3.16	MSS notifies other services of tampering	I/O Interface	Output Interface	The MSS must notify other services of signs of tampering/interference on site	Must have	Operations	MSS6	Functional	
MSS3.17	MSS informs other parties of Meter configuration	I/O Interface	Output Interface	The MSS must pass Meter Configuration (Related meters, TOU and/or PPM) details to relevant parties (PSS and BRP [Supplier])	Should have	Operations	MSS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Data Marshalling									
MSS4.1	MSS uses Industry Standing Data	Data Marshalling	Industry Standing Data	The MSS must be able to use ISD for validation or other purposes as appropriate	Must have	Operations	MSS1	Functional	Validation requires checks that data matches valid data and valid data sets defined in ISD.
MSS4.2	MSS uses appointment data to determine authority to carry out work	Data Marshalling	Work request management	The MSS must apply appointment periods to request to carry out work. The MSS must only carry out work during its period of appointment	Must have	Operations	MSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS4.3	MSS identifies equipment subject to safety/accuracy notifications	Data Marshalling	Asset management	The MSS must ensure all equipment the metering service is responsible for remains fit for purpose (accuracy, safe, etc.). This requires the maintenance of records of assets the metering service is responsible for, and identifying any equipment that is highlighted as determined as not fit for purpose.	Must have	Operations	MSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS4.4	MSS uses import/export MPAN relationships	Data Marshalling	Schedule work	The MSS must apply relationship of Meter with import and export MPANs to scheduling of work	Must have	Operations	MSS1	Functional	Where work is request for an import MPAN but the meter also has an export MPAN details must be shared with other services for both MPANs. Registration system should identify relationship. BSC requires same MSS appointed to both import and export MPAN
MSS4.5	MSS records Meter configuration of non-smart meters	Data Marshalling	Meter configuration	The MSS must record meter configurations for non-smart meters particularly Time of Use (ToU) register setup, Related Meters, Prepayment metering (PPM) settings etc..	Must have	Operations	MSS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Metering Activities									
MSS5.1	MSS carries out meter accuracy check	Metering Activities	Accuracy check	The MSS must be able to undertake a Meter accuracy check	Must have	Activity	MSS1	Functional	
MSS5.2	MSS carries out meter commissioning	Metering Activities	Commissioning	The MSS must be able to carry out commissioning checks as per BSC CoP4 - (e.g. whole current: is energy flow in the correct direction, CT ratio check)	Must have	Activity	MSS1	Functional	
MSS5.3	MSS carries out meter commissioning	Metering Activities	CT/VT Commissioning	The MSS must be able to carry out commissioning checks on Measurement Transformers when not responsibility of a BSC Party (in which case BSC party does the checks, typically LDSO)	Must have	Activity	MSS1	Functional	Required where measurement transformers are not the responsibility of the LDSO. CTs may also be used on legacy meters

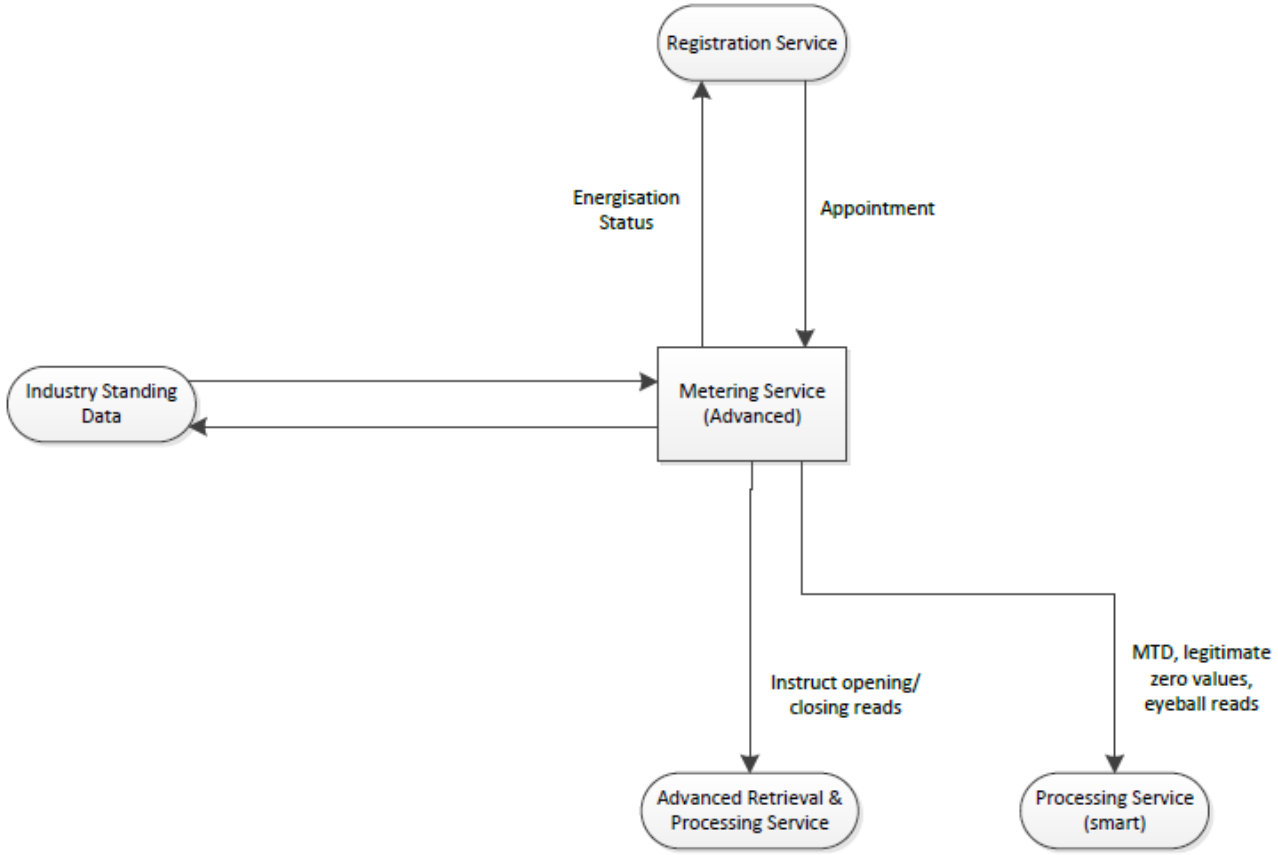
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS5.4	MSS carries out change of energisation status	Metering Activities	Energisation status change	The MSS must be able to undertake change of energisation of metering equipment	Must have	Activity	MSS4	Functional	
MSS5.5	MSS carries out change to comms equipment on site	Metering Activities	Fit comms	The MSS must be able to Install/remove and maintain communications	Must have	Activity	MSS1	Functional	On site activity involving change to comms equipment, e.g. install comms equipment, exchange comms equipment
MSS5.6	MSS Identifies on site metering issue	Metering Activities	Identify site issues	The MSS must be able to Identify site issues (damaged meter, meter not advancing, meter not accessible, etc.)	Must have	Activity	MSS6	Functional	
MSS5.7	MSS notifies of abortive work	Metering Activities	Output	The MSS must be able to notify of aborted work (no access, customer refuse, etc.)	Must have	Activity	MSS1, MSS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS5.8	MSS carries out metering install	Metering Activities	Install	The MSS must be able to Install metering equipment	Must have	Activity	MSS1, MSS5	Functional	
MSS5.9	MSS carries out on site metering investigation	Metering Activities	On-site meter investigation	The MSS must be able to carry out on-site meter investigation (investigate & fix faults)	Must have	Activity	MSS6	Functional	
MSS5.10	MSS carries out other onsite metering work	Metering Activities	Other	The MSS must be able to undertake other on-site work as appropriate. e.g. moving meter within day	Must have	Activity	MSS1	Functional	
MSS5.11	MSS carries out metering removal	Metering Activities	Remove	The MSS must be able to remove metering equipment	Must have	Activity	MSS1, MSS5	Functional	
MSS5.12	MSS sealing of metering equipment	Metering Activities	Sealing	The MSS must ensure all metering equipment is sealed with compliant seals (as defined by BSC & MOCOPA)	Must have	Operations	MSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Data Management									
MSS6.1	MSS carries out data investigation	Data Management	Data investigation (off site)	The MSS must be able to undertake data investigation (off site) such as inconsistent standing data	Must have	Activity	MSS6	Functional	
MSS6.2	MSS ensures compliance with metering equipment standards	Data Management	MID/SMETS compliance	The MSS must ensure metering equipment the metering service is responsible for is compliant with the relevant standards (e.g. BSC Metering CoPs)	Must have	Activity	MSS1	Business Rule	
Service Specific Non-Functional									
MSS7.1	MSS maintains records of site activities for audit	Audit	Site Activities	The MSS must record activities carried out on site	Must have	Activity	Non-Functional	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSS7.2	MSS Maintains records of assets for audit	Audit	Locational Information	The MSS must record location of assets e.g., stock, on wall, destroyed	Must have	Activity	Non-Functional	Non-Functional	

Metering Service (Advanced) (MSA)



This Service will be responsible for:

AMS1	Installing, commissioning and maintaining Advanced Meters;
AMS2	Configuration of Advanced Meters;
AMS3	Maintaining an accurate register of Physical Meter Technical Details;
AMS4	Energisation and de-energisation of Advanced Meters (excluding large LV & HV);
AMS5	Connection and disconnection of Advanced Meters; and
AMS6	Meter and communication equipment fault investigation where a site visit is required.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
MSA1.1	Adherence to Industry Codes	Governance	Code Compliance	The MSA shall comply with all relevant Industry Codes and implement changes to the MSA as required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	Possibly need to be more explicitly about which Codes! Needs to include MOCOPA

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
General									
MSA2.1	System Qualification	General	Service Design	The MSA must operate a qualified system	Must have	Service Design	Service Design	Non-Functional	
Interfaces									
MSA3.1	MSA accesses Industry Standing Data	I/O Interface	Input interface	The MSA must be able to access ISD from the VAS as appropriate	Must have	Operations	AMS1	Functional	
MSA3.2	MSA Interfaces with ARP service(s) (Output)	I/O Interface	Output Interface	The MSA must be able to interface with the ARP to notify Meter Technical details and other data as appropriate.	Must have	Operations	AMS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA3.3	MSA Interfaces with ARP service (Input/Output)	I/O Interface	Input/ Output Interface	The MSA must be able to interface with the ARP to access requests for Metering fault investigation. The MSA must notify updates to the ARP on Metering fault investigations.	Must have	Operations	AMS6	Functional	
MSA3.4	MSA receives Notification of [appointment/de-appointment]	I/O Interface	Input Interface	The MSA must be able to access Notifications of [Appointments and De-appointments] to MPANs by Balancing Responsible Party (Supplier) (registration service?)	Must have	Operations	AMS1	Functional	Need to consider if Suppliers appoint agents directly, or all stakeholders use the 'single version of the truth' in the Registration system. Distributor wants to know who MOA is, as they work on the DNO network

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA3.5	MSA responds to Notification with acceptance or rejection of [appointment]	I/O Interface	Output Interface	The MSA must be able to accept or reject [appointment/de-appointment] to supplier (registration service?) with reasons (reasons include unable to support meter type, do not operate in geography, etc.)	Must have	Operations	AMS1	Functional	
MSA3.6	MSA receives notification of request to carry out site work	I/O Interface	Input Interface	The MSA must be able to access requests to carry out physical/site work. E.g. install, remove, energise, de-energise, investigate (fault). Also to cancel/amend planned work.	Must have	Operations	AMS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA3.7	MSA notifies of updates on requests for physical work	I/O Interface	Output Interface	The MSA must be able to notify updates on requested work (physical). Such as advising date/time work actually scheduled	Must have	Operations	AMS1, AMS6	Functional	This could be the result of the site visit or the current status e.g. booked
MSA3.8	MAS informs other parties of commissioning	I/O Interface	Commissioning	MSA must be able to inform other parties of the outcome of commissioning	Must have	Operations	AMS1	Functional	
MSA3.9	LDSO informs MSA of change of energisation status	I/O Interface	Change of Energisation	The MSA must be able to access notifications by the LDSO of the change in energisation status (e.g. Large LV or HV switching)	Must have	Operations	AMS4	Functional	
MSA3.10	MSA informs other parties of energisation status change	I/O Interface	Change of Energisation	The MSA must be able to notify change in energisation status to other parties	Must have	Operations	AMS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA3.11	MSA notifies ARP to collect data prior to meter power down	I/O Interface	Output Interface	The MSA must be able to notify the ARP service to collect SP level data prior to meter power down/removal. Also collect meter register reads	Must have	Operations	AMS5	Functional	
MSA3.12	MSA must be able to notify other services of final read on meter power down	I/O Interface	Output Interface	The MSA must be able to notify other services of final & start total cumulative read taken on site during meter remove/install	Must have	Operations	AMS5	Functional	This requirement Includes the BRP (Supplier)
MSA3.13	MSA notifies other services of site metering issue	I/O Interface	Output Interface	The MSA must be able to notify to other service of site issues	Must have	Operations	AMS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA3.14	MSA notifies of request to carry out non-site work	I/O Interface	Input/ Output Interface	The MSA must be able to access notification of request to carry out non-physical/non-site work e.g. share physical MTDs, investigate records	Must have	Operations	AMS6	Functional	
MSA3.15	MSA carries out request to notify physical MTD	I/O Interface	Output Interface	The MSA must be able to notify changes of physical MTD to Parties as appropriate (these include ECOES/MPAS, MAP, Data Processor, BRP (Supplier) and Distributor) e.g. meter serial number, meter make and model, location, [CT ratio]	Must have	Operations	AMS3	Functional	
MSA3.16	MSA notifies other services of tampering	I/O Interface	Output Interface	The MSA must notify other services of signs of tampering/interference on site	Must have	Operations	AMS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA3.17	MSA notifies other service of authorised power loss	I/O Interface	Output Interface	The MSA must be able to notify to other services of authorised interruption of power to meter (identify if no usage = whole current [or usage continue = CT], will influence energy estimation or not)	Must have	Operations	AMS4	Functional	The ARP service may need to take account of known periods where there will be no consumption. Suppliers and LDSO may need to know to ignore any alerts of power downs
Data Marshalling									
MSA4.1	MSA uses Industry Standing Data	Data Marshalling	Industry Standing Data	The MSA must be able to use ISD for validation or other purposes as appropriate	Must have	Operations	AMS1	Functional	Validation requires checks that data matches valid data and valid data sets defined in ISD.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA4.2	MSA uses appointment data to determine authority to carry out work	Data Marshalling	Work request management	The MSA must apply appointment periods to request to carry out work. The MSA must only carry out work during its period of appointment	Must have	Operations	AMS1	Functional	
MSA4.3	MSA identifies equipment subject to safety/accuracy notifications	Data Marshalling	Asset management	The MSA must ensure all equipment the metering service is responsible of remains fit for purpose (accuracy, safe, etc.). This requires the maintenance of records of assets the metering service is responsible for, and identifying any equipment that is highlighted as determined as not fit for purpose.	Must have	Operations	AMS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA4.4	MSA uses import/export MPAN relationships	Data Marshalling	Schedule work	The MSA must apply relationship of Meter with import and export MPANs to scheduling of work	Must have	Operations	AMS1	Functional	Where work is request for an import MPAN but the meter also has an export MPAN details must be shared with other services for both MPANs. Registration system should identify relationship. BSC requires same MSA appointed to both import and export MPAN
MSA4.5	The MSA carries out proving test	Data Marshalling	Proving Test	The MSA must be able to carry out proving tests where complex site or advanced metering with an integral outstation with a non 1 pulse multiplier or separate outstation. Process equivalent current proving tests	Must have	Operations	AMS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA4.6	MSA complex site requirements	Data Marshalling	Complex Sites	The MSA must be able to handle complex sites. Processes as current complex site processes	Must have	Operations	AMS1	Functional	
Metering Activities									
MSA5.1	MSA carries out meter accuracy check	Metering Activities	Accuracy check	The MSA must be able to undertake a Meter accuracy check	Must have	Activity	AMS1	Functional	
MSA5.2	MSA undertakes Advanced meter commissioning	Metering Activities	Advanced Metering Commissioning	The MSS must be able to carry out commissioning checks as per BSC CoP4 - (e.g. whole current: is energy flow in the correct direction, CT ratio check)	Must have	Activity	AMS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA5.3	MAS carries out meter commissioning	Metering Activities	CT/VT Commissioning	The MSA must be able to carry out commissioning checks on Measurement Transformers when not responsibility of a BSC Party (in which case BSC party does the checks, typically LDSO)	Must have	Activity	AMS1	Functional	Required where measurement transformers are not the responsibility of the LDSO. CTs may also be used on legacy meters
MSA5.4	MSA carries out change of energisation status	Metering Activities	Energisation status change	The MSA must be able to undertake change of energisation of metering equipment	Must have	Activity	AMS4	Functional	
MSA5.5	The MSA carries out change to comms equipment on site	Metering Activities	Fit comms	The MSA must be able to Install/remove and maintain communications (non-BSC requirement?)	Must have	Activity	AMS1	Functional	On site activity involving change to comms equipment, e.g. install comms equipment, exchange comms equipment

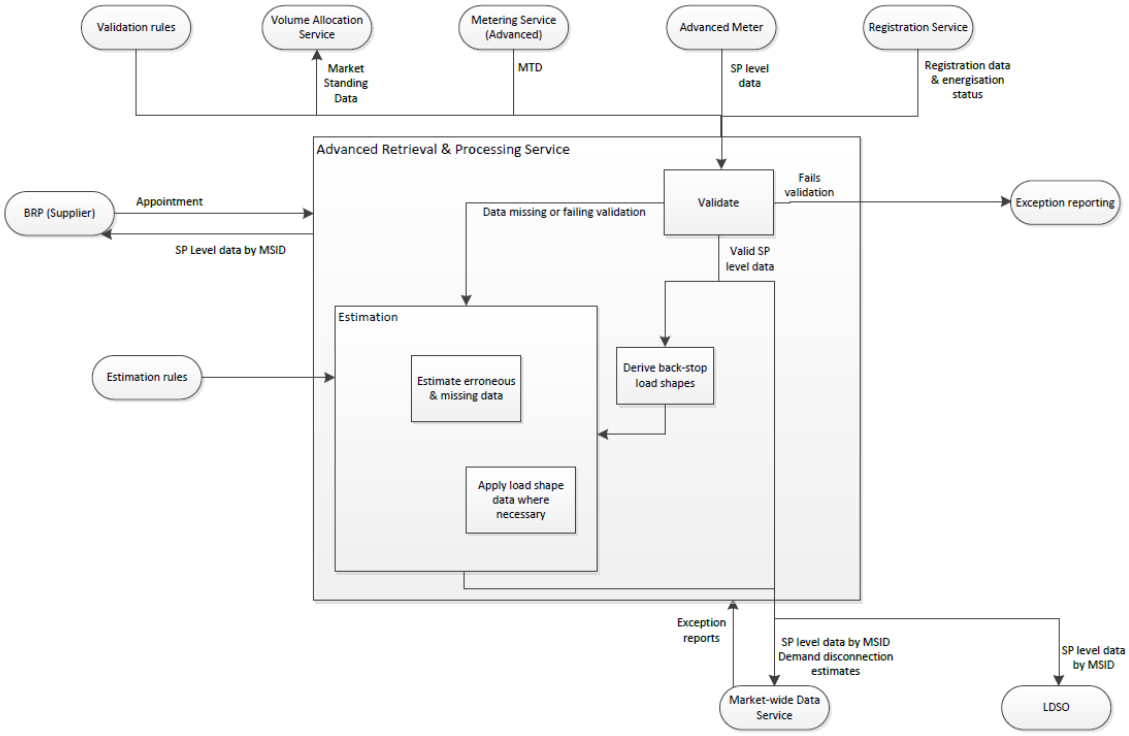
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA5.6	The MSA Identifies on site metering issue	Metering Activities	Identify site issues	The MSA must be able to Identify site issues (damaged meter, meter not advancing, meter not accessible, etc.)	Must have	Activity	AMS6	Functional	
MSA5.7	MSA notifies of abortive work	Metering Activities	Output	The MSA must be able to notify of aborted work (no access, customer refuse, etc.)	Must have	Activity	AMS1, AMS6	Functional	
MSA5.8	MSA carries out metering install	Metering Activities	Install	The MSA must be able to Install metering equipment	Must have	Activity	AMS1, AMS5	Functional	
MSA5.9	MSA carries out on site metering investigation	Metering Activities	On-site meter investigation	The MSA must be able to carry out on-site meter investigation (investigate & fix faults)	Must have	Activity	AMS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA5.10	MSA carries out other onsite metering work	Metering Activities	Other	The MSA must be able to undertake other on-site work as appropriate. e.g. moving meter within day	Must have	Activity	AMS1	Functional	
MSA5.11	MSA carries out metering removal	Metering Activities	Remove	The MSA must be able to remove metering equipment	Must have	Activity	AMS1, AMS5	Functional	
MSA5.12	MSA sealing of metering equipment	Metering Activities	Sealing	The MSA must ensure all metering equipment is sealed with compliant seals (as defined in BSC & MOCOPA)	Must have	Activity	AMS1	Functional	
Data Management									
MSA6.1	MSA carries out data investigation	Data Management	Data investigation (off site)	The MSA must be able to undertake data investigation (off site) such as inconsistent standing data	Must have	Activity	AMS6	Functional	

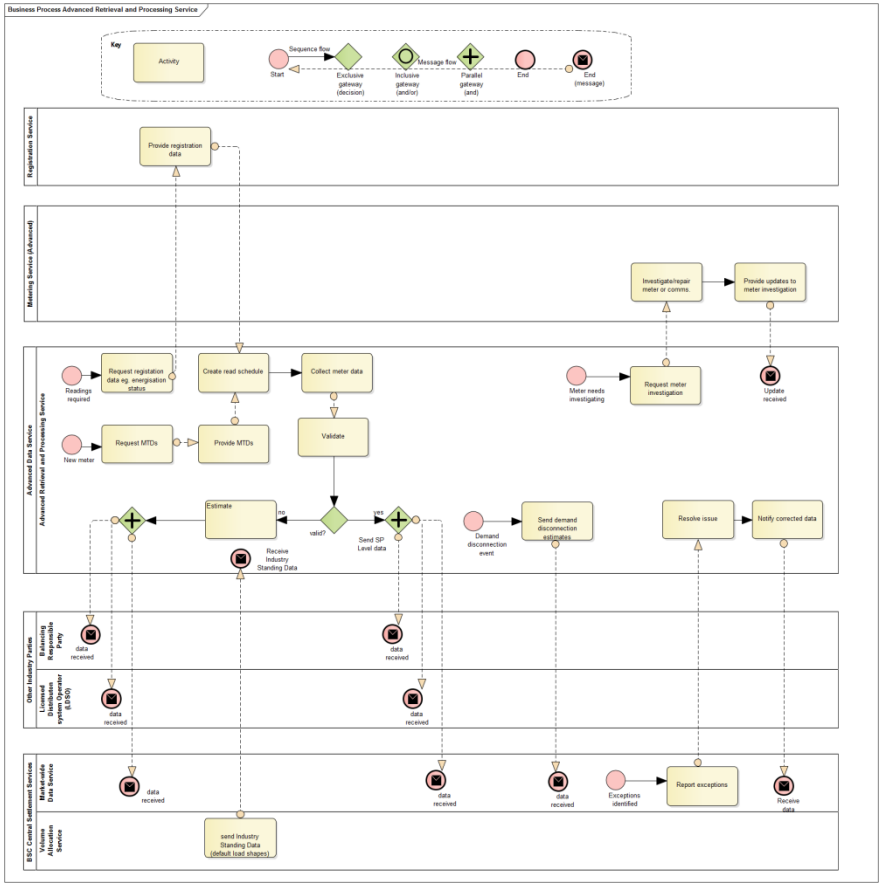
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MSA5.2	MSA ensures compliance with metering equipment standards	Data Management	MID/SMETS compliance	The MSA must ensure metering equipment the metering service is responsible for is compliant with the relevant standards (e.g. BSC Metering CoPs)	Must have	Business Rule	AMS1	Business Rule	
Service Specific Non-Functional									
MSA7.1	MSA maintains records of site activities for audit	Audit	Audit	The MSA must record activities carried out on site	Must have	Activity	Non-Functional	Non-Functional	
MSA7.2	MSA Maintains records of assets for audit	Audit	Audit	The MSA must record location of assets e.g., stock, on wall, destroyed	Must have	Activity	Non-Functional	Non-Functional	

Advanced Retrieval and Processing Service (ARP)

The Advanced Retrieval and Processing Service (ARP) is responsible for obtaining raw meter readings (SP level and Register Reads), validating and estimating (where needed) for Advanced Meters. This service will also, on an optional basis, be responsible for complying with the shared metering arrangements - which allocate Metering System data between one or more Balancing Responsible Parties (Suppliers).



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

ARP1	Retrieving the Settlement Period level Active Import and Active Export consumption (and other data as required e.g. reactive power) data from Advanced Metering Systems;
ARP2	Receiving and maintaining Meter Technical Detail data from the Metering Service for Advanced Metering Systems;
ARP3	Validating Settlement Period level consumption data for Active Import and Active Export (and other data as required) using a common set of agreed validation rules to be implemented electronically where possible;
ARP4	Estimating Settlement Period level consumption data for Active Import and Active Export (and other data as required) where such data fails validation or is missing or unavailable;
ARP5	Maintenance of standing data as appropriate;
ARP6	Exception reporting for any Metering Systems where data is deemed to be invalid or where access or issues with Metering Systems are identified;
ARP7	Providing access to validated Settlement Period level data to the separate Aggregation Service(s)
ARP8	Providing validated Settlement Period level data to the other parties as appropriate.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
ARP1.1	Adherence to Industry Codes	Governance	Code Compliance	The ARP shall comply with all relevant Industry Codes and implement changes to the ARP required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	Possibly need to be more explicitly about which Codes!
General Requirements									
ARP2.1	ARP uses a qualified system	General	Service Design	The ARP shall use Qualified systems and processes [so approved in accordance with [BSCP537] in carrying out the collection of data from SVA Metering Equipment.	Must have	Service Design	ARP1 to ARP4	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP2.2	ARP protocols for data retrieval	General	Service Design	The ARP shall ensure that its systems and processes [so approved in accordance with BSCP537] used for the purposes of collecting data have protocols for every Meter type for which it is responsible for data retrieval. This obligation excludes Meter types which are compliant with the Smart Metering Equipment Technical Specifications (SMETS) and from which Half Hourly data is retrieved, or sourced, by the BRP (Supplier) or [DCC].	Must have	Service Design	ARP1 to ARP4	Non-Functional	
ARP2.3	ARP System flexible to changes in Settlement Period Definition	General	Service Design	The ARP must be designed flexibly to accommodate changes in the definition of a Settlement Period.	Must have	Service Design	ARP1 to ARP4	Data Requirement	In case of 15 minute Settlement Period in the future
ARP2.4	ARP processes consumption data in kWh and Clock Time	General	Service Design	The ARP must be able to hold Settlement Period level data in Coordinated Universal Time (UTC) and in kilowatt hours (kWh) to three decimal places.	Must have	Service Design	ARP1 to ARP4	Data Requirement	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP2.5	ARP Outputs consumption data in kWh	General	Service Design	The ARP system must be able to output Settlement Period level consumption data in Clock Time (CLK) and Coordinated Universal Time (UTC) and in kilowatt hours (kWh) to three decimal places.	Must have	Service Design	ARP8	Data Requirement	Included UTC for network charging or for Supplier systems. Clarification needed on who converts to CLK time
ARP2.6	ARP synchronisation to UTC	General	Service Design	The ARP service shall synchronise to Co-ordinated Universal Time (UTC) at least once every day.	Must have	Service Design	ARP1 to ARP4	Data Requirement	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP2.7	ARP collects and provides SP level data for Network Charging	General	Service Design	The ARP shall have the capability to collect and record all Meter Period Value data for Reactive Power (with associated alarms), cumulative readings and maximum demand readings by Meter register that are required for the LDSO, and shall use this capability to collect (and report to the Supplier and LDSO) Meter Period Value data for Reactive Power for all those SVA MPANs for which it is responsible and for which the Meter Technical Details indicate that the Meter is configured to record such data.	Could have	Service Design	ARP1 to ARP4	Functional	TCR dependent: Is collection and processing of reactive power still appropriate for larger customers? Not a Settlement requirement!

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP2.8	ARP collects and process data (other parties)	General	Service Design	The ARP shall be capable of receiving, processing and [transmitting] all required data accurately and within the timescales agreed by the [Panel, BRPs (Suppliers) and LDSOs, and shall be capable of supporting metered data (processed and unprocessed) and associated standing data for all SVA MPANs for which the ARP is registered (with allowance for growth) for the retention periods specified.	Must have	Service Design	ARP1 to ARP4	Functional	
ARP 2.9	ARP allows manual entry of Industry Standing Data	General	Service Design	ARP must allow manual entry of the Industry Standing data	Must have	Operations	ARP5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP2.10	ARP provide access to appropriate data to other parties	General	Business Rule	The ARP must only provide BRPs (Suppliers) with access to data relating to SVA MPANs against which the Suppliers are contracted with the ARP, and must ensure that LDSOs are not provided with data relating to SVA MPANs supplied by the distribution networks of other LDSOs.	Must have	Business Rule	ARP8	Business Rule	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP2.11	BRP Requirements for sites with multiple MPANs	General	Business Rule	Where the same Metering Equipment (ME) is being utilised for the measurement of the Import and/or Export Active Energy for more than one MPAN at a site, the BRP(s) (Supplier(s)) shall ensure that the same Metering Service (Advanced) is appointed for all of the MPANs involved to comply with the requirements of the BSC. Similarly, where a common Outstation is being utilised for the Import and/or Export Active Energy for more than one MPAN, the BRP(S) (Supplier(s)) shall ensure that the same ARP is appointed for all of the MPANs involved. These obligations shall be fulfilled by mutual agreement between the BRPs (Suppliers) involved, except in the case of there being an Import BRP (Supplier) and an Export BRP (Supplier) where the obligation rests with the Export BRP (Supplier) to appoint the same agent(s) as the Import BRP (Supplier).	Must have	Business Rule	ARP1 to ARP4	Business Rule	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Interfaces									
ARP3.1	ARP submits data to or receives data from MDS	I/O Interface	Output Interface	The ARP must provide access to SP Level consumption data to the MDS for each MPAN for which the Service is responsible. Each set of data must relate to a single MPAN for a Settlement Day. (The MDS may send exception or missing data report to the ARP.)	Must have	Operations	ARP7	Functional	
ARP3.2	ARP receives acknowledgment (access to SP level data)	I/O Interface	Input Interface	The ARP must be able to receive acknowledgement of access SP Level Consumption Data' from the MDS	Must have	Operations	ARP7	Functional	
ARP3.3	MDS exceptions and missing data	I/O Interface	Input Interface	The ARP must be able to access exception reports or missing data reports from the MDS	Must have	Operations	ARP7	Functional	
ARP3.4	ARP provide access to SP level data to the BRP (Supplier)	I/O Interface	Output Interface	The ARP must provide access to SP Level consumption data to the BRP (Supplier)	Must have	Operations	ARP8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.5	ARP provides access to SP level consumption data to Licenced Distribution System Operators	I/O Interface	Output Interface	The ARP must provide access to SP level consumption data to the Licenced Distribution System Operators for network charging.	Could have	Operations	ARP8	Functional	May not need this as can provided by MDS
ARP3.6	ARP access to Market Standing data	I/O Interface	Input Interface	The ARP must be able to access Industry Standing data from the [VAS].	Must have	Operations	ARP5	Functional	Assumption that VAS will maintain Market standing data need to be discussed.
ARP3.7	ARP access to Registration Data	I/O Interface	Input Interface	ARP must have an interface to access data from the Registration Service. Data will include Registration data and energisation status for MPANs for which the ARP is responsible.	Must have	Operations	ARP5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.8	ARP Acknowledgment (Registration data)	I/O Interface	Output Interface	An acknowledgement of receipt of access to registration data must be returned to the Registration Service as appropriate.	Could have	Operations	ARP5	Functional	Maybe not required but similar defined for MDS
ARP3.9	ARP Interfaces with Metering Service(s)	I/O Interface	Input Interface	The ARP must be able to interface with Metering Service(s) to access Meter Technical Details and other data as required.	Must have	Operations	ARP2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.10	ARP interfaces with Unmetered Supplies Data Service(s) (UMSDS) for SP level Consumption data relating to unmetered Supplies	I/O Interface	Input Interface	The ARP must be able to interface with the UMSDS to access data for Unmetered Supplies MPANs.	Could have	Operations	ARP1 to ARP4	Functional	This may be TOM dependent. Currently the UMSDS data is intended to be sent to the MDS. This requirement can be removed once we confirm that UMSDS notifies data to MDS.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.11	ARP exception reporting to UMSDS	I/O Interface	Output Interface	The ARP must be able to interface with the UMSDS to report exceptions or missing data.	Could have	Operations	ARP1 to ARP4	Functional	This may be TOM dependent. Currently the UMSDS data is intended to be sent to the MDS. This requirement can be removed once we confirm that UMSDS notifies data to MDS.
ARP3.12	ARP receives acknowledgment (access to SP level data)	I/O Interface	Input Interface	The ARP must be able to receive acknowledgement of access SP Level Consumption Data' from the MDS	Must have	Operations	ARP7	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.13	ARP requests access to data where not available	I/O Interface	Output Interface	Where the ARP cannot access data in sufficient time to enable it to fulfil its obligations as ARP, it shall request from the BRP (Supplier) or other appropriate party that the access to the data is required forthwith.	Must have	Operations	ARP1 to ARP4	Functional	
ARP3.14	ARP notifies MDS following exception notification	I/O Interface	Output Interface	The ARP must provide missing or revised data to the MDS following the MDS notification of exceptions	Must have	Operations	ARP1 to 4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.15	ARP allows Registration data refresh	I/O Interface	Input Interface	The Registration Service must notify access to a complete or partial replacement of all the data (metering system registration and standing data) that relates to the ARP.	Could have	Operations	ARP5	Functional	This requirement for full registration data refresh might not be required if the future system architecture is not file based i.e. the MDS could have real time access to the registration data.
ARP3.16	ARP interfaces with Metering Service (Advanced) (MSA)	I/O Interface	Input /Output Interface	The ARP must be able to access information from and notify data to the MSA. E.g. Meter Technical Details, Meter investigation requests and to undertake proving tests	Must have	Operations	ARP2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP3.17	ARP receives Notification of [appointment/de-appointment]	I/O Interface	Input/ Output Interface	The ARP must be able to access Notifications of [Appointments and De-appointments] to MPANs by Balancing Responsible Party (Supplier) (registration service?)	Must have	Operations	ARP1 to ARP8	Functional	
ARP3.18	ARP accepts Notification of appointment	I/O Interface	Output Interface	The ARP must be able to accept [appointment/de-appointment] to supplier (registration service?)	Must have	Operations	ARP1 to ARP8	Functional	
Data Marshalling									
ARP4.1	ARP validates Registration data against Market Standing data	Data Marshalling	Validation	The ARP must validate Registration Data and Standing Data accessed from the Registration Services against the Market Standing data.	Must have	Operations	ARP5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP4.2	ARP rejects invalid data.	Data Marshalling	Validation	The ARP must reject the data that fails validation (pending re-processing) and the rejection, with reason, must be reported to the ARP so that the inconsistency can be investigated. An error report, which includes an explanation of why the data failed validation, must be sent back to the provider.	Must have	Operations	ARP5	Functional	
ARP4.3	ARP process valid data.	Data Marshalling	Validation	The ARP must continue processing of other unrelated data when partial data is rejected following validation.	Must have	Operations	ARP5	Functional	
ARP4.4	ARP reprocesses Registration data.	Data Marshalling	Validation	The ARP must be able to initiate the re-processing of any Registration Service data for any data that has been rejected.	Must have	Operations	ARP5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Metering Activities									
ARP5.1	ARP investigates inconsistencies	Metering Activities	Investigation	When the ARP is notified or aware of inconsistencies relating to an SVA MPAN to which it is the registered service according to the Registration System the ARP will investigate and take action to resolve the inconsistencies.	Must have	Operations	ARP6	Functional	
ARP5.2	ARP re-processes data when available.	Metering Activities	Investigation	Where meter data is retrieved following resolution of metering or communications issues the ARP must be able to re-process and distribute to the appropriate parties.	Must have	Operations	ARP6	Functional	
ARP5.3	ARP Metering System Investigation process	Metering Activities	Investigation	Where SVA MPAN faults require a site visit the ARP must notify the MSA requesting a Metering System investigation. The BRP (Supplier), ARP shall be kept informed of progress by the MSA until the fault is resolved.	Must have	Operations	ARP6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP5.4	ARP send corrected data following fault resolution	Metering Activities	Investigation	Following the resolution of a metering fault the ARP must be able to send corrected SP level consumption data to appropriate parties.	Must have	Operations	ARP6	Functional	
ARP5.5	ARP proves SVA Metering Systems with the MSA	Metering Activities	Proving	Following installation / reconfiguration, commissioning (or if previous proving test failed) and once SP level consumption data has been retrieved the ARP must prove an SVA MPAN, in conjunction with the Metering Service (Advanced), according to the defined methods set out in the BSC or BSC subsidiary documents.	Must have	Operations	ARP6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Retrieval									
ARP6.1	ARP schedules and retrieves data for Settlement purposes	Retrieval	Data Collection	The ARP shall schedule and retrieve SP level consumption data from SVA MPANs together with other appropriate data for validation purposes (including outstation data where appropriate) for all MPANs for which the ARP is responsible according to the Registration Service.	Must have	Operations	ARP1	Functional	
Processing									
ARP7.1	ARP validates data retrieved from SVA Metering Systems	Processing	Validation	The ARP must validate all data retrieved according to the validation rules set out within the BSC or BSC subsidiary documents and set from time to time by the BSC Panel.	Must have	Operations	ARP3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.2	ARP estimates where Settlement data is invalid or unavailable	Processing	Estimation	The ARP must be able to estimate SP level consumption data where data is missing or unavailable according to the estimation rules set out in the BSC or BSC subsidiary documents and set from time to time by the BSC Panel.	Must have	Operations	ARP4	Functional	
ARP7.3	ARP provide data for a disconnection event	Processing	Estimation	When a Demand Disconnection occurs as part of a Demand Control Event, the ARP must provide the MDS with a Settlement Period level estimate of the Demand Disconnection Volume for each impacted MPAN where they are the registered ARP.	Must have	Operations	ARP4	Functional	
ARP7.4	ARP uses default Load Shapes for estimation when no SP Level Data is available	Processing	Estimation	THE ARP must be able to use default load shapes held in ISD when no SP Level Data is available for an MPAN.	Must have	Operations	ARP4	Functional	Market Standing data to hold default load shapes for this purpose.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.5	ARP reports exception by validation failure type.	Processing	Exception Reporting	It must be possible to obtain a report, on request, of statistics of exceptions encountered.	Must have	Activity	ARP6	Functional	
ARP7.6	ARP processes data for all Settlement days for which it is responsible	Processing	Change of Processor	On change of ARP to a new ARP or a new PSS and irrespective of whether there is a Change of Measurement Class (CoMC) the ARP shall retain responsibility for data collected for all Settlement Days that the Service was registered for by the Supplier in the Registration Service.	Could have	Operations	ARP1 to ARP4	Functional	PSS = Processing Service (smart)
ARP7.7	ARP processes refresh data provided by the Registration Service.	Processing	Registration Data	The ARP must correctly process this data in its entirety following a refresh of Registration data. All pending (previously rejected) data from the Registration Service can then be removed and ignored.	Must have	Operations	ARP5	Functional	
ARP7.8	ARP reprocesses registration data following refresh	Processing	Registration Data	The ARP should reprocess any pending data from other Registration Services following a refresh.	Must have	Operations	ARP5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.9	ARP complies with the Shared Metering Arrangements	Processing	Shared Metering	The ARP must be able to undertake the role of the HHDC set out in the Shared Metering arrangements defined in [BSCP550]. The requirements include allocating the proportion of half hourly Active Energy data specified in an Allocation Schedule using one of four Methods: i. Percentage Method; ii. Capped Block Method; iii. Fixed Block Method; or iv. Multiple Fixed Block Method.	Could have	Operations	ARP1 to 4	Functional	Included hyperlink to avoid setting out all requirements in this spreadsheet.
ARP7.10	ARP acts on missing data or exceptions from MDS	Processing	Exceptions	The ARP must act upon exceptions reported by the MDS. The ARP must access missing data, estimated data or default data as appropriate	Must have	Operations	ARP1 to 4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.11	ARP Estimates of SP level data (general)	Processing	Estimation	The ARP shall ensure that SP level data will be estimated for any periods of missing or invalid data using a hierarchy of estimation techniques. The most accurate allowable technique must always be used. Estimated data will be labelled with the estimation technique used. Estimation must be re-calculated if better/newer data because available, e.g. a new load shape for the same settlement date.	Must have	Operations	ARP4	Functional	
ARP7.12	ARP estimates data where Main Meter data available but check Meter data missing.	Processing	Estimation Methods (Import)	Standard Method a. Data from main meter available but data from check meter is missing. Data from main Meter used providing that data is in line with previous load shape for same day of week and Settlement Periods. Data Flag 'A'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.13	ARP estimates data where Main Meter data missing and check Meter data available	Processing	Estimation Methods (Import)	Standard Method b. Data copied from the check Meter providing that data is in line with previous load shape for same day of week and Settlement Periods. Data Flag 'A' Note that a. and b. do not apply where main and check data is collected, but the data fails the main / check validation	Must have	Operations	ARP4	Functional	
ARP7.14	ARP estimates data where one Settlement Period missing or incorrect where a prime Meter register reading can be taken.	Processing	Estimation Methods (Import)	Standard Method c. Missing or incorrect Settlement Period data calculated from the prime Meter register advance and the other actual SP Level data recorded for the specific period of the calculation. Note that the prime Meter register advance will not correlate to Settlement Periods. Data Flag 'A'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.15	ARP estimates data where Two or three Settlement Periods missing or incorrect for prime Meter register or one Settlement Period missing or incorrect where a prime Meter register reading cannot be taken.	Processing	Estimation Methods (Import)	Standard Method d. Manual values may be entered which ensure a match with real data trends. Data Flag 'EA1'	Must have	Operations	ARP4	Functional	
ARP7.16	ARP estimates data where Meter advance available using actual data from previous or following month	Processing	Estimation Methods (Import)	Standard Method e(i). SP Level data constructed by using the average load shape based on actual Metered Data for the same day of week and Settlement Periods over the previous or following month taking into account weekends and public holidays. Data Flag 'EA2'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.17	ARP estimates data where Meter advance available using actual data from previous or following 2-3 weeks	Processing	Estimation Methods (Import)	Standard Method e(ii). SP Level data constructed by using the average load shape based on actual Metered Data for the same day of week and Settlement Periods over the previous or following 2-3 weeks taking into account weekends and public holidays. Data Flag 'EA3'	Must have	Operations	ARP4	Functional	
ARP7.18	ARP estimates data where Meter advance available using actual data from previous or following week	Processing	Estimation Methods (Import)	Standard Method e(iii). SP Level data constructed by using the average load shape based on actual Metered Data for the same day of week and Settlement Periods over the previous or following week taking into account weekends and public holidays. Data Flag 'EA4'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.19	ARP estimates data where Meter advance available using actual data from an alternative 4 week period	Processing	Estimation Methods (Import)	Standard Method e(iv). Where actual Metered Data is not available to satisfy the criteria for e(i), e(ii) or e(iii) above, the SP Level data shall be constructed using the average load shape based on actual data for the same day of week and Settlement Periods over the nearest 4 week period to that for which data estimation is required. Data Flag 'EA5'	Must have	Operations	ARP4	Functional	
ARP7.20	ARP estimates data where Meter advance available using data from MSA Interrogation Unit	Processing	Estimation Methods (Import)	Standard Method e(v) MSA. Data automatically retrieved by the MOA via an Interrogation Unit. Information to be supplied by the Supplier to the ARP in a format agreed by both parties. Data Flag 'A'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.21	ARP estimates data where Meter advance available using operational data or additional information	Processing	Estimation Methods (Import)	Standard Method e(v). Operational data or additional information will be used to construct the load shape supplied from another source (MSA, BRP (Supplier)). Information to be supplied by the Supplier to the ARP in a format agreed by both parties. Data Flag 'EA6'	Must have	Operations	ARP4	Functional	
ARP7.22	ARP estimates data where Meter advance unavailable using actual data from previous or following month	Processing	Estimation Methods (Import)	Standard Method f(i). The average energy values and load shape will be constructed based on actual Metered Data for the same day of week and Settlement Periods over the previous or following month taking into account weekends and public holidays. Data Flag 'EA7'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.23	ARP estimates data where Meter advance unavailable using actual data from previous or following 2-3 weeks	Processing	Estimation Methods (Import)	Standard Method f(ii). The average energy values and load shape will be constructed based on actual Metered Data for the same day of week and Settlement Periods over the previous or following 2-3 weeks taking into account weekends and public holidays. Data Flag 'EA8'	Must have	Operations	ARP4	Functional	
ARP7.24	ARP estimates data where Meter advance unavailable using actual data from previous or following week	Processing	Estimation Methods (Import)	Standard Method f(iii). The average energy values and load shape will be constructed based on actual Metered Data for the same day of week and Settlement Periods over the previous or following week taking into account weekends and public holidays. Data Flag 'EA8'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.25	ARP estimates data where Meter advance unavailable using actual data from an alternative 4 week period	Processing	Estimation Methods (Import)	Standard Method f(iv). Where actual data is not available to satisfy the criteria for f(i), f(ii) or f(iii) above, the average energy values and load shape will be constructed based on actual Metered Data for the same day of week and Settlement Periods over the nearest 4 week period to that for which data estimation is required. Data Flag 'EA9'	Must have	Operations	ARP4	Functional	
ARP7.26	ARP estimates data where Meter advance unavailable using operational data or additional information	Processing	Estimation Methods (Import)	Standard Method f(v). Operational data or additional information will be used to construct the load shape supplied from another source (MSA, BRP(Supplier)). Information to be supplied by the BRP (Supplier) to the ARP in a format agreed by both parties. Data Flag 'EA10'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.27	ARP estimates data where No Meter advance, historical data, operational data or additional information available.	Processing	Estimation Methods (Import)	Standard Method g. The ARP will use the supplier estimate of annual consumption provided by the Supplier together with the Default Load Shape Coefficients (DLSC) provided in Industry Standing Data (ISD), to perform the estimation of consumption. Data Flag 'EA11'	Must have	Operations	ARP4	Functional	
ARP7.28	ARP estimates data where No BRP (Supplier) estimate of annual consumption available	Processing	Estimation Methods (Import)	Standard Method h. Where the Supplier has not provided the data specified in standard method 'g', the ARP will use the DLSC, and with the Measurement Class specific SP level Default estimate of annual consumption provided in ISD, derive the SP level estimates for the missing Settlement Periods. Data Flag 'EA12'	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.29	Export Measurement Quantity with missing values where netting occurs at site.	Processing	Estimation Methods (Export)	Standard Method a. Export Measurement Quantity with missing values where netting occurs at site. The HH metered values for the period of missing data shall initially be set to zero, until such time that evidence of Export energy transfer is provided. Data Flag EAE1	Must have	Operations	ARP4	Functional	
ARP7.30	ARP estimates data where Main Meter data available but check Meter data missing.	Processing	Estimation Methods (Export)	Standard Method b. Main Meter data available but check Meter data missing. Data from main Meter used providing that data is in line with previously retrieved data for the site. Data Flag AAE1	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.31	ARP estimates data where Main Meter data missing and check Meter installed. Data copied from the check Meter providing that data is in line with previously retrieved data for the site.	Processing	Estimation Methods (Export)	Standard Method c. Main Meter data missing and check Meter installed. Data copied from the check Meter providing that data is in line with previously retrieved data for the site. Note that b. and c. do not apply where main and check data is collected but the data fails the main / check validation. Data Flag AAE2	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.32	ARP estimates data where One Settlement Period missing or incorrect where a prime Meter register reading can be taken. Missing or incorrect Settlement Period data calculated from the prime Meter register advance and the other actual HH data recorded for the specific period of the calculation. Note that the prime Meter register advance will not correlate to Settlement Periods. Data Flag AAE3	Processing	Estimation Methods (Export)	Standard Method d. One Settlement Period missing or incorrect where a prime Meter register reading can be taken. Missing or incorrect Settlement Period data calculated from the prime Meter register advance and the other actual HH data recorded for the specific period of the calculation. Note that the prime Meter register advance will not correlate to Settlement Periods. Data Flag AAE3	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.33	ARP estimates data where Main and check Meter data missing or incorrect.	Processing	Estimation Methods (Export)	Standard Method e. Main and check Meter data missing or incorrect. The HH metered values for the period of missing or invalid data shall be initially set to zero until generation can be calculated using f. or g. below. Data Flag EAE2	Must have	Operations	ARP4	Functional	
ARP7.34	ARP estimates data where Meter advance available Operational data or additional information will be used to construct the profile supplied from another source (MSA, BRP (Supplier)).	Processing	Estimation Methods (Export)	Standard Method f. Meter advance available Operational data or additional information will be used to construct the profile supplied from another source (MSA, BRP (Supplier)). Information to be supplied by the Supplier to the ARP in a format agreed by both parties. Data Flag EAE3except where the data is automatically retrieved by the MOA via an Interrogation Unit, in which case it will have an 'AAE1' flag.	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP7.35	ARP estimates data where Meter advance unavailable Operational data or additional information will be used to construct the profile supplied from another source (MSA, BRP (Supplier)).	Processing	Estimation Methods (Export)	Standard Method g. Meter advance unavailable Operational data or additional information will be used to construct the profile supplied from another source (MSA, BRP (Supplier)). Information to be supplied by the BRP (Supplier) to the ARP in a format agreed by both parties. Data Flag EAE3	Must have	Operations	ARP4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Service Specific Non-Functional Requirements									
ARP8.1	ARP maintains obligations to BRP	Service levels	SLA process and procedures	The ARP shall prepare and maintain plans that will enable the BRP's (Supplier's) obligations under the Code to continue to be met notwithstanding the expiry or termination of the ARP's appointment as the ARP. The plans, which the ARP undertakes to implement on any such expiry or termination, will include the transfer of data and other information to an incoming ARP registered by the BRP (Supplier).	Must have	Activity	ARP1 to ARP4	Non-Functional	
ARP8.2	ARP retains data for disputes	Audit	Data Retention	On expiry or termination of the ARP's registration period as ARP in respect of an SVA MPAN the outgoing ARP shall continue to retain data and support the [Trading Disputes process], for all Settlement Days that he was registered by the BRP (Supplier) in Registration System	Must have	Non-functional	ARP1 to ARP4	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
ARP8.3	ARP maintains MTDs	Standing Data	Maintenance	The ARP shall maintain and use records (as updated from time to time) of the Meter Technical Details (MTD), including energisation status accessed from the Metering Service (Advanced) (or UMSDS) for each meter and communication system comprising each SVA MPAN for which it is responsible, together with access and site location details in respect of all such SVA MPANs	Must have	Activity	ARP2	Non-Functional	These requirements need be listed out in final requirements. Reference to UMSDS may not be required.

Smart Data Services (SDS)

There are three Services defined under the Smart Data Services (SDS):

i) Meter Data Retrieval Service (smart);

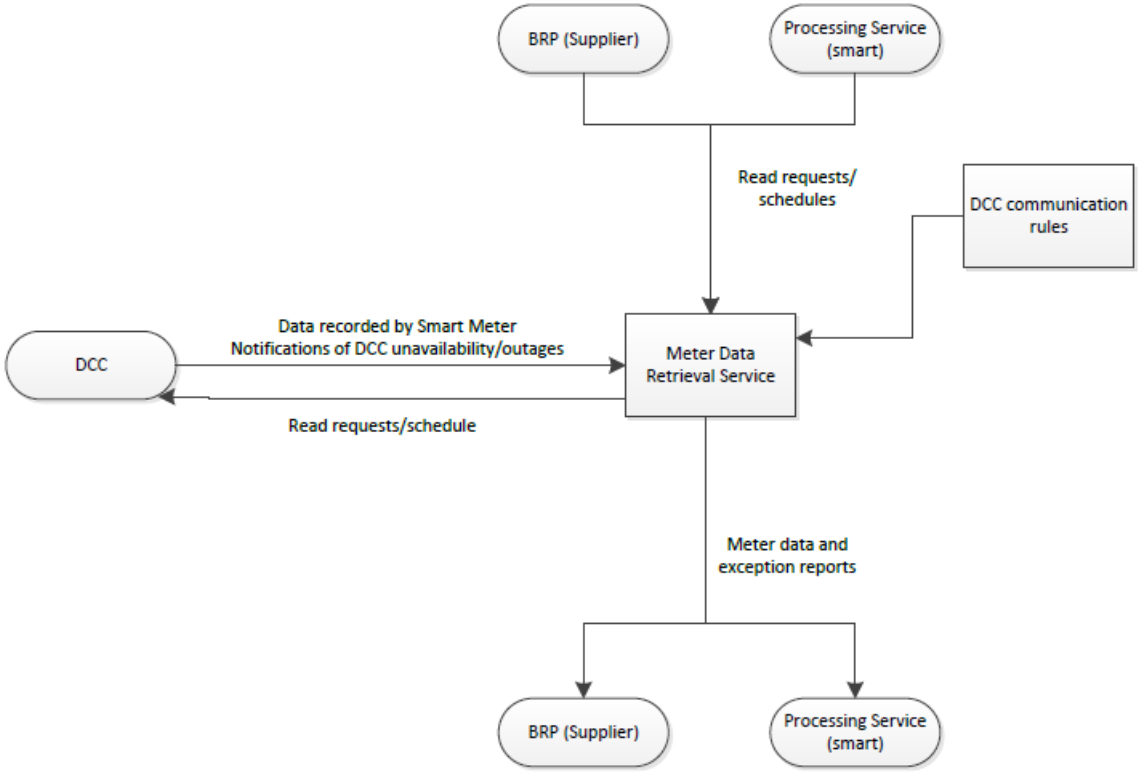
ii) Meter Reading Service (non-smart); and

iii) Processing Service (smart).

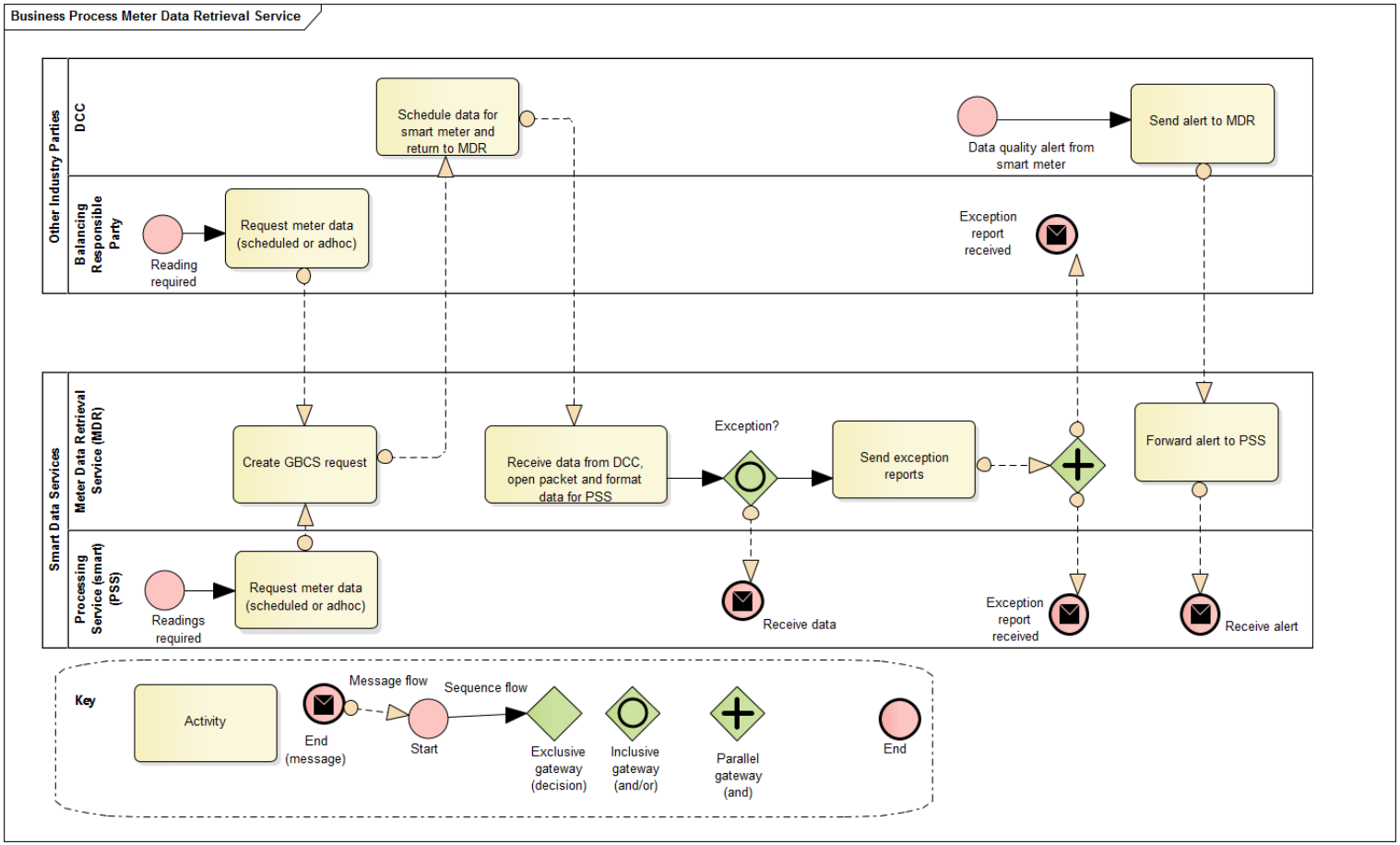
The SDS Services may be provided by the BRP or by commercial Services to the BRP. The TOM does not seek to identify any commercial arrangements that a BRP may wish to develop in delivery of the SDS Service.

1. Metering Data Retrieval Service (MDR)

The Meter Data Retrieval (MDR) Service is the Service that submits Service Requests via the Data and Communications Company (DCC). The Service Request type and schedule are provided by the Processing Service (PSS) for each Metering Point Administration Number (MPAN) for which the PSS is responsible. The MDR will be required to accede to appropriate industry Codes such as the Smart Energy Code (SEC) to fulfil its responsibilities. The MDR will have read-only access to the smart Meter data and will not be able to configure the meter (for example for tariff related information).



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

MDR1 Retrieving the Active Import and Active Export data log (Settlement Period level) data from smart Meters where required for Settlement. This retrieval will be achieved via the Data and Communications Company service;

MDR2 Retrieving Register Readings for Active Import Registers and the Active Export Register and Meter configuration data from smart Meters where required for Settlement. This retrieval communication method will be achieved via the Data and Communications Company service; and

MDR3 Providing access to the retrieved data to the Processing Service for smart and non-smart Metering systems.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
MDR1.1	Adherence to Industry Codes	Governance	Code Compliance	The MDR must comply with all relevant Industry Codes and implement changes to the Meter Data Retrieval as required by Modifications to the Codes.	Must have	Governance	Non-functional	Non-functional	Codes including; SEC, REC, MRA, BSC, DCUSA
General									
MDR2.1	Standing Data for Meter Data Retrieval (MDR) Services	General	Service Design	The MDR must hold and maintain the standing data required to carry out Meter Data Retrieval	Must have	Service Design	MDR1 - 3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDR2.2	Service data for Meter Data Retrieval (MDR) Services	General	Service Design	The MDR must hold and maintain the details of all services (meter types, geography, requests and requests in progress) it supports.	Must have	Service Design	MDR1 - 3	Functional	
MDR2.3	Meter Data Retrieval (MDR) Services processes communications set out in GBCS	General	Service Design	The MDR must comply with obligations on Users for providing and receiving smart metering communications as specified in the SEC	Must have	Service Design	MDR1 - 3	Functional	Note: The service will need to be able to accommodate concurrent versions of SEC GBCS.
MDR2.4	Meter Data Retrieval (MDR) Services uses a qualified system	General	Service Design	The MDR must use BSC Qualified system and processes [so approved in accordance with BSCP537] in carrying out the collection of data from VAS Metering Equipment.	Must have	Service Design	MDR1 - 3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Interfaces									
MSR3.1	Meter Data Retrieval (MDR) Interfaces with Processing Services (PSS)	I/O Interfaces - Internal	Input/output Interface	The MDR must have an interface to access from or notify data to the PSS. Data passed across this interface will be as specified in the SEC, BSC & MRA respectively.	Must have	Operations	MDR1 - 3	Functional	Data formats will need to be specified and stored.
MDR3.2	Meter Data Retrieval (MDR) provides data quality alerts to the Processing Services (PSS)	I/O Interfaces - Internal	Output Interface	The MDR must be able to provide data quality alerts to the PSS.	Must have	Operations	MDR1 - 3	Functional	
MDR3.3	Meter Data Retrieval (MDR) Interfaces with Smart Metering Service (MSS)	I/O Interfaces - External	Input/output Interface	The MDR must have an interface to access from or notify data to the MSS. Data passed across this interface will be as specified in the SEC, BSC & MRA respectively.	Could have	Operations	MDR1 - 3	Functional	This would allow the option to retrieve data before meter removal. The PSS could schedule this request.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDR3.4	Meter Data Retrieval (MDR) Interfaces with BRP (Supplier)	I/O Interfaces - External	Input/output Interface	The MDR must have an interface to access from or notify data to the BRP (Supplier). Data passed across this interface will be as specified in the SEC, BSC & MRA respectively.	Could have	Operations	MDR1 - 3	Functional	Only where circumstances allow, may not be in all cases.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Processing									
MDR4.1	Meter Data Retrieval (MDR) Service actions request for data from the requested smart Metering System	Processing	Data Processing	The MDR must action the request to obtain data from each Smart Metering in the frequency defined by the Processing Service.	Must have	Operations	MDR1 - 2	Functional	The Processing Service is assumed to know what is required (SP-level data or RR) and when. This service will apply for on-demand and scheduled readings - and for the request of missing readings. This will be informed by the 'Smart Meter Data for Settlements' consents frequency confirmed by the Supplier; as proposed in the consultation this might be mandated HH for Micro Business and agreed frequency by the customer.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDR4.2	MDR opens and formats Service Request data for provision to PSS	Processing	Data Processing	The MDR must format the data contained in the data request adding other data required by the PSS. E.g. mapping the GUID to the MPAN information.	Must have	Operations	MDR1 - 2	Functional	GUID = Globally Unique Identifier. Need to get the MPAN-to-GUID mapping from the DCC
MDR4.3	Meter Data Retrieval (MDR) Service notifies the requested data to the Processing Service	Processing	Data Processing	The MDR must notify the data to the PSS according to the schedule requested by the PSS.	Must have	Operations	MDR3	Functional	
MDR4.4	Meter Data Retrieval (MDR) Service error handling activities	Processing	Data Processing	The MDR must investigate and determine appropriate next action.	Must have	Operations	MDR3	Functional	PSS resolves issues retrieving data by liaising with the supplier. What issues does MDR investigate?

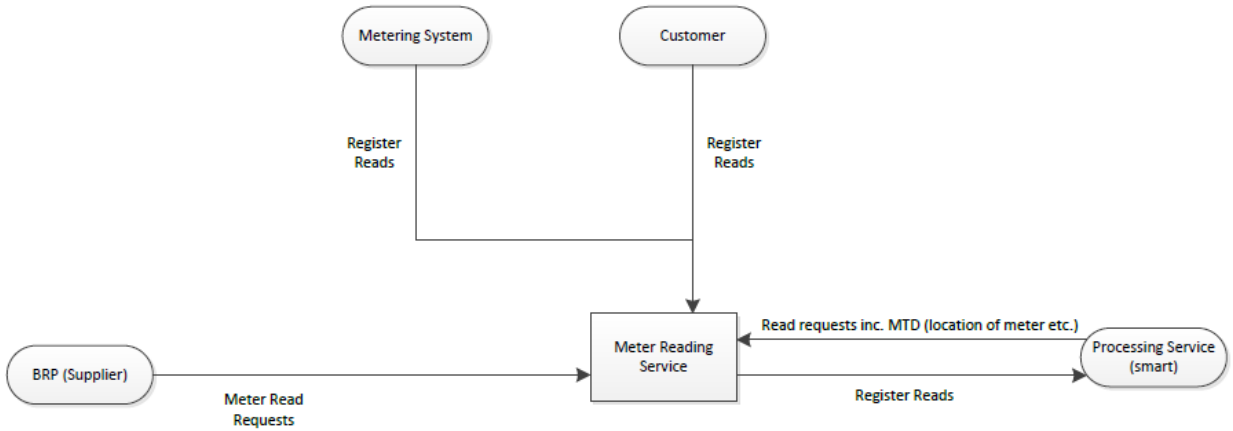
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Reporting									
MDR5.1	Meter Data Retrieval (MDR) Service will report Exceptions	Reporting	Exception Reporting	The MDR must report Exceptions where data cannot be obtained from the Smart Metering to pass to the PSS.	Must have	Activity	MDR3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Service Specific Non-Functional									
Meter Data Retrieval (MDR) Services retain data for disputes	Disputes	Data Retention	On expiry or termination of the MDR Service notify (SDS), they must continue to retain data and support the [Trading Disputes process] for the period for which they were responsible as MDR SDS.	could have	Non-functional	Non-functional	Non-functional		Meter Data Retrieval (MDR) Services retains data for disputes

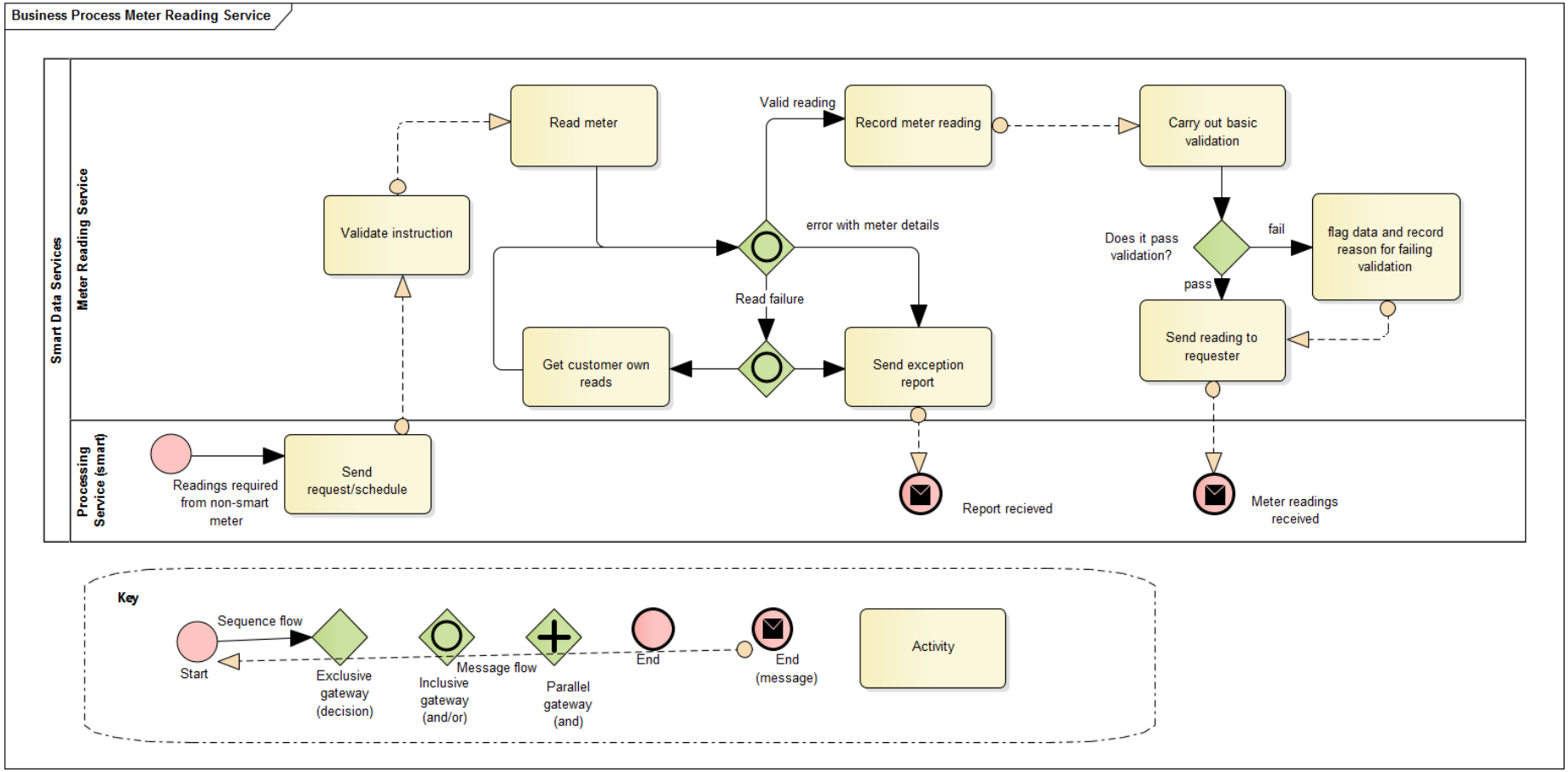
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Meter Data Retrieval (MDR) Services data retention	Audit	Data Retention	The MDR Services must retain data for up to [x] year after the request day.	Could have	Non-functional	Non-functional	Non-functional		Meter Data Retrieval (MDR) Services data retention

2. Metering Reading Service (MRS)

The Meter Reading Service (MRS) is the service that provides Register Readings (RRs) for Meters where Settlement Period Level data is not available or cannot be accessed from the Meter. The MRS will operate on a transactional basis providing RRs to the Processing Service (Smart) (PSS). The MRS can obtain RRs by making a physical site visit or has the optionality to provide a service to collect remote readings where appropriate communications are available. The MRS may also provide the Service to other Parties (such as the BRP (Supplier) on a commercially agreed basis.



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

MR1 Obtaining Register Readings from Meters either via a site visit or remotely as applicable;

MR2 Providing Register Readings to the PSS.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
MRS1.1	Adherence to Industry Codes	Governance	Code Compliance	The MRS shall comply with all relevant Industry Codes and implement changes to the MRS as required by Modifications to the Codes.	Must have	Governance	NA	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Interfaces									
MRS2.1	MRS interfaces with Processing Services (Smart) (PSS)	I/O Interface - Internal	Input/ Output Interface	The MRS must have an interface to access from or notify data to the Processing Service(s).	Must have	Service Design	MR1	Functional	The PSS shall have a transactional arrangement for requesting Meter Readings to get all pertinent data to read the Meter: .e.g. Request to include following details; Requester, Processing Service, MTDs Meter Serial Number, Address, Site Contact, Site Requirements, Meter Location, Read Frequency (if remote) read tolerance.
MRS2.2	MRS interfaces with BRP (Supplier)	I/O Interface - External	Input/ Output Interface	The MRS must have an interface to access from or notify data to the BRP [Supplier].	Could have	Service Design	MR1	Functional	Service can offer services to other parties on a commercial basis.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Operations									
MRS3.1	MRS rejects Service requests	Operations	Meter Data Collection	MRS must have the facility to reject request for read if MRS doesn't hold commercial relationship with Requester.	Must have	Operations	MR1	Functional	
MRS3.2	MRS validates and records request for Register Readings	Operations	Validation	The MRS shall validate and record sufficient details, received from the PSS or BRP [Supplier], of transactional request for Register Readings in respect of a Metering System to enable the MRS to perform its functions as MRS.	Must have	Activity	MR1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MRS3.3	MRS receives remote Meter reading Details	Operations	Remote Register Readings	MRS must have facility to receive details for remote collection (if required)	Must have	Activity	MR1	Functional	Communications Address, Outstation L2 PW/UN, Outstation PIN, Channel Number N.b. MRS has choice of whether to notify remote service or not and could read relevant Metering System physically instead
MRS3.4	MRS ability to read either physically or Remotely	Operations	Meter Data Collection	The MRS must retrieve Register Readings for requested Metering System either physically or remotely. Where retrieved remotely, continue in line with frequency agreed with Requester	Must have	Activity	MR1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MRS3.5	MRS Core Meter Reading Activities	Operations	Meter Data Collection	The MRS shall record all meter readings collected, together with the time that the reading occurs to the nearest [minute] or received by it for each Metering System for which it is responsible. Such meter readings may be:- • collected as a regular schedule read; • collected when a meter reading is obtained outside the collection schedule agreed by its associated BRP [Supplier] or Processing Service; • received when Customer own meter readings are notified directly to the MRS e.g. in response to a no access card.	Must have	Activity	MR1	Functional	

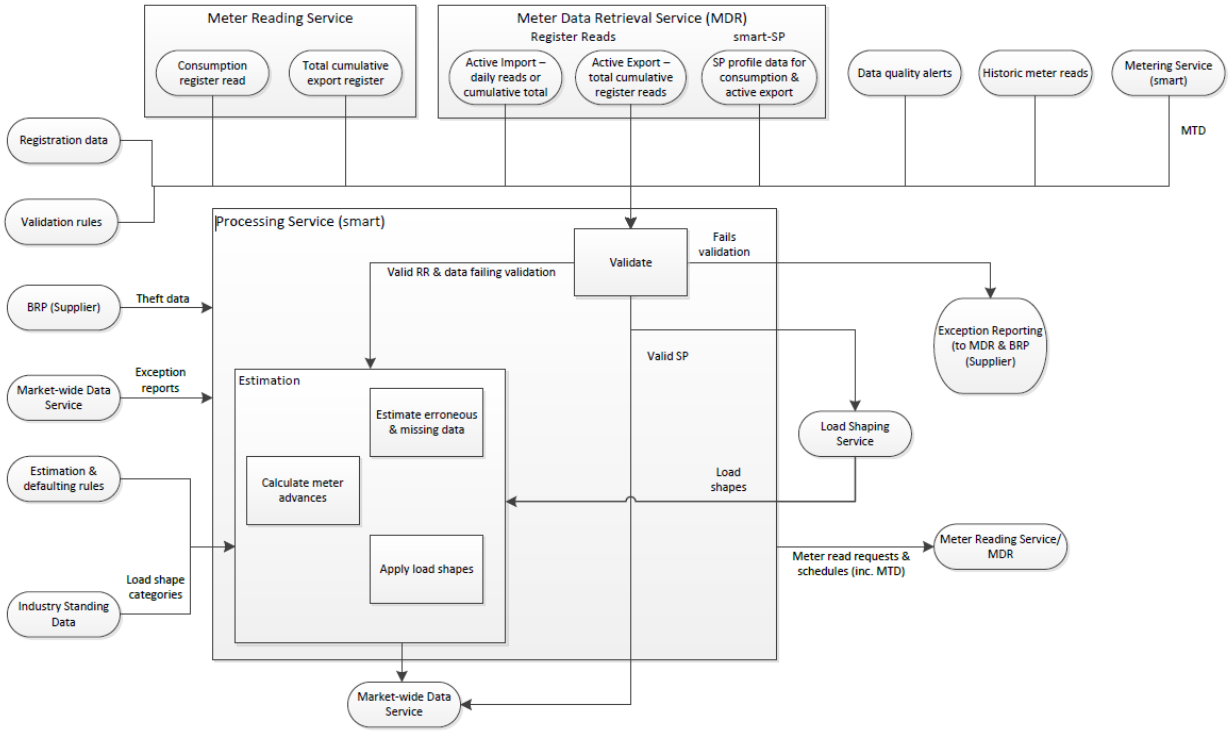
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MRS3.6	MRS records non-reads	Operations	Meter Data Collection	The MRS shall record events where the MRS has not been able to collect Register Readings including detail of why they could not be collected. E.g. if site has been demolished.	Must have	Activity	MR1	Functional	
MRS3.7	MRS Targeted Reading Activities	Operations	Meter Data Collection	The MRS shall capture any details at site that differ from the request. E.g. different Meter Serial Number or energisation status.	Must have	Activity	MR1	Functional	
MRS3.8	MRS validate readings	Operations	Data Validation	The MRS shall record and flag suspect reads that fail validation checks. E.g. if outside expected tolerance.	Must have	Activity	MR1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MRS3.9	MRS prepares exception report	Operations	Metering System Checks	When carrying out an instruction to obtain Meter Reading, the MRS shall make such checks as are required, shall prepare an exception report where those checks indicate abnormality and shall pass relevant information to its associated PSS and/or the BRP [Supplier].	Must have	Activity	MR1	Functional	

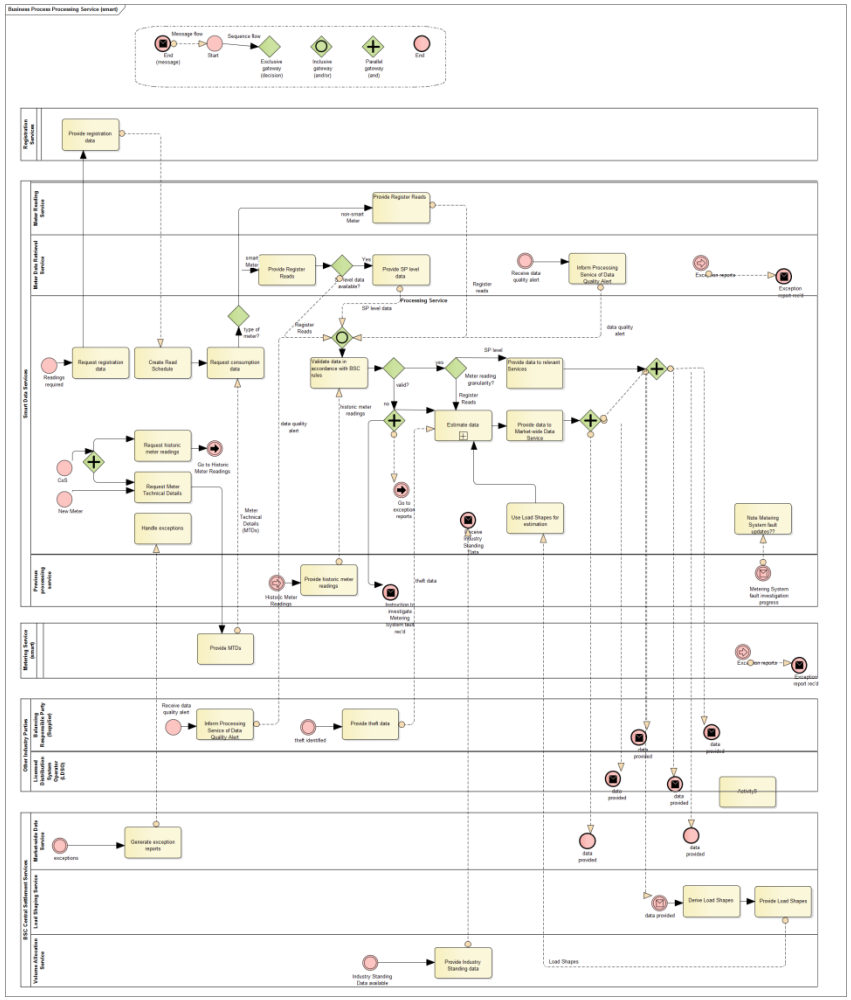
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MRS3.10	MRS records suspected Faults	Operations	Metering System Checks	The MRS shall record details of the meter readings which are considered to be invalid as a result of suspected faults in a Metering System for which it is responsible and of each Metering System for which it is responsible with a fault which could affect its ability to collect data or could affect the accuracy of data for the purposes of Settlement.	Should have	Activity	MR1	Functional	
MRS3.11	MRS notifies Meter Reading and other relevant data to Processing Service following request.	Operations	Data Provision	The MRS must notify the Meter Readings to the requesting PSS in a timely manner once [validation] is complete.	Must have	Activity	MR2	Functional	

3. Processing Service (smart) (PSS)

The Processing Service (Smart) is responsible for obtaining, validating and estimating Settlement Period level data from smart and non-smart Meters. It receives data from the Meter Data Retrieval (MDR) Service (smart Meters) and the Meter Reading Service (MRS) (non-smart Meters) then passes validated Settlement Period (SP) level data to the Load Shaping Service (LSS) and the Market-wide Data Service (MDS).



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

PSS1	Accessing the Active Import and Active Export data log (Settlement Period level) data for smart Meters from the Retrieval Service for smart Meters where required for Settlement;
PSS2	Accessing Time-of-Use Register Readings for Active Import Registers and the Active Export Register and Meter configuration data for smart Meters from the Retrieval Service for smart Meters where required for Settlement;
PSS3	Accessing Meter Register Read data and Meter Technical Details for non-smart Meters from the Meter Reading Service according to a defined reading schedule from the Retrieval Service for smart Meters where required for Settlement;
PSS4	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;
PSS5	Estimating or defaulting Settlement Period level consumption data for Active Import and Active Export where such data fails validation or is missing or unavailable;
PSS6	Calculating Meter Advances for Register Read data;
PSS7	Conversion of Register Readings into Settlement Period level data using information on Meter configuration and data provided by the Load Shaping Service;
PSS8	Estimating Settlement Period level data for Metering Systems with Register Readings where such data fails validation or is missing or unavailable;
PSS9	Maintenance of standing data as appropriate;
PSS10	Exception reporting for any Metering Systems where data is deemed to be invalid or where access or issues with Metering Systems are identified;
PSS11	Providing access to validated Settlement Period level data to the Aggregation Service(s); and
PSS12	Providing access to validated Settlement Period level data to any other parties as appropriate.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
PSS1.1	Adherence to Industry Codes	Governance	Code Compliance	The PSS shall comply with all relevant Industry Codes and implement changes to the PSS required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	Possibly need to be more explicitly about which Codes!
General									
PSS2.1	PSS uses a qualified system	General	Service Design	The PSS must use Qualified systems and processes [so approved in accordance with [BSCP537] in carrying out the collection of data from VAS Metering Equipment.	Must have	Service Design	General	Non-Functional	
PSS2.2	PSS flexible to changes in Settlement Period Definition	General	Service Design	The PSS must be designed flexibly to accommodate changes in the definition of a Settlement Period.	Must have	Service Design	General	Data Requirement	In case of 15 minute Settlement Period in the future

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS2.3	PSS able to convert data from Watt hours to kilo-Watt hours	General	Service Design	The PSS must be able to convert SP level data from Watt hours to kilo-Watt Hours.	Must have	Service Design	General	Data Requirement	Profile data log holds data in Wh.
PSS2.4	PSS processes consumption data in kWh and UTC	General	Service Design	The PSS must be able to process SP level data in Coordinated Universal Time (UTC) and in kilo-Watt hours (kWh) to three decimal places.	Must have	Service Design	General	Data Requirement	SP data is in Wh. PSS convert this to kWh.
PSS2.5	PSS Outputs consumption data in kWh	General	Service Design	The PSS must be able to output SP level consumption data in Coordinated Universal Time (UTC) and in kilo-Watt hours (kWh) to three decimal places.	Must have	Service Design	General	Data Requirement	Included UTC for network charging or for BRP (Supplier) systems

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS2.6	PSS collects and notifies SP level data for Network Charging	General	Service Design	The PSS must have the capability to collect and record all Meter Period Value data for Reactive Power (with associated alarms), cumulative readings and maximum demand readings by Meter register that are required for the LDSO, and must use this capability to collect (and report to the BRP (Supplier) and LDSO) Meter Period Value data for Reactive Power for all those VAS MS for which it is responsible and for which the Meter Technical Details indicate that the Meter is configured to record such data.	Could have	Service Design	General	Functional	It is assumed reactive power will not be needed to be collected for this Market Segment. Kept due to potential TCR requirements?
PSS2.7	PSS collects and process data (other parties)	General	Service Design	The PSS's must be capable of receiving, processing and notifying all required data accurately and within the timescales agreed by the BSC Panel, BRPs (Suppliers) and LDSOs.	Must have	Service Design	General	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS2.8	PSS supports processed and unprocessed data	General	Service Design	The PSS must be capable of accommodating metered data (processed and unprocessed) and associated standing data for all VAS MPANs for which the PSS is registered for the retention periods specified.	Must have	Service Design	General	Functional	
PSS2.9	PSS allows for growth in number of MPANs registered.	General	Service Design	The PSS must allow for growth in the number of MPANs that can be catered for by the Service.	Must have	Service Design	General	Functional	
PSS2.10	PSS notify access to appropriate data to other parties	General	Service Design	The PSS must only notify BRPs (Suppliers) with access to data relating to VAS Metering Systems against which the BRPs (Suppliers) are contracted with the PSS, and must ensure that LDSOs are not notified with data relating to VAS Metering Systems supplied by the distribution networks of other LDSOs.	Could have	Service Design	Business Rule	Business Rule	not sure if LDSO will need this at meter level from this Service

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS2.11	PSS stores Meter Reading schedules and Service Request details	General	Service Design	The PSS must be able to derive and store Meter Reading Schedules and Service request details for all Metering Systems for which it is responsible	Must have	Service Design	PSS1 and 2	Functional	
PSS2.12	PSS validates data for all meter points notified by the MDR Service	General	Validation	The PSS must validate all data retrieved according to the validation rules set out within the BSC or BSC subsidiary documents and set from time to time by the BSC Panel.	Must have	Operations	PSS4	Functional	
PSS2.13	PSS estimates where Settlement data is invalid or unavailable	General	Estimation	The PSS must estimate SP level consumption data where data is missing or unavailable according to the estimation rules set out in the BSC or BSC subsidiary documents and set from time to time by the BSC Panel.	Must have	Operations	PSS5	Functional	
PSS2.14	The PSS will enter default energy values into settlement where required	General	Estimation	The PSS must enter default consumption data into settlement periods where they do not have actual data or estimated data in relation to the MPAN in accordance with the rules set out in the BSC.	Must have	Operations	PSS5	Functional	Should be rare but there could be issues on registration or changing or PSS where default data is required.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS2.15	PSS allows manual entry of Market Standing Data	General	Service Design	PSS must be able to access/use Market Standing Data	Must have	Operations	PSS9	Functional	
Interfaces									
PSS3.1	PSS receives Notification of [appointment/de-appointment]	I/O Interface - External	Input Interface	The PSS must be able to access Notifications of [Appointments and De-appointments] to MPANs by Balancing Responsible Party (Supplier) (registration service?)	Must have	Operations	PSS1 -12	Functional	
PSS3.2	PSS accepts Notification of appointment	I/O Interface - External	Output Interface	The PSS must be able to accept [appointment/de-appointment] to supplier (registration service?)	Must have	Operations	PSS1 -12	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.3	The PSS must be able to schedule Service Requests and receive requested data from the Meter Data Retrieval Service	I/O Interface - Internal	Output Interface	The PSS must be able to notify a schedule Service Requests and exception reports to the MDR Service.	Must have	Operations	PSS1 and 2	Functional	The schedule must specify the MPAN, data retrieval schedule and Service request types to be scheduled.
PSS3.4	The PSS receives data from scheduled Service Requests from the Meter Data Retrieval Service	I/O Interface - Internal	Input Interface	The PSS must be able to access data, resulting from scheduled Service Requests (and ad-hoc requests), from the MDR Service. This is regardless of whether the Service Request is initiated by the PSS or the BRP (Supplier).	Must have	Operations	PSS1 and 2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.5	The PSS receives data quality alerts from the MDR Service	I/O Interface - Internal	Input Interface	The PSS must be able to receive and act upon data quality alerts from the MDR Service. The PSS shall be notified of any alerts or alarm for meters that include the meter time is incorrect or the meter time has been corrected.	Must have	Operations	PSS1 and 2	Functional	
PSS3.6	The PSS receives data quality alerts from other authorised parties	I/O Interface - External	Input Interface	The PSS must be able to receive and act upon data quality alerts from the other parties (e.g. MSS or BRP (Supplier))	Must have	Operations	PSS1 and 2	Functional	This may include issue with the Meter Clock.
PSS3.7	PSS Interfaces with Metering Service(s)	I/O Interface - External	Input Interface	The PSS must be able to interface with the Metering Service(s) to access Meter Technical Details and other data as required. The Metering Service(s) will provide updates on Meter Fault Investigations.	Must have	Operations	PSS3	Functional	Other data: energisation/ de-energisation and legitimate zeros readings? Data requirements, formats and frequency to be defined for implementation.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.8	The PSS request transaction for Register Reads with the MRS	I/O Interface - Internal	Output Interface	The PSS must be able to request Register Readings from the MRS on a transactional basis.	Must have	Operations	PSS3	Functional	The Advanced Metering Service (MSA) will provide MTDs and services to Advanced Meters in the non-smart Market Segment.
PSS3.9	The PSS must be able to access meter readings from the MRS	I/O Interface - Internal	Input Interface	The PSS must be able to access meter Reading data from the MRS.	Must have	Operations	PSS3	Functional	
PSS3.10	PSS access to Registration Data	I/O Interface - External	Input Interface	PSS must have an interface to access registration data from the Registration Service.	Must have	Operations	PSS4 to 8	Functional	
PSS3.11	PSS allows Registration data refresh	I/O Interface - External	Input Interface	As required the Registration Service(s) must notify access to a complete or partial replacement of all the data (metering registration and standing data) that relates to the PSS.	Must have	Operations	PSS4 to 8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.12	PSS processes all registration data provided	I/O Interface - External	Input Interface	The PSS must receive and correctly process registration data in its entirety. All pending (previously rejected) data from this registration Service can then be removed and ignored.	Must have	Operations	PSS4 to 8	Functional	Not an interface
PSS3.13	PSS Acknowledgment (Registration data)	I/O Interface - External	Output Interface	The PSS must provide an acknowledgement of receipt of access to registration data to the Registration Service as appropriate.	Could have	Operations	PSS4 to 8	Functional	Maybe not required but similar defined for MDS
PSS3.14	PSS processes pending data from the Registration Services	I/O Interface - External	Input Interface	Following refresh of data from a Registration Service, the PSS should reprocess any pending data from other Registration Services.	Must have	Operations	PSS4 to 8	Functional	Not an interface
PSS3.15	PSS accesses consumption data from the BRP following detection of theft from RPU service	I/O Interface - External	Input Interface	The PSS must be able to access consumption data from the BRP following detection of theft from RPU service	Must have	Operations	PSS4 to 8	Functional	RPU = Revenue Protection Unit

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.16	PSS notify corrected data following fault resolution	I/O Interface - External	Output Interface	Following the resolution of a metering fault the PSS must be able to notify corrected SP level consumption data to appropriate parties.	Must have	Operations	PSS12	Functional	
PSS3.17	PSS access to Industry Standing data	I/O Interface - External	Input Interface	The PSS must be able to access ISD from the VAS.	Must have	Operations	PSS9	Functional	
PSS3.18	PSS notifies SP level consumption data to the Load Shaping Service (LSS)	I/O Interface - External	Output Interface	The PSS must be able to notify validated actual SP level data to the LSS. SP level data to be provided in kWh to three decimal places and Coordinated Universal Times (UTC).	Must have	Operations	PSS7	Functional	See LSS requirements for more detail. It is likely that the LSS will require the data as soon as it has passed validation to meet the Settlement Timetable.
PSS3.19	PSS access to data from the LSS	I/O Interface - External	Input Interface	The PSS must be able to access data from the LSS e.g. Load Shape data	Must have	Operations	PSS7	Functional	
PSS3.20	PSS notifies data to the BRP (Supplier)	I/O Interface - External	Output Interface	Where appropriate the PSS must be able to notify access to SP Level consumption data and exception reports to the BRP (Supplier)	Could have	Operations	PSS12	Functional	Could be provided by MDS or VAS.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.21	PSS notifies access to SP level consumption data to Licenced Distribution Operators	I/O Interface - External	Output Interface	The PSS must be able to notify access to SP level consumption data to the Licenced Distribution Operators for network charging.	Could have	Operations	PSS12	Functional	May not need this as can be notified by MDS or not required at meter level under TCR. Perhaps LDSO should only get aggregated data from MDS for domestic customers (data privacy)
PSS3.22	PSS submits data to or receives data from MDS	I/O Interface - External	Output Interface	The PSS must notify access to SP Level consumption data, in Coordinated Universal Time (UTC) in kWh to three decimal places, to the MDS for each MPAN for which the Service is responsible. Each set of data must relate to a single MPAN for a Settlement Day.	Must have	Operations	PSS11	Functional	
PSS3.23	PSS notifies MDS following exception notification	I/O Interface - External	Output Interface	The PSS must notify (missing or) revised data to the MDS following the MDS notification of exceptions	Must have	Operations	PSS11	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS3.24	PSS receive MDS exceptions	I/O Interface - External	Input Interface	The PSS must be able to access exception or missing data report from the MDS.	Must have	Operations	PSS11	Functional	
PSS3.25	PSS receive acknowledgment (access to SP level data)	I/O Interface - External	Input Interface	The PSS must be able to access acknowledgement of access to SP Level Consumption Data' from the MDS	Must have	Operations	PSS11	Functional	Do we need to access acknowledgements of outgoing communications?
PSS3.26	PSS interfaces with other PSS	I/O Interface - External	Input Interface	The PSS must be able to access historical Meter data from other PSS where appropriate.	Must have	Operations	PSS5	Functional	May be required on Change of Supplier (CoS) or change of PSS for non-smart Meters.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Data Marshalling									
PSP4.1	PSS validates Registration data against Market Standing data	Data Marshalling	Validation	Registration Data and Standing Data accessed from the Registration Services must be validated against the Market Standing data. If an inconsistency is identified, the PSS must reject the instruction failing validation. The rejection, with reason, must be reported to the Registration Service so that the inconsistency can be investigated. Rejection of partial data does not preclude processing of other unrelated data.	Could have	Operations	PSS4 to 8	Functional	
PSS4.2	PSS reprocesses Registration data.	Data Marshalling	Validation	The PSS must be able to initiate the re-processing of any Registration Service data for any data that has been rejected.	Must have	Operations	PSS4 to 8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS4.3	The PSS checks completeness of Consumption data	Data Marshalling	Validation	The PSS must validate the completeness of consumption data received i.e. that all data required for each MPAN has been notified according the Retrieval schedule. Where data is missing it should be reported to the MDR or MRS.	Could have	Operations	PSS4 to 8	Functional	
Metering Activities									
PSS5.1	PSS investigates inconsistencies	Metering Activities	Investigation	When the PSS is notified or aware of inconsistencies relating to a VAS MS to which it is the registered service according to the Registration the PSS must investigate and take action to resolve the inconsistencies.	Must have	Activity	PSS4	Functional	The PSS may need to liaise with the BRP (Supplier) or MDR or MSS to resolve the issue.
PSS5.2	PSS re-processes data when available.	Metering Activities	Investigation	Where meter data is retrieved following resolution of metering or communications issues the PSS must be able to re-process and distribute to the appropriate parties.	Must have	Activity	PSS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS5.3	PSS MS Investigation process	Metering Activities	Investigation	Where VAS MS faults require a site visit the PSS must notify the MSS requesting a Metering investigation. The BRP (Supplier), PSS must be kept informed of progress by the MSS until the fault is resolved.	Must have	Activity	PSS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Business Rules									
PSS6.1	BRP Requirements to have same MSS for sites with multiple MPANs	Operations	Business Rule	Where the same Metering Equipment (ME) is being utilised for the measurement of the Import and/or Export for more than one MPAN, the BRP(s) (Supplier(s)) must ensure that the same MSS is appointed for all of the MPANs involved to comply with the requirements of the BSC. These obligations must be fulfilled by mutual agreement between the BRPs (Suppliers) involved, except in the case of there being an Import BRP (Supplier) and an Export BRP (Supplier) where the obligation rests with the Export BRP (Supplier) to appoint the same agent(s) as the Import BRP (Supplier).	Must have	Business Rule	Business Rule	Business Rule	NOTE: This is a requirement on the Supplier, not the PSS
PSS6.2	The PSS activity for opted-out customers	Operations	Business Rule	The PSS must not schedule Service Requests for SP level data where the PSS is aware that the Consumer/ Prosumer has 'opted-out' of access to SP level data for Settlement Purposes	Could have	Business Rule	PSS1 and 2	Business Rule	Data Access Policy dependent requirement

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS6.3	PSS checks daily for changes in data access status or other changes impacting MDR schedules.	Operations	Business Rule	The PSS must operate a daily process to check whether any flags have changed, and whether there have been any other changes (e.g. De-Energisations) affecting the retrieval schedule.	Could have	Business Rule	PSS1 and 2	Business Rule	Data Access Policy dependent requirement
Standing data									
PSS7.1	PSS maintains MTDs	Standing Data	Maintenance	The PSS must maintain and use records (as updated from time to time) of the Meter Technical Details (MTD).	Must have	Activity	PSS3	Functional	
PSS7.2	PSS maintains MSD	Standing Data	Maintenance	The PSS must maintain and use records (as updated from time to time) of the Market Standing Data (MSD).	Must have	Activity	PSS9		

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Processing									
PSS8.1	The PSS will operate an escalation process with the MDR service when issues arise	Processing	General	The PSS must operate a process for escalating non responses and data issues following a request to the MDR service to ensure that issues impacting settlement accuracy are understood and resolved.	Must have	Operations	PSS1	Functional	
PSS8.2	PSS processes data for all Settlement days for which it is responsible	Processing	General	On change of PSS to a new PSS or a new [ARP] and irrespective of whether there is a Change of Measurement Class (CoMC), the PSS must retain responsibility for data collected for all Settlement Days that the Service was registered for by the BRP (Supplier) in the Registration Service.	Could have	Operations	General	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.3	PSS maintains schedules for MDR Service Requests	Processing	General	The PSS must maintain the schedule, for read requests to the MDR Service (for SP level consumption data and Register Readings), for all smart MPANs for which the PSS is responsible (according to the Registration Service). The schedules must be derived to comply with the appropriate settlement reconciliation timelines set out by the BSC.	Must have	Operations	PSS1	Functional	Need to understand the DCC capability and settlement timescales - i.e. is it one request per month for the previous month or one per day and what can the DCC cope with (does the market need to work together to schedule) Also depends on if the first settlement run with obligations is SF or R1 or some other format.
PSS8.4	PSS shall process requests to the MDR Service for register read and historic meter read data where appropriate.	Processing	General	The PSS must schedule requests with the MDR Service for RR and historic meter data where SP level consumption data is not available or fails validation for estimation purposes for all smart MPANs for which the PSS is responsible according to the Registration Service.	Must have	Operations	PSS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSP8.5	PSS shall process all data received from the MDR following a service request	Processing	General	The PSS must process all data accessed from the MDR for all smart MPANs for which the PSS is responsible according to the Registration Service.	Must have	Operations	PSS4 to 8	Functional	
PSS8.6	The PSS will replace estimated data with actual validated data where it becomes available	Processing	General	The PSS must replace and store estimated data with validated actual data when this becomes available following estimated periods in accordance with the rules set out in the BSC and settlement reconciliation timeframes.	Must have	Operations	PSS4 to 8	Functional	
PSS8.7	The PSS must be able to calculate Meter Advances across Settlement Registers for non-smart Meters	Processing	General	The PSS must be able to calculate Meter Advances across Settlement Registers for non-smart Meters using latest and previous Register Readings	Must have	Operations	PSS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.8	The PSS must be able to calculate Meter Advances from the Settlement Registers for smart Meters	Processing	General	The PSS must be able to calculate Meter Advances for smart Meters based on latest and previous Readings	Must have	Operations	PSS6	Functional	
PSS8.9	The PSS calculates a Daily Advance Estimate (DAE) from the Meter Advances for smart and non-smart Meters	Processing	General	The PSS must be able to calculate a Daily Advance Estimate (DAE), from the most recent calculated meter Advances, taking account of the length of the read period. The PSS must use all advances calculated from each retrieved meter readings when calculating the DAE.	Must have	Operations	PSS7	Functional	The DAE shall be the Meter Advance/ Number of data in Meter Advance Period. All advances must be used in the calculation e.g. if there were daily reads for 14 days there would be 14 meter advances calculated which should all be used in the calculation.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.10	The PSS normalises load shapes	Processing	General	The PSS must normalise load shapes according to the categorisation for each metering systems that a meter advance is to be applied using the Load shapes that match the Meter Advance Period	Must have	Operations	PSS7	Functional	Detailed calculations provided under Validation and Estimation requirements set out below.
PSS8.11	The PSS applies Meter Advances to normalised load shapes	Processing	General	The PSS must be able to apply the Meter Advances to the normalised load shapes according to the matching categorisation of the load shape to the categorisation to which the meter advance applies.	Must have	Operations	PSS7	Functional	For avoidance of doubt the normalised load shape is multiplied by the meter advance.
PSS8.12	PSS acts on missing data or exceptions from MDS	Processing	Exceptions	The PSS must act upon exceptions reported by the MDS. The PSS must access missing data, estimated data or default data as appropriate	Must have	Operations	PSS11	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.13	PSS validation requirements (General)	Processing	Validation	The PSS shall validate all Active Import and Active Export data and register read data before it is used for Settlement or estimation. The PSS shall replace all data with new data if more accurate data is received for while the data is not crystallised.	Must have	Operations	PSS4	Functional	
PSS8.14	PSS request access where not available	Processing	Validation	Where the PSS cannot access data in sufficient time to enable it to fulfil its obligations as PSS, it must request from the BRP (Supplier) or its agent that the access to the data is required forthwith.	Must have	Operations	General	Functional	
PSS8.15	PSS stores validated data	Processing	Validation	The PSS must store all data for the appropriate amount of time according the BSC for validation, estimation, and error resolution and audit purposes.	Must have	Operations	PSS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.16	The PSS will allocate an exception code where validation fails and initiate the estimation process.	Processing	Validation	The PSS must have a reason code assigned where validation fails and initiate the estimation process as to ensure that consumption data for all SPs is allocated into settlement as accurately as possible. .	Must have	Operations	PSS4 and 5	Functional	Process to move to the estimation process where failures occur and a clear validation failed reason for further investigation.
PSS8.17	PSS checks data is from expected source	Processing	Validation	The PSS shall validate that data has been received from (one of) the expected source(s).	Must have	Operations	PSS4	Functional	
PSS8.18	PSS checks data is for expected MPAN and Meter	Processing	Validation	The PSS shall validate that data has been received for the expected combination of MPAN and Meter	Must have	Operations	PSS4	Functional	
PSS8.19	PSS validates that data is for the correct time	Processing	Validation	The PSS must ensure where the meter time is more than [15 minutes] adrift the SP level data will be accepted but flagged as estimated, unless a time correction can be applied	Must have	Operations	PSS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.20	PSS validates data recognising any alarms and alerts	Processing	Validation	The PSS shall take account of any alarms or data quality alert when validating data	Must have	Operations	PSS4	Functional	
PSS8.21	PSS validate SP level data against total consumption data	Processing	Validation	The PSS shall validate that the sum of the SP level data is equal to the consumption between register reads or against the daily consumption value sourced from the Metering System.	Must have	Operations	PSS4	Functional	Mini MAR type check
PSS8.22	PSS validates SP level data against permissible maximum energy	Processing	Validation	The PSS shall validate that no Settlement Period data is greater than permissible maximum energy. Any period of SP level data which fails this check shall be flagged as invalid	Must have	Operations	PSS4	Functional	Maximum permissible energy to be defined, based on physical limits of metering
PSS8.23	PSS validates SP level data is not negative	Processing	Validation	The PSS shall validate that every period of SP data is greater than or equal to 0.	Must have	Operations	PSS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.24	PSS validates of SP level data against rolling average daily volumes	Processing	Validation	The PSS shall validate that the daily consumption is within [x%] of a sites rolling daily average based on the last [30] days of data.	Must have	Operations	PSS4	Functional	e.g. 10 times to be defined for implementation
PSS8.25	PSS Estimates of SP level data (general)	Processing	Estimation	The PSS shall ensure that SP level data will be estimated for any periods of missing or invalid data using a hierarchy of estimation techniques. The most accurate allowable technique must always be used. Estimated data will be labelled with the estimation technique used. Estimation must be re-calculated if better/newer data because available, e.g. a new load shape for the same settlement date.	Must have	Operations	PSS5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.26	The PSS amends consumption data following detection of theft from RPU service	Processing	Estimation	The PSS must enter abstracted units of electricity into settlement in the appropriate time period when notified by the BRP (supplier) according to the rules set out in the BSC or BSC subsidiary documents.	Must have	Operations	PSS4 to 8	Functional	Rules to be defined for implementation
PSS8.27	The PSS estimates a SP level consumption data where a Meter Advance is not available.	Processing	Estimation	The PSS must be able to estimate the consumption for Settlement days where a Meter Advance is not available according to the Estimation Rules and method and flag each estimation according to its method.	Must have	Operations	PSS8	Functional	Detailed calculations provided under Validation and Estimation requirements set out below.
PSS8.28	PSS notify data for a disconnection event	Processing	Estimation	When a Demand Disconnection occurs as part of a Demand Control Event, the PSS must notify the MDS with a Settlement Period level estimate of the Demand Disconnection Volume for each impacted MPAN where they are the registered PSS.	Must have	Operations	PSS8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.29	PSS estimates data for smart meter where there is one missing settlement period; daily meter advance available	Processing	Estimation Methods	PSS Estimation Method 0: Where 1 settlement period of data is missing or invalid in a settlement day and a daily advance is available, use the daily advance to calculate the missing time period data and flag the calculated data as "A" flag.	Must have	Operations	PSS5	Functional	
PSS8.30	PSS estimates data for smart meter where there is more than one missing settlement period; daily meter advance available	Processing	Estimation Methods	PSS Estimation Method 1: Where 2 or more settlement periods of data are missing or invalid in a settlement day and at least one settlement period of data is valid and a daily advance is available, use the daily advance and the available/valid settlement period consumption to calculate the sum of the missing consumption. Allocate this consumption to the relevant settlement periods using the appropriate load shape obtained from the LSS. Flag the estimated data as "E1" flag.	Must have	Operations	PSS5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.31	PSS estimates data for smart meter where there is no settlement period data; daily meter advance available	Processing	Estimation Methods	PSS Estimation Method 2: Where all settlement periods of data are missing or invalid in a settlement day and a daily advance (or daily consumption) is available, allocate the daily advance consumption to settlement periods using the appropriate load shape obtained from the LSS. Flag the estimated data as "E2" flag.	Must have	Operations	PSS5	Functional	SP = LSS(SP)/ LSS (daily total)* Daily Advance (or daily consumption as applicable)

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.32	PSS estimates using a non-daily meter advances from actual valid settlement period consumption data	Processing	Estimation Methods	PSS Estimation Method 3: In the absence of daily midnight register reads or daily consumption data to calculate daily meter advances, the PSS should calculate settlement period data from an actual valid meter advance spanning the settlement period and scaling the Load Shape and daily totals data from the LSS, and store these records as "E3" .	Must have	Operations	PSS5	Functional	SP = MA*LSS(SP)/((sum LSS (daily total)) summed over meter advance period (days)) where SP is estimate of Settlement Period to be estimated. MA is actual meter advance, LSS(SP) is daily load shape volume for each Settlement period, and LSS (daily total) is the sum of the LSS(SP) for each day as notified by the LSS

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.33	PSS estimates for smart meters daily register reads are unavailable but daily register read history is present	Processing	Estimation Methods	PSS Estimation Method 4: Where daily meter advances or daily consumption values are unavailable from the smart meter but daily meter advance records are available [either in the past or future] and less than [3] months different from the settlement day requiring a daily meter advance - use the average actual meter advance from the closest [4] weeks for the same day of the week. The average daily advance will then be applied to the appropriate Load Shape for the Settlement day. Record the estimated as "E4".	Must have	Operations	PSS5	Functional	SP = LSS(SP)/ LSS (daily total)* Average Daily Advance for same day type

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.34	PSS estimates where previous daily advances are available	Processing	Estimation Methods	PSS Estimation Method 5: Where daily meter advances or daily consumption are unavailable and the most recent actual settlement data is [7] consecutive previous actual daily meter advances are available the PSS shall calculate the settlement period data using the average daily consumption for the most recent [7] consecutive actual daily advances and the normalised load shape and load shape volume from the LSS. This estimate shall be store as type "E5"	Must have	Operations	PSS5	Functional	SP = LLS(SP)/((sum(LSS (7 day total) * (ADA * 7) where SP is estimate of Settlement Period data, ADA is average daily advance for previous 7 days, LSS (SP) is load shape for each, LLS (7 day total) is the rolling 7 day total notified by the LSS. note: use this method if the actual daily data is the most recent data, if there is more recent register read data use the next method

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.35	PSS estimates for non-smart meters with advances available	Processing	Estimation Methods	PSS Estimation Method 6: Where meter advances are available the advances shall summed across all Settlement Registers. The Total Meter Advance (TMA) will be applied to the load shapes for the meter advance period using the appropriate load shape and daily totals notified by the LSS. This data will be recorded as "E6"	Must have	Operations	PSS5	Functional	SP = TMA*LSS(SP)/((sum LSS (daily total)) summed over meter advance period (days)) where SP is estimate of Settlement Period to be estimated. TMA is total meter advance summed across Settlement registers, LSS(SP) is daily load shape volume for each Settlement period, and LSS (daily total) is the sum of the LSS(SP) for each day as notified by the LSS

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.36	PSS estimates where no recent meter data is available.	Processing	Estimation Methods	Estimation Method 7: Where daily meter advances or daily consumption values and register consumption data are unavailable and the most recent actual settlement data is a period covered by actual meter register advances the PSS shall calculate the settlement period data using the Daily Estimated Advance (DAE) defined above and the 7 day normalised load shape and the appropriate load shape from the LSS. This estimate shall be store as type "E7"	Must have	Operations	PSS5	Functional	SP = LSS(SP)/ LSS(7 day total) * (DAE*7)
PSS8.37	PSS where no meter data or Daily Advance Estimate (DAE) is available	Processing	Estimation Methods	Estimation Method 8: Where there is no previous data is available the PSS shall use the appropriate load shape. This data will be recorded as "E8".	Must have	Operations	PSS5	Functional	SP = LSS(SP)

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.38	PSS validates estimated data	Processing	Estimation	When settlement period level data has been estimated, this data shall be validated prior to being used in subsequent processing. Any data that fails validation following estimation should be flagged appropriately and manually inspected before being allowed to be used.	Must have	Operations	PSS5	Functional	
PSS8.39	PSS receives actual settlement period data when data has previously been estimated	Processing	Estimation	If the PSS receives new data from the MDR, and this new data is successfully validated, it shall replace data previously estimated.	Must have	Operations	PSS5	Functional	Are we over-writing data or do we keep a copy of the estimated data?

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS8.40	PSS receives new data when data has previously been estimated	Processing	Estimation	If the PSS receives new data which is not SP data but allows a better estimate to be calculated the PSS must recalculate the estimate and update the estimate type flag if required	Must have	Operations	PSS5	Functional	this could be a new version of LSS data, or new data that allows a method higher up the estimate hierarchy to be use, e.g. a new register read where estimation was previously only based on LSS data
PSS8.41	Estimation for Export data	Processing	Estimation	The PSS shall estimate zero data for export MPANs where such SP level data or Register Reading data is unavailable	Must have	Operations	PSS5	Functional	
Reporting									
PSS9.1	PSS reports errors or missing responses from MDR service to the MDR service	Reporting	Exception Reporting	It must be possible for the PSS to share reports with appropriate parties detailing non responses from read requests to the MDR service	Must have	Activity	PSS1	Functional	Need output interfaces to MDR and BRP (Supplier). Possibly MRS

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS9.2	PSS reports exception by validation failure type.	Reporting	Exception Reporting	It must be possible to obtain a report, on request, of statistics of exceptions encountered.	Must have	Activity	PSS10	Functional	Validation failure types will need to be defined for implementation.
PSS9.3	The PSS will notify reports to the BRP detailing the reasons why actual SP data is missing at the relevant settlement reconciliation runs	Reporting	Exception Reporting	As well as day to day exception reporting the PSS must be able to notify the BRP (Supplier) of the a root cause (where available) of missing actual data at settlement reconciliation runs.	Must have	Activity	PSS10	Functional	Settlement specific reporting to ensure issues resolved that are outstanding at reconciliation runs. Without this there is a risk that where exceptions aren't resolved in day they are left to impact later rec runs. Probably best to link to the aggregation service view of non-actuals. Aggregation service will have the view of non-actuals in settlement and the processing service should know why.

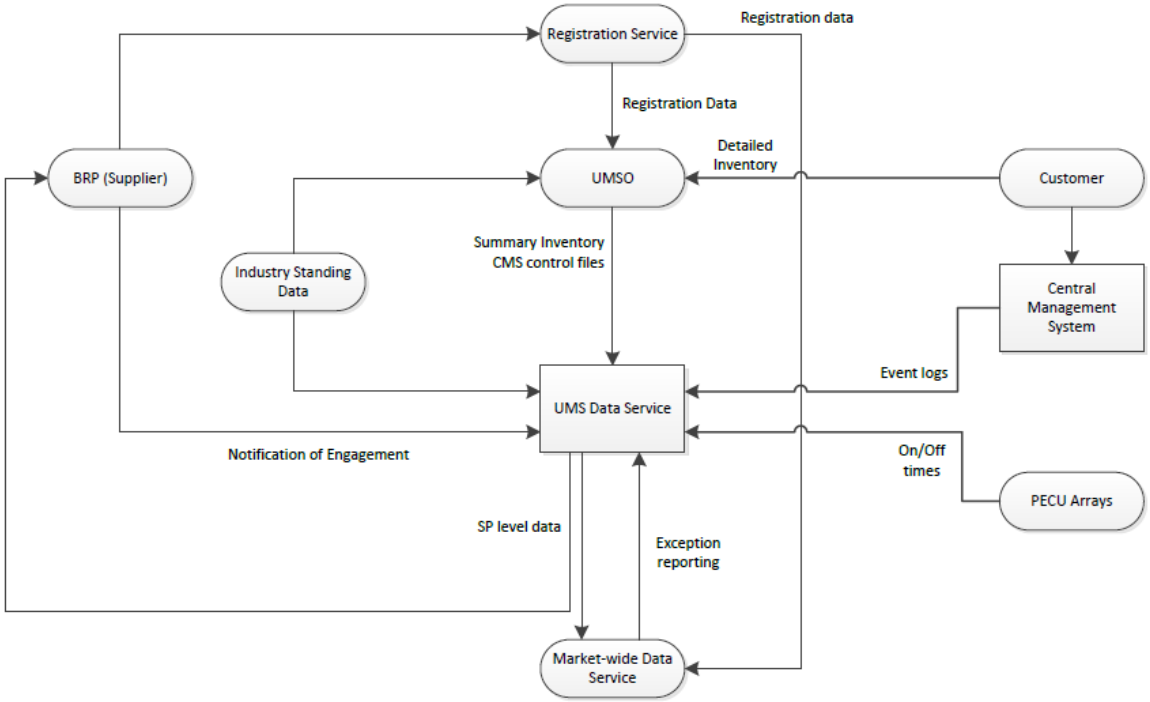
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS9.4	The PSS must be able to notify reports detailing actions taken to resolve issues and subsequent changes in consumption values.	Reporting	General Reporting	The PSS must be able to notify details of actions taken and the impact of resolving validation and estimation issues so that BRP has a view of material changes and that there is an audit trail.	Must have	Activity	PSS10	Functional	Important to be able to notify reports detailing changes that have a material impact to settlement and the reasons why and how they were processed for audit/PAF purposes
PSS9.5	The PSS must notify data to ELEXON for PAF purposes as required	Reporting	General Reporting	The PSS must notify data to ELEXON for the performance assurance framework as set out the BSC.	Must have	Activity	General	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Service Specific Non-Functional									
PSS10.1	PSS retains data for disputes	Disputes	Data Retention	On expiry or termination of the PSS's registration period as PSS in respect of a VAS MS the outgoing PSS must continue to retain data and support the [Trading Disputes process], for all Settlement Days that he was registered by the BRP (Supplier) in Registration	Could have	Non-functional	Non-Functional	Non-Functional	Not required if stored by MDS or VAS.
PSS 10.2	PSS data retention and audit	Audit	General	All versions of data actual and estimated should be stored with audit records of its processing and usage.	Must have	Non-Functional	Non-Functional	Non-Functional	

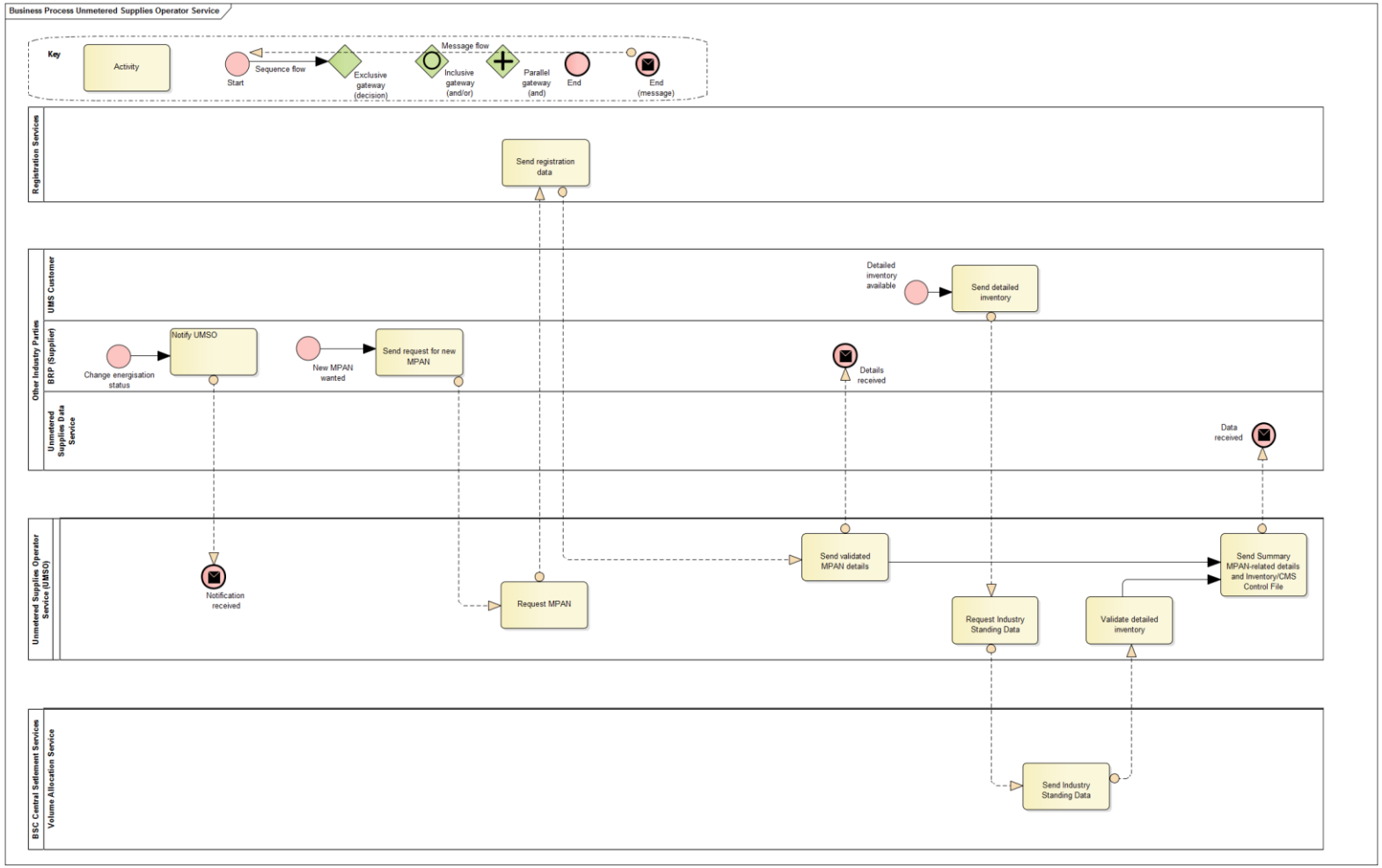
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
PSS10.3	PSS maintains obligations to BRP	Service levels	SLA process and procedures	The PSS must prepare and maintain plans that must enable the BRP's (Supplier's) obligations under the Code to continue to be met notwithstanding the expiry or termination of the PSS's appointment as the PSS. The plans, which the PSS undertakes to implement on any such expiry or termination, must include the transfer of data and other information to an incoming PSS registered by the BRP (Supplier).	Must have	Activity	General	Non-Functional	The PSS will still be responsible for processing data for the period for which it was the registered processing Service. Need an interface to pass closing read/historic meter data from outgoing PSS / BRP to incoming PSS

The Unmetered Supplies Operator (UMSO)

The Unmetered Supplies Operator (UMSO) is responsible for validating the detailed unmetered supplies inventory data for equipment attached to its Distribution network and providing information to other industry stakeholders. It interfaces with the customer who owns/operates the unmetered equipment (referred to as the Unmetered Supplies customer). The provision of the UMSO Service is responsibility of the Distribution Business. The UMS customers provide information on the unmetered equipment connected to the Distribution network.



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

UMS1 receiving detailed inventory information from the customer;

UMS2 validating inventory against Industry Standing Data;

UMS3 providing Summary inventory data to the UMSDS; and

UMS4 responding to queries about the data.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
UMSO1.1	Adherence to Industry Codes	Governance	Code Compliance	The UMSO shall comply with all relevant Industry Code and implement changes to the UMSO as required by Modifications to the Codes.	Must Have	Governance	Non-Functional	Non-Functional	
General									
UMSO2.1	UMSO provided by qualified person	General	Service Design	The UMSO Service must be provided by a qualified person under the BSC	Must Have	Service Design	Non-Functional	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Interfaces									
UMSO3.1	UMSO accesses Industry Standing Data	I/O Interface	Input interface	The UMSO must be able to access ISD from the VAS as appropriate.	Must Have	Operations	UMS2	Functional	This data includes the Charge Codes and Switch Regime data
UMSO3.2	UMSO accesses Detailed Inventory data	I/O Interface	Input interface	The UMSO must be able to access Detailed Inventory data from the UMS customer.	Must Have	Operations	UMS1	Functional	Standard Inventory Format set out in the Operational Information Document
UMSO3.3	UMSO rejects invalid Detailed Inventory data.	I/O Interface	Output interface	The UMSO must be able to reject invalid inventory items with a rationale (reason code) and request a refresh of data from the UMS customer	Must have	Operations	UMS2	Functional	
UMSO3.4	UMSO interfaces with the BRP (Supplier)	I/O Interface	I/O Interface	The UMSO must be able to interface with the BRP (Supplier) to access and notify data as required.	Must have	Operations	UMS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UMSO3.5	UMSO interfaces with the UMSDS	I/O Interface	I/O Interface	The UMSO must be able to interface with the UMSDS to access and notify data as required.	Must have	Operations	UMS3	Functional	
UMSO3.6	UMSO accepts Notification of appointment	I/O Interface	Output Interface	The UMSO must be able to accept [appointment/de-appointment] to BRP (Supplier)	Could have	Operations	UMS1- 4	Functional	It is intended that the UMSO service is provided by the Distribution Business but can be provided by a third party on a commercial basis.
UMSO3.7	UMSO rejects Notification of appointment	I/O Interface	Output Interface	The UMSO must be able to reject [appointment/de-appointment] to BRP (Supplier) with reasons (reasons include unable to support meter type, do not operate in geography, etc.)	Could have	Operations	UMS1- 4	Functional	Acceptance and rejection notification process to be agreed for implementation taking Architecture into account.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UMSO3.8	UMSO notified of change to UMSDS	I/O Interface	Input interface	The UMSO must be able to be notified of a change of UMSDS	Must have	Operations	UMS1 - 4	Functional	Could derive this from registration data
UMSO3.9	UMSO processes request for new UMS MPAN	I/O Interface	Input interface	The UMSO (LDSO) must be able to process request from the BRP (Supplier) or customer for new MPAN.	Must have	Operations	UMS1	Functional	
UMSO3.10	UMSO confirmation of new MPAN	I/O Interface	Output interface	The UMSO must be able to notify confirmation of new MPAN to the BRP (Supplier) and Customer.	Must have	Operations	UMS1	Functional	
UMSO3.11	UMSO agree Connection Agreement with the customer	I/O Interface	I/O Interface	The UMSO must be able to establish Connection Agreement with customer.	Must have	Operations	UMS1	Functional	UMSO must agree what apparatus can be connected to their networks with the customer. An Connection Agreement must be provided to the customer

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UMSO3.12	UMSO notifies MPAN details to the UMSDS	I/O Interface	Output interface	The UMSO must be able to notify MPAN related details to the UMSDS (Submeter ID, locations, lat/long, etc.)	Must have	Operations	UMS1	Functional	
UMSO3.13	UMSO receives rejected MPAN details from the UMSDS	I/O Interface	Input interface	The UMSO must be able to access invalid MPAN details (with reasons, such as not appointed, invalid details, missing data) from the UMSDS	Must have	Operations	UMS1	Functional	
UMSO3.14	UMSO notifies exceptions detailed inventory to the customer	Interface	Output	The UMSO must notify the customer of any issues with the detailed inventory or control file data.	Must have	Operations	UMS1	Functional	
UMSO3.15	UMSO notifies the Summary and/or control file to the UMSDS (including revisions as appropriate)	I/O Interface	Output interface	The UMSO must be able to notify new Summary and/or Control file to the UMSDS	Must have	Operations	UMS3	Functional	

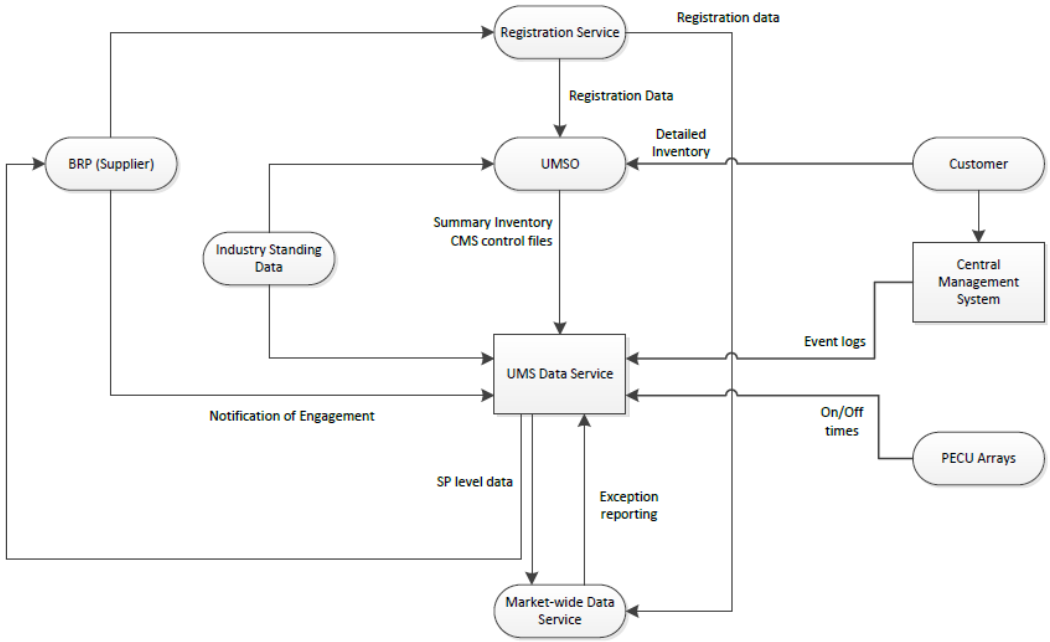
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UMSO3.16	UMSO receives rejection or acceptance of Summary Inventory and/or Control file from the UMSDS (with reason for rejection)	I/O Interface	Input interface	The UMSO must be able to access and Investigate and resolve all errors in Summary Inventory and/or Control file from the UMSDS (notified with reason for rejection)	Must have	Operations	UMS3	Functional	
UMSO3.17	UMSO receives notification of change of energisation status	I/O Interface	Input interface	The UMSO must be able to access details of energisation status change from the BRP (Supplier).	Must have	Operations	UMS1	Functional	
UMSO3.18	UMSO receives request to investigate data from parties as notified.	I/O Interface	Input interface	UMSO must be able to process requests by relevant stakeholder for an investigation of any data as required.	Must have	Operations	UMS4	Functional	
UMSO3.19	UMSO notifies outcome of data investigation	I/O Interface	Output interface	The UMSO must be able to notify relevant stakeholder of data investigation outcome.	Must have	Operations	UMS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UMSO3.20	The UMSO must be able to interface with the Registration Service to access registration data	I/O Interface	Input interface	The UMSO must be able to access Registration data where appropriate.	Could have	Operations	UMS1	Functional	The Registration Service and UMSO are usually the same part. However, the UMSO service can be outsourced so this requirement could be required.
Processing									
UMSO4.1	UMSO validates Detailed Inventory using ISD	Data Processing	Validation	The UMSO must be able to use UMS ISD as appropriate (charge codes, switch regimes, valid combinations, etc.) in order to validate the Detailed Inventory from the customer	Must have	Operations	UMS2	Functional	UMSO compares inventory data items to ISD and OID Valid combinations
UMSO4.2	UMSO re-processes revised customer data	Data Processing	Validation	The UMSO must be able to re-processes accessed customer data in a timely manner once accessed	Must have	Operations	UMS2	Functional	For example on changes to the detailed inventory or control file data

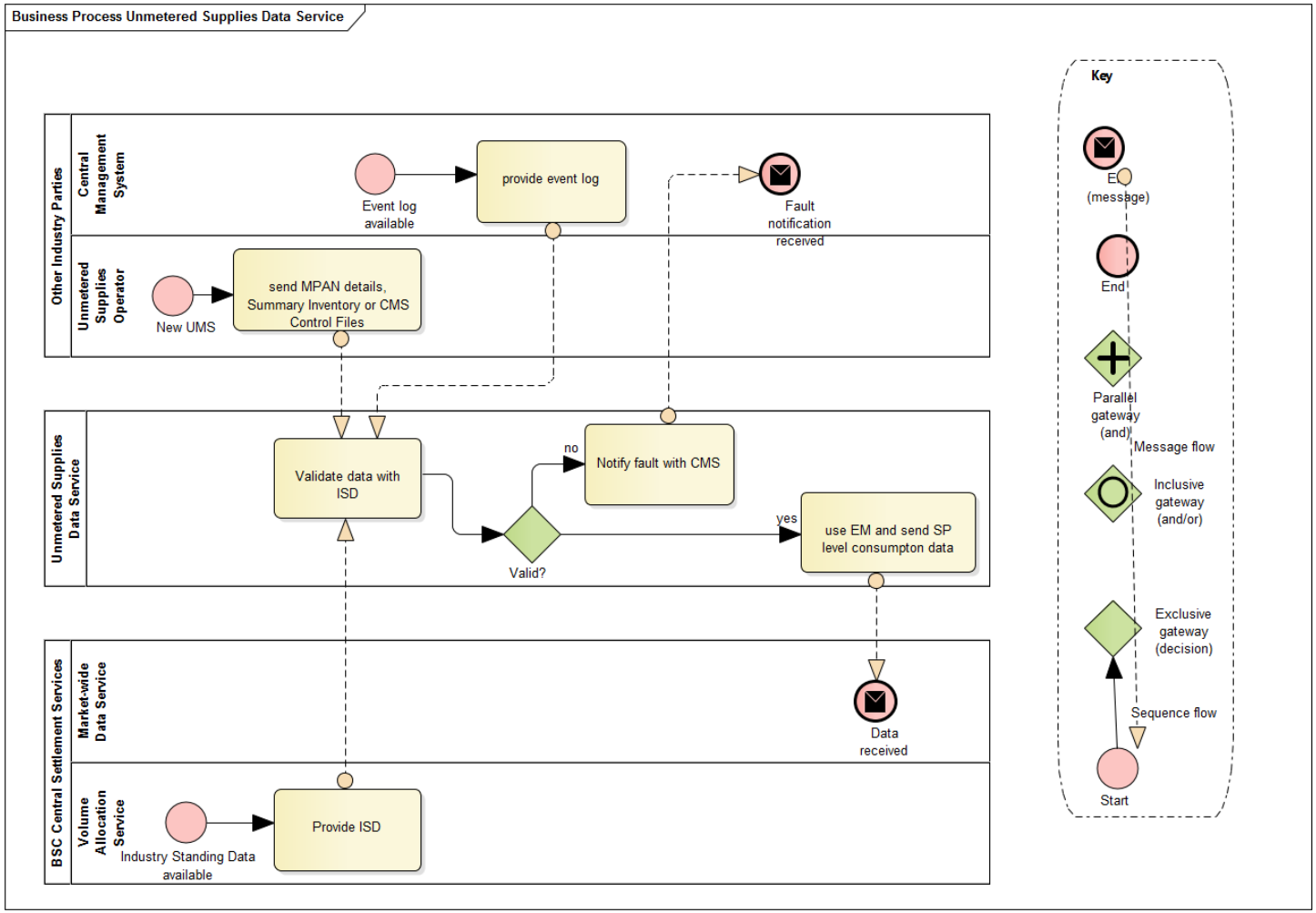
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UMSO4.3	UMSO validates MPAN details	Data Processing	Validation	The UMSO must be able to validate MPAN details using Registration data	Must have	Operations	UMS2	Functional	Can we put any more detail on this process?
UMSO4.4	UMSO processes energisation status change	Data Processing	Validation	UMSO must be able update records to reflect energisation status change. If backdated initiate creation of revised historic data	Must have	Operations	UMS1	Functional	
UMSO4.5	UMSO investigates data	Data Processing	Data Processing	The UMSO must be able to Investigate the data to confirm accuracy, or otherwise	Must have	Operations	UMS4	Functional	

Unmetered Supplies Data Service (UMSDS)

The Unmetered Supplies Data Service (UMSDS) is responsible for calculating Settlement Period (SP) level consumption data for unmetered equipment, for example street lights and traffic signals. The UMSDS operates software approved by the BSC known as an Equivalent Meter (EM). The EM uses information on the amount of energy drawn by different types of unmetered equipment and the duration that energy is supplied. The EM can also receive information from other software which provides more dynamic data on the amount of energy and duration the equipment is switched on. Currently this is from Central Management Systems that control street lighting, telecommunications equipment and Electric Vehicle charging points. Other inputs to the EM can be from Photo-Electric Control Unit (PECU) arrays (which contain a number of photo-electric cells). PECU arrays provide energy duration information (i.e. 'on/off' times for each cell in the array) and are located around the country to reflect different switching times due to weather and location. The UMSDS uses Industry Standing data for Charge Codes and Switch Regimes in the calculation of SP level consumption data.



Process diagram:



This diagram is also included in zip file.

This Service will be responsible for:

UDS1 Receiving inventory data associated with Unmetered Supplies from distribution businesses;

UDS2 Validating the inventory data as appropriate;

UDS3 Accessing other dynamic information relating to the operation of Unmetered Supplies;

UDS4 Accessing standing data relating to Unmetered Supplies;

UDS5 Calculating Settlement Period level data for Unmetered Supplies according to a defined schedule;

UDS6 Providing access to calculated Settlement Period level data;

UDS7 Receiving Appointments/de-appointments; and

UDS8 Reporting, investigating and reporting data issues.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
UDS1.1	Adherence to Industry Codes	Governance	Code Compliance	The UMSDS shall comply with all relevant Industry Codes and implement changes to the UMSDS as required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
General									
UDS2.1	UMSDS provided by qualified person	General	Service Design	The UMSDS must be provided by a qualified person under the BSC	Must have	Governance	Non-Functional	Non-Functional	The UMSDS shall be a qualified Party under the BSC
UDS2.2	UMSDS operates an approved Equivalent Meter	General	Service Design	The UMSDS must operate a BSC approved EM	Must have	Governance	Non-Functional	Non-Functional	ELEXON has a specification and approval process for Equivalent Meters
UDS2.3	UMSDS notifies SP Level Consumption Data to the MDS	General	Service Design	The UMSDS must be able to notify access to the SP Level Data to the MDS in kilowatt (kWh) to the decimal places and Coordinated Universal Time (UTC)	Must have	Operations	UDS6	Data Requirement	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Interfaces									
UDS3.1	UMSDS accesses Industry Standing Data	I/O Interface	Input interface	The UMSDS must be able to access ISD as appropriate	Must have	Operations	UDS4	Functional	Charge Codes, Switch Regimes, valid combinations and other relevant data (e.g. Market Participants).

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS3.2	UMSDS receives Notification of [appointment/de-appointment]	I/O Interface	Input/ Output Interface	The UMSDS must be able to access Notifications of [Appointments and De-appointments] to MPANs by Balancing Responsible Party (Supplier) (registration service?)	Must have	Operations	UDS7	Functional	Need to consider if Suppliers appoint agents directly, or all stakeholders use the 'single version of the truth' in the Registration system. This is also relevant depending at what level the data is notified into the settlement arrangements

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS3.3	UMSDS accepts Notification of appointment	I/O Interface	Output Interface	The UMSDS must be able to accept [appointment/de-appointment] to supplier (registration service?)	Must have	Operations	UDS7	Functional	Acceptance and rejection notification process to be agreed for implementation taking Architecture into account.
UDS3.4	UMSDS rejects Notification of appointment	I/O Interface	Output Interface	The UMSDS must be able to reject [appointment/de-appointment] to supplier (registration service?) with reasons (reasons include unable to support meter type, do not operate in geography, etc.)	Must have	Operations	UDS7	Functional	Acceptance and rejection notification process to be agreed for implementation taking Architecture into account.
UDS3.5	UMSDS receive MPAN details from the UMSO	I/O Interface	Input Interface	The UMSDS must be able to access MPAN details from the UMSO-submeters, location, lat/long, etc.	Must have	Operations	UDS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS3.6	UMSDS accepts MPAN details	I/O Interface	Output Interface	The UMSDS must accept valid MPAN details	Must have	Operations	UDS2	Functional	
UDS3.7	UMSDS reject MPAN details	I/O Interface	Output Interface	The UMSDS must reject invalid MPAN details (with reasons, such as not appointed, invalid details, missing data)	Must have	Operations	UDS7	Functional	
UDS3.8	UMSDS receive summary inventories & CMS control files from the UMSO	I/O Interface	Input/output	The UMSDS must be able to access summary inventories & control files from the UMSO	Must have	Operations	UDS1	Functional	
UDS3.9	UMSDS notifies acceptance of summary inventories & control files	I/O Interface	Input/ Output Interface	The UMSDS must notify relevant stakeholders of accepted summary inventory & control files	Must have	Operations	UDS1	Functional	Acceptance and rejection notification process to be agreed for implementation taking Architecture into account.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS3.10	UMSDS rejects summary inventories & control files	I/O Interface	Input/ Output Interface	The UMSDS must reject invalid summary inventories & control files (with reasons, such as not appointed, invalid codes or combinations, missing data)	Must have	Operations	UDS1	Functional	The UMSO will be responsible for informing customer issues with the detailed inventory before re-submitting revised Summary Inventory data.
UDS3.11	The UMSDS receives change of energisation status from the UMSO	I/O Interface	Input Interface	The UMSDS must be able to access notification of energisation status change from the UMSO	Must have	Operations	UDS1	Functional	
UDS3.12	The UMSDS obtains PECU details from customer or previous UMSDS	I/O Interface	Input/ Output Interface	The UMSDS must be able to obtain PECU Array details where required	Must have	Operations	UDS3	Functional	
UDS3.13	UMSDS obtains CMS details from the CMS operator	I/O Interface	Input/ Output Interface	The UMSDS must be able to obtain CMS details where required	Must have	Operations	UDS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS3.14	UMSDS initiates contact with PECU arrays	I/O Interface	Input Interface	The UMSDS must be able to schedule PECU Array contact	Must have	Operations	UDS3	Functional	The UMSDS can schedule contact with PECU arrays overnight
UDS3.15	UMSDS interfaces with Market-wide Data Service	I/O Interface	Input/ Output Interface	The UMSDS must be able to interface with the MDS to notify SP Level Consumption data and access exception reports	Must have	Operations	UDS6	Functional	
UDS3.16	UMSDS initiates contact with CMS	I/O Interface	Input Interface	The UMSDS must be able to schedule collection CMS event log data	Must have	Operations	UDS3	Functional	Event logs are collected from CMS by the UMSDS.
UDS3.17	UMSDS notifies outcome of data investigation	I/O Interface	Output Interface	The UMSDS must be able to notify relevant stakeholder of result of data investigation	Must have	Operations	UDS8	Functional	
UDS3.18	UMSDS notified of exceptions or missing data by MDS	I/O Interface	Input Interface	The UMSDS must be able to receive notifications of exceptions or missing data by the MDS	Must have	Operations	UDS8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS3.19	The UMSDS notifies revised or missing data to the MDS	I/O Interface	Output Interface	The UMSDS must be able to notify revised, default or missing data to the MDS.	Must have	Operations	UDS8	Functional	
UDS3.20	UMSDS advises of PECU Array failure to UMS customer	I/O Interface	Output Interface	The UMSDS must be able to advise relevant parties of faults and corrections required to PECU Array	Must have	Operations	UDS3	Functional	
UDS3.21	UMSDS notifies access to SP level data to Licenced Distribution System Operators and BRP	I/O Interface	Output Interface	The UMSDS must be able to notify SP Level data by MPAN to the LDSO and BRP.	Could have	Operations	UDS6	Functional	
Data Marshalling									
UDS4.1	UMSDS uses Industry Standing Data	Data Marshalling	Industry Standing Data	The UMSDS must be able to use ISD as appropriate	Must have	Activity	UDS4	Functional	Validate and input the data into the EM.
UDS4.2	UMSDS manually amend Industry Standing Data	Data Marshalling	Industry Standing Data	The UMSDS must be able to manually edit ISD where required.	Must have	Activity	UDS4	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Processing									
UDS5.1	UMSDS validates MPAN details	Processing	Validation	The UMSDS must be able to validate MPAN details	Must have	Operations	UDS2	Functional	
UDS5.2	UMSDS validates summary inventories & control files	Processing	Validate	The UMSDS must validate accessed summary inventories & control files	Must have	Operations	UDS1	Functional	This includes checks against data items in the ISD and the Registration data
UDS5.3	UMSDS processes energisation status change as notified by UMSO	Processing	Operations	The UMSDS must be able to update records to reflect energisation status change. If backdated initiate creation of revised historic data	Must have	Operations	UDS1	Functional	
UDS5.4	UMSDS checks and validates operational ability of PECU array	Processing	Validation	The UMSDS must be able to check PECU array operating correctly. The UMSDS must be able to check the population of PECU types within the PECU array	Must have	Operations	UDS3	Functional	Requirements set out in BSCP520

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS5.5	UMSDS checks operational ability of CMS	Processing	Validation	The UMSDS must be able to check CMS is operating correctly on an ongoing basis	Must have	Operations	UDS3	Functional	
UDS5.6	UMSDS validates PECU Array data	Processing	Validation	The UMSDS must be able to validate PECU Array data	Must have	Operations	UDS3	Functional	Requirements set out in BSCP520
UDS5.7	UMSDS validates CMS data	Processing	Validation	The UMSDS must be able to validate CMS data	Must have	Operations	UDS3	Functional	
UDS5.8	UMSDS calculates SP Level Consumption Data	Processing	Data Processing	The UMSDS must be able to calculate SP Level Data. Revise/amend any previous SP data using new information (e.g. update summary, control file, CMS, PECU Array, energisation status)	Must have	Operations	UDS5	Functional	This is the most significant activity, but no value to describing all the detail. Requirements already stated in BSCP520

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS5.9	UMSDS defaults missing data	Processing	Data Processing	The UMSDS must be able to calculate default values where real data cannot be determined.	Must have	Operations	UDS8	Functional	
Fault Investigation									
UDS6.1	UMSDS advises of CMS failure to relevant parties	Fault investigation	Exception Reporting	The UMSDS must be able to advise relevant parties of faults with CMS	Must have	Activity	UDS3	Functional	
UDS6.2	UMSDS investigate PECU Array faults	Fault investigation	Exception Reporting	The UMSDS must be able to advise relevant parties of faults and corrections required to PECU Array	Must have	Activity	UDS3	Functional	
UDS6.3	UMSDS investigates CMS faults	Fault investigation	Exception Reporting	The UMSDS must be able to advise relevant parties of faults and corrections required to CMS	Must have	Activity	UDS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
UDS6.4	UMSDS receives request to investigate data	Fault investigation	Exception Reporting	The UMSDS must be able to access stakeholder requests an investigation of data	Must have	Activity	UDS8	Functional	
UDS6.5	UMSDS investigates data following request	Fault investigation	Exception Reporting	The UMSDS must be able to investigate data to establish accuracy, or otherwise	Must have	Activity	UDS8	Functional	

BSC Central Settlement Services

There are three BSC Central Settlement Services:

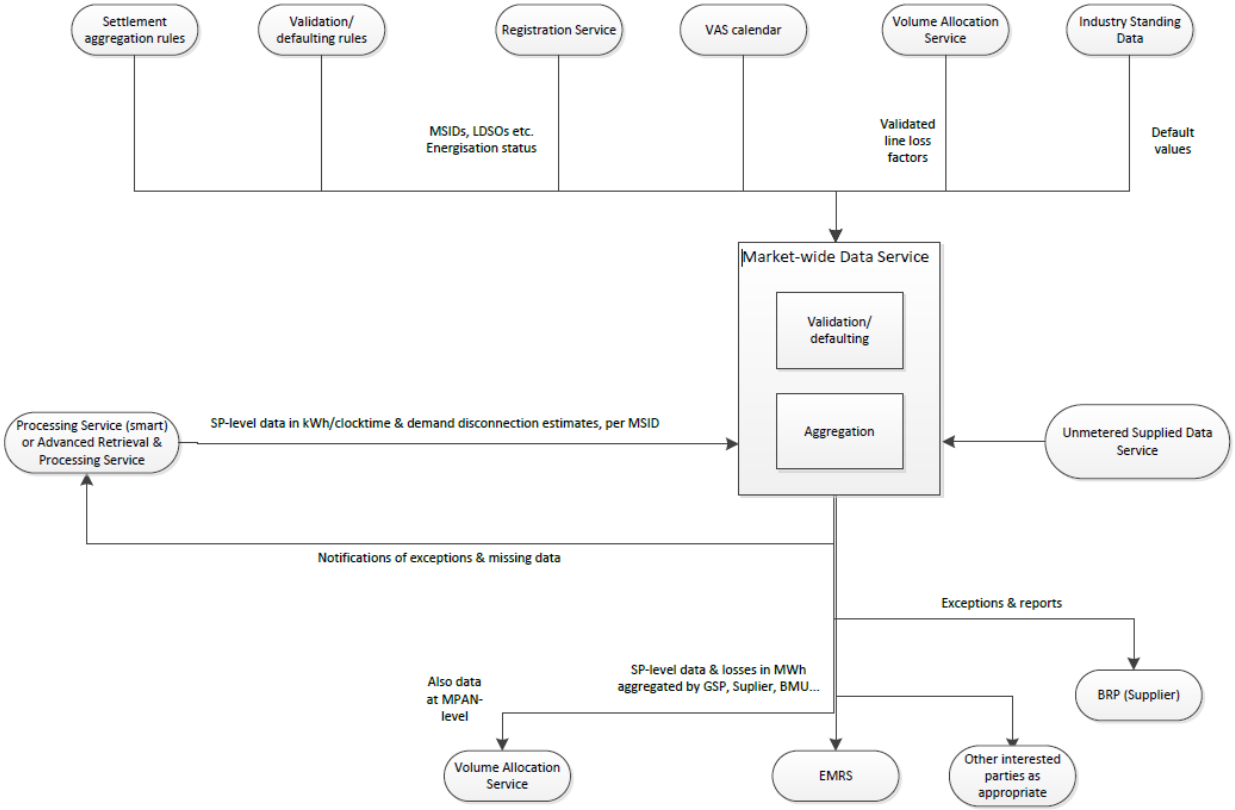
i) The Market-wide Data Service;

ii) The Load Shaping Service; and

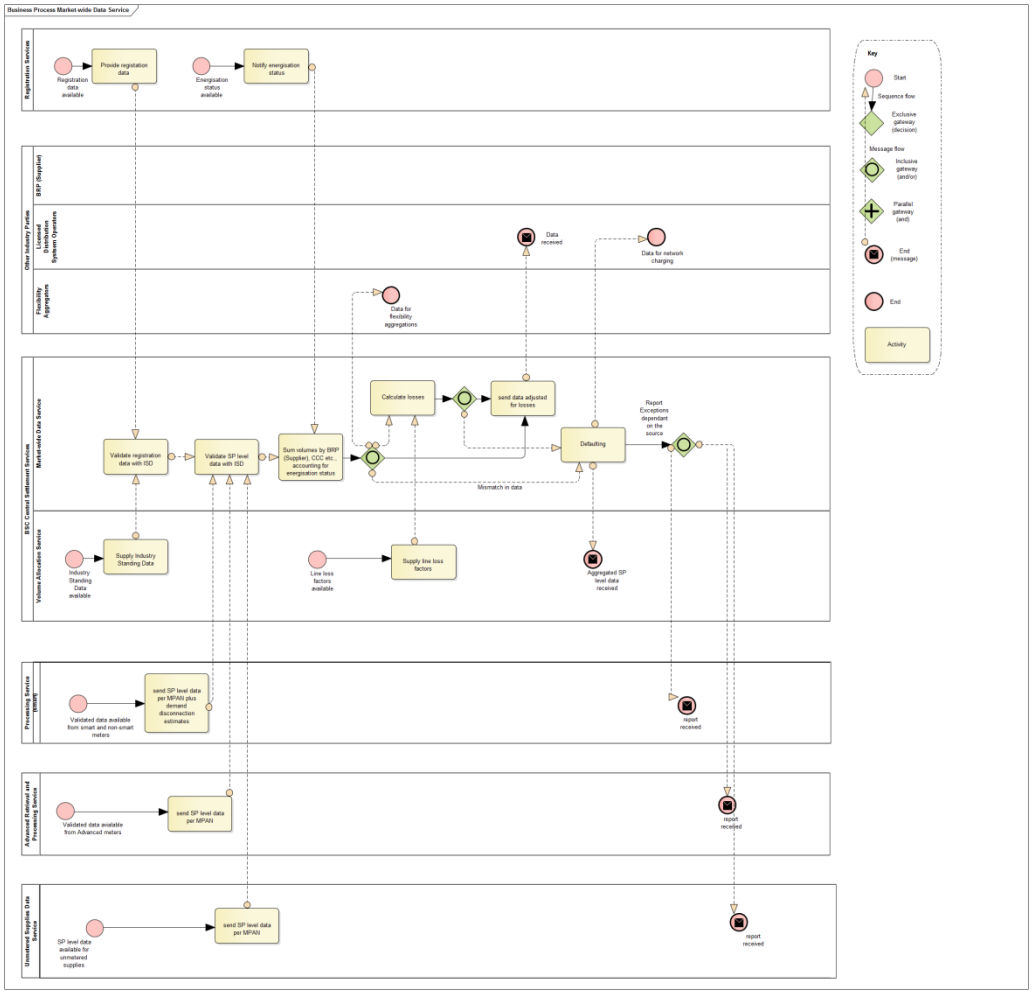
iii) The Volume Allocation Service.

1. Market-wide Data Service (MDS)

The Market-wide Data Service (MDS) is responsible for processing Settlement Period level data from the Processing Services (PSS) for smart and non-smart Meters, Advanced Retrieval and Processing Services (ARP) for Advanced Meters and Unmetered Supplies Data Services (UMSDS) for unmetered equipment. The MDS will provide data aggregations for Imbalance Settlement and other purposes (such as network charges and flexibility offerings (if required)).



Process diagram:



This diagram is also included in zip file.

This service will be responsible for:

MDS1 Maintenance of standing data as appropriate;

MDS2 Accessing registration data from the Registration Service;

MDS3 Obtaining validated Settlement Period level data from the Processing Service for smart and non-smart Meters (PSS);

MDS4 Obtaining validated Settlement Period level data for Advanced Metering Systems from the Advanced Retrieval and Processing Service (ARP);

MDS5 Obtaining validated Settlement Period level data for Unmetered Supplies from the Unmetered Supplies Data Service (UMSDS);

MDS6 Identifying duplication or omission of Metering System data;

MDS7 Defaulting data where missing according to Settlement timescales;

MDS8 Aggregating the Settlement Period level data based on defined aggregations for the calculation of Imbalance Settlement purposes based to defined Settlement timescales;

MDS9 Aggregating the Settlement Period level data based on defined aggregations for the calculation of network charging (as appropriate) based on defined Settlement timescales;

MDS10 Aggregating the Settlement Period level data based on defined aggregations for other purposes (e.g. flexibility or for future smart grids) where appropriate information has been provided;

MDS11 Applying distribution network loss factors as appropriate using data provided by distribution businesses;

MDS12 Clock changing the data;

MDS13 Providing aggregated consumption volumes and losses to the Volume Allocation Service according to Settlement timescales;

MDS14 Providing data for Performance Assurance purposes; and

MDS15 Providing aggregated consumption volumes and losses to other parties such as distribution Businesses and Suppliers as required.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
MDS1.1	Adherence to Industry Codes	Governance	Code Compliance	The MDS shall comply with all relevant Industry Codes and implement changes to the MDS required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	Possibly need to be more explicitly about which Codes!
General									
MDS2.1	MDS System flexible to changes in Settlement Period Definition	General	Service Design	The MDS system must be designed flexibly to accommodate changes in the definition of a Settlement Period.	Must have	Service Design	MDS3, MDS4 and MDS5	Data Requirement	In case of 15 minute Settlement Period in the future
MDS2.2	MDS Runs per Settlement Day	General	Service Design	The MDS must be able to perform more than one aggregation run to be performed for any Settlement Day. The results of each run must be identified with a unique run number.	Must have	Service Design	MDS8	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS2.3	MDS processes consumption data in kWh and UTC	General	Service Design	The MDS system must be able to access Settlement Period level data in Coordinated Universal Time (UTC) and in kilo-Watt hours (kWh) to three decimal places.	Must have	Service Design	MDS3, MDS4 and MDS5	Data Requirement	This has been changed to UTC.
MDS2.4	MDS outputs aggregated consumption data in MWhs	General	Service Design	The MDS system must be able to output aggregated Settlement Period level data in both Coordinated Universal Time and Clock Time (CLK) and in megawatt hours (MWh) to three decimal places.	Must have	Service Design	MDS12 and MDS13	Data Requirement	
MDS2.5	MDS outputs SP level data in kWhs and UTC	General	Service Design	The MDS system must be able to output Settlement Period level data per MPAN in both Coordinated Universal Time and Clock Time (CLK) and in kilo-Watt hours (kWh) to three decimal places.	Must have	Service Design	MDS12 and MDS13		

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS2.6	MDS system rejects invalid data	General	Service Design	The MDS must be able to reject data accessed where it has failed a validation process.	Must have	Operations	MDS6	Functional	
MDS2.7	MDS reprocesses invalid data	General	Service Design	MDS must reprocess invalid data at a later time when reprocessing becomes possible e.g. update information from another source allows the previously rejected data to pass validation.	Must have	Operations	MDS6	Functional	
MDS2.8	MDS processes in accordance with Registration if discrepancy occurs	General	Service Design	In the event of a discrepancy, the data from the Registration Service must be treated as definitive.	Must have	Operations	MDS8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS2.9	MDS runs Aggregation for a defined list of MPANs	General	Service Design	The MDS system must be able to aggregate and notify access to aggregations for defined lists of MPANs for defined Settlement days, to entitled parties as set out in the BSC. The timescales and method by which data is notified to be agreed with the entitled party.	Must have	Operations	MDS15	Functional	This requirement is to cover any aggregations required for innovators.
MDS 2.10	MDS notifies MPAN level data to the VAS on request	General	Service Design	The MDS must be able to notify access to SP Level Data for a defined list of MPANs to the VAS, for a defined period of time, set by the VAS. The data shall be notified via the VAS I/O interface.	Must have	Operations	MDS13	Functional	This requirement is to cover options suggested in ELEXON white paper.
MDS2.11	MDS allows manual entry of Industry Standing Data	General	Service Design	MDS must allow manual entry of the Industry Standing data.	Must have	Operations	MDS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS2.12	MDS must provide data, including losses, to VAS where no consumption data has been received	General	Service Design	Failure of Processing Services or UMSDS to notify SP Level Data' must not result in failure of data (including 'Line Loss Adjusted Aggregated Data') being sent to the VAS.	Must have	Service Design	MDS8	Functional	
Interfaces									
MDS3.1	MDS notifies access to Line Loss adjusted aggregations to the VAS.	I/O Interface - Internal	Output Interface	The MDS must notify access to aggregated volumes to the VAS for each Consumption Component Class defined in Industry Standing Data. Each set of aggregation data must relate to a single GSP Group and a particular Initial Settlement or Reconciliation for a Settlement Day.	Must have	Operations	MDS12	Functional	I/O Interface need to be defined

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS3.2	MDS accesses data from VAS	I/O Interface - Internal	Input Interface	The MDS must be able to access data from the VAS. E.g. Industry Standing Data, the VAS Timetable, validated Line Loss factor Data and notifications of exceptions or missing data information from the VAS.	Must have	Operations	MDS12	Functional	
MDS3.3	MDS notify access to aggregations to BRP (Supplier)	I/O Interface - External	Output Interface	The MDS must notify access to aggregated data in approved formats to the Balancing Responsible Party (BRP).	Must have	Operations	MDS13	Functional	Data Items and formats will need to be defined.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS3.4	MDS notifies access to Aggregations or MPAN level data to Licenced Distribution System Operators and BRP	I/O Interface - External	Output Interface	The MDS must allow the aggregation of SP Level Data for a GSP Group by Line Loss Factor Class (per LDSO) for a set of CCCs and this data will need to be notified to the VAS, LDSO and the relevant BRP. The MDS must be able to notify SP Level data by MPAN to the LDSO and BRP.	Must have	Operations	MDS13	Functional	TOM dependent this as can notified by VAS
MDS3.5	MDS access to Registration Data	I/O Interface - External	Input Interface	MDS must have an interface to access data from the Registration Service.	Must have	Operations	MDS2	Functional	
MDS3.6	MDS Acknowledgment (Registration data)	I/O Interface - External	Output Interface	An acknowledgement of receipt of access to registration data must be returned by the system to the Registration Service as appropriate.	Must have	Operations	MDS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS3.7	MDS receives Energisation'/De-energisation data from the LDSO.	I/O Interface - External	Input Interface	The MDS must be able to receive information relating to the energisation or de-energisation of a Metering System from the Registration Service.	Must have	Operations	MDS2	Functional	
MDS3.8	MDS interfaces with smart Processing Service(s)	I/O Interface - External	Input Interface	MDS must have an interface to access data from the PSS(s) for smart and non-smart Meters. This data include data associated with demand disconnection events.	Must have	Operations	MDS3	Functional	
MDS3.9	MDS exceptions to Processing Service(s) for smart and non-smart Meters.	I/O Interface - External	Output Interface	MDS must be able to notify exception or missing data to the PSS.	Must have	Operations	MDS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS3.10	MDS interfaces with Advanced Retrieval and Processing Service(s)	I/O Interface - External	Input Interface	MDS must have an interface to access data from the ARP(s).	Must have	Operations	MDS4	Functional	
MDS3.11	MDS exceptions to Advanced Retrieval and Processing Service(s)	I/O Interface - External	Output Interface	MDS must be able to notify exceptions or missing data to the ARP(s).	Must have	Operations	MDS4	Functional	
MDS3.12	MDS interfaces with SP Level Unmetered Supplies Service(s) (UMSDS)	I/O Interface - External	Input Interface	MDS must have an interface to access data from the UMSDS.	Must have	Operations	MDS5	Functional	
MDS3.13	MDS exceptions from UMSDS	I/O Interface - External	Output Interface	MDS must have an interface to notify exception or missing data to the UMSDS.	Must have	Operations	MDS5	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS3.14	MDS acknowledgment (access to SP level data)	I/O Interface - External	Output Interface	An acknowledgement of access SP Level Data' must be returned by the system to the Service providing access to the data.	Must have	Operations	MDS3, MDS4 and MDS5	Functional	
MDS3.15	MDS notifies access to the Aggregations to the BRP.	I/O Interface - External	Output Interface	For each Settlement run, MDS must be able to notify access to Line Loss Adjusted Aggregated SP Level Data to the BRP (Supplier).	Must have	Operations	MDS13	Functional	
MDS3.17	MDS allows Registration data refresh	I/O Interface - External	Input Interface	The Registration Service must notify access to a complete or partial replacement of all the data (metering system registration and standing data) that relates to the MDS.	Must have	Operations	MDS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS3.18	MDS interface with other entitled parties	I/O Interface - External	Output Interface	The MDS must be able to interface with other entitled parties to provide SP Level Data and/or flexible aggregations of SP Level Data	Could have	Operations	MDS13	Functional	E.g. EMRS for CM or BM data or aggregations for public Interest groups and academics, or National Grid.
Data Marshalling									
MDS4.1	MDS validates Registration data against Industry Standing Data	Data Marshalling	Validation	The MDS must validate Registration Data and Standing Data accessed from the Registration Services against the Industry Standing Data.	Must have	Operations	MDS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS4.2	MDS rejects invalid data.	Data Marshalling	Validation	The MDS must reject the data that fails validation (pending re-processing) and the rejection, with reason, must be reported to the MDS so that the inconsistency can be investigated. An error report, which includes an explanation of why the data failed validation, must be sent back to the notifying service.	Must have	Operations	MDS2	Functional	
MDS4.3	MDS process valid data.	Data Marshalling	Validation	The MDS must continue processing of other unrelated data when partial data is rejected following validation.	Must have	Operations	MDS2	Functional	
MDS4.4	MDS reprocesses Registration data.	Data Marshalling	Validation	The MDS must be able to initiate the re-processing of any Registration Service for any data that has been rejected.	Must have	Operations	MDS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS4.5	MDS validates data against Industry Standing Data	Data Marshalling	Validation	Metering system data accessed from ARP(s), PSS(s) or UMSDS must be validated against the Industry Standing Data (ISD) i.e. that data items within the data accessed are valid data items within the ISD.	Must have	Operations	MDS6	Functional	Industry Standing Data could be MDD or new variant. NB much of existing MDD will be redundant when NHH removed.
MDS4.6	MDS re-processes rejected data	Data Marshalling	Validation	The MDS must be able to initiate the re-processing of a Processing Service 'SP Level Data' that has been rejected.	Must have	Operations	MDS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS4.7	MDS validates against Registration data	Data Marshalling	Validation	During an aggregation run for a Settlement Day, MDS must include a check of the completeness and consistency of data accessed from PSS and UMSDS against the data accessed from the Registration Services i.e. that all Settlement periods are present and the data is in the appropriate format.	Must have	Operations	MDS6	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Processing									
MDS5.1	MDS Aggregation Requirements (CCCs)	Processing	Aggregation Run	An aggregation run must, for each BRP (Supplier), sum to the level of Consumption Component Class. The data used for the run will take account of the energisation status of the Metering System for the Settlement Date for which the run is being undertaken.	Must have	Operations	MDS8	Functional	
MDS5.2	MDS Aggregation Requirements (losses)	Processing	Aggregation Run	The line losses must be determined separately from the consumption / generation. The volumes derived application of Line Loss Factors (LLFs) accessed from the VAS will be allocated to the Consumption Component Classes associated with losses as appropriate.	Must have	Operations	MDS11	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS5.3	MDS Aggregation Requirements (MPAN counts)	Processing	Aggregation Run	The number of metering systems contributing to each consumption component class must be recorded with the aggregated data.	Must have	Operations	MDS8	Functional	
MDS5.4	MDS Metering Systems to be included in Settlement Run	Processing	Aggregation Run	The set of metering systems to be aggregated in an aggregation run of an initial settlement or reconciliation will be defined by data from the Registration Service.	Must have	Operations	MDS8	Functional	
MDS5.5	MDS processes refresh data notified by the Registration Service.	Processing	Registration Data	The MDS must correctly process this data in its entirety following a refresh of Registration data. All pending (previously rejected) data from the Registration Service can then be removed and ignored.	Must have	Operations	MDS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS5.6	MDS reprocesses registration data following refresh	Processing	Registration Data	The MDS should reprocess any pending data from other Registration Services following a refresh.	Must have	Operations	MDS1	Functional	
MDS5.7	MDS meets VAS timetable	Processing	General	MDS must be able to meet the published VAS Timetable.	Must have	Operations	MDS8	Functional	
MDS5.8	MDS complies with VAS Timetable	Processing	General	MDS must be able to complete sufficient aggregation runs to comply with the VAS Timetable.	Must have	Operations	MDS8	Functional	
MDS5.9	MDS accesses SP Level Data to meet VAS timetable	Processing	General	For each Settlement run, the MDS must be able to access SP Level Data from the Processing Service(s) for MPANs for which the MDS is responsible.	Must have	Operations	MDS8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS5.10	MDS accesses Registration data to meet VAS timetable	Processing	General	For each Settlement run, MDS must be able to access registration data from the Registration Service(s) for MPANs for which the MDS is responsible.	Must have	Operations	MDS8	Functional	
MDS5.11	MDS processes SP Level Data	Processing	General	For each Settlement run, MDS must be able to process all the MPAN SP Level Data for MPANs for which the MDS is responsible.	Must have	Operations	MDS8	Functional	
MDS5.12	MDS system flexibility to variation in data volumes	Processing	General	The MDS and its proposed hardware and software environment must not have any constraints on the variability of the volumes of data and events that it must handle for different aggregation runs.	Must have	Operations	MDS8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Reporting									
MDS6.1	MDS rejects data inconsistent with Industry Standing Data	Reporting	Exception Reporting	If any data accessed by the MDS is inconsistent with the Industry Standing Data the data must be rejected (pending re-processing).	Must have	Operations	MDS6	Functional	
MDS6.2	MDS reports exceptions and reason	Reporting	Exception Reporting	The MDS must report ejected data and the reason for rejection to the Processing Service or UMSDS so that the inconsistency can be investigated. The MDS must report such errors back to the Processing Service or UMSDS that notified access to the data.	Must have	Operations	MDS6	Functional	

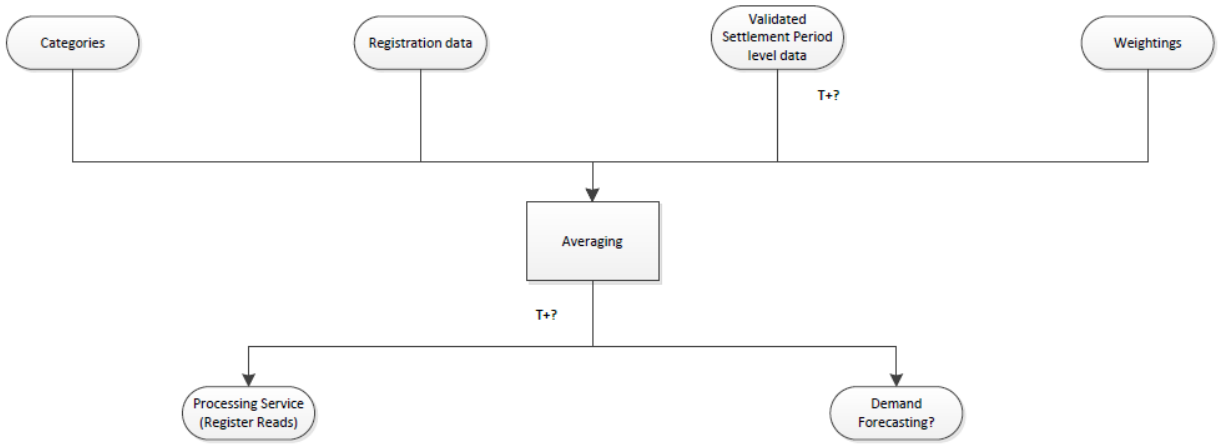
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS6.3	MDS process other valid data accessed	Reporting	Exception Reporting	Rejection of any data accessed does not preclude processing of other unrelated data accessed from the Processing Service or UMSDS.	Must have	Operations	MDS6	Functional	
MDS6.4	MDS reports incomplete or inconsistent data	Reporting	Exception Reporting	MDS must report any incomplete or inconsistent data to the MDS and to the relevant Processing Service or UMSDS and Suppliers.	Must have	Operations	MDS6	Functional	
MDS6.5	MDS reports exceptions (Aggregation Run)	Reporting	Exception Reporting	If, during an aggregation run, there are any discrepancies between data accessed from the Registration Service and that accessed from the Processing Service or UMSDS, they must be recorded as exceptions for the Initial Settlement or Reconciliation.	Must have	Operations	MDS8	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS6.6	MDS defaults and reports exceptions	Reporting	Exception Reporting	If during an aggregation run the SP level consumption values are missing for a Metering System, the MDS system must default the values according to the defaulting rules and record the discrepancy and report the exception	Must have	Operations	MDS7	Functional	Defaulting requirements to be defined for implementation
MDS6.7	MDS reports exceptions (post aggregation run)	Reporting	Exception Reporting	It must be possible to obtain a report, on request, of all exceptions encountered during an aggregation run for an initial settlement or reconciliation.	Must have	Activity	MDS8	Functional	

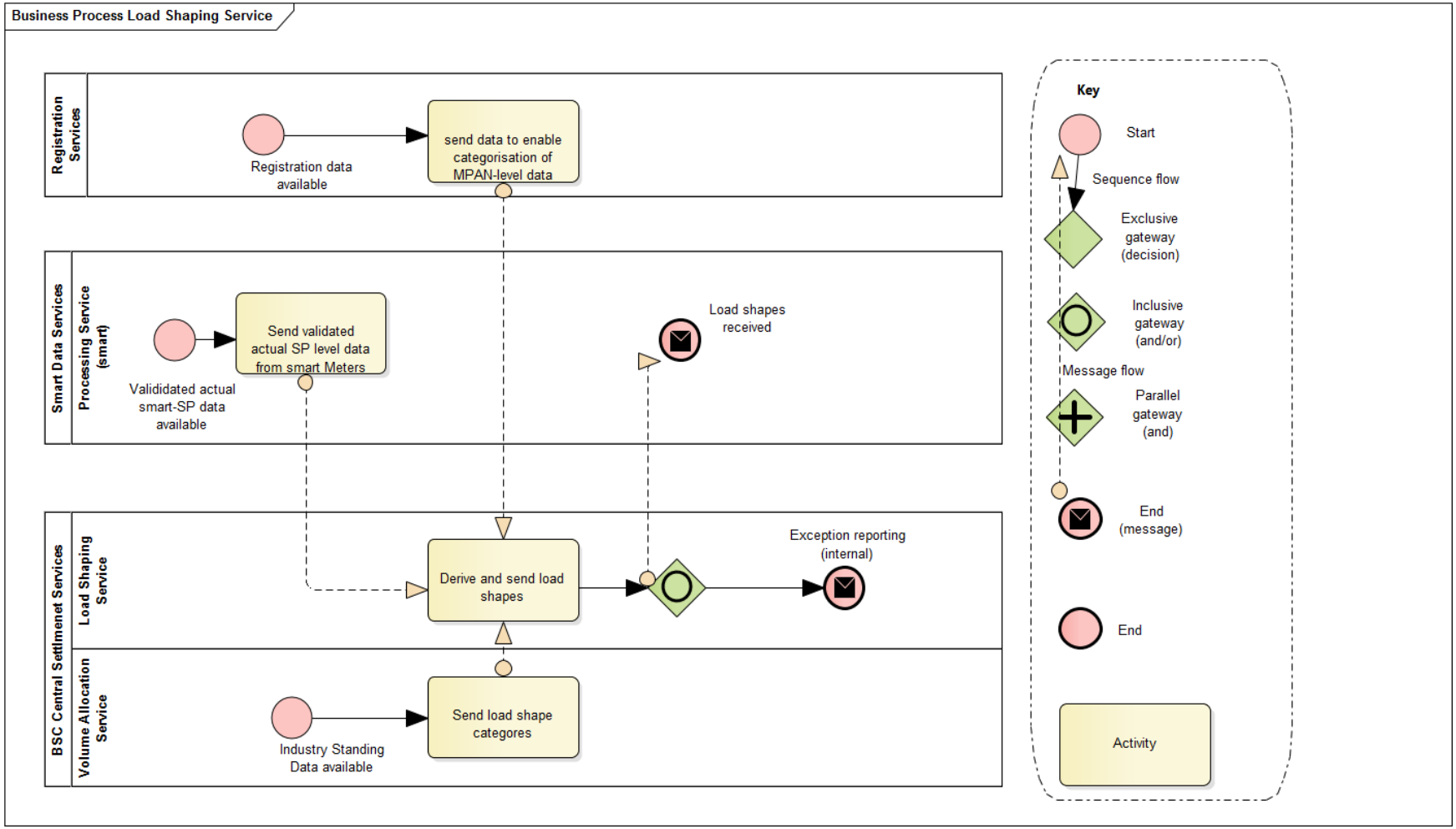
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
MDS6.8	MDS exception statistics	Reporting	Exception Reporting	It must be possible to obtain a report, on request, of statistics of exceptions encountered in an initial settlement or reconciliation by exception type.	Must have	Activity	MDS8	Functional	Exception types will need to be defined for implementation
MDS6.9	MDS reports exception by validation failure type.	Reporting	Exception Reporting	It must be possible to obtain a report, on request, of statistics of exceptions encountered across a range of initial settlement and/or reconciliations. It must be possible to select these initial settlements and/or reconciliations by a range of settlement days and a set of settlement codes.	Must have	Activity	MDS8	Functional	Validation failure types will need to be defined for implementation
MDS7.0	MDS provides data for Performance Assurance	Reporting	Performance	The MDS must be able to provided data for Performance Assurance as required	Must have	Activity	MDS14	Functional	

2. Load Shaping Service (LSS)

The Load Shaping Service (LSS) is responsible for calculating energy consumption (import and export) Load Shapes for a number of defined Categories of Metering Systems. The LSS uses validated actual Settlement Period (SP) level data accessed from the Processing Service (Smart) (PSS). The Load Shape data will then be used by the PSS to convert Register Readings (RRs) or Daily Consumption values into SP level data. The Load Shape data will also be used to estimate invalid SP level data for smart Meters and default where data is missing or unavailable.



Process diagram:



This diagram is also included in zip file.

This service will be responsible for:

LSS1 Accessing smart Meter Settlement Period data for Active Import and Active Export from the 'Processing Service for Smart and non-smart Meters';

LSS2 Deriving 'Load Shape' data for an agreed number of categories; and

LSS3 Providing access to 'Load Shape' data for the agreed categories to the Processing Service for Smart and non-smart Meters (according to an agreed schedule).

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
LSS1.1	Adherence to Industry Codes	Governance	Code Compliance	The LSS shall comply with all relevant Industry Codes and implement changes to the Load Shaping Service as required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
General									
LSS2.1	LSS Processes data in UTC and holds Active Import (AI) or Active Export (AE) data in kWh	General	Service Design	The LSS must be able to hold Settlement Period level data in Coordinated Universal Time (UTC) and in kilowatt hours (kWh) to three decimal places.	Must have	Service Design	LSS2	Data Requirement	All PSS and LSS data will be in UTC and kWh.
LSS2.1	LSS holds Categorisation Requirements	General	Service Design	The LSS must be able to hold data on the categorisations of data that are to be processed by the LSS. This data should be configurable on a daily basis.	Must have	Service Design	LSS2	Data Requirement	Industry Standing Data will contain the list of valid categorisations.
LSS2.4	LSS has the ability to weight data	General	Service Design	The LSS must be able to hold population weights that can be applied to data by categorisation.	Should have	Service Design	LSS2	Data Requirement	This could be used to weight regional averages together in the future. E.g. to calculate a National average.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS2.5	LSS flexible to changes in Settlement Period Definition	General	Service Design	The LSS must be designed flexibly to accommodate changes in the definition of a Settlement Period.	Must have	Service Design	LSS2	Data Requirement	In case of 15 minute Settlement Period in the future
LSS2.6	LSS Standing Data for Processing Services	General	Service Design	The LSS must have a PSS registration that holds the details of all Processing Service(s) from which data is to be accessed. The will hold an 'Effective from Settlement date'.	Could have	Service Design	LSS1	Functional	These registrations could be held elsewhere e.g. Industry Standing Data Or similar to CRA process needs to be defined for implementation
LSS2.7	LSS Operational timescales	General	Service Design	The LSS must complete and notify outputs for each LSS run for each Settlement day within a 24 hour period.	Must have	Service Design	LSS1 to 3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS2.8	LSS undertakes multiple LSS runs per day	General	Service Design	The LSS must be able to undertake calculations and output data on a daily basis to the PSS. The LSS must be able to undertake multiple runs per day.	Must have	Service Design	LSS2	Functional	At least two runs may be required.
LSS2.9	LSS Operational Availability	General	Service Design	The LSS must be available on every day of the year in order to undertake Load Shaping runs. This allows PSS to output estimated/defaulted data in line with the accelerated Settlements timetable.	Must have	Service Design	LSS1 to 3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS2.10	LSS stores out-turn Load Shapes	General	Service Design	The LSS must store the out-turn Load Shapes and total by Categorisation. The Metering System count included in the calculation for each out-turn average load shape must be stored.	Must have	Service Design	LSS2	Functional	
LSS2.11	LSS stores de-Minimis MPAN value and defaulting requirements	General	Service Design	The LSS must be able to store a configurable parameter that sets a de-Minimis number of MPANs to be included in the calculation for each categorisation. The LSS should also hold rules for defaulting data where the number of MPAN is lower than the de-Minimis number.	Must have	Service Design	LSS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Interfaces									
LSS3.1	LSS Interfaces with Processing Services (PSS)	I/O Interface - External	Input / Output Interface	The LSS must have an interface to access from or notify data to the PSS.	Must have	Operations	LSS1	Functional	I/O data formats will need to be specified and stored.
LSS3.2	LSS Interfaces with Registration Service	I/O Interface - External	Input Interface	The LSS must have an interface to access registration data from the Registration Service of Licenced Distribution System Operators (LDSO) on every calendar date.	Must have	Operations	LSS1	Functional	Update would be required on a daily basis where registration data has changed.
LSS3.3	LSS accesses Industry Standing Data	I/O Interface - Internal	Input interface	The LSS must be able to access ISD from the VAS as appropriate	Must have	Operations	LSS1	Functional	
LSS3.4	LSS acknowledges receipt of data from Processing Services (PSS)	I/O Interface - External	Output Interface	An acknowledgement of access to data must be returned by the LSS to the PSS who notified the data.	Must have	Operations	LSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS3.5	LSS notifies Load Shapes to the Processing Service(s)	I/O Interface - External	Output Interface	On completion of processing for all categorisations for a Settlement Date access to the out-turn Load Shapes and totals shall be notified to the PSS for each Settlement Period in kWh to three decimal places and in Coordinated Universal Time (UTC). The LSS also provides default data report.	Must have	Operations	LSS3	Functional	
LSS3.6	LSS notifies Load shapes to other Parties as required	I/O Interface - External	Output Interface	On completion of daily processing for all categorisations for a Settlement Date access to the Load Shapes and totals shall be notified for each Settlement Period in kWh to three decimal places to other Parties as required.	Could have	Operations	LSS3	Functional	E.g. data to BRPs for forecasting, public interest groups and academics

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Data Marshalling									
LSS4.1	LSS uses Industry Standing Data	Data Marshalling	Industry Standing Data	The LSS must be able to use ISD for validation or other purposes as appropriate	Must have	Activity	LSS1	Functional	Includes standing data on categorisations of MPANs
LSS4.2	LSS validates Registration data against Industry Standing Data	Data Marshalling	Validation	The LSS must validate Registration Data and Standing Data accessed from the Registration Services against the Industry Standing Data.	Must have	Activity	LSS1	Functional	This includes valid registration items against valid data and valid data sets defined in ISD.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS4.3	LSS rejects invalid data.	Data Marshalling	Validation	The LSS must reject the data that fails validation (pending re-processing) and the rejection, with reason, must be reported to the Load Shaping Service so that the inconsistency can be investigated. An error report, which includes an explanation of why the data failed validation, must be sent back to the notifying Service.	Must have	Activity	LSS1	Functional	This is internal exception reporting
LSS4.4	LSS process valid data.	Data Marshalling	Validation	The LSS must continue processing of other unrelated data when partial data is rejected following validation.	Must have	Activity	LSS1	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS4.5	LSS Accesses data from Processing Services	Data Marshalling	Data Access	The LSS must access data from each Processing Service daily for the defined Settlement dates for which calculations are required as set out in the [VAS Timetable].	Could have	Activity	LSS1	Functional	New calendar required for both PSS and LSS?
Processing									
LSS5.1	LSS initiates calculations	Processing	Averaging by Category	The LSS will initiate the Load Shaping run daily once Data Marshalling Activities are concluded.	Must have	Operations	LSS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS5.2	LSS averages data by Categorisation	Processing	Averaging by Category	The LSS must be able to perform Load Shaping runs that average Settlement Period Level data by categorisation for at least [X] Million MPANs on a daily basis for each Settlement date for which data access has been notified.	Must have	Operations	LSS2	Functional	
LSS25.3	LSS calculates daily totals.	Processing	Totalisation	The LSS must be able to calculate the daily total consumption (or export volume) for each categorisation.	Must have	Operations	LSS2	Functional	

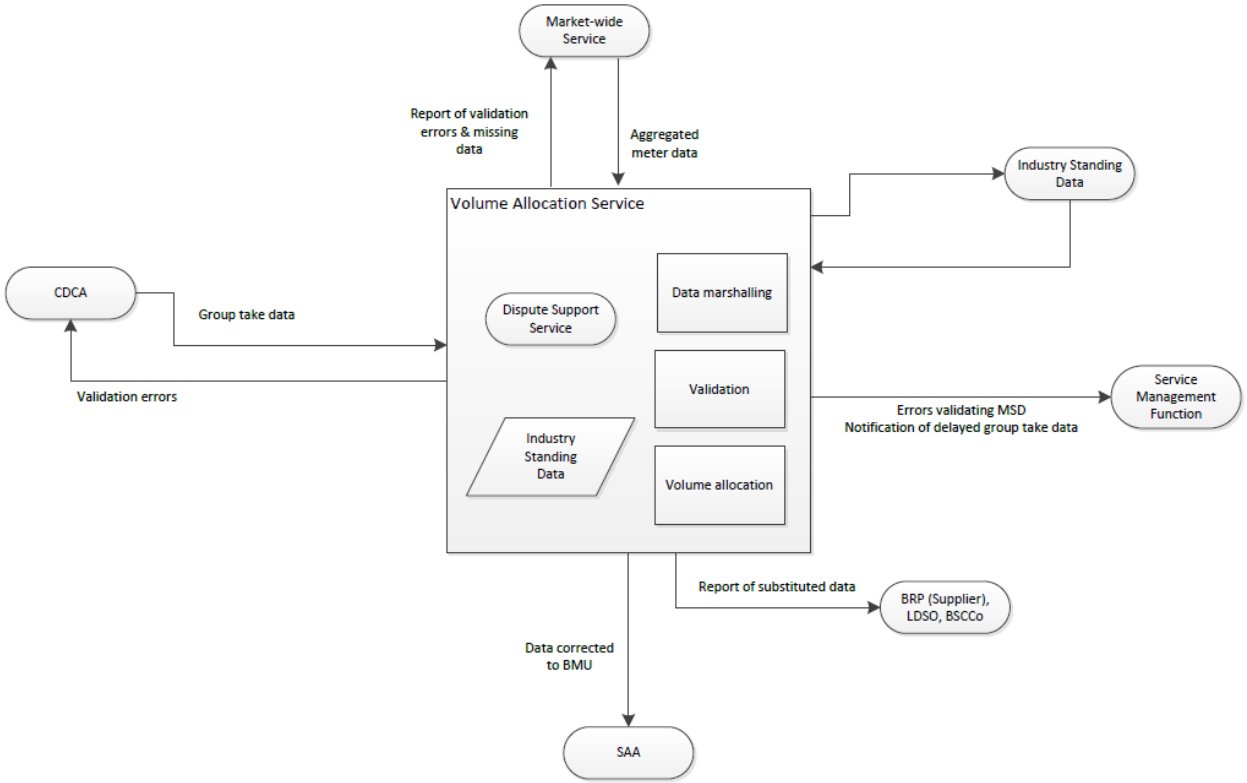
Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS5.4	LSS calculates 7 day total by categorisation	Processing	Totalisation	The LSS must be able to calculate the total average consumption (or export volume) for each categorisation based on the Settlement day being processed and the Load Shape for the previous 6 (six) days.	Must have	Operations	LSS2	Functional	
LSS5.5	LSS counts number of MPANs in each calculation	Processing	Totalisation	The LSS must be able to count the number of MPANs for each categorisation in the calculation.	Must have	Operations	LSS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
LSS5.6	LSS processes and Stores default data.	Processing	Defaulting	Where the number of MPANs for a categorisation is lower than the configured de-Minimis parameter the LSS shall apply the defaulting rules. The LSS must store the out-turn Load Shapes by Categorisation. The MPAN count included in the calculation for each outturn average load shape must be stored together with a flag that the data is based on default data. The defaulting rules must be able to be amended from time to time.	Must have	Operations	LSS2	Functional	Defaulting Rules to be defined for implementation.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Reporting									
LSS6.1	LSS reports Exceptions	Reporting	Exception Reporting	The LSS must report exceptions to the PSS where data cannot be accessed (or is invalid) from the Processing Service.	Must have	Activity	LSS2	Functional	
LSS6.2	LSS reports Default data	Reporting	General Reporting	The LSS must report instances where defaulting data has been applied and how the replacement data has been derived.	Must have	Activity	LSS2	Functional	Report to PSS as part of daily process.
Service Specific Non-Functional									
LSS7.1	LSS data retention	Audit	Data retentions	The LSS must retain all Load Shapes, total and MPAN counts for a period of [X} years	Must have	Operations	LSS1 to 3	Non-Functional	Data Retention requirements to be defined for implementation

3. Volume Allocation Service (VAS)

The Volume Allocation Service (VAS) is responsible for accessing aggregated Settlement Period (SP) level data from the Market-wide Data Service (MDS). The VAS accesses SP level data (Grid Supply Point Group Takes) from the Central Data Collection Agent (CDCA). Using these two data sets the VAS calculates SP level energy volumes for Balancing Mechanism Units (BMUs). The data is processed for each Settlement day in a scheduled run called a Volume Allocation Run (VAR). The processed BMU data is used in the Imbalance Settlement calculations. The VAS will also allocate or aggregate data for other purposes and provides a wide range to reporting on the Settlement data. The VAS also manages Industry Standing Data (ISD) which is provided to the other services for use in their processes.



This service will be responsible for:

VAS1	Accessing aggregated Settlement Period level data from the Market-wide Data Service;
VAS2	Accessing information from other central services on the net volume of energy entering a distribution region for each Settlement Period (as currently provided by the Central Data Collection Agent);
VAS3	Aggregating data for Balancing Mechanism Units;
VAS4	Aggregating all data within a distribution region;
VAS5	Calculating the differences between the aggregated BM Unit data and the information on net volume of energy entering a distribution region for each Settlement Period;
VAS6	Applying corrections and/or adjustments to BM Unit data within a distribution region as appropriate;
VAS7	Aggregating the corrected BM Unit data across distribution regions for use in the Imbalance Settlement calculations;
VAS8	Providing out-turn data to the service responsible for the Imbalance Settlement calculation;
VAS9	Maintaining and providing access to Industry Standing Data as appropriate;
VAS10	Providing reports and other relevant data to other parties as appropriate;
VAS11	Service Availability
VAS12	Miscellaneous
VAS13	Dispute and Reporting

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Governance									
VAS1.0	Adherence to Industry Codes	Governance	Code Compliance	The VAS shall comply with all relevant Industry Codes and implement changes to the VAS required by Modifications to the Codes.	Must have	Governance	Non-Functional	Non-Functional	
General									
VAS2.1	VAS validates and Maintains Industry Standing Data	General	Service Design	The VAS must be able to validate and maintain Industry Standing Data (ISD)	Must have	Operations	VAS9	Functional	
VAS2.2	Vas converts data from Coordinated Universal Time (UTC) to Clock Time (CLK).	General	Service Design	The VAS must be able to convert SP level data from UTC to CLK Time.	Must have	Service Design	VAS1	Data Requirement	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS2.3	VAS System Processes data in Clock Time and holds Active Import (AI) or Active Export (AE) data in MWh	General	Service Design	The VAS must be able to process Settlement Period level data in Clock Time (CLK) and in megawatt hours (MWh).	Must have	Service Design	VAS1	Data Requirement	
VAS2.4	VAS System flexible to changes in Settlement Period Definition	General	Service Design	The VAS must be designed flexibly to accommodate changes in the definition of a Settlement Period.	Must have	Service Design	VAS1	Data Requirement	In case of 15 minute Settlement Period in the future
VAS2.5	VAS System Aggregates Settlement Period Level data	General	Service Design	The VAS must be designed to aggregate Settlement Period Level data for any defined Balancing Mechanism Unit according the VAS Settlement Calendar.	Must have	Service Design	VAS3	Functional	New VAS Timetable/Calendar and Post Final will need to be developed

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS2.6	VAS System corrects data	General	Service Design	The VAS must be designed to allow the correction of allocated BMU data to the GSP Group Take, for each Settlement Period, by GSP Group for each Volume Allocation Run (VAR) according to the rules agreed from time to time and set out in the BSC.	Must have	Service Design	VAS4, VAS5 andVAS6	Functional	Calculation process unchanged. ToU scaling weights may be introduced. Revised Consumption Component Classes to be defined for implementation .
VAS2.7	VAS undertakes interim validation checks	General	Service Design	The VAS must be designed to allow interim validation checks on the VAS calculations according to configurable criteria (set from time to time by BSCCo). Data failing validation must be reported to BSCCo.	Must have	Service Design	VAS8	Functional	This functionality already exists in the existing VAS System

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS2.8	VAS calculates Supplier Deemed take	General	Service Design	The VAS must be designed to allow the aggregation of the GSP Group Corrected Consumption Component Class for each BMU per GSP Group for each VAR Run into the Supplier Deemed take for the GSP Group.	Must have	Service Design	VAS7	Functional	
VAS2.9	Standing Data for Market-wide Data Services	General	Service Design	The VAS must have a Central Registration Service that holds the details of all Market-wide Data Services from which data is to be accessed. This will hold an effective from Settlement date.	Won't have	Service Design	VAS3	Functional	Not required TOM dependent: The CRS may need to be amended to hold registrations of Processing Services.
Interfaces									
VAS3.1	VAS Interfaces with Market-wide Data Service	I/O Interfaces - Internal	Input/output Interface	The VAS must have an interface to access from or notify data to the Market-wide Data Service.	Must have	Operations	VAS1	Functional	I/O data formats will need to be specified and stored.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS3.2	VAS interfaces with Market Participants	Interfaces	Output	The VAS must have an interface with Market Participants to notify Settlement Reports and Industry Standing Data as required	Must have	Operations	VAS9 - 10	Functional	
VAS3.3	VAS interfaces with LDSOs	I/O Interfaces - External	Input/output Interface	The VAS must be able to interface with the LDSOs to notify DUoS reports and to access Line Loss Factor Data.	Could have	Operations	VAS10	Functional	
VAS3.4	VAS interfaces with the Settlement Administration Agent	I/O Interfaces - Internal	Input/output Interface	The VAS must be able to interface with the SAA to notify the Supplier Deemed Take for each BMU and other data as appropriate.	Must have	Service Design	VAS8	Functional	
VAS3.5	VAS Interfaces with Central Data Collection Agent	Interfaces	Input Interface	The VAS must have an interface to access Group Take Data from the Central Data Collection Agent in accordance with the VAS Settlement Timetable calendar date.	Must have	Operations	VAS2	Functional	No changes to current requirements.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Standing Data									
VAS4.1	VAS manages Industry Standing Data	Standing Data	Maintenance	Before each Volume Allocation Run (VAR) the VAS shall check whether the Industry Standing Data has been updated and, if so, extract the updates into the VAS.	Must have	Activity	VAS9	Functional	
VAS4.2	VAS validates Industry Standing Data	Standing Data	Validation	The VAS shall validate the Market Data updates.	Must have	Activity	VAS9	Functional	The VAS needs to ensure all required items are present and complete for each update of the Industry Standing Data.
VAS4.3	VAS Standing Data management	Standing Data	Maintenance	The VAS shall maintain the standing data and manage the process for Supplier approval of automated standing data updates in accordance with [BSCP507].	Must have	Activity	VAS9	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS4.4	VAS CRA Contacts	Standing Data	Registrations	The VAS shall advise the Central Registration Agent of changes to its contact details, in accordance with [BSCP507]	Must have	Activity	VAS9	Functional	
VAS4.5	VAS Standing Data updates	Standing Data	Maintenance	Before each VAR, the VAS shall check whether the standing data has been updated and, if so, translate the updates into the VAS before the VAR.	Must have	Activity	VAS9	Functional	CRA and ISD must be updated prior to the VAR run initiation.
VAS4.6	VAS Parameters	Standing Data	Parameters	The VAS shall enter into the VAS any parameters required to make it function correctly.	Must have	Activity	VAS9	Functional	VAS parameters need to be defined and updated for Implementation
VAS4.7	VAS Parameter logging	Standing Data	Parameters	The VAS shall record details about standing data and other input parameters from time to time entered into the VAS, together with any relevant validation messages, as specified in [TBC].	Must have	Activity	VAS9	Functional	Details to be considered for implementation

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS4.8	VAS Standing Data conflicts	Standing Data	Validation	Where the data has originated from a source designated as a valid Market-wide Data Service defined in Industry Standing Data, but has failed validation due to a conflict with the standing data and loading of this file will produce an exception report containing a warning message that describes the discrepancy. The standing data for that Settlement Day will automatically be amended to agree with the data notified by the Market-wide Data Service.	Must have	Activity	VAS9	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS4.9	VAS Standing Data Amendments	Standing Data	Validation	The VAS shall amend the standing data for a Settlement Day where the VAS has been informed that Market-wide Data Service data is not required for that GSP Group on that Settlement Day. This confirmation may be made by either that Market-wide Data Service, all the Suppliers that would be associated with the data, the BSCCo or its nominated agent. In this instance the VAS shall require written confirmation before altering the standing data at a Final Reconciliation VAR or a Post Final Run.	Must have	Activity	VAS9	Functional	
VAS4.10	VAS Standing Data Amendment Reporting	Standing Data	Validation	The VAS shall inform the BSCCo or its nominated agent within [one] Working Day of the VAR that the standing data has been altered.	Must have	Activity	VAS9	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Data marshalling									
VAS5.1	VAS validates Group Take data	Data Marshalling	Validation	The VAS shall input and validate all data accessed from the Central Data Collection Agent (CDCA), within the time period from receipt of the file specified in [TBC].The incoming data will be validated to ensure that the daily total GSP Group Take equals the sum of the period GSP Group Takes for that day. Therefore, the validation check on the incoming GSP Group Take data should include the following: i. Physical integrity ii. The file is from the correct source i.e. CDCA iii. Any data for Settlement Days and times which are already within the system must be a later version than that in the system iv. The data has the correct number of Settlement Periods v. The data is for the correct GSP Group(s)	Must have	Operations	VAS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS5.2	VAS uses CDCA data passing validation by defined deadline	Data Marshalling	Validation	Whenever possible, but notified that the VAS meets its obligations the VAS shall use the data passing validation from the Central Data Collection Agent after the deadline in the VAS Settlement Calendar.	Must have	Operations	VAS2	Functional	
VAS5.3	VAS accesses data from Market-wide Data Service (s)	Data Marshalling	Data Access	The VAS must access data from each Market-wide Data Service daily for the defined Settlement dates for which calculations are required as set out in the VAS Settlement Calendar	Must have	Operations	VAS3	Functional	TOM dependent the data could be held at MPAN level by VAS
VAS5.4	VAS validate data from the Market-wide Data Service(s)	Data Marshalling	Validation	The VAS shall input and validate all data file from the Market-wide Data Service accessed before the deadline in the VAS Settlement Calendar, within the time period from receipt of the data specified in [TBC]	Must have	Operations	VAS3	Functional	TOM dependent the data could be held at MPAN level by VAS. Validation Rules to be defined in line with 4.1.3 of BSCP508.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS5.5	VAS uses data passing validation by defined deadline	Data Marshalling	Validation	Whenever possible, but notified that the VAS meets its obligations the VAS shall use the data passing validation from the Market-wide Data Services after the deadline in the VAS Settlement Calendar.	Must have	Operations	VAS3	Functional	TOM dependent the data could be held at MPAN level by VAS. The deadline may relate to the PSS.
VAS5.6	VAS uses latest CDCA available data	Data Marshalling	Validation	Where the VAS has accessed more than one dataset which has passed validation from the CDCA designated for the same VAR, the VAS shall use the file with the latest Run number.	Must have	Operations	VAS2	Functional	
VAS5.7	VAS Inform of late CDCA data	Data Marshalling	Late Data	The VAS shall notify the Service Management Function or its nominated agent without delay in the event that the VAS can only accesses data from the CDCA after the deadline in the VAS Settlement Calendar.	Must have	Operations	VAS2	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS5.8	VAS uses latest available data	Data Marshalling	Validation	Where the VAS has accessed more than one dataset which has passed validation from the same Market-wide Data Service designated for the same VAR, the VAS shall use the file with the latest Run number.	Must have	Operations	VAS3	Functional	
Reporting									
VAS6.1	VAS reports exceptions in Industry Standing Data	Reporting	Exceptions	The VAS shall inform the Service Management Function or its nominated agent of any errors which occurred in validating the Industry Standing data.	Must have	Activity	VAS9	Functional	Reported errors need to be addressed and revised prior to publish of the ISD.
VAS6.2	VAS reports validation errors to the Market-wide Data Service(s)	Reporting	Exception Reporting	The VAS shall inform the Market-wide Data Service (MDS) of any validation errors and specify their nature	Must have	Operations	VAS3	Functional	TOM dependent the data could be held at MPAN level by VAS. The validation errors might be reported to the PSS.

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS6.3	VAS reports validation errors to the CDCA	Reporting	Exception Reporting	The VAS shall inform the CDCA of any validation errors and specify their nature	Must have	Operations	VAS2	Functional	
VAS6.4	VAS Provision of Output reports	Reporting	General Reporting	The VAS shall produce and distribute the reports output from the VAS.	Must have	Activity	VAS10	Functional	Reporting requirements will need to be defined for implementation including content, format and frequency.
VAS6.5	VAS Reporting Timescales	Reporting	General Reporting	The VAS shall notify these output reports in accordance with the timescales specified in BSCP508 and maintain a record of all files despatched with the date stamps and the due time/date of despatch.	Must have	Activity	VAS10	Functional	
VAS6.6	VAS Ad Hoc Reporting	Reporting	General Reporting	The VAS shall notify Ad Hoc information to the BSCCo or its nominated agent on request.	Must have	Activity	VAS10	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS6.7	VAS re-notifying of Reports	Reporting	General Reporting	The VAS shall only re-notify output reports to a recipient requesting a re-notify	Must have	Activity	VAS10	Functional	
VAS6.8	VAS Reporting Media	Reporting	General Reporting	The VAS shall despatch reports by one of the available media defined in the [TBC] and chosen by the recipient. The VAS shall not despatch individual reports to recipients who have elected not to access them.	Must have	Activity	VAS10	Functional	
VAS6.9	VAS Report Tractability	Reporting	General Reporting	The VAS shall notify on request to any authorised recipient and the BSCCo or its nominated agent information on the files despatched.	Must have	Activity	VAS10	Functional	What was provided, to whom and when.
VAS6.10	VAS failure reporting	Reporting	General Reporting	The VAS shall record the occurrence of, and investigate the reasons for, any VAR failure and report that information without delay to the BSCCo or its nominated agent.	Must have	Activity	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS6.11	VAS notifies Supplier Deemed Takes to Settlement Administration Agent	Reporting	Supplier Deemed Take	The VAS shall notify access to the calculated Supplier Deemed Take data for each BMU according to the timescales set out in the VAS Settlement Calendar.	Must have	Operations	VAS8	Functional	
Processing									
VAS7.1	VAS invokes VAR Run	Processing	Volume Allocation Run	The VAS shall invoke the VAS in accordance with the VAS Settlement Calendar for the specific GSP Groups, Settlement Days and run types, unless instructed otherwise by the BSCCo or its nominated agent.	Must have	Operations	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.2	VAS chases missing data	Processing	Volume Allocation Run	Before invoking a VAR, the VAS shall actively seek to obtain any missing data file from the relevant originator within [TBC] timescale before the deadline for receipt of the relevant data specified in the VAS Settlement Calendar. For this purpose a missing data means any data required for a VAR (as indicated by the standing data) which the VAS knows to be unavailable in validated form. Where the VAS believes that a data file is missing from an Aggregation, the VAS shall enquire from the Market-wide Data Service as to whether the Aggregation is obligated to notify the data.	Must have	Operations	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.3	VAS processes data for invalid BMUs	Processing	Volume Allocation Run	Where the data file is a Balancing Mechanism Unit file and has failed validation due to an invalid Balancing Mechanism Unit, the VAS shall assign the energy value for the failed Balancing Mechanism Unit to the Base Balancing Mechanism Unit.	Must have	Operations	VAS3	Functional	
VAS7.4	VAS retains log of VAR details	Processing	Volume Allocation Run	The VAS shall maintain information relating to VARs in a log containing the information specified in [TBC]	Must have	Operations	VAS3	Functional	Information to be retained will need to be defined for implementation
VAS7.5	VAS System issue reporting	Processing	Volume Allocation Run	Where the VAS has been non-operative such that the Services notified will obviously be affected, the VAS shall contact the BSCCo or its nominated agent for advice about rescheduling the VAR(s).	Must have	Operations	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.6	VAS Interim Information defaulting	Processing	Defaulting	In respect of missing data not accessed and validated by the relevant deadline for an Interim Information VAR, the VAS shall take the following action: missing Settlement Period level Aggregation data - for Weekday, Saturday and Sunday day types, substitute data from the previous Settlement Day of the same day type, and for all other day types substitute data from the previous Sunday Settlement Day, with sufficient number of Settlement Periods in respect of each Supplier / Market-wide Data Service combination.	Must have	Operations	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.7	VAS Interim Information Defaulting (other)	Processing	Defaulting	Seek and follow the instruction from the BSCCo or its nominated agent as to the appropriate data to substitute where the Market-wide Data Service data is missing and there is no previous Interim Information VAR with that Settlement Day type, or where the VAS is unsure of the appropriate data to substitute for any other reason.	Must have	Operations	VAS3	Functional	
VAS7.8	VAS missing VAR defaulting	Processing	Defaulting	For missing Market-wide Data Service data - substitute data from the previous Settlement Run for that Settlement Day in respect of each Supplier /Market-wide Data Service combination.	Must have	Operations	VAS3	Functional	
VAS7.9	VAS missing VAR defaulting (CDCA)	Processing	Defaulting	For missing GSP Group Take data – substitute data from the previous VAR for the same Settlement Day.	Must have	Operations	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.10	VAS report substitute data	Processing	Defaulting	The VAS shall report details of any substituted data to the relevant Suppliers, LDSOs and the BSCCo or its nominated agent.	Must have	Operations	VAS3	Functional	
VAS7.11	VAS logs defaulting contact information	Processing	Defaulting	The VAS shall maintain a record of all contact with, and attempts to contact, originators of missing data.	Must have	Operations	VAS3	Functional	
VAS7.12	VAS treatment of negative data	Processing	Volume Allocation Run	The VAS shall allow the Supplier Deemed Take by BM Unit to be either positive or negative (that is, negative consumption should not be treated as spill and should not be allocated to other Suppliers).	Must have	Activity	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.13	VAS incomplete VARs	Processing	Volume Allocation Run	Where any VAR cannot be completed, the VAS shall agree remedies with the BSCCo or its nominated agent, the Settlement Administration Agent and, if appropriate, the CDCA and the Funds Administration Agent to ensure that the output will be delivered to the Settlement Administration Agent in accordance with the Funds Administration Agent Calendar, or as soon as possible thereafter.	Must have	Activity	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.14	VAS incomplete initial VAR	Processing	Volume Allocation Run	In the event that the VAS is unable to complete an Initial VAR, the VAS shall notify estimated data, by BM Unit, to the Settlement Administration Agent without fail for every occasion that an Initial VAR is required by the Funds Administration Agent Calendar. To estimate the data, the VAS shall estimate in energy terms, by BM Unit, the total value of the Supplier Deemed Take in each half hour, between Suppliers in the same proportion as occurred in the last Initial VAR for a Settlement Day for which the same day type.	Must have	Activity	VAS3	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS7.15	VAS Disconnection Event	Processing	Volume Allocation Run	When a Demand Disconnection has occurred as part of a Demand Control Event, the VAS will access and process adjusted aggregated energy volumes for the affected settlement date(s) as part of a timetabled Reconciliation Run.	Must have	Operations	VAS3	Functional	
Service Levels									
VAS8.1	VAS monthly performance report	Service levels	SLA Reporting	The VAS shall notify complete and accurate monthly routine Performance Monitoring Reports to the BSCCo or its nominated agent within [5] Working Days before the end of the month.	Must have	Activity	VAS10	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS8.2	VAS ad hoc performance reporting	Service levels	SLA Reporting	The VAS shall notify complete and accurate ad-hoc Performance Monitoring Reports to the BSCCo or its nominated agent within 5 Working Days from receipt of the request. This timeframe can be extended upon authorisation from the BSCCo or its nominated agent.	Must have	Activity	VAS10	Functional	Revised PMR requirement will need to be defined for implementation
VAS8.3	VAS performance reporting	Service levels	SLA Reporting	The VAS shall notify the information as specified in [TBC] to the BSCCo or its nominated agent on request.	Must have	Activity	VAS10	Functional	Appendix 1 of SVA Service description needs review to align with data available

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Service Availability									
VAS9.1	VAS Service Availability	Service Availability	General	The VAS shall ensure the Services described in this Service Description shall be carried out for each Settlement Day according to the VAS Settlement Calendar, and be available throughout the Working Day.	Must have	Operations	VAS11	Functional	
VAS9.2	VAS Operational Availability	Service Availability	General	The VAS shall ensure the SVA is capable of being operational for 24 hours per day, less the time reasonably required for planned daily back-up.	Must have	Operations	VAS11	Functional	
VAS9.3	VAS Ad Hoc VARs	Service Availability	General	The VAS shall, as required by the BSCCo or its nominated agent, notify the Service for additional VARs other than those required to meet the VAS Settlement Timetable, on a timescale to be agreed with the BSCCo or its nominated agent.	Must have	Operations	VAS11	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS9.4	VAS 24 hour Operations	Service Availability	General	Where required by the BSCCo or its nominated agent, and given five Working Days' notice, the VAS shall notify the Service 24 hours per day, less the time reasonably required for planned daily back-up.	Must have	Operations	VAS11	Functional	
VAS9.5	VAS System failure reporting	Miscellaneous	General	The VAS shall immediately report to the BSCCo or its nominated agent any known or suspected failures of the hardware or software, any such report to be confirmed in writing.	Must have	Miscellaneous	VAS12	Functional	
Miscellaneous									
VAS10.1	VAS Suspected Errors	Miscellaneous	General	The VAS shall report to the BSCCo or its nominated agent any significant known or suspected errors in the Settlement process, any such report to be confirmed in writing.	Must have	Miscellaneous	VAS12	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS10.2	VAS Corrective action advice	Miscellaneous	General	The VAS shall seek and follow the advice of the BSCCo or its nominated agent where the VAS is uncertain about the correct course of action in exceptional circumstances or in cases of ambiguity in the documentation, notified that seeking advice shall not delay passing reports to the Settlement Administration Agent beyond the timescales in the Funds Administration Agent Calendar.	Must have	Miscellaneous	VAS12	Functional	
VAS10.3	VAS system synchronisation	Miscellaneous	System Synchronisation	The VAS shall synchronise the VAS's time to ensure agreement within one second of Co-ordinated Universal Time.	Must have	Miscellaneous	VAS12	Functional	
VAS10.4	VAS GSP Group report	Miscellaneous	Reporting	Where requested by the BSCCo or its nominated agent, the VAS will produce a GSP Group Report to the BSCCo or its nominated agent.	Must have	Miscellaneous	VAS12	Functional	Details of report content and format will need to be defined for implementation

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS10.5	VAS Timestamping	Miscellaneous	Timestamping	The VAS shall attach data creation timestamps to incoming data to ensure that the data are processed in the correct order.	Must have	Miscellaneous	VAS12	Functional	Latest valid data to be used.
VAS10.6	VAS Timestamping (Audit)	Miscellaneous	Timestamping	The VAS shall allocate processed timestamps (the time at which the file was processed) to incoming data for audit purposes.	Must have	Miscellaneous	VAS12	Functional	
Line Losses									
VAS11.1	VAS validates Line Loss Factor Data	Line Loss Factors	Validation	The VAS shall input and validate a LLF received from the BSCCo or its nominated agent, within the timescale agreed between the BSCCo or its nominated agent and VAS.	Must have	Activity	VAS9	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS11.2	VAS identifies LLF data validation errors	Line Loss Factors	Validation	In relation to any data file received from the BSCCo or its nominated agent, the VAS shall inform the BSCCo or its nominated agent of any validation errors and specify their nature.	Must have	Activity	VAS9	Functional	
VAS11.3	VAS notifies missing LLF data	Line Loss Factors	Validation	Following the deadline for the provision of Line Loss Factors the VAS shall inform the BSCCo or its nominated agent of any Line Loss Factor Classes for which data are missing	Must have	Activity	VAS9	Functional	
VAS11.4	VAS maintains information relating to LLF data	Line Loss Factors	Validation	The VAS shall maintain information relating to data received from Licensed Distribution System Operators (LDSOs)	Must have	Activity	VAS9	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Disputes									
VAS12.1	VAS notifies Dispute Support Service	Disputes	General	The VAS shall notify the Dispute Support Service in order that Market Participants may pursue and verify disputes.	Must have	Service Design	VAS13	Functional	
VAS12.2	VAS dispute VAR Runs	Disputes	General	For up to [Twelve] (12) months after any Settlement Day the VAS shall, on request of the BSCCo or its nominated agent, perform a VAR for such Settlement Day.	Must have	Service Design	VAS13	Functional	
VAS12.3	VAS requests data relating to a dispute	Disputes	General	The VAS shall (on request) notify the information required by the Market Participant requesting support. This may consist of the data used and the outputs produced on one or more Settlement Days.	Must have	Service Design	VAS13	Functional	
VAS12.4	VAS dispute data controls	Disputes	Controls	The VAS shall ensure that, unless otherwise agreed, BRPs (Suppliers) only receive data relating to their own purchases.	Must have	Service Design	VAS13	Business Rule	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS12.5	VAS complies with Trading Dispute process	Disputes	General	The VAS shall comply with the Trading Dispute processes set out in the CSDs (Code Subsidiary Documents) to the BSC [BSCP11].	Must have	Service Design	VAS13	Business Rule	
VAS12.6	VAS dispute data availability	Disputes	Availability	The VAS shall be able to supply input and output data and software from archive within two Working Days for any Settlement Day up to [12] months after the Settlement Day, in printed and electronic form, to support the reasonable requirements of the BSCCo or its nominated agent.	Must have	Service Design	VAS13	Functional	
VAS12.7	VAS supports ESDs	Disputes	ESDs	The VAS shall support the Extra-Settlement Determination (ESD) process as agreed with the BSCCo or its nominated agent.	Must have	Service Design	VAS13	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
VAS12.8	VAS provision of Market Standing data for disputes	Disputes	Availability	The VAS shall notify a copy of Industry Standing Data for any Settlement Day on request by any authorised party, for audit and dispute purposes for a period of [12] months prior to when the request was made.	Must have	Service Design	VAS13	Functional	
VAS12.9	VAS notifies material Settlement Errors	Disputes	Settlement Error	Where the VAS is aware of errors within Settlement that may give rise to a dispute it shall notify the BSCCo or its nominated agent promptly.	Must have	Service Design	VAS13	Business Rule	
VAS12.10	VAS initiates dispute for material Settlement Errors	Disputes	Materiality	The VAS shall initiate a dispute where there has been a material error in the Settlement process. The BSCCo or its nominated agent shall inform the VAS, from time to time, of the definition of "material" for the purposes of this requirement.	Must have	Service Design	VAS13	Functional	

Ref. no	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Grouping	Reqs. Mapping	Requirement Type	Notes
Performance									
VAS13.1	VAS captures and retains data for use in the PAF	Performance	Data Retention	The VAS shall capture and retain all data required for use in the Performance Assurance Framework as defined from time to time by the BSC Panel.	Must have	Service Design	VAS13	Functional	

GENERIC NON-FUNCTIONAL REQUIREMENTS

Ref #	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Notes
Service Availability						
PSL1.1	Service Availability	Service and System Availability	System Availability	The Service shall ensure that its systems availability is such that data is capable of being delivered within the timescales specified in the BSC and other CSDs, without detriment to the quality of the data delivered.	Must have	
PSL1.2	Service Availability	Service and System Availability	Service Availability	The Service shall ensure that all the services described in the BSC and CSDs are performed by it in accordance with Good Industry Practice. In particular services shall be performed in a manner and within suitable time periods to allow other Market Participants to fulfil their obligations under the BSC in accordance with the Settlement Calendar.	Must have	
Back up, Disaster Recovery and Security						
PSL2.1	Backup Requirements	Backup and Disaster Recovery	Backup	The Service shall develop and maintain plans and procedures for providing backup and recovery facilities in the event of a disaster. This will include plans and procedures for dealing with a disaster which affects its activities as a Service. Such plans and procedures shall enable the Service to continue to notify the service as a Service for all of the roles it is Qualified to notify following a disaster, and to resume normal working practices as soon as reasonably practicable.	Must have	

Ref #	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Notes
PSL2.2	Disaster Recovery	Backup and Disaster Recovery	Disaster Recovery	Without prejudice to any of the provisions of this Party Service Line (PSL), the Service shall take reasonable steps to avoid any disaster which might affect their services. If this is not possible they shall minimise the disruption and impact of the disaster by implementing plans [and procedures as described in PSL1.2] for backup and recovery should the need arise to ensure that the Service is able to continue to notify services as set out under the BSC and CSDs.	Must have	
PSL2.3	Physical and Logical Security	Security/Access	Physical and Logical Security	The Service shall use reasonable endeavours to maintain the physical and logical security of all hardware and software used by it and all data and other information acquired or held by it in the performance of its duties under the BSC and CSDs in order to prevent data loss or corruption.	Must have	
PSL2.4	hardware Access (Security)	Security of hardware Access	Security of hardware Access	The Service will ensure that, for computerised systems, access to hardware shall be restricted appropriately (this includes restricting access to terminals, disk drives and cables).	Must have	
PSL2.5	hardware Access (Security Monitoring)	Security of hardware Access	Security Monitoring	The security of hardware shall be monitored by the Service, using appropriate controls. It is expected that controls would include the following: locked computer rooms; restrictions on access to buildings containing computer equipment; restricted access to asset moving documents relating to the computer hardware; and fire protection and safety equipment to protect hardware.	Must have	

Ref #	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Notes
PSL2.6	Software Access (Security)	Security of Software Access	Software Access	The Service shall ensure that, for computerised systems access to software shall be restricted appropriately. This includes restricting systems level access (both locally and/or remotely), application level access and access to particular programs using effective passwords	Must have	
PSL2.7	Software Access (Security)	Security of Software Access	Software Access	The security of software shall be monitored by the Service, using appropriate controls. It is expected that controls would include the following: password protection at system, application and program level, and if appropriate, at a more detailed level; preventing users from accessing the operating system prompt; monitoring of reports showing attempted and/or actual access violations; tighter controls than those already stated over access to special system privileges; authentication of remote access attempts; controls to safeguard the confidentiality and integrity of data passing over public networks; restricted access to documents/systems forming part of the security system; hardware/software mechanisms that can be independently evaluated to notify assurance that the system enforces the requirements of the security policy; and audit trails kept and protected so that actions affecting security can be traced and attributed to the responsible party	Must have	

Ref #	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Notes
PSL2.8	Access Control (General)	Access Controls	General	The Service shall ensure that, controls shall exist to ensure that risk of intentional errors/fraud is minimised. Such controls should include mechanisms which ensure that access to data and documentary evidence is restricted to the appropriate individuals. Basic steps that would normally be expected to achieve adequate control in this area include: a security policy communicated to all employees at the Service's organisation and strongly endorsed by management; procedures in place to ensure periodic reviews of security policy; clear data ownership and ownership of all significant information assets including information, software, and physical assets; and compliance with legal, contractual and Qualification requirements.	Must have	
PSL2.9	Access Control (Systems)	Access Controls	Systems	If computer systems are used by the Service, controls should, in addition, include: restricting access to computer hardware, being tangible computer equipment such as terminals, cables, disk drives, servers, disks and magnetic media (e.g. tapes);restricting access to software, being and computer programs and all user documentation in respect of such programmes, as well as systems level access, application level access and access to particular programs; and restricting access to hard copy reports produced by the computer systems.	Must have	

Ref #	Requirement Title	Category	Sub-Category	Requirement Description	MoSCoW Rating	Notes
PSL2.10	Access Control (Development)	Access Controls	Development and Implementation	For computerised systems, controls need to cover the period during which the Service's system is being developed and implemented, and the period of its operation. These controls must extend to system developers and system users.	Must have	
PSL2.11	IS Compliance	Access Controls	Information Security	An organisation that complies with BS7799-3 on Information Security Management Systems will normally achieve the required minimum level of security for computerised systems.	Must have	Updated BS reference required (include ISO27001)
Data Confidentiality						
PSL3.1	Data Confidentiality (General)	Data Confidentiality	General	Apart from the data flows to third parties required or permitted under the BSC or any CSD, access to data held by the Market Participant relating to the discharge of its duties under this PSL should only be permitted for people employed by the Market Participant. Controls should ensure that confidentiality requirements are also compliant with applicable statutory requirements.	Must have	
PSL3.2	Data Confidentiality (Non-Computerised Records)	Data Confidentiality	Access to Non-Computerised Records	For records which are not computerised access shall be restricted and controlled appropriately by the Service. This includes ensuring that: data is only made available to those parties legitimately entitled to receive it; data is kept physically secure; and data is adequately protected against risk of data loss against fire, water damage and theft.	Must have	

Controls (General)						
PSL4.1	Processing (controls)	Processing	Operational Controls	Where the Service uses computerised systems there shall be controls over such systems to ensure that processing operates efficiently and effectively. Such controls would be expected to include: ensuring that the correct versions of the application files are available at the appropriate time to allow efficient processing; scheduling of processes to ensure that processing is performed in the correct sequence; procedures to allow recovery in the event of a processing failure; procedures to "back out" erroneous changes to data caused by rogue programs; operational maintenance of the computer system to ensure that it is kept secure; and scheduling of data processing to ensure that timetables are met and output data is available on-time.	Must have	
PSL4.2	Data Retention (Records)	Retention of Records	Data Retention	The Service must ensure that they have processes in place that are capable of maintaining data records together with the user ids of the persons creating or making changes to these records.	Must have	
PSL4.3	Data Retention (Verification)	Retention of Records	Data Retention	Records must contain such cross references as are necessary to allow verification by tracing data through processing, forwards and backwards, conveniently and old software programs and hardware must, where necessary, be retained to enable these records to be accessed.	Must have	

PSL4.4	Processing Continuity (Risk)	Processing Continuity - Risk	Controls	The Service shall ensure that there are controls in place to minimise risks to processing continuity (this will in part be met by adequate access restriction as described in section 3). Basic controls that would be expected include: a documented security policy, communicated throughout the Service's organisation to all employees; procedures to ensure periodic reviews of security policy; monitoring of the performance of data processing systems with procedures available to deal with problems; formal employment policy, including adequate documentation of the employment procedure, formal terms and conditions of employment and disciplinary procedures; adequate training of all staff; and adequate documentation of procedures, processes and, where appropriate, systems.	Must have	

PSL4.5	Processing Continuity (operations)	Processing Continuity - Risk	Controls	Where a computerised system is used by the Service the following basic controls would also be expected: virus detection and prevention measures, communicated to all users; controls over computer operations to ensure that processing is executed in the correct sequence and that any dependencies between processes (e.g. waiting for a file to be available before starting a batch program) are correctly taken into consideration; formal change control procedures; appropriate maintenance arrangements for hardware and software; system housekeeping procedures to maintain the integrity and availability of services; support facilities, such as help desks; and clear responsibilities and procedures for systems operation and maintenance.	Must have	
PSL4.6	Processing Continuity (impact)	Processing Continuity - Impact	Controls	The Service will ensure that sufficient controls shall exist to minimise the impact of unwanted cessation of processing including: ensuring that data is correctly recovered and processing correctly resumed; and ensuring that processing is resumed as soon as possible.	Must have	
PSL4.7	Processing Continuity (recovery)	Processing Continuity - Impact	Controls	The Service shall ensure that there are controls to ensure adequate recovery procedures for both short and long term interruptions of processing in any or all of the systems. In particular this will prevent, where possible, or detect and correct any loss of transmitted data. In the case of computerised systems this would include all software and data, including archived data.	Must have	

PSL4.8	Processing Continuity (Retrospective processing)	Processing Continuity - Impact	Controls	The service shall be capable of performing whatever retrospective processing may be needed to catch up with processing requirements after an interruption to processing. Controls that would be expected include: a fully documented and tested disaster recovery plan in place (as described in PSL2); and procedures for the periodic review and testing of disaster recovery plans, which should be performed at least annually.	Must have	
PSL4.9	Processing Continuity (Data Integrity)	Processing Continuity - Impact	Controls	Where a computerised system is used by the Service additional controls which would be expected include: backups of programs and data to ensure essential data and software can be restored in the event of a disaster; periodic testing of restoration of backed up data; features within the database management system software to safeguard data integrity in the event of a system failure (such as transaction logging); and insurance policies to cover hardware and communications.	Must have	
PSL4.10	Interface controls (Other Services)	Interface Controls	Controls	The Service will put controls in place to ensure input, processing, output and communications to other Services are valid and may include the use of software validation checks and exception reporting to identify problems. Controls should include procedures to ensure that data is: complete; accurate; and authorised.	Must have	
PSL4.11	Interface controls (Communications)	Interface Controls	Controls	The Service shall (where relevant) put adequate controls in place, relating to their methods of communication with Metering Systems, in order to ensure that data relating to Settlement is not changed accidentally or through malicious activity.	Must have	

Controls (Systems)						
PSL5.1	Change Control (Qualified Systems)	Change Control	Qualified Systems	The Service shall ensure that any changes to its Qualified systems and processes are made and implemented only in accordance with its Qualified change management control process.	Must have	
PSL5.2	Change Control (System Development)	Change Control	All systems	Where the Service develops computerised systems there shall be controls over the development of such systems to ensure that the system is correctly constructed and that the risk of unintentional errors arising from poor software, clerical procedures or for other reasons is minimised.	Must have	
PSL5.3	Change Control (Change Management Documentation)	Change Control	All systems	The Service shall prepare, maintain and update a change management document setting out its change management control procedures.	Must have	
PSL5.4	Change Control (Implementation Controls)	Change Control	All systems	Where the Service utilises computerised systems there shall be controls over systems to ensure that the risk of unintentional errors arising from incorrect implementation is minimised.	Must have	
Controls (Data Provision and Access)						

PSL6.1	**Data Provision and Access Controls**	Data Provision and Access Controls	Controls	Where the Service uses computerised systems there shall be controls over the provision of data to ensure that the data notified is complete and accurately to the correct authorised recipient. Such controls would be expected to include: checking that the data notified or accessed is complete; ensuring that the process has not introduced errors; checking that the correct authorised party has accessed the data; and ensuring that if more than one authorised party accesses data from the Service, then each party obtains an exact copy of the data submitted.	Must have	
PSL6.2	**Controls (General)**	Controls	General	All controls devised to meet the BSC requirements should: effectively meet the relevant control objective(s); be operated effectively throughout the relevant period; be verifiable; have documented procedure; and have this operation recorded. If a particular control requires that a check is performed then there should be a record made whenever that check is performed so that the correct operation of the control can be verified.	Must have	

PSL6.3	Processing Auditability (General)	Processing Auditability	General	The Market Participant shall ensure that all processes which affect Settlement shall be verifiable. This means that: processes must be documented so that anyone wishing to verify the processing has a description of what it should be; all processing must be recorded and these records must contain such cross references as are necessary to allow verification by tracing data through processing, forwards and backwards, conveniently; and audit trails must be maintained as described in the BSC and relevant CSDs.	Must have	
PSL6.4	Provision of Data (BSCCo, BRP and other Services)	Provision of Data	General	The Service shall notify other Services and BSCCo with data and other information derived from its systems and processes within the timescales defined in the BSC and any relevant CSDs in order to enable the other Service and/or BSCCo to satisfy its related obligations under the BSC and any relevant CSDs including this PSL. All such communications shall be date-time stamped by the Service who is notifying the data.	Must have	
PSL6.5	Provision of Data (Trading Disputes)	Provision of Data	Trading Disputes	The Service shall retain the Settlement data acquired or held by it for a minimum period of [40] months after the Settlement Day, the first [28] months of Settlement data being retained in a form capable of supporting a Volume Allocation Run and the remaining [12] months of Settlement data being retained in a form which can be supplied in [10] Business Days, if requested by the Panel, for input into an Extra-Settlement Determination.	Must have	To be amended subject to revised Disputes timetable.

PSL6.6	Provision of Data (ESDs)	Provision of Data	ESDs	In the event that Settlement data beyond 40 months after the Settlement Day is required to be retained in support of an Extra-Settlement Determination, the Service shall retain the Settlement data relating to the Settlement Days as requested by the Panel.	Must have	
PSL6.7	Provision of Data (Availability)	Provision of Data	General	The Service shall ensure that all data and other information acquired or held by it as a Service is made available at all reasonable times upon request for inspection and copying by the BSC Auditor and the Panel or any person nominated by it and any other person authorised for the purpose under the terms of the BSC and any relevant CSD. The data shall be retained in such a format which will allow items of information retained to be subsequently searched, located and checked for validation purposes	Must have	
PSL6.8	Provision of Data (Confidentiality)	Provision of Data	Confidentiality	The Service shall ensure that all data and other information acquired or held by it as Service is kept confidential and is disclosed only to those persons authorised or required to receive it under the terms of the BSC and any relevant CSD and, where relevant, to those persons authorised by its Associated BRP	Must have	
Service Obligations						
PSL7.1	Service Obligations (Termination of Service to a Metering Point)	Service Obligations	General	Services obligations shall survive termination of its [appointment] under any of the roles which it is qualified to perform as a Service for whatever reason.	Must have	

Audit						
PSL8.1	reporting quality	Audit	Reports	All reports produced must clearly identify what information is being reported, the date and time it was produced, who requested it.	Could have	
PSL8.2	report formats	Audit	Reports	All reports should be available in both human and machine readable format.	Could have	
PSL8.3	report availability	Audit	Reports	All reports in machine readable format must be available electronically.	Could have	
PSL8.4	reporting media	Audit	Reports	All reports in human readable format should be available both electronically and in hardcopy.	Could have	
PSL8.5	Codes and Identifiers	Audit	General	Codes and identifiers must, wherever possible, be the same as those recognised by the BSC.	Could have	
PSL8.6	Version Control (incoming data)	Audit	General	Version control must be applied to all data accessed.	Could have	
PSL8.7	Version Control (outgoing data)	Audit	General	Version control must be applied to all data notified externally. For data that relates to an aggregation run, the aggregation run number must be included in the control.	Could have	
PSL8.8	Changes to Standing Data	Audit	General	Any changes to either the BSC's or LDSO Industry Standing data after final settlement (prior to any reconciliation) must be reported for audit purposes.	Could have	
PSL8.9	data archiving	Audit	General	It must be possible to archive onto a removable media all data relating to a settlement day.	Could have	

PSL8.10	data archiving (timescales]	Audit	General	It must not be possible to archive data relating to a settlement day until a user defined (configurable but not less than [2] years) period after the settlement day.	Could have	
Capacity						
PSL9.1	Capacity plan	Capacity	Capacity plan	The Service shall manage, control and predict the performance, utilisation and capacity of IT resources required to meet agreed service target SLAs.	Could have	
PSL9.2	Capacity management	Capacity	Capacity management	The Service shall ensure that performances and capacities of services meet the agreed target SLAs.	Could have	
PSL9.3	Capacity monitoring	Capacity	Capacity monitoring	The Service shall monitor and ensure that performances and capacities of services meet the agreed target SLAs.	Could have	
PSL9.4	Capacity upgrades and downgrades	Capacity	Capacity upgrades and downgrades	The Service shall recommend where capacity upgrades or downgrades should be carried out.	Could have	
PSL9.5	Capacity quarterly review	Capacity	Capacity quarterly review	The Service shall participate in Quarterly capacity planning reviews with the Service management function.	Could have	
PSL9.6	Capacity Performance Measurement	Capacity	Capacity Performance Measurement	The Service shall measure the performance of its Services against its capacity utilisation over time.	Could have	
Service Levels						

PSL10.1	SLA process and procedures	Service Levels	SLA process and procedures	The Service shall notify evidence of Service Level Management process and procedures to ensure that all SLAs and KPIs are met.	Could have	
PSL10.2	SLA monitoring	Service Levels	SLA monitoring	The Service shall monitor services against agreed SLAs.	Could have	
PSL10.3	SLA Reporting	Service Levels	SLA Reporting	The Service shall produce a report setting out the Service Levels achieved in respect of each Performance Measure within five (5) Working Days following the end of each Performance Measurement Period.	Could have	
PSL10.4	KPI data capture	Service Levels	KPI Data Capture	The Service shall put in place performance management arrangements to monitor and capture Key Performance Indicators (KPI) data.	Could have	
PSL10.5	Continual Improvements	Continual Service Improvements	Continual Improvements	The Service shall notify evidence on efficiency improvements that have been made through the duration of the contract.	Could have	

METER DATA REQUIREMENTS

The following sets out the minimum Meter data requirements for delivery of the TOM for each Market Segment. The details of the content of the DCC Service requests can be found in the DCC User Interface Specification (DUIS):

Meter Type	Measurement Quantity	Data Type (Settlement)	Data required (Settlement and Validation)	Number of Readings	Minimum Data Availability	DCC Service Request Ref.
SMETS2 and above	Active Import	SP Level Data	Active Import Profile data **And**	48 per Settlement day	13 months	SRV4.8.1
			Daily Consumption log	1 per Settlement days	731 days	SRV4.17
			OR			
			Import Daily Read Log	1 per Settlement days	31 days	SRV4.6.1
SMETS2 and above	Active Export	SP Level Data	Active Export Profile data **And**	48 per Settlement day	3 months	SRV4.8.3
			Export Daily Read Log	1 per Settlement day	31 days	SRV4.6.2
SMETS1	Active Import	SP Level Data	Active Import Profile data **And**	48 per Settlement day	13 months	SRV4.8.1
			Daily Consumption log	1 per Settlement day	731 days	SRV4.17
			OR			
			Import Daily Read Log	1 per Settlement day	14 days	SRV4.6.1

Meter Type	Measurement Quantity	Data Type (Settlement)	Data required (Settlement and Validation)	Number of Readings	Minimum Data Availability	DCC Service Request Ref.
SMETS1	Active Export	SP Level Data	Active Export Profile **And** Total Active export Register	48 per Settlement day Snapshot Readings	3 months Continuous	SRV4.8.3 SRV4.2
SMETS2 and above	Active Import	Register Readings	Daily Consumption log **OR** Import Daily Read Log **OR** Active Import Register	1 per Settlement day 1 per Settlement Day Snapshot Readings	731 days 31 days Continuous	SRV4.17 SRV4.6.1 SRV4.1.1
SMET2 and above	Active Export	Register Readings	Export Daily Read Log **OR** Active Export Register	1 per Settlement day Snapshot Readings	31 days Continuous	SRV4.6.2 SRV4.2
SMETS1	Active Import	Register Readings	Import Daily Read Log **And** Daily Consumption log **OR** Total Active Import Register	1 per Settlement day 1 per Settlement days Snapshot Readings	14 days 731 days Continuous	SRV4.6.1 SRV4.17 SRV4.1.1

Meter Type	Measurement Quantity	Data Type (Settlement)	Data required (Settlement and Validation)	Number of Readings	Minimum Data Availability	DCC Service Request Ref.
SMETS1	Active Export	Register Readings	Total Active Export Register	Snapshot Readings	Continuous	SRV4.2
Non-smart Import Metering	Active Import	Register Readings	Single Rate **OR** TOU Register readings	Snapshot Readings	Continuous	NA
Non-smart Export Metering	Active Export	Register Readings	Total Active Export Register	Snapshot Readings	Continuous	NA
Advanced Meters	Active Import	SP Level Data	SP Level Active Import Data **And** Total Import Register (Check meter equivalents where required) Reactive power (where required for non-settlement purposes)	48 per Settlement day Snapshot Readings	Metering System specific	NA

Meter Type	Measurement Quantity	Data Type (Settlement)	Data required (Settlement and Validation)	Number of Readings	Minimum Data Availability	DCC Service Request Ref.
Advanced Meters	Active Export	SP Level Data	SP Level Active Import Data **And** Total Import Register (Check meter equivalents where required) Reactive power (where required for non-settlement purposes)	48 per Settlement day Snapshot Readings	10 days	NA

INDUSTRY STANDING DATA REQUIREMENTS

Market Participants current use Market Domain Data (MDD) as the source of standing data for electricity Settlement. Some tables and data items in MDD will not be required in the Target End State since they are only required for NHH Settlement. Some new tables and data items will be required. For the purposes of the TOM development the standing data has been referred to as Industry Standing Data (ISD) to recognise that this will be different to the current MDD. Implementation of MHHS should also consider new interfaces between the TOM Services and the Registration Service(s). The following requirements for ISD tables have been agreed by the DWG (required data items to be agreed for implementation):

ISD Requirement Id	Current MDD TABLES	MoSCoW	Comments
ISD1.1	Average Fraction of Yearly Consumption	Won't have	Not needed for HHS
ISD1.2	Average Fraction of Yearly Consumption Set	Won't have	Not needed for HHS
ISD1.3	BM Unit for Supplier in GSP Group	Must have	VAS works on BMUs
ISD1.4	Clock Interval	Won't have	
ISD1.5	Clock Time Change	Must have	Conversion to Clock Time to occur at MDS.
ISD1.6	Consumption Component Class	Must have	New CCCs/new data items.
ISD1.7	Day of the Week	Could have	
ISD1.8	Day Type	Could have	
ISD1.9	Default Period Profile Class Coefficient	Must have	Variant required for Advanced Sector defaulting
ISD1.10	Energisation Status	Must have	
ISD1.11	GSP Group Average EAC	Won't have	Not needed for HHS
ISD1.12	GSP Group Correction Scaling Factor	Must have	
ISD1.13	GSP Group Distributor	Must have	Needed for VAS

ISD Requirement Id	Current MDD TABLES	MoSCoW	Comments
ISD1.14	GSP Group Profile Class Average EAC	Won't have	Not needed for HHS
ISD1.15	GSP Group	Must have	Needed for VAS
ISD1.16	ISR Agent Appointment	Could have	Will need renaming.
ISD1.17	Line Loss Factor Class	Must have	May need revision due to TCR proposals.
ISD1.18	MDD Version Number	Must have	Will need renaming.
ISD1.19	Measurement Class	Must have	New MCs may be required
ISD1.20	Measurement Quantity	Must have	Needed for VAS
ISD1.21	Measurement Requirement	Must have	Needed for VAS
ISD1.22	Meter Timeswitch Class	Could have	Is this data still useful?
ISD1.23	Market Participant Role	Must have	Needed for VAS
ISD1.24	Market Participant	Must have	Needed for VAS
ISD1.25	Market Role	Must have	Needed for VAS
ISD1.26	MTC in PES Area	Could have	Not required for MHHS
ISD1.27	MTC Meter Type	Could have	Not required for MHHS
ISD1.28	MTC Payment Type	Could have	Not required for MHHS
ISD1.29	Off Tolerance	Won't have	
ISD1.30	Profile Class	Won't have	New Load Shape Category table?

ISD Requirement Id	Current MDD TABLES	MoSCoW	Comments
ISD1.31	Profile	Won't have	Not needed for HHS
ISD1.32	Profile Set	Won't have	Not needed for HHS
ISD1.33	PRS Agent Appointment	Must have	Will need renaming.
ISD1.34	Regression Coefficient Type	Won't have	Not needed for HHS
ISD1.35	Season	Could have	
ISD1.36	Settlement Day	Could have	
ISD1.37	Settlement Period	Must have	Needed for VAS
ISD1.38	Settlement	Must have	Needed for VAS
ISD1.39	Settlement Type	Must have	Run type revised for new Settlement timetable
ISD1.40	SMETS Version	Could Have	Needed for smart market segment
ISD1.41	Smoothing Parameter	Won't have	Not needed for HHS
ISD1.42	Standard Settlement Configuration	Won't have	Not needed for HHS
ISD1.43	Teleswitch Contact Rule	Won't have	Not needed for HHS
ISD1.44	Teleswitch Group	Won't have	Not needed for HHS
ISD1.45	Teleswitch Register Rule	Won't have	Not needed for HHS
ISD1.46	Tele-switch Time Pattern Regime	Won't have	Not needed for HHS
ISD1.47	Threshold Parameter	Won't have	Not needed for HHS

ISD Requirement Id	Current MDD TABLES	MoSCoW	Comments
ISD1.48	Time Pattern Regime	Won't have	Not needed for HHS
ISD1.49	Valid Measurement Requirement Profile Class	Won't have	Not needed for HHS
ISD1.50	Valid MTC LLFC Combination	Could have	Not needed for HHS
ISD1.51	Valid MTC LLFC SSC Combination	Won't have	Not needed for HHS
ISD1.52	Valid MTC LLFC SSC PC Combination	Won't have	Not needed for HHS
ISD1.53	Valid MTC SSC Combination	Won't have	Not needed for HHS
ISD1.54	Valid Settlement Configuration Profile Class	Won't have	Not needed for HHS
ISD1.55	Yearly Season Detail	Could have	
ISD1.56	Year	Could have	
Potential new ISD			
ISD1.57	ToU GCF Scaling Weights	Could have	
ISD1.58	ToU Clock Intervals	Could have	
ISD Requirement Id	**Unmetered Supplies ISD**	**MoSCoW**	**Comments**
ISD2.1	Charge Codes	Must have	Needed for UMS HHS
ISD2.2	Switch Regimes	Must have	Needed for UMS HHS
ISD2.3	Manufacturer Equipment LED Range Spreadsheet	Must have	Needed for UMS HHS
ISD2.4	Variable Power Switch Regimes	Must have	Needed for UMS HHS

ISD Requirement Id	Current MDD TABLES	MoSCoW	Comments
ISD2.5	Motorway Sign Charge Codes	Could have	Needed for UMS HHS
ISD2.6	Non-standard conversion Charge Codes	Could have	Needed for UMS HHS
ISD2.7	UMS Motorway hours	Could have	Needed for UMS HHS