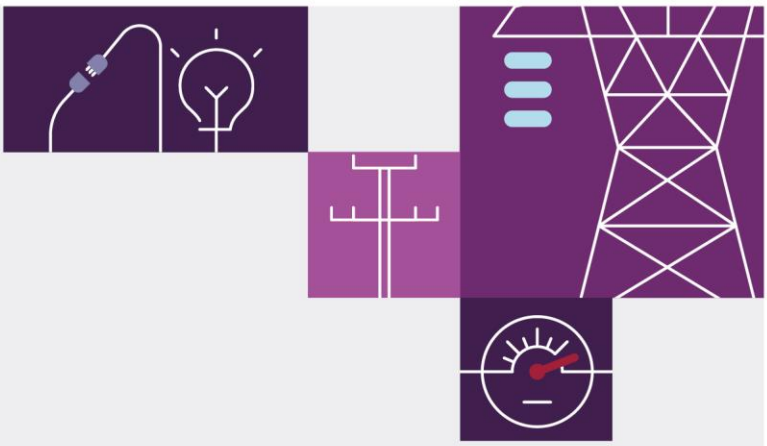
Unlocking benefits of CER through flexible trading

April 2024

Draft High Level Implementation Design

Preliminary view for participants on how the rule change may be implemented by AEMO



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Important notice

Purpose

AEMO has prepared this document to provide preliminary information about the implementation design of the Unlocking CER benefits through flexible trading rule change before a final rule determination is made.

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Version control

Version	Release date	Changes
0.1	April 2024	Draft

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Contents

Tables

Figures

Definitions

Definition	Description
8M	Type 8 meter
9M	Type 9 Meter
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
API	Application programming interface
B2B	Business-to-business
B2M	Business-to-market
CATS	Consumer administration and transfer solution
CDP	Consumer data platform
CDR	Consumer data right
CER	Consumer energy resource
CMS	Central management system
CP	Connection Point
CR	Change request
DER	Distributed energy resource
DERR	Distributed energy resource register

Definition	Description
DNSP	Distribution network service provider
DRSP	Demand response resource provider
eMDM	Enterprise meter data management
EN	Embedded network
ENM	Embedded network manager
ESB	Energy security board
EV	Electric vehicle
FRMP	Financially responsible market participant
FTA	Flexible trading arrangement
FTM2	Flexible trading Model 2
IEC	Information Exchange Committee
IRP	Integrated resource provider
IRS	Integrated resource system
LNSP	Local network service provider (includes DNSP, TNSP and ENM)
LR	Local retailer
MC	Metering Coordinator
MDP	Meter data provider
MITC	Meter installation type code
MP	Metering provider
MSATS	Market settlements and transfer solutions
NCC	NMI classification code
NEM	National Energy Market
NER	National Electricity Rules
NERR	National Energy Retail Rules
NMI	National Metering Identifier
PAE	Profiling and allocation engine
PMA	Private metering arrangement
PMS	Portfolio management system
PoL	Predictability of load

Definition	Description
RERT	Reliability and emergency reserve trader
RoLR	Retailer of last resort
SAPS	Standalone Power System
SDQ	Standing Data Quality
SSP	Secondary Settlement Point
TNSP	Transmission Network Service Provider
UI	User Interface
WDR	Wholesale Demand Response
WIGS	Wholesale, Interconnector, Generator and Sample

1 Introduction

1.1 Unlocking CER Benefits Through Flexible Trading – The Rule Change

In May 2022, AEMO submitted the rule change proposal for the "Flexible trading arrangements and metering of minor energy flows in the NEM". The rule change request proposed modifications to the NER and NERR in accordance with the ESB recommendations (as provided in their draft recommendations Post 2025 Market Design Final Advice), for the implementation of:

- Flexible Trader Model 2 (FTM2), which enables end users to establish a private metering arrangement (PMA) for controllable resource(s) within their electrical installation, and to have these resources managed by a separate financially responsible Market Participant (FRMP); and
- Minor energy flow metering, to accommodate connection arrangements not currently considered in the NEM metering framework (principally the inclusion of metering installations within PMAs) by enabling the adoption of non-traditional metering installation types.

The AEMC has progressed this rule change request to a draft determination* titled Unlocking CER Benefits Through Flexible Trading (Rule Change) on February 29 2024, with a final determination due July 2024. The draft rule proposed an effective date of February 2026.

* AEMC – Unlocking CER Benefit Through Flexible Trading – Rule Change

1.2 Document background and purpose

The purpose of this document is to provide a preliminary view to participants on how the Rule Change, may be implemented by AEMO. This is intended to assist and inform participants in developing their own implementation timelines and impact assessments. This document does not pre-empt the outcomes of the ongoing Rule Change process.

This document will provide an indicative and preliminary overview of:

- Likely impacted Market Procedures.
- High level system and data exchange impacts.
- Indicative timelines showing consultation period, industry testing, market trial and go-live timings.

1.3 Consultation process and key dates

Table 1 Timetable for the rule change and points of stakeholder consultation.

Stage	Timeline
AEMC Draft Rule Determination	29 February 2024
AEMO Industry Briefing Webinar of Draft High Level Implementation Design Consultation	5 April 2024
AEMO Publish draft High Level Implementation Design	11 April 2024
AEMC Final Rule Determination	July 2024
AEMO Publish Final High Level Implementation Design	Approximately 4 weeks from AEMC final rule change determination

2 Market Design Overview

2.1 Summary

The Rule Change is about the integration of Consumer Energy Resources (CER) in the NEM. It makes a series of changes that would allow consumers or their service providers to manage CER in ways that provide benefits to the customer and to the energy system.

The rule change introduces changes to enable the following:

1. Flexible trading with multiple energy service providers at large customer premises.
2. Opportunities to optimise CER flexibility for small customers.
3. Measuring energy flows from in-built technology (e.g. streetlights, EV chargers, other street furniture).

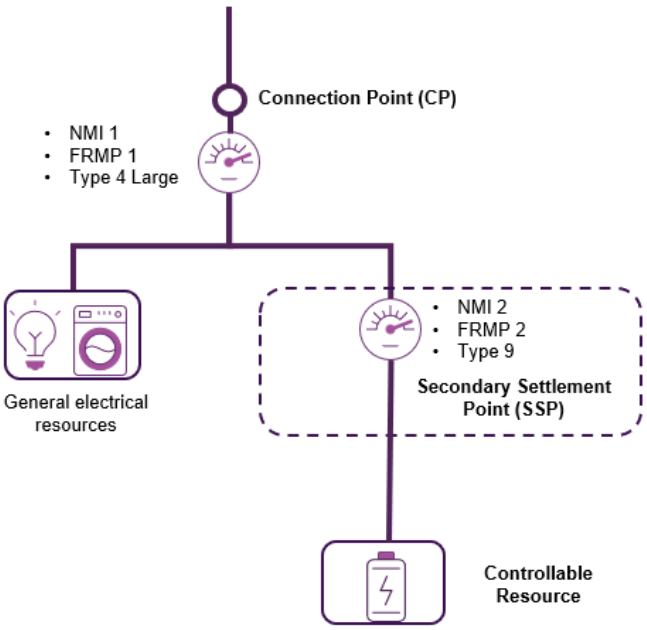
2.1.1 Flexible trading with multiple energy service providers at large customer premises

The proposed changes would enable large customers to establish secondary settlement points and engage multiple energy service providers to manage flexible resources at these points. The main features of this framework are:

- It would be voluntary.
- Large customers would be able to establish secondary settlement points (SSPs) and engage multiple Financially Responsible Market Participants (FRMPs) at their premises.[1]
- The relationship between FRMPs would be governed by existing regulatory arrangements and contractual arrangements.
- DNSPs would be responsible for establishing and maintaining secondary NMIs and would have visibility of standing data from secondary NMIs.
- Existing subtractive settlement arrangements would be used to minimise implementation costs.
- Allocation of distribution network tariffs to the FRMP at the CP.
- New meter type 9 could be used at CP (e.g. public lighting, street furniture and kerbside charging) and as a SSP at large customer premises.

[1] A SSP cannot be established for a *scheduled resource* or in a *regulated SAPS*

Figure 1 Example Large Customer Premises

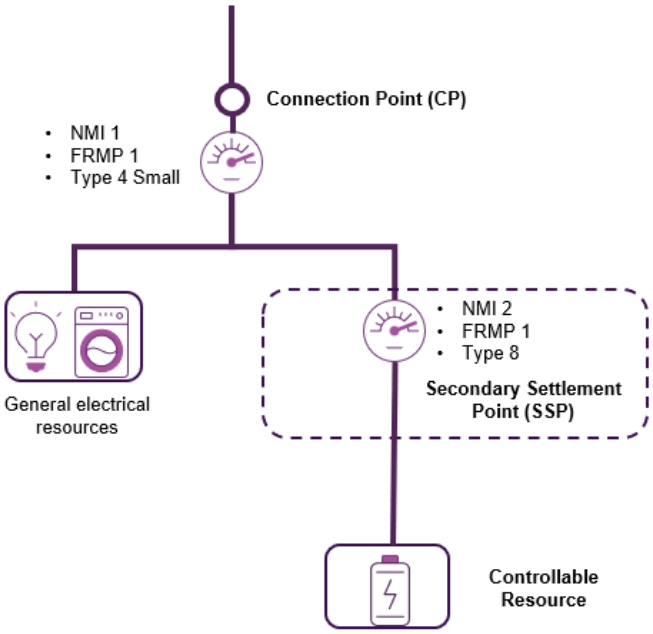


2.1.2 Opportunities to optimise CER flexibility for small customers

The proposed changes would enable small customers and their agents (i.e. retailers and aggregators) to identify and manage flexible CER separate from inflexible or passive energy use and would allow flexible CER to be better recognised in the energy market. The main features of this framework are:

- Small customers would be able to choose to establish a SSP without a separate connection to the distribution network for their flexible CER which would be assigned a National Metering Identifier (NMI).
- For SSP/s, flexible CER energy consumption would be separately metered through either a smart meter (type 4 meter) or another form of settlement-grade meter (a new type 8 meter) built into the CER device or wired externally to the device.
- The new arrangements would be voluntary and based on consumer choice.
- Small customers would continue to only have one FRMP at their premises.
- Subtractive settlement arrangements would apply between the CP and SSP(s) at small customer premises.
- DNSPs would be responsible for establishing and providing secondary NMIs to the consumer's retailer.
- DNSPs could access metering data from secondary NMIs if they choose to.

Figure 2 Example Small Customers



2.1.3 Measuring energy flows from in-built technology (e.g. streetlights, EV chargers, other street furniture)

The proposed changes introduce arrangements for two new meter types in the NER that enable technology with in-built measurement capability to be used for settlement and billing. The new meter types are proposed to be meter type 8 and meter type 9 and could be used for technology such as streetlights and street furniture, public EV chargers, and electric vehicle supply equipment (i.e., EV chargers) used by households and businesses. The main features of this framework and the proposed new type 8 and type 9 meters are:

- Arrangements would be voluntary and cover a range of use cases, including EV chargers and streetlights.
- The minimum specifications would be set by AEMO in procedures, guided by principles in the NER, it is expected the specifications would be lower than type 4 meters.
- They would require National Measurement Institute approval.
- Streetlights and street furniture using a type 9 meter would be able to aggregate multiple loads (i.e., multiple streetlights) under one NMI using a *Central management system (CMS)* – a new definition in the NER which is 'a device or system that collects electronic signals from *measurement elements* and packages it into *trading intervals*'.
- Metering Providers (MPs) and Metering Data Providers (MDPs) would have new accreditation requirements for each new meter type.
- For streetlights using a type 9 meter, the Metering Coordinator (MC) role would be contestable.
- The MC for type 8 and type 9 meters can propose alternative testing and inspection arrangements to AEMO for approval through an asset management strategy.

Figure 3 Example Street Lighting

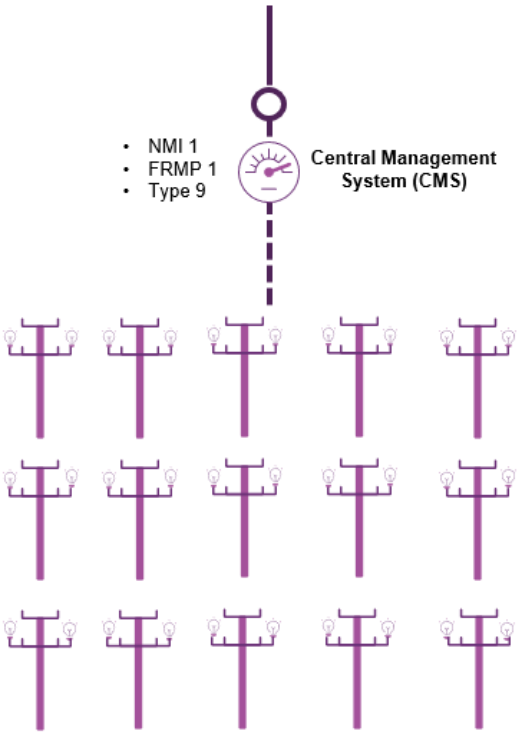


Figure 4 Example Kerbside Charging

3 Summary of key impacts

In this section an overview of key impacts resulting from the rule change have been drafted.

Figure 5 Heat Map view of key impacts of the rule change

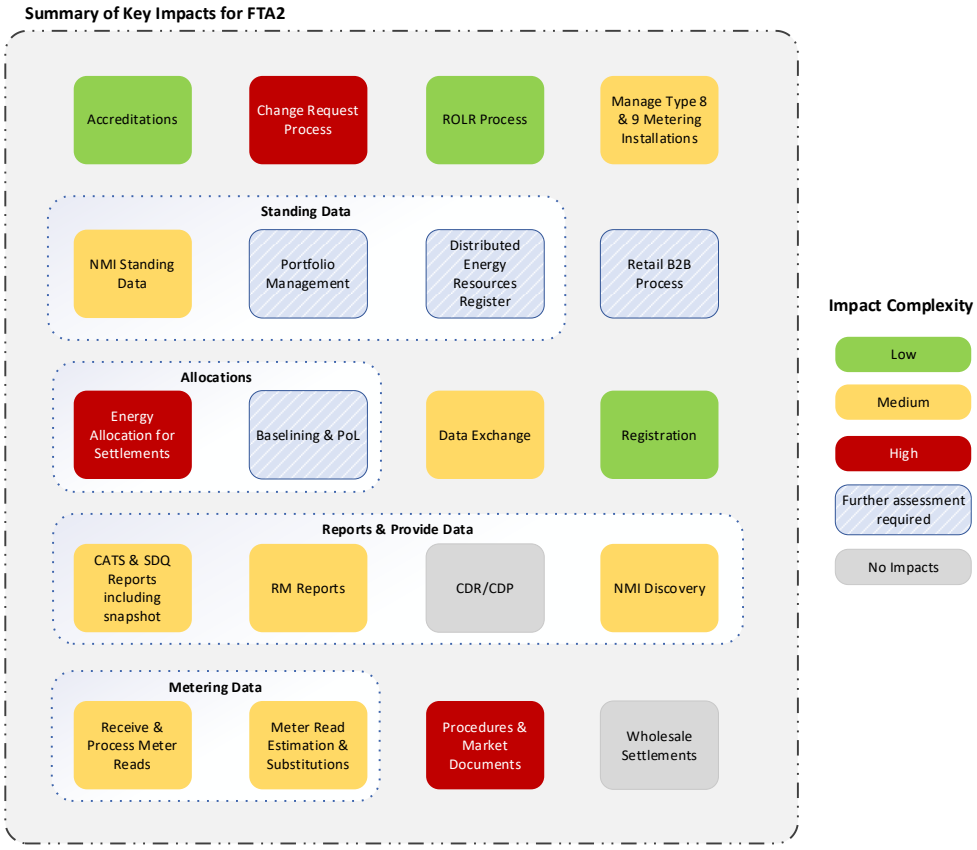


Table 2 Tabular view of key impacts of the rule change

Focus Area	Impact Heat Map	Impact Description
Accreditations	Low	• MDPs and MPs will need to be accredited should they opt in to offer services for the new metering types - Type 8 & Type 9
Change Request Process	High	• Creation of SSPs which will be a market connection point by the DNSPs • Retailer request for additions of SSPs • Accept new installation type codes and enforce procedural validations if any (e.g. SSP must have the same FRMP as the CP)
ROLR Process	Low	• The existing ROLR process will apply for a SSP. • Management of primary and secondary retailer in the ROLR process as outlined in the Draft determination
Manage Type 8 & 9 Metering Installations and Malfunctions	Medium	• MC, MDP, FRMP and MP responsibilities to manage the new meter installation types

Focus Area	Impact Heat Map	Impact Description
NMI Standing Data	Medium	• SSPs and their relationship to CPs will need to be managed through the lifecycle (e.g. creation, abolition, de and re-energisation) • Inclusion of Type 8 and Type 9 metering type codes
Portfolio Management	TBC	• No impacts identified. Potential impacts may be uncovered when developing the detailed requirements
Distributed Energy Resources Register	TBC	• No impacts identified. Potential impacts may be uncovered when developing the detailed requirements
Retail B2B Processes	TBC	• Potential impacts to be uncovered based on the outcomes from the IEC/ B2B Working Group
Energy Allocation for Settlements	High	• Reads sub to 0 in pre-conditions • Energy allocation based on subtractive metering on PMA setup • Impact to peel-off
Baselining & Predictability of Load (PoL)	TBC	• Potential changes (RERT) to Baselining & PoL (WDR) process to apply subtractive metering on the CP. Detailed requirements to further uncover the impacts
Data Exchange	Medium	• aseXML changes, support for n & n-1 and transformations • Changes to CATS transactions and reports schema formats • Review of B2B aseXML schema changes will be completed as part of B2BWG
Registration	Low	• MC coordinating and provisioning of metering services at a CP or SSP
NMI Discovery	Medium	• Updates to NMI Discovery (additional attributes on CP & SSP) for FRMPs to find out the standing data that is associated with a NMI
CATS & SDQ Reports	Medium	• Amendments to current CATS & snapshot reports to include new NMI attributes • New Standing Data Quality (SDQ) reports
RM Reports	Medium	• Potential changes to RM reporting related to performance management
CDR / CDP	None	• No impacts identified
Meter Read Estimation & Substitutions	Medium	• New obligations for validation and substitution to include type 8 and type 9 metering installations
Receive & Process Meter Reads	Medium	• Manage additional volumes of data from SSPs
Procedures & Market Documents	High	• Refer Section 4 for details
Wholesale Settlements	None	• Wholesale settlement functionality does not require changes and leverages the energy allocations that is calculated based on the subtractive metering on PMA setup

4 Procedure Impacts Review

At a high level, the main impact of the draft Rule is to Registration, Retail and Metering Procedures, and B2B Procedures. The Consultation will be required across the B2M and B2B systems at the Final rule stage to ensure participant obligations and impacts are considered. The B2B working group and Information Exchange Committee (IEC) will be a key input into the design of the business impacts of the final Rule – the table below has only considered the potential changes based on the draft Rule.

Section 6.1.2 details the proposed procedure consultation approach which aims to separate out the critical and non-critical path consultation.

Please note: Administrative and minor changes may impact the majority of AEMO procedures and guidelines to ensure the new meter types 8 and 9 are reflected and included as well as the impact of the removal of 'connection point' and inclusion of 'market connection point'.

Table 3 Initial Assessment of the Procedures and Documents Impacted

Registration	Impact
Register as a Demand Response Service Provider Register as a Metering Coordinator Register as an Integrated Resource Provider Register as a Customer	• Administrative change of inclusion 'SSP' • Classification by an IRP of a 'small resource SSP' for a large customer

Market and Settlement Transfers Solution	Impact
MSATS Procedures – CATS/WIGS	• New standing data elements • Inclusion of Type 8 and Type 9 metering type codes • New requirements for the LNSP and ENM to assign a SSP • Potential modifications to the description of NMI Classification Codes to accommodate type 8 and type 9 metering installations • Allowance of the MC to assign a SSP for a Large customer
Standing Data for MSATS	• New standing elements
Meter Data Management (MDM) Procedures	• Changes to RM reporting to accommodate SSPs
NEM RoLR Processes	• The ROLR process for a SSP to transfer to the FRMP of the CP

Metering procedures, guidelines and processes	Impact
Service Level Procedure Embedded Network Manager Services	• Inclusion of assignment of a SSP
Service Level Procedure MDP Services	• New obligations for validation and substitution to include type 8 and type 9 metering installations • Assignment of SSP would require the use of subtractive metering arrangements • The CP and SSP to record at 5 minute intervals to enable subtractive settlements

Metering procedures, guidelines and processes	Impact
Service Level Procedure MP Services	• Inclusion of SSP for a small customer may be installed by the customer and the commissioning and maintenance requirements by the MP of a type 8 • Capabilities of an MP to be changed to include a new registration type 8M and type 9M • Inclusion of security and password controls to include type 8 and type 9 metering installations
National Metering Identifier procedure	• Inclusion of a NMI to be applied at a SSP by the LNSP or ENM • Proposed inclusion of diagrams as part of appendix E to illustrate configurations

Metrology Procedures and unmetered loads	Impact
Metrology Procedure Part A	• Potential inclusion of the minimum services specification of a type 8 and type 9 metering installation • High impact changes to include the new clauses of the NER referencing the metering installation components of a type 8 and type 9 metering installation, the methods of data substitution for a type 8 and type 9 metering installation, and the operation in relation to the metrology of a SSP
Metrology Procedure Part B	• Inclusion of how a MDP determines the metering data for a SSP or embedded network child connection point where its CP or embedded network parent connection point has been de-energised or disconnected or the network serving its CP or embedded network parent connection point is experiencing an outage.
Unmetered Load Guideline	• Changes to include reference to a type 9 metering installation
Guidelines for the Clarification of the National Measurement Act	• Changes to include reference to a type 8, 9 metering installation

Accreditation and Registration	Impact
Accreditation Checklists (Metering Providers, Metering Data Providers & Embedded Network Managers)	• Ensure the capabilities of a MP, MDP and ENM meet the new requirements under the NER for a type 8 and type 9 metering installation
Guide to the Role of the Metering Coordinator	• The new obligations for type 8 and type 9 metering installations under the NER for MCs are included in the registration process for an MC

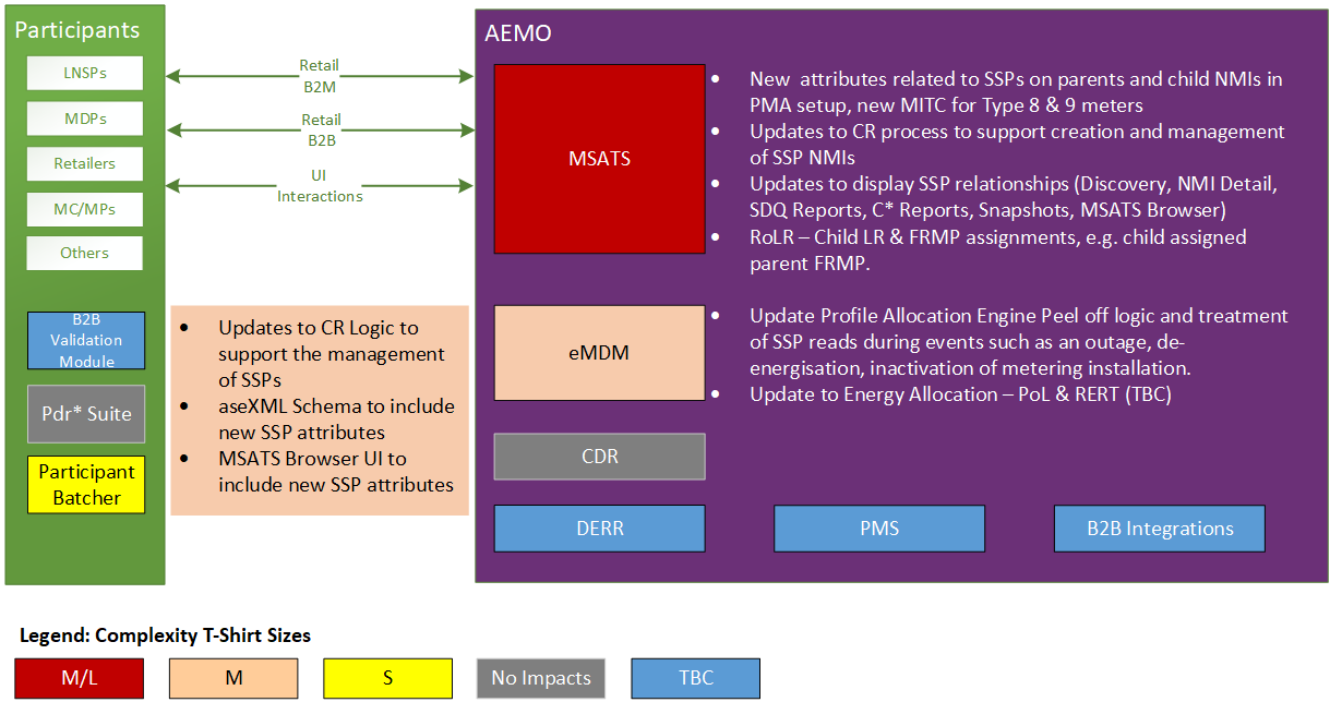
Business to Business Procedures (IEC)	Impact
B2B Procedures: Customer and Site Details Notification Process	To be determined by the IEC in coordination with the B2B working group
B2B Procedures: Meter Data Process	
B2B Procedures: One Way Notification process	
B2B Procedures: Service Order Process	
B2B Procedures: Technical Delivery Specification	

5 AEMO System Impacts

In this section, the participant interaction, system, interface and schema impacts have been summarised.

5.1 System and Data Exchange Overview

Figure 6 Participant Interaction Impacts



5.1.1 System Impacts

Table 4 System Impacts

AEMO System	Summary

MSATS CATS	• Update to 'Change Request Process' to support the creation and management of SSP NMIs.
	  ○ Affects Change Request logic and configuration
	• New attributes defined to record SSP relationships and statuses subject to consultation.
	  ○ Attribute on SSP stating the CP
	  ○ Attribute or flag to identify a CP (AEMO Managed)
	  ○ Attribute the category of CP/SSP relationship, e.g. FTA
	• New Installation Type Codes for introduced Type 8 & Type 9 metering.
	• Changes to various processes to display the CP and SSP relationships, e.g. Discovery, CATS Reports, Snapshot Reports, Browser changes.
	• RoLR
	  ○ Changes to LR & FRMP assignment for SSP NMIs

eMDM	• Profile Allocation Engine ○ Peel off logic updates to identify SSP NMIs

AEMO System	Summary
	○ SSP reads to be zeroed based on relevant procedure changes, e.g. when CP is inactive. • Settlement Allocation - Retain subtractive metering, per the current EN process, for sites with SSP • Energy Allocation ○ Possible updates to Predictability of Load (PoL) and Reliability and Emergency Reserve Trader (RERT) baseline calculation at CP to remove SSP usage
DERR	• Impacts to be assessed through consultation with Networks. None currently identified.
PMS	• No impacts identified. Potential impacts may be uncovered when developing the detailed requirements.
B2B	• Possible impacts to B2B. An assessment needs to be undertaken by the IEC and B2BWG to evaluate potential impacts. • Any identified impacts will form part of the final implementation impact.
Integration	• aseXML Schema changes to include new SSP attributes • Transformation and management of schema versions for B2B and B2M data exchange
Capacity	• Increased transaction volumes expected based on the estimated additional SSP devices added per year.

5.1.2 Market system interfaces and interactions

- No new market interfaces or interactions are expected
- No new data exchange mechanisms to be introduced as it will be a change to an existing service
- B2M (and possibly the B2B Retail) payload formats for current exchange mechanisms will be enhanced as defined in Procedure updates.

5.1.3 MSATS Browser

Updates are required throughout the MSATS Browser UI to reflect the additional fields added to CATS to support SSP, including changes to introduce any new CRs may be added.

5.1.4 CATS Reports

Table 5 CATS Reports

Report Name	Impact
Snapshot Report	Snapshot updated to include the attributes associated with SSP.
CATS Reports	CATS reports updated as required to include the attributes and CP/SSP relationships.
SDQ Reports	Updates to reports related to the use of CP/SSP, new metering types, and any procedure conflicts.

5.1.5 APIs

- No changes to API or FTP protocols.
- Payload schema changes expected to include required attributes related to PMAs.
- Participant Batcher and B2B Validation Module impacts expected from B2M & B2B schema changes.

Table 6 APIs

API	Impact
B2M	Updates to aseXML schema.
B2B	Updates to aseXML schema. Subject to review by IEC and B2BWG.

5.2 Data Model and Schema Impacts

5.2.1 MSATS Data Model Impacts

- Additional attributes to record CP and SSPs in a PMA arrangement.

5.2.2 Schema Impacts

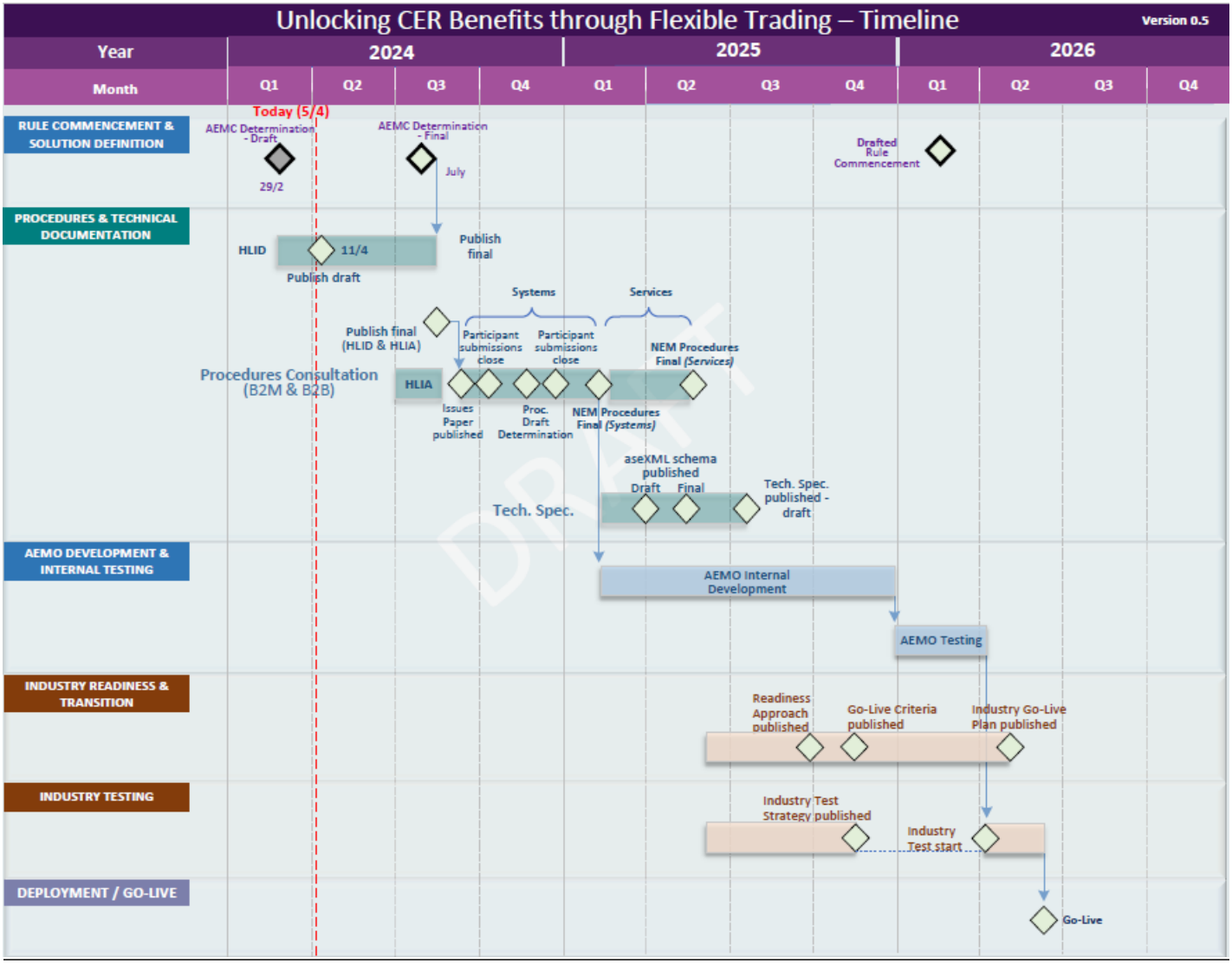
Table 7 Schema Impacts

Schema	Impact
aseXML (B2M)	Changes required to add the new attributes related to SSP.
aseXML (B2B)	Possible impacts to B2B schema. An assessment needs to be undertaken by the IEC and B2BWG to evaluate potential impacts.
DERR	Impacts to be assessed through consultation with Networks. None currently identified.

6 Implementation Pathway

Considering the scale of change for AEMO and participants based on impact assessment of the draft rule change determination, May 2026 is AEMO's strong recommendation for a rule commencement date, to reduce delivery risk and costs.

Figure 7 AEMO's Proposed Indicative Timeline



6.1 Key Implementation Considerations

6.1.1 Rule commencement timeline

AEMO considered the drafted February 2026 rule commencement date.

- AEMO's assessment indicates that this project meets the criteria for a Market Trial. This means that there should be a requirement for coordinated testing across multiple participant types. This will typically require a 2–3 month window in the schedule.
- Orchestrating Market Trials and any timely defect fix releases over the December, January period plus when the resource focus could be diverted to any operational instability issues over Summer increases the likelihood of the rule commencement date not being met.
    - The flow on effects would be increased costs for AEMO and participants.
- Duplicate test environments would need to be maintained by AEMO and participants to cover the standard November 2025 release and the February Rule Change release increasing costs and overheads for AEMO and industry.
- AEMO has previously socialised and gained industry agreement to move to a twice-yearly release strategy (mid-year ~May and end of year ~November) and strongly recommends a system delivery timeframe for this rule change that aligns to this strategy.

AEMO considered a November 2025 system delivery timeframe.

- AEMO's assessment indicates that November 2025 would not provide sufficient time to deliver this change, assuming that a final determination is provided in July 2024.
- Market trials would require a 2–3-month window in the schedule as there is a requirement for coordinated testing across multiple participant types.
    - Settlements runs should be in scope.
    - B2B and B2M transitions should require inter-participant operation to prove process.
    - Permutations of test scenarios from the rule change.
- Time for participant development to meet the rule change and be ready for Market Trials would be reduced.
- Attempting to compress the schedule to deliver to a November 2025 timetable would:
    - Reduce the consultation period with industry before development would need to commence, significantly increasing the likelihood of a suboptimal design and implementation resulting in increased costs for AEMO and industry.
    - Significantly increase the likelihood of quality issues and rework resulting in increased costs for resolution for AEMO and industry.
- Insufficient window for 2025 releases, allowing time for other slated reforms to be delivered and bedded in such as the Accelerating smart meter deployment.

- Insufficient time for AEMO to publish comprehensive specifications to support participant development timeframes including:
    - draft and final aseXML specification draft and final technical specification/s.

6.1.2 Procedure consultation considerations

To allow sufficient time for consultation with participants AEMO proposes a prioritised consultation pathway encompassing:

- Pre-consultation, AEMO to publish a High Level Impact Assessment to be shared with participants prior to the formal issues paper being published and the formal consultation process commencing, noting that a couple of small workshops would be requested of participants.
- Separating out the critical path consultations that impact system changes and the non-critical path consultations that impact services. This approach allows more time for consultation and it also means that schema changes and technical specifications could still be published for participants so that AEMO and participant development can commence without delays.

6.1.3 Industry Test Considerations

- Initial assessment indicates that this project should meet the criteria for a Market Trial. This means that there should be a requirement for coordinated testing across multiple participant types.
- AEMO would make the standard pre-production environment available for the Market Trial window. AEMO has not identified the need for a separate participant development environment for this change.
- The test execution challenge will be to ensure sufficient participation across the industry because the implementation is optional for multiple participants, and obligated for others (e.g. DNSPs for SSP creation).
- AEMO may need to consider early release of capability to support testing for MDP accreditation well ahead of rule commencement.
- As a result, AEMO has allowed a 3-month period for Market Trial testing.

6.1.4 Risks and Issues

This section summarises key risks.

Table 8 Initial Assessment of the risks

Identified Risk	Current Rating	Mitigation strategies	Residual Rating (after mitigation)
Timing of AEMC rule change (AEMC priority and preferred rule).	Medium	Continued engagement with AEMO to reinforce the importance at multiple levels.	Low
Insufficient participant support (support of the new process).	Medium	ERCF is a channel that will be used to build participant support.	Low
The parties that are implementing the Rule Change are also implementing Accelerating smart meter deployment in the same period.	Medium	Timeframes set to support successful enablement of both reforms for participants.	Low

Identified Risk	Current Rating	Mitigation strategies	Residual Rating (after mitigation)
Contention and priority of Flexible Trading Arrangements amongst other reform initiatives.	Medium	NEM Reform program governance to manage priority and contention.	Low
AEMO and participant support for market trials over mid-December 2025 to late January 2026 period due to organisational shutdown periods.	Medium	Support of market trails during a period where adequate resourcing from both AEMO and Participants can be realised, for example Q2 2026.	Low
Any change and potential instability across summer periods requires focus on operations rather than reform change.	Medium	Timeframes set to support successful enablement of the rule change.	Low
AEMO support for participant development timeframes.	Medium	Publishing comprehensive specifications in a timeframe that supports participant development being ready for industry testing.	Low

7 Participant Impact Assessment

7.1 Detail of Impacted Functions

This section identifies a preliminary list of proposed changes and the impacted participants. Changes have been determined in conjunction with the draft Rule change to determine impacts to systems and participants.

The following heat map identifies the participants affected where the FTA functionality is used by the participant.

Figure 8 Heat map of Affected Participants

INDICATIVE FUNCTION	AFFECTED PARTICIPANTS								
	FRMP	LR	LNSP	ENM	MC	MP	MDP	DRSP	RECs
NMI Creation (secondary settlement point)	✓		✓	✓	✓	✓	✓		
Retailer Assignment	✓	✓	✓	✓	✓	✓	✓		
NMI Discovery	✓		✓						
Installation and Malfunction (type 8)	✓				✓	✓	✓		
Installation type 9 single measurement device					✓	✓	✓		
Public lighting	✓		✓			✓	✓		
MC Appointment	✓				✓				
Energy Allocation	✓	✓	✓	✓					
Reports	✓		✓	✓			✓		
aseXML	✓	✓	✓	✓	✓	✓	✓		
Service Orders	✓	✓	✓	✓	✓	✓	✓		
Accreditations						✓	✓		
Distributed Energy Resources Register (DERR)			✓						✓

Assumed Impact Level: ✓ - High ✓ - Medium ✓ - Low

Details of impacted functions including participant impacts:

7.1.1 NMI Creation

Current State	Future State
• A CP is assigned by the DNSP or ENM for a single CP at which energy flows to or from an end user connected to the network or embedded network.	• A CP can have one or more SSPs for an end user connected to the network. • Each CP and SSP must be flagged as an FTA in the NMI standing data. • Each SSP will have the CPs NMI assigned as an attribute. • Each CP will include an "Is Parent" indicator which will automatically be applied when a SSP has been assigned. • A SSP cannot have a SSP assigned. • The Embedded Network Parent/Child fields will not be used for flexible trading arrangements.

Participant Impacts

HIGH - LNSP, ENM	MEDIUM – FRMP, MC, MP, MDP
SSPs are assigned by the LNSP or ENM when requested by the FRMP	
Each CP or SSP must be flagged as a FTA by the LNSP or ENM.	
The LNSP or ENM will be responsible for assigning the CP NMI as an attribute to the SSP standing data within MSATS.	
A new attribute of "Is Parent" will be automatically populated in the CP NMI once the update is complete.	

7.1.2 Retailer Assignment

NMI Class	Current State	Future State
Small	• Each connection is allowed to have a single CP than can only have one active FRMP	• All SSP must have the same FRMP as the CP. • A CP that is a type 4 (small customer) metering installation may have one or many SSPs. • A type 8 metering installation may be assigned to a for small customer SSP.
Large	• Each connection is allowed to have a single CP than can only have one active FRMP	• Each CP and SSP may have a different FRMP. • A CP that is a type 1, type 2, type 3, type 4 or type 9 may have one or more SSPs. • A type 8 metering installation cannot be assigned to a SSP for a Large customer

Participant Impacts

MEDIUM - FRMP	LOW – LR, LNSP, ENM, MC, MP, MDP
• If the primary or secondary retailer fails, the existing retailer of last resort (ROLR) provisions would apply. In the event that the secondary FRMP who is a non-retailer fails, metering data would no longer be provided from the secondary NMI and the primary FRMP would become responsible for the entire energy flow at the premises . • CPs with Scheduled Resources or on Regulated SAPS cannot have a SSP.	

7.1.3 NMI Discovery

Current State	Future State
• NMI Discovery is available to FRMP, LNSP and MC participants. • NMI Discovery provides a specific list of fields detailed in the CAT Procedures.	• An incoming retailer will be able to identify if the CP has a SSP. • NMI Discovery results will be extended to include the new standing data attributes.

Participant Impacts

MEDIUM - FRMP	LOW - LNSP, MC
Changes to NMI Discovery responses.	

7.1.4 Installation and Malfunctions – type 8 metering installations

Current State	Future State
• A MC must engage a MP to install and maintain the metering installation. • A MC must repair the metering installation within timeframes described in 7.8.10.	• Type 8 metering is only able to be installed on a small customer connections SSP for a controlled resource. • The MC would be required appoint a Metering Provider to commission and maintain the meter installation. • The MP or someone on its behalf, may install a type 8 meter at a SSP. • If the type 8 device fails, the FRMP is responsible to notify the customer of a malfunction and the customer is responsible for the repair of a type 8 metering installation. • Repairs to a type 8 metering installation is to be completed 20 business days after the customer has been notified of the malfunction by the FRMP. • If the malfunction is not repaired within 20 business days, the FRMP is to make the type 8 metering installation inactive. All flows would be settled through the CP.

Participant Impacts

MEDIUM - FRMP	LOW - MC
• Responsible for advising the customer of a type 8 meter failure. • Requires the FRMP to make the secondary NMI inactive if the malfunction has not been rectified in 20 business days.	

MEDIUM - MP	LOW – MC, MDP
• Requires the MP to commission and maintain the type 8 metering installation. • Certify the metering installation meets the metrology procedure and standards minimum requirements • MDP may need to agree delivery of metering data to MP from the measuring devices	

7.1.5 Installation type 9 single measurement device

Current State	Future State
• A MC must engage a MP to install and maintain the metering installation.	• Type 9 metering is only able to be installed on a large customer CP or SSP for a controlled resource. • The MC would be required appoint a MP to commission and maintain the meter installation. • The MP or someone on its behalf, may install a type 8 meter at a SSP.

Participant Impacts

MEDIUM - MP	LOW – MC, MDP
• Requires the MP to commission and maintain the type 9 metering installation. • Certify the metering installation meets the metrology procedure and standards minimum requirements • MDP may need to agree delivery of metering data to MP from the measuring devices	

7.1.6 Public Lighting and Unmetered Supplies

Current State	Future State
• A type 7 (UMCP) metering installation are unmetered loads with calculated energy volumes.	• Public lighting can be metered using a type 9 metering installation. • A type 9 metering installation may include a CMS to collect and storing electronic signals from measurement elements and package it into trading intervals. • Public lighting using a type 9 metering installation would be a contestable service. • Updated devices will move from inventory table to measuring device.

Participant Impacts

HIGH – MP	LOW - MDP
• Metering installation may include a CMS to support multiple measurement devices which will be the responsibility of the MP. • MDP may need to agree delivery of metering data to MP from the measuring devices.	
HIGH – LNSP, FRMP	**MEDIUM - MP**
• Movement of streetlights and unmetered supplies from inventory tables to devices inventory in CMS.	

7.1.7 MC Appointment

Current State	Future State
• A Large Customer may appoint an MC	• A Large Customer may appoint an MC for the CP and SSP within its premise

Participant Impacts

LOW – FRMP, MC

- Where the NMI Classification Code is Large, a Market Participant or the large customer may appoint the MC for the SSP within the premise.
- The MC will need to maintain their list of accredited MDP and MP parties for the new metering types.

7.1.8 Energy Allocation

Current State	Future State
• Distribution CP energy allocation uses global settlements to calculate energy allocation. • Embedded networks use settlement by different to calculate energy allocation.	• CPs with SSP will use settlement by difference to calculate energy allocation. • Set SSP readings to zero when CP is inactive due to disconnection or power outage. • Reliability and Emergency Reserve Trader (RERT) baseline and Predictability of Load (PoL) calculations may be impacted where a SSP exists.

Participant Impacts

HIGH - FRMP | **LOW - LR**

- Calculation of energy allocation at the CP may not match the metering installation reads for the CP due to the settlement by difference process. *Refer subtractive metering*.
- Subtractive metering will be used to allocation for CPs that have SSPs, this is the same calculation process used for embedded networks.
- Allocation for SSP be set to zero where the CP is not active which may not align to readings for SSPs metering installation. Large customer agreements may need to be created where multiple FRMPs are assigned.
- May need to subtract SSPs prior to calculation of WDR (PoL calculations) or RERT (baseline calculations) for CPs.

HIGH - FRMP | **LOW – LNSP, ENM**

- Calculation of network service changes for large customers will be applied to the CP for the premises.
- CP FRMP is responsible for paying network service changes for a shared customer premise.

7.1.9 Reports

Current State	Future State
• CATS reports provide standing data reporting to participants.	• CATS reports may be updated to include the new NMI attributes where applicable.

• Snapshot is a copy of active and historical standing data information for the participants NMIs. • SDQ reports provides a list of standing data exceptions to the relevant participant. • Settlement performance snapshot provides a snapshot of metering data delivery and quality. • RM reports provide settlement reconciliation date at allocation and metering reads level	• Snapshot reports will be updated to include the new NMI attributes where applicable. • SDQ reports will be extended to include additional validations. Settlement performance snapshot may be impacted to support new Meter installation types. • The use of settlement by difference allocation for CPs will display a difference between the RM16 Level 1 reconciliation reports (allocation) and the RM21/27 reconciliation reports (metering data). The same as embedded network reporting.

Participant Impacts

MEDIUM - FRMP	
• Support the inclusion of new attributes into the CATS reports and snapshots.	
MEDIUM - MDP	**LOW - FRMP, LNSP, ENM**
• New SDQ checks to report abnormalities within standing data. • Settlement performance snapshot to include new metering installation types.	

7.1.10 aseXML schema

Current State	Future State
• aseXML currently support the existing B2M and B2B data models	• Inclusion of additional standing data fields will require the B2M aseXML schema to be updated. • Possible enumerations changes may be required within aseXML. • Transformation and management of new schema versions. • Review of B2B procedures will be completed as part of the IEC/B2BWG. • Review may have impacts on aseXML schema.

Participant Impacts

MEDIUM – ALL
• Management of aseXML schema change

7.1.11 Portfolio Management System (PMS)

Current State	Future State
• Each network connection is allowed to have a single CP at which energy flows to or from a person connected to the transmission network.	• PMS registration can be applied to either the CP or SSP.

Participant Impacts

LOW - FRMP, DRSP
• Registration and management of demand response information.

7.1.12 Distributed Energy Resources Register (DERR)

Current State	Future State
• Registration of DER devices are assigned to the CP.	• DER devices for a single site may be associated to the CP or SSP.

Participant Impacts

LOW – LNSP, RECs
• Registration of DER devices may be separated over multiple market CPs for a single site.

7.1.13 Customer Data Right (CDR)

Current State	Future State
• Provides a list of customer data information including standing data, meter reads and distributed energy resources currently to a single CP.	• Customer sites may have multiple Market CPs requiring multiple requests to support all site attributes. • Request for CDR customer data may need to be via multiple FRMPs on Large customer sites

Participant Impacts

MEDIUM - FRMP
• Multiple requests may be required to obtain all information for a customer site due to multiple market connection points for the premises.

7.1.14 Accreditations

Participant	Current State	Future State
Metering Provider	• Small customer MPs are accredited as a Type 4S MP. • The accredited service provider category spans type 1, 2, 3, 4, 4A, 5 or 6 metering installations.	• Two new registration categories for accreditation of 8M and 9M would be created.
Metering Data Provider	• MDPs are accredited for metering installation types 1, 2, 3 and/or 4	• Two new registration categories for accreditation of 8M and 9M would be created.

Participant Impacts

MEDIUM – MDP, MP
• New accreditation for a type 8 and type 9 metering installation.

7.1.15 Registration

Participant	Current State	Future State
Metering Coordinator	• A Metering Coordinator is registered by AEMO who engages is the coordination and provision of metering services at a CP. • Responsible for the co-ordination and provision of metering services to a CP.	• A Metering Coordinator can engage in the coordination and provision of metering services at a CP or SSP. • Responsible for the co-ordination and provision of metering services to a CP or SSP.

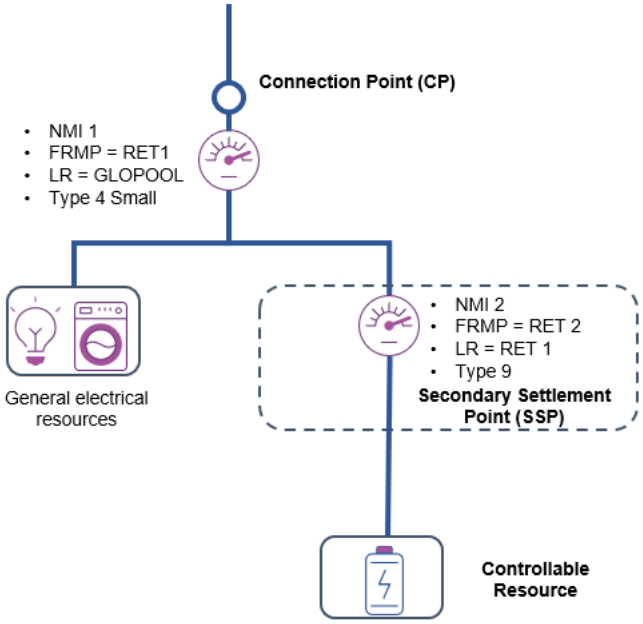
Participant Impacts

LOW - MC
• Registration requirements to change to describe the coordination and provision of a SSP. • MC to be registered to co-ordination and provision of metering services for SSPs.

7.2 Subtractive Metering

This section provides an overview of the subtractive metering process, the example is for a large customer that includes two FRMPs.

Figure 1 Subtractive metering diagram



For a FTA the settlement energy is calculated by subtracting the net metered energy of all SSP from the net metered energy of the CP. This subtractive logic is used for embedded networks.

If we assume for the above diagram the metering reads for a Trading Interval (TI) are:

- CP had a value of 10 on the E (export from grid) register and 2 on the B (import to grid) register, and
- SSP had a value of 2 on the E (export from grid) register and 6 on the B (import to grid) register

The formula for subtractive settlement energy is:

- CP settlement energy = CP net (E_B) – SSP(s) net (E-B)

Taking the above values into account this provides an energy value of:

- CP settlement energy = (10 – 2) – (2 – 6)

  = 8 – (-4) =12

Where the SSP settlement energy would be calculated a normal:

- SSP settlement energy = SSP net (E-B) = 2 – 6 = -4 (aka 4 units were generated)

Retailers will be able to calculate the settlement energy for a CP with an SSP associated as they will receive the SSP metering data as part of the LR role.