

NEM Reform Program Consultative Forum

Meeting #11

13 September 2023



1. Welcome

We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

We pay respect to their Elders past, present and emerging.

Agenda

#	Time	Topic	Presenter	#	Time	Topic	Presenter
1	1:00-1:05pm	Welcome	Peter Carruthers	9	N/A	Noting – Commencement Updates • October: MT PASA, 5MLP • November: CDR	N/A - Taken as read
2	1:05-1:10pm	Actions & Feedback from Previous Meeting	Peter Carruthers	10	2:10-2:15pm	Foundational & Strategic Initiatives • IDX IDAM PC	Ulrika Lindholm & Andrew Bell
3	1:10-1:25pm	Program & Release Update	Rowena Leung & Jim Agelopoulos	11	2:15-2:25pm	NEM Reform Forums Update • Executive Forum - Verbal Update?	Peter Carruthers / David Reynolds
4	1:25-1:45pm	Spotlight • August 2023 ADC • October 2023: FFR	Luke Barlow Chris Muffett	12	2:25-2:40pm	NEM Reform Implementation Roadmap Update	Lance Brooks
5	1:45-1:55pm	June 2024 – IESS Update	Luke Barlow	13	2:40-2:50pm	Industry Risk Register	David Reynolds
6	1:55-2:00pm	June 2025 – FPP Update	Oliver Derum	14	2:50-2:55pm	Upcoming Engagements • Fee Consultation Update • General roadmap briefing	Lance Brooks / David Reynolds
7	2:00-2:05pm	Metering Exemptions Update	Meghan Bibby & Greg Minney	15	2:55-3:00pm	General Questions and Other Business	Peter Carruthers
8	2:05-2:10pm	March 2024 – SCADA Lite Introduction	Luke Barlow / Greg Minney				

Appendix A:
Competition law meeting protocol
Appendix B:
SCADA Lite: Technical overview

“Please note that this meeting will be recorded by AEMO and may be accessed and used by AEMO for the purpose of compiling minutes. By attending the meeting, you consent to AEMO recording the meeting and using the record for this purpose. No other recording of the meeting is permitted”

2. Actions & Feedback from Previous Meeting

Actions & Feedback from Previous Meeting

(Item = Meeting # – Agenda # – Reference)

Item	Topic	Action	Responsible	Status
10.11.1	NEM Reform Implementation Roadmap Update	AEMO to provide a further update on the NEM Reform Implementation Roadmap and supporting artefacts including key changes incorporated.	AEMO	Closed
10.12.1	Industry Risk Register	AEMO to collate and incorporate feedback received by PCF members during the July and August meetings.	AEMO	Collated
10.12.2	Industry Risk Register	AEMO to review the mitigation ratings are effective.	AEMO	Reviewed

3. Program & Release Update

Program Update

Overall program status is amber. Good progress made in the following areas.

- FFR first release (August) go-live successful on 9 Aug. Registrations are now open.
- IESS ADC successfully deployed into Production on 9 Aug.
- IDAM/IDX/PC Transition Roadmap industry consultations on IDAM and PC completed.

Key areas of challenge

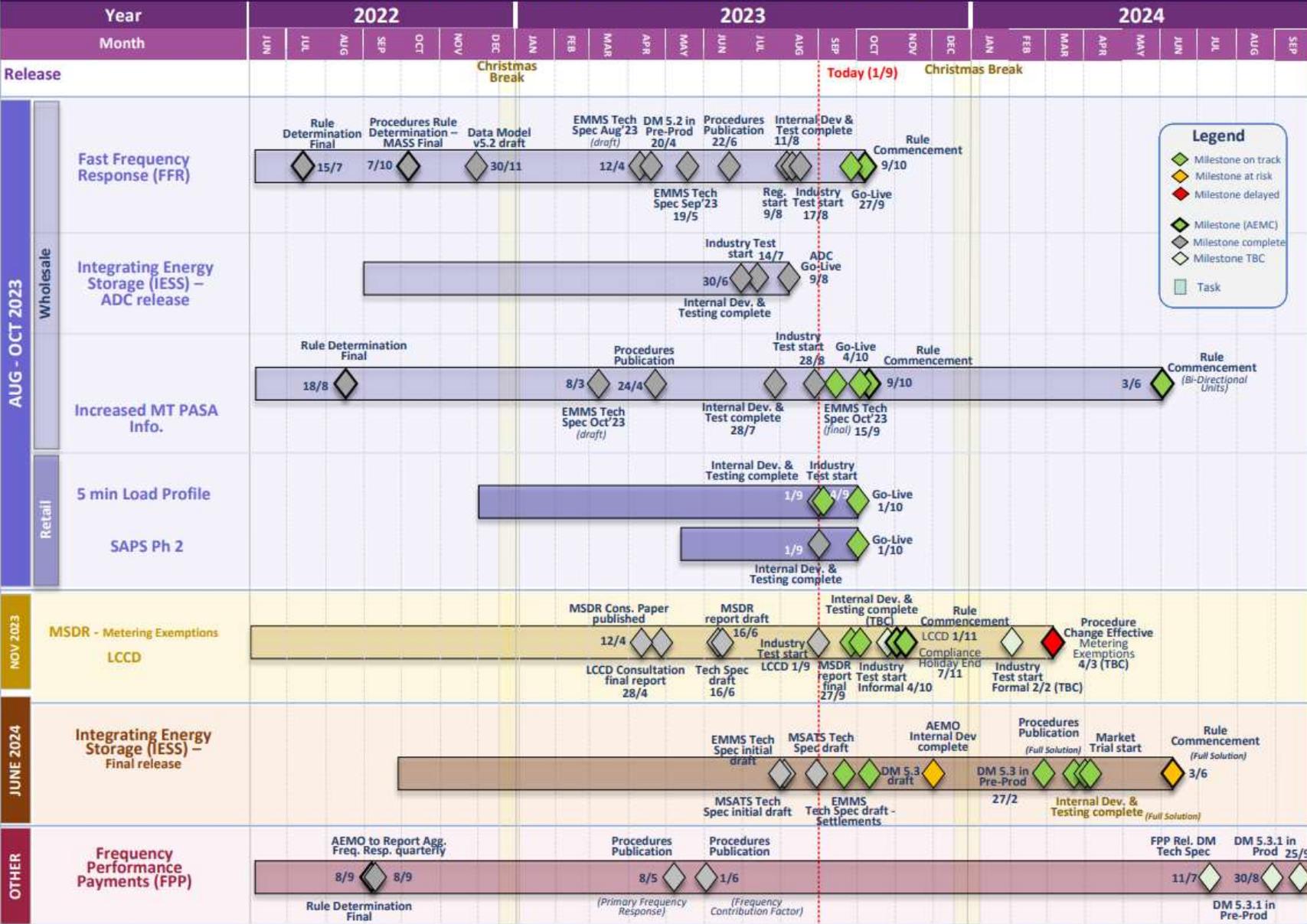
- IESS June 2024 plan has been re-baselined for delivery against the June 2024 effective date.
- IDAM/IDX/PC business case being finalised with challenges around estimates and deliverability being addressed.

Release	Initiatives	Previous Status	Current status	Key Points	Impacted Stakeholders
AUG-23	Integrating Energy Storage Systems [ADC]	Green	Delivered	IESS ADC successful Go-Live on 9 August.	Aggregate Systems
	Fast Frequency Response - Dispatch & Reg	Green	Delivered	FFR August release successful on 9 August. Registrations now open for participants. Registrations are being received and processed.	Generators, Market Customers
OCT-23	Fast Frequency Response	Amber	Green	Industry testing started on the 17 August. No outstanding issues. Industry test running to schedule.	Generators, Market Customers
	5 Minute load profile	Green	Green	Project progressing to schedule.	Market Customers / FRMP
	Increased MT PASA Information	Green	Green	Project progressing to schedule.	Scheduled Generators
NOV-23	Metering Exemptions (MSDR)	Amber	Red	Schema update required necessitating a shift in deployment to March 2024, with date to be confirmed on 27 September following procedures determination. APIs to be deployed in October to support participant development.	Retailers, MC and MP/MDP
	CDR (LCCD)	Green	Green	Project progressing to schedule.	FRMPs
JUN-24	Integrating Energy Storage Systems [Final]	Red	Amber	IESS June 2024 delivery has been replanned and baselined. Little contingency is available, status therefore remains as amber. Baselined plan includes BDU and settlement transition periods, agreed delivery of technical information and additional participant test support requirements.	IRPs, NSPs, FRMP, MP/MDP, Vendors
JUN-25	Frequency Performance Payments	Green	Green	Outcomes of June participant impact and development timeline have been incorporated into the FPP plan. Status is green against the plan.	Generators, Market Customers

NEM Reform Level 1&2 Milestones PoaP



NEM Reform Level 1&2 Milestones - Timeline version 24.0x



Key call outs:

- The IESS ADC was successfully implemented in Production as planned, on 9/8.
- FFR project - Registrations are now open for participants from 9/8, as per the successful FFR first release.
- FFR Project - Industry Testing is in progress (from 17/8).
- The MT PASA testing has completed successfully. Industry Testing has commenced from 28/8.
- 5MLP UAT has completed successfully. The Industry Testing period is on track to start from 4/9.
- SAPS Phase 2 release (*RERT Reports & Exception Logging*) is on track for a 1/10 go-live. Testing was completed on 1/9.
- The impact of schema changes to the delivery timeframes of MS DR Metering Exemptions, have been assessed, resulting in deferral of the Procedure Change Effective date to early March 2024. The final consultation report is due on 27/9.
- The LCCD Rule Commencement on track for 1/11/23. Industry Testing has started on 1/9.
- The IESS Design & Development is in progress. Plan revision has maintained the June 2024 go-live. Draft Tech Spec publications are planned for the next few months.

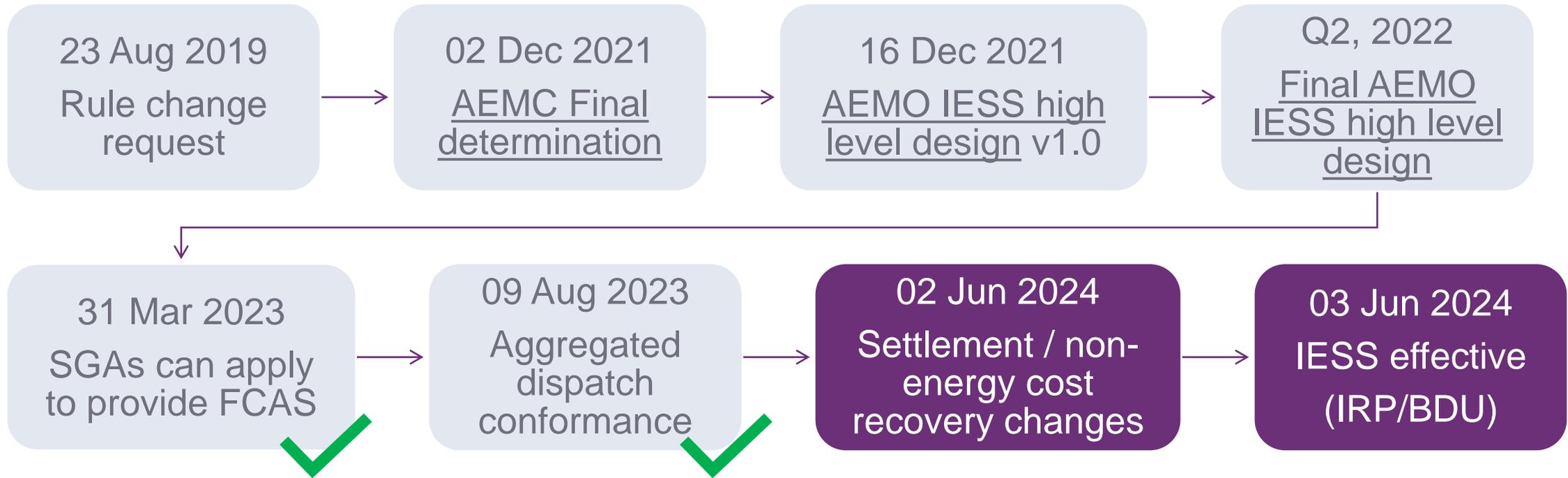
4. Spotlight



August 2023 IESS (ADC) Update

Luke Barlow

IESS: High-level Timeline



SGA	Small generation aggregator
FCAS	Frequency control ancillary service/s
IRP	Integrated resource provider
BDU	Bi-directional unit

- REFERENCES**
- [AEMC IESS rule change](#)
 - [AEMC Implementing IESS rule change](#)
 - [AEMO IESS High Level Design and Implementation Strawperson](#)
 - [AEMO IESS Participant Toolbox](#)

Milestone Review: IESS – Aggregated dispatch conformance

COMPLETE!!



- **09 Aug 2023:** Successful production deployment
- **09 Aug 2023:** Aggregated dispatch conformance (ADC) go-live
 - Existing 'ADC-like' participants moved to aggregate conformance
 - Mixed and cap aggregate systems can [apply to participate in ADC](#)
 - BESS are now Target Aggregates for conformance monitoring until they convert to a single DUID in Q3/4 2024 or Q1 2025.
- Contingency not needed
- Today is final Implementation Forum update on ADC as it is soon BAU
 - Hypercare period of 4 weeks (to 06 Sep 2023)

Additional resources

- [ADC toolkit](#)
- [ADC fact sheet](#)
- [ADC go-live plan](#)
- [Dispatch procedure](#) – updated for ADC
- [IT change and release management information](#)
- [IESS Project webpages](#)





October 2023 FFR Update

Chris Muffett

October 2023: FFR

Fast Frequency Response

Key Date(s)	Go-live October 2023
Likely impacted stakeholders	Generators, Market Customers, Traders
Industry testing anticipated	AEMO will be facilitating industry testing in the pre-production environment, and will involve exercising dispatch and settlement processes of the new services.
Overall status	Overall Green , Phase 1 (Registrations) delivered, Industry Test in Progress, Market Start decision to be based on available offers

Procedures	Technical documentation	AEMO Development and Internal Testing	Industry readiness and Transition	Industry testing	Deployment and go-Live
<ul style="list-style-type: none"> All Procedure and guidelines finalised 	<ul style="list-style-type: none"> Data Model 5.2 in production 23rd May Latest version of EMMS Technical Spec updates released 19/5 No further updates to technical documentation planned 	<ul style="list-style-type: none"> AEMO Development and testing Complete All components deployed to Pre-prod for Industry Test 	<ul style="list-style-type: none"> Participant Registration live Registered Participants able to participate in Industry Testing 	<ul style="list-style-type: none"> Industry Testing In Progress No Outstanding issues as at 1/9 Settlement runs scheduled 15 and 19th September 	<ul style="list-style-type: none"> Final Go-Live Plan issued 1 September AEMO Technical and business readiness criteria met Final Production Deployments scheduled

Relevant links

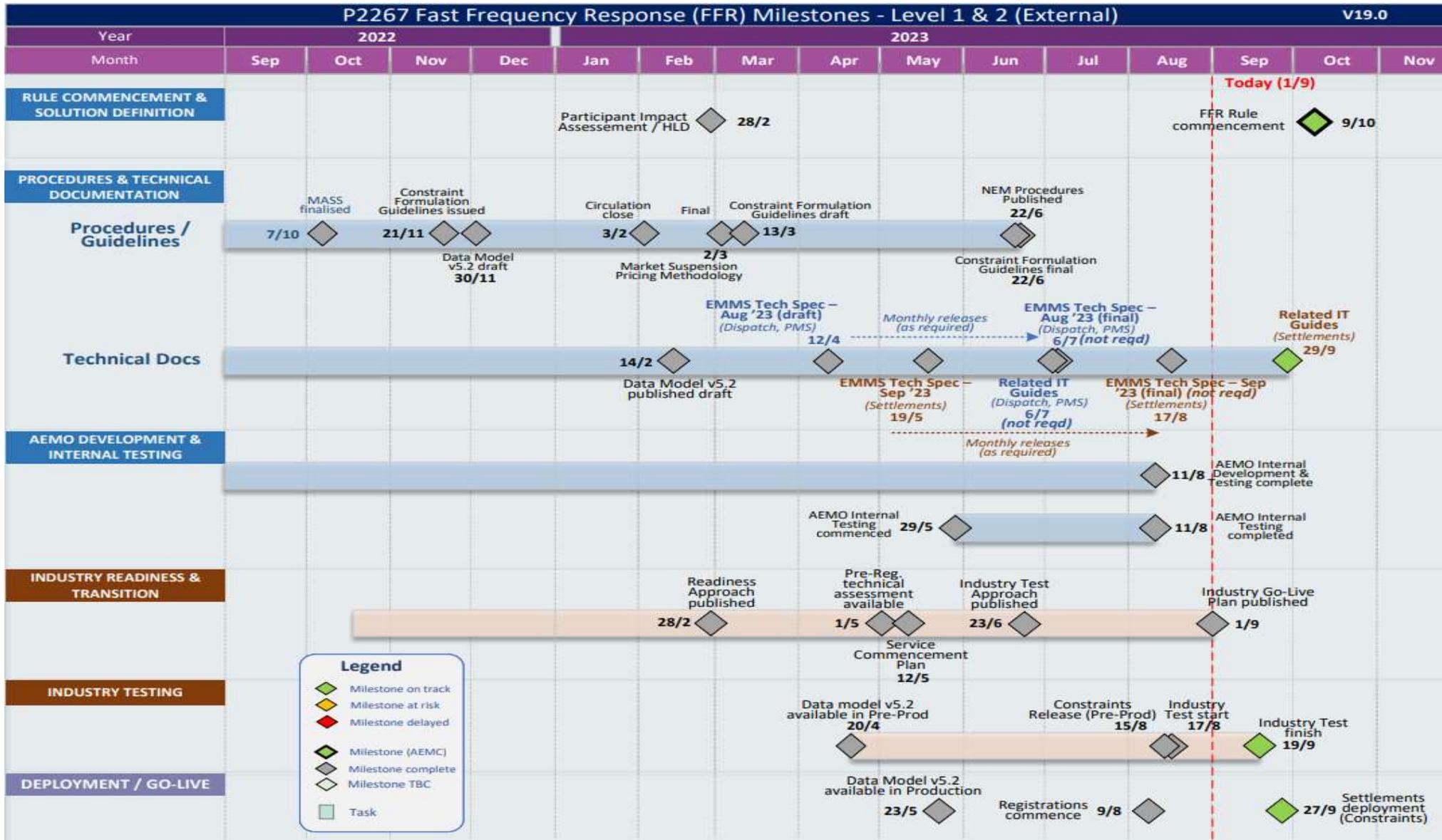
Fast Frequency Response Go-Live

for market commencement on 9 October

- An Industry Go Live Plan (Final) that covers VF FCAS market commencement on 9 Oct 2023 was published on 1 Sep 2023. Will include approach for decision on Market Readiness
- Go Live criteria below with Status checkpoint as at 1/9:

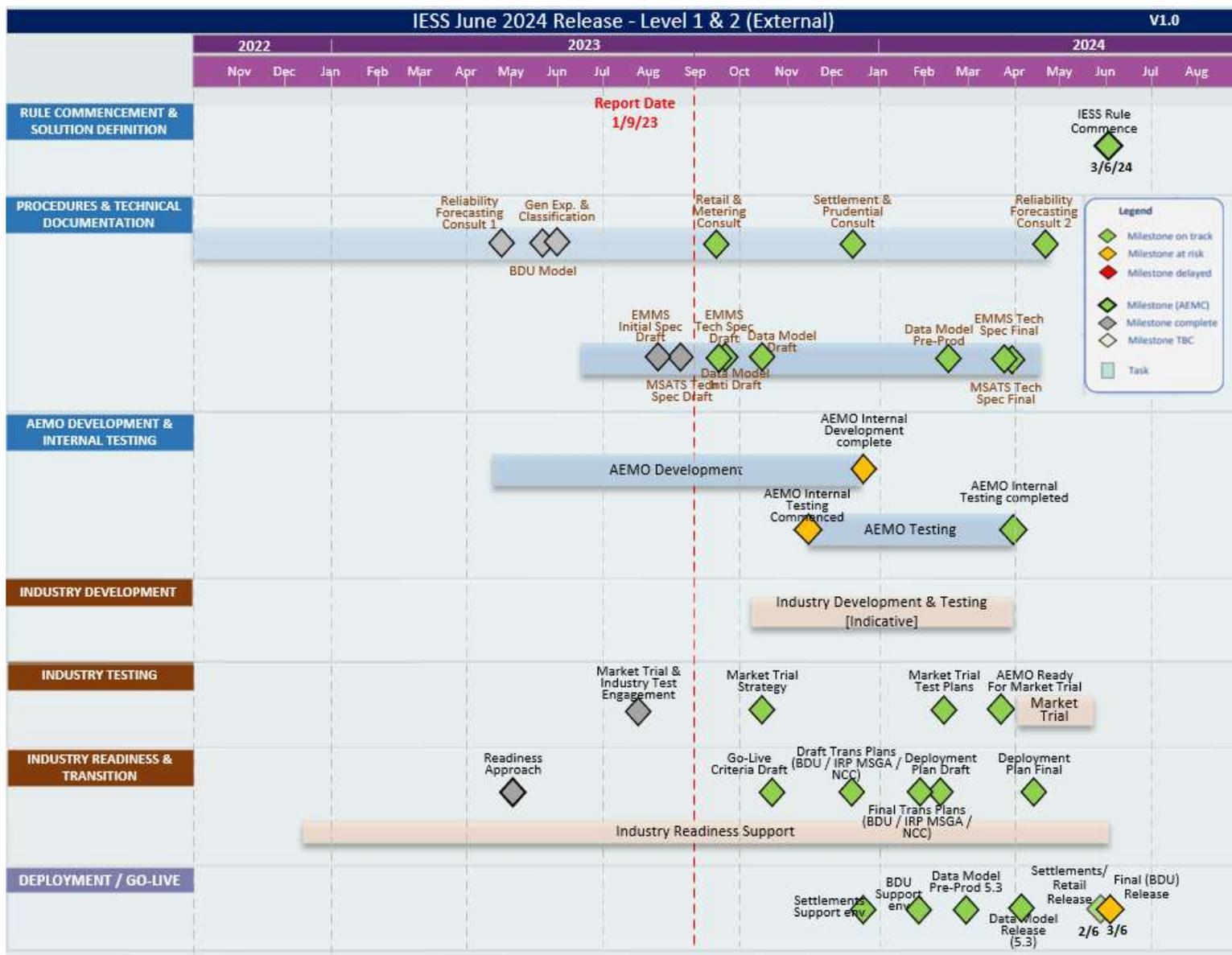
INITIATIVE	FAST FREQUENCY RESPONSE – Market Start (09 October 2023): Eligible providers can register to participate in VF FCAS	Status As At 1 Sept Solution and Business Readiness Green, Market Readiness TBC
CRITERIA	DESCRIPTION	
Go-live criteria	<ul style="list-style-type: none"> • Solution readiness: AEMO solution tested in-line with requirements and available for Industry Test – No major outstanding Defects without remediation • AEMO Business Readiness: AEMO business ready to support VF FCAS market commencement from • Market Readiness: Sufficient participants registered to provide service 	<ul style="list-style-type: none"> • Solution Deployed to Pre-production with no issues • Industry Test proceeding to plan • AEMO business activities scheduled and on track • Participant registration in progress • Industry Go-Live Plan release 1/9
	Optional participation for interested, eligible providers i.e. participant readiness activity is not a pre-requisite for go-live.	
CONTINGENCY	Contingency plans established in consultation with Implementation Forum. AEMO Solution and Business Readiness criteria are green, meaning associated contingency actions not required. Market Readiness criteria to be assessed, if not met then service introduction will be deferred or transitioned.	<ul style="list-style-type: none"> • No current indication contingency will be required • Final Assessment of Market Readiness based on production 7 day pre-dispatch

FFR Milestones and progress



5. June 2024 - IESS Update

June 2024 - IESS Final Release



RELEASE COMMENTARY

- Project schedule is now baselined to meet the June 2024 IESS rule commencement dates.
- [Procedures consultation](#) in progress via EWCF/ ERCF* and on track
- AEMO development and internal testing completion milestone now rated **AMBER**. Development/test schedule is complex with minimal schedule contingency. Meeting these interim milestones will provide confidence in overall project delivery.
- AEMO has responded to requests for participant support for both IESS Settlement and BDU implementations
- Following milestones have been defined and confirmed:
 - Draft technical documentation
 - Industry readiness support
 - Industry Testing and participant development support
 - Transition and go-live plans

*Electricity wholesale / retail consultative forums

June 2024: Integrating Energy Storage Systems

Key Date(s)	<ul style="list-style-type: none"> • Settlements / NECR go-live Sun 02 Jun 2024 • IRP/BDU go-live Mon 03 Jun 2024
Affected stakeholders	<ul style="list-style-type: none"> • Changes to settlement data tables and non-energy cost recovery framework (NECR): Financially responsible market participants • Introduction of IRP participant type and bi-directional unit (BDU) bidding, scheduling and participation: BDU participants, bidding system vendors/developers
Industry testing anticipated	<ul style="list-style-type: none"> • Market trial and industry testing
Overall status	<ul style="list-style-type: none"> • AMBER: Project schedule re-baselined to meet the June 2024 rule commencement dates.

Procedures	Technical documentation	AEMO development & internal testing	Industry readiness & transition	Industry testing	Deployment & go-live
<p>Current procedure consultations:</p> <ul style="list-style-type: none"> • IESS retail electricity market procedures: Final determination 18 Sep 2023 • Prudentials: Consultation paper 22 Sep 2023 • Electricity Market documents (#1): Subs due 29 Sep 2023 <p>Upcoming procedure consultations</p> <ul style="list-style-type: none"> • Settlements: Draft Sep 2023 • Electricity Market documents (#2): Draft Oct 2023 	<p>Changes to:</p> <ul style="list-style-type: none"> • MSATS technical specification • EMMS technical specification • MMS Data model <p>Milestones for initial, draft and final documentation confirmed (see project schedule).</p>	<ul style="list-style-type: none"> • Development in progress and on track. • Internal AEMO testing commences Nov 2023. 	<ul style="list-style-type: none"> • IESS go-live criteria in development. To be discussed with Implementation Forum Tue 26 Oct. • IESS transition plans to be developed in conjunction with the Implementation Forum and working groups Oct to Dec 2023, and finalised in early 2024. 	<ul style="list-style-type: none"> • Draft IESS Market Trial Strategy to be released for comment Fri 22 Sep 2023. Will address timing, duration and scope. • IESS Market Trial plan/s to be developed in conjunction with the ITWG by mid-Feb 2024. • Program support via ITWG and regular Q&A sessions. 	<p>Deployment plans:</p> <ul style="list-style-type: none"> • Draft Feb 2024 • Final Apr 2024

Relevant links				
AEMC IESS rule	AEMC Implementing IESS rule	AEMO IESS procedure change program	AEMO IESS participant toolkit	

IESS industry engagement

IESS is a large and complex project. Further industry support will be offered via:

- Regular sessions (~monthly) for IESS BDU implementation:
 - Complementary to existing NEM Reform forums
 - Focus will be on technical support and readiness planning
 - Will seek input from participants on agendas
- Ad hoc sessions for IESS Settlements:
 - Complementary to existing NEM Reform forums
 - Likely aligned with key project milestones e.g. release of tech specs
 - Will seek input from participants on agendas

6. June 2025 - FPP Update

June 2025: Frequency Performance Payments

FREQUENCY PERFORMANCE PAYMENTS (FPP)

Key Date(s)	Go-live June 2025;
Likely impacted stakeholders	Generators, Market Customers
Industry testing anticipated	Extended period of non-financial operation for participant validation expected, Scope/approach of Industry testing TBC

Procedures	Technical documentation	AEMO Development and Internal Testing	Industry readiness and Transition	Industry testing	Deployment and go-Live
<ul style="list-style-type: none"> Final Primary Frequency Response Requirements procedure published 4 May. Final Frequency Contribution Factor Procedure published 1 June, along with the related Tuning Parameters and Input Sources document. 	<ul style="list-style-type: none"> Data Model Technical Specification with updates for FPP reporting – April 2024 Data Model Technical Specification with updates for FPP Settlements reporting – Sept 2024 	<ul style="list-style-type: none"> Data integration Jun to Dec 2023 Settlements system development Jul to Dec 2024 	<ul style="list-style-type: none"> April-Sept 2024 	<ul style="list-style-type: none"> FPP calculation testing Dec 2024 (non-financial operation) Settlements testing April 2025 	<ul style="list-style-type: none"> Pre-prod releases 1+2 Nov 2024 (start and end) Pre-prod releases 3+4 start and mid March 2025 Prod release end May 2025

Relevant links

- [AEMO | Frequency Contribution Factors page \(Contains Frequency Contribution Factors Procedure and Tuning Parameters\)](#)
- [AEMO | Frequency Contribution Factors Procedure Consultation Page](#)
- [AEMO | Frequency Performance Payments project](#)

Workshop on pre-dispatch and P5min FPP estimates

- Workshop was held with participants on 4 September. Representatives of five NEM participants, plus the AEMC, attended.
- AEMO presented on a simple method for developing pre-dispatch and P5min estimates of FPP outcomes.
- AEMO invited participants to indicate whether such estimates would be of benefit to industry.
- Limited feedback on the value of such estimates was provided in the session.
- Written feedback is invited by COB Friday, 29 September, to FPPconsultations@aemo.com.au

AEMO will only consider producing FPP pre-dispatch and P5min estimates if there is sufficient industry support.

Participant impact and preparedness artefacts

Item	Current status
High-level implementation design	Complete. High level design of the FPP process, and the calculations to be made, are available in the February 2023 workshop presentations and the Frequency Contribution Factors Procedure .
High-level Technical Design (new item identified for FPP)	Pending. AEMO will publish a high-level technical design in December 2023.
Participant impact assessment	Complete. The impacts of FPP on different types of participants are outlined on slides 9-10 of this presentation .
L1/L2 milestones	Complete. See the FPP timeline included in each PCF pack.
Participant development timeline	Complete. See the FPP timeline included in each PCF pack.
Participant test support	Pending. Details to be contained in “FPP Readiness Approach” document to be developed in January 2024.
Contingency	Pending. Period of non-financial operation is noted, however AEMO is still examining where contingency can be included in the existing FPP timeline.

7. Metering Exemptions Update

Metering Exemptions Automation

- In response to stakeholder feedback during the Metering Exemption Automation procedure consultation and issues identified during AEMO development, AEMO has determined the following:
 - The effective date of the metering installation exemption automation will be deferred to early March 2024.
 - A full B2M XML Schema update to version r44 will be implemented as part of that release.
- The decision, including confirmed procedure effective dates will be confirmed in the Final Determination of consultation, scheduled for 27th September
- In order to support participant preparations for the implementation of metering exemption automation, AEMO will deploy the MSATS Portal and API capability to pre-production in early October
- However, the B2M XML Schema version update (r44) will need to be released into pre-production later in the year, noting that the ASWG approval process is currently underway.
- Other milestone dates, including aseXML schema availability, and industry testing approaches will be established and communicated via established forums
- Other capability scheduled for release in November 2023 is not impacted by the change in deployment for Metering Exemptions

November 2023: Metering Exemptions

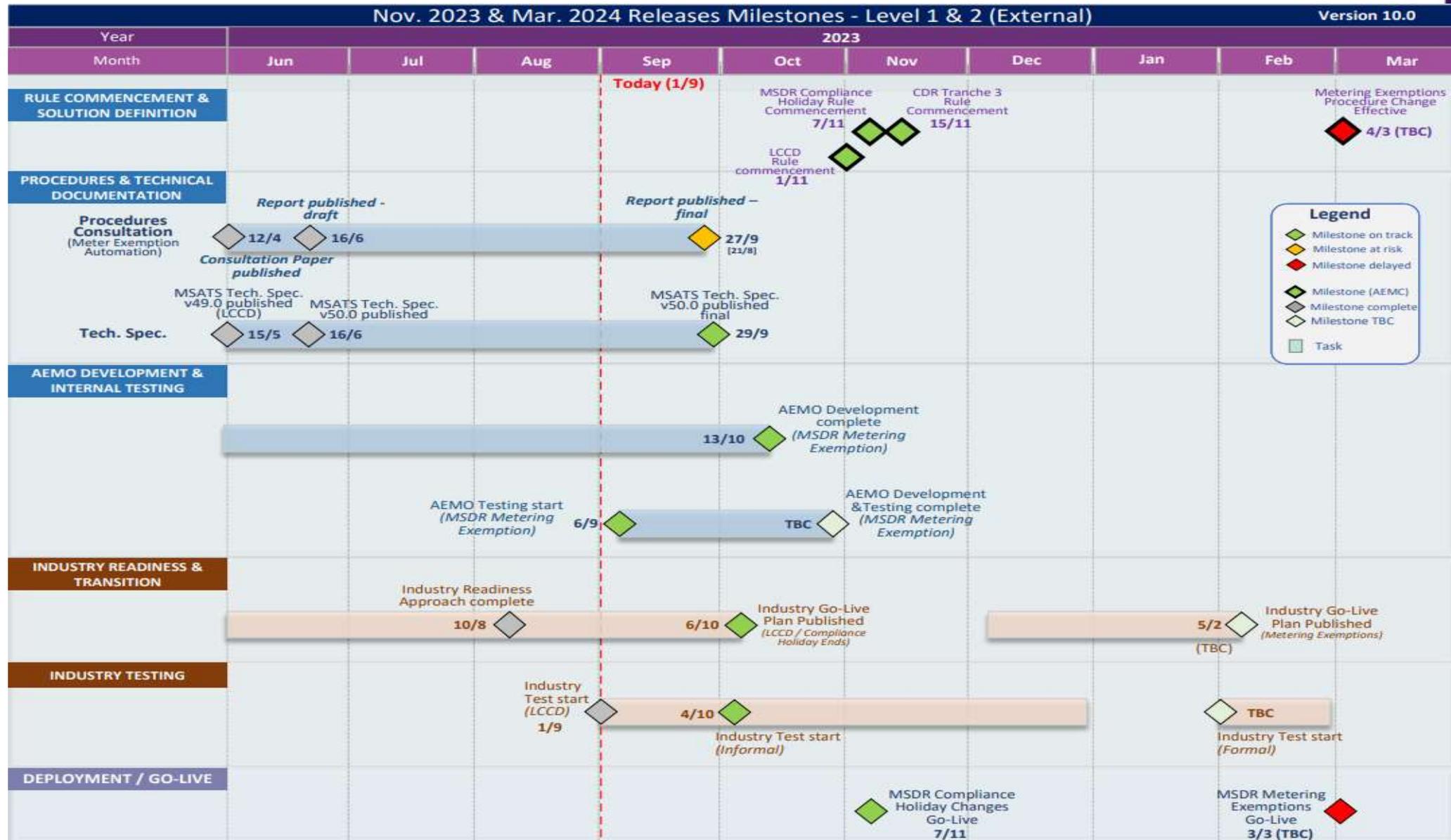
Metering Exemptions

Key Date(s)	Go-live early March 2024 (TBC in Final Report for Metering Exemptions)
Likely impacted stakeholders	FRMP, MC, MP, DNSP, MDP
Industry testing anticipated	Industry Testing
Overall status	Overall Red against current November go-live date , Metering Exemptions go Live to be re-scheduled to March 2024 (TBC). Status to be re-baselined to green once revised go-live date finalised.

Procedures	Technical documentation	AEMO Development and Internal Testing	Industry readiness and Transition	Industry testing	Deployment and go-Live
<ul style="list-style-type: none"> Metering Exemptions consultation in progress <ul style="list-style-type: none"> Revised Final Report 27 Sept Effective date for metering exemptions changed to early March 2024 and will be confirmed in Final Report. 	<ul style="list-style-type: none"> MSATS Tech Spec to support Metering Exemptions changes R44 B2M aseXML Schema spec to be developed to support Metering Exemptions 	<ul style="list-style-type: none"> Metering Exemptions will require updates to incorporate new B2M schema, API development and internal testing in progress 	<ul style="list-style-type: none"> Transition of current exemptions are included in AEMO cutover plans Metering Exemption APIs to be deployed to pre-prod 4 October to support Industry development timeframes 	<ul style="list-style-type: none"> Metering Exemptions Industry Test to be rescheduled in line with revised deployment 	<ul style="list-style-type: none"> Metering Exemptions Procedure effective date to be confirmed in Procedure final report – planned Early March 2024.

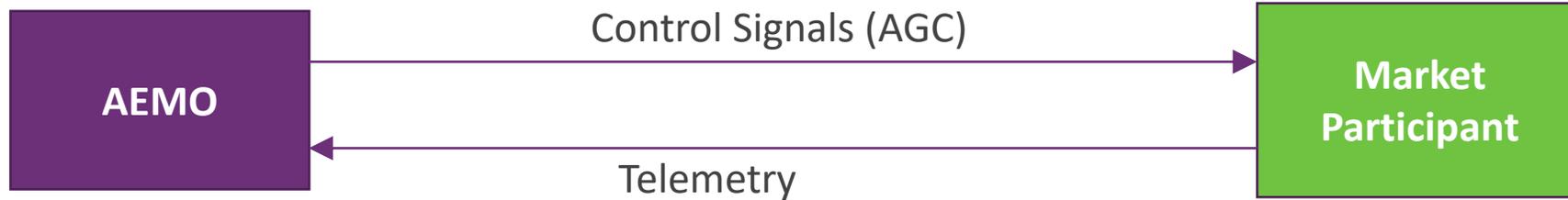
Relevant links
AEMO Metering Installation Exemption Automation Consultation

November 2023 Milestones Timeline



8. March 2024 – SCADA Lite Introduction

Initiative summary: SCADA Lite Mar 24 release



Provide a capability for a market participant to establish a bi-directional communication path to exchange telemetry data and control signals with AEMO such that they can participate in the wholesale market. Specifically:

- Demand Response Service Providers (DRSP) providing Wholesale Demand Response (WDR).
- Generators or Integrated Resource Providers not able to exchange information or controls with AEMO via an NSP.

Project Context - Why is it needed?



- The evolving and transitional NEM market will involve several new non-NSP (Network Service Provider) Participants in addition to the already existing traditional ones (such as NSPs and Generators).
- It has been onerous for these non-NSP Participants to establish a telemetry connection with AEMO using the ICCP (Inter-control Centre Communications Protocol) protocol that AEMO currently supports.
- SCADA Lite solution will deliver the requirements defined in both the [WDR Guidelines](#) (Version 1.0, Effective Date: 24 June 2021) and [Power System Data Communication Standard](#) (Version 3.0, Effective Date: 3 April 2023).
- New Reform initiatives such as [Integrating price-responsive resources into the NEM](#) will soon open new market opportunities for non-NSP Participants once accessible telemetry exchange channels are available.

SCADA Lite: High-level impacts - DRAFT

The information presented here is general in nature. AEMO encourages industry participants to undertake their own due diligence to assess energy market reform impacts on their respective organisations.

AFFECTED TECHNOLOGY & PROCESSES	INDICATIVE PARTICIPANT CHANGE IMPACTS	AFFECTED PARTICIPANTS				
		IRP	GEN	DRSP	TNSP	DNSP
REGISTRATION	<ul style="list-style-type: none"> Required: DRSPs seeking to register >5MW of WDR from a single site/aggregation who do not provide telemetry via an NSP will require a SCADA lite connection Optional. IRPs or Generators seeking a transitional SCADA Lite connection where the NSP does not support the service. <p>MEDIUM</p> <ul style="list-style-type: none"> Provide required data and undergo required certification Direct annual fees for a SCADA Lite connection 	0	0	✓		
DISPATCH	<p>MEDIUM:</p> <ul style="list-style-type: none"> OPTIONAL - Operational systems could be upgraded to receive/respond to instruction signals from a SCADA Lite feed. 	0	0	0		
TECHNOLOGY	<p>MEDIUM for non-NSP participants:</p> <ul style="list-style-type: none"> Potential for new technology and hardware will be required to enable the bidirectional communication link with AEMO to provide telemetry and optionally receive instruction signals. 	0	0	✓		

* Refer to [SCADA Lite Stakeholder Workshop Presentation – 23 August 2023](#) for technical overview

DRSP	Demand Response Service Provider
GEN	Scheduled Generators
IRP	Integrated Resource Providers

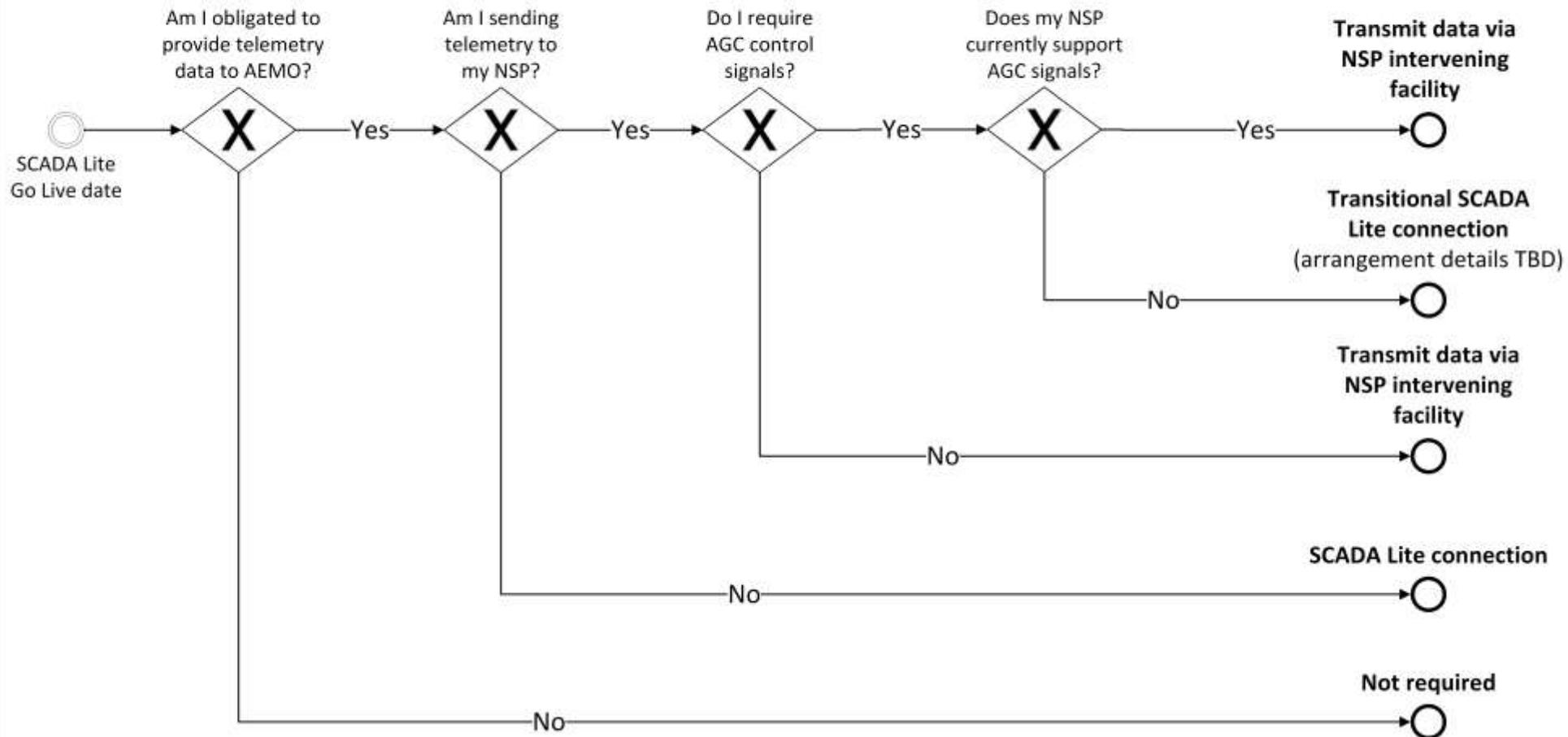
TNSP	Transmission network service provider
DNSP	Distribution network service provider

Eligibility map

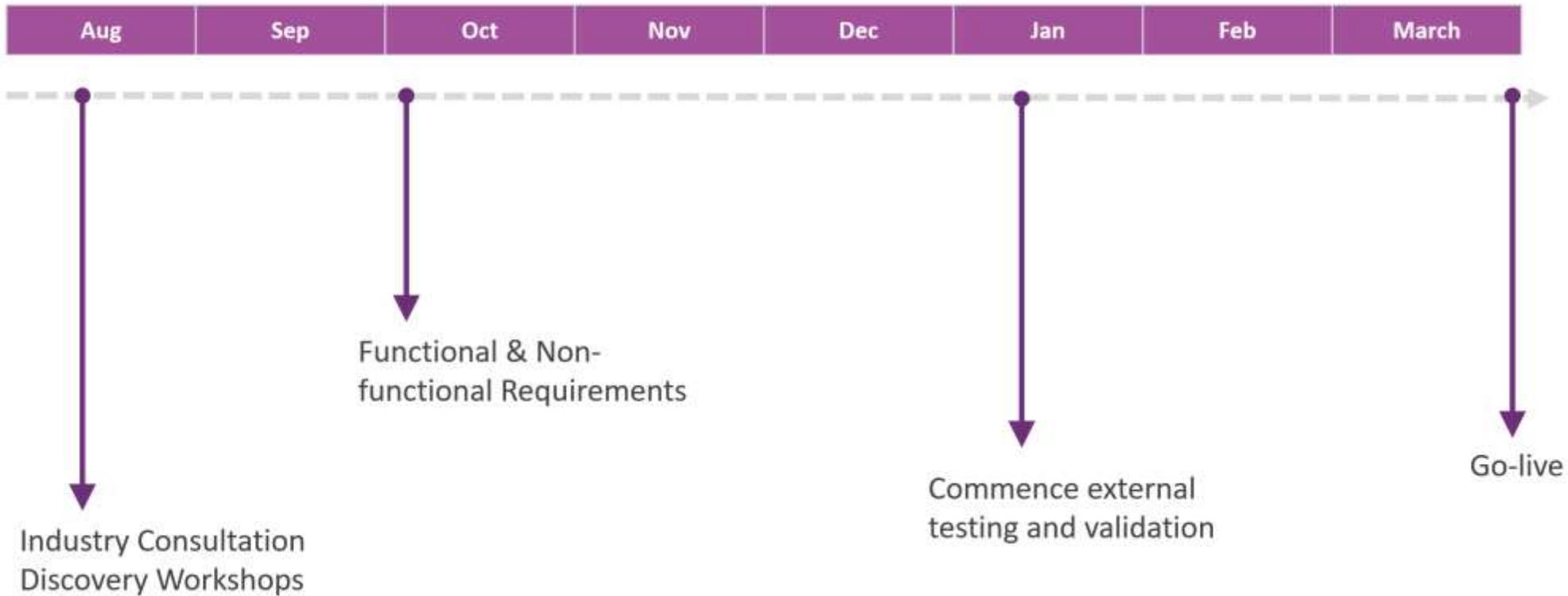
SCADA Lite Decision Tree – Do I need a SCADA Lite Connection?

Decision points to determine if a SCADA Lite connection is required

Version 1.0



Implementation Roadmap



AEMO will develop milestones in line with NEM Reform standard process including participant required guidelines and processes and AEMO progress milestones.

9. Noting



October 2023 MT PASA

For Noting

October 2023: Increased MT PASA Information

Increased MT PASA Information

Key Date(s)	Go-live October 2023
Likely impacted stakeholders	Scheduled Generators and optional TNSPS
Industry testing anticipated	Industry Testing
Overall status	Overall On Track , Industry Testing in progress.

Procedures	Technical documentation	AEMO Development and Internal Testing	Industry readiness and Transition	Industry testing	Deployment and go-Live
<ul style="list-style-type: none"> Procedures Finalised 	<ul style="list-style-type: none"> Data model changes for MT PASA have been included in release 5.2 of data model. Data Model 5.2 now available in production 	<ul style="list-style-type: none"> AEMO Development and Testing Complete and signed off 	<ul style="list-style-type: none"> Capability for participants to provide updated information will be deployed 1 week prior to rule commencement. Initiative Go-Live Criteria established and reviewed 	<ul style="list-style-type: none"> Industry Testing in progress, commenced 28/8 on schedule 	<ul style="list-style-type: none"> Planned deployment 4/10 Reporting capability to be deployed 9/10 Final Go-Live Plan 8/9

Relevant links
Enhancing information on generator availability in MT PASA AEMC
AEMO NEM Reliability Forecasting Guidelines and Methodology Consultation
AEMO Amendment of the Market Ancillary Service Specification (MASS) – Very Fast FCAS

Go-live criteria management: Industry checkpoint for Mt PASA release

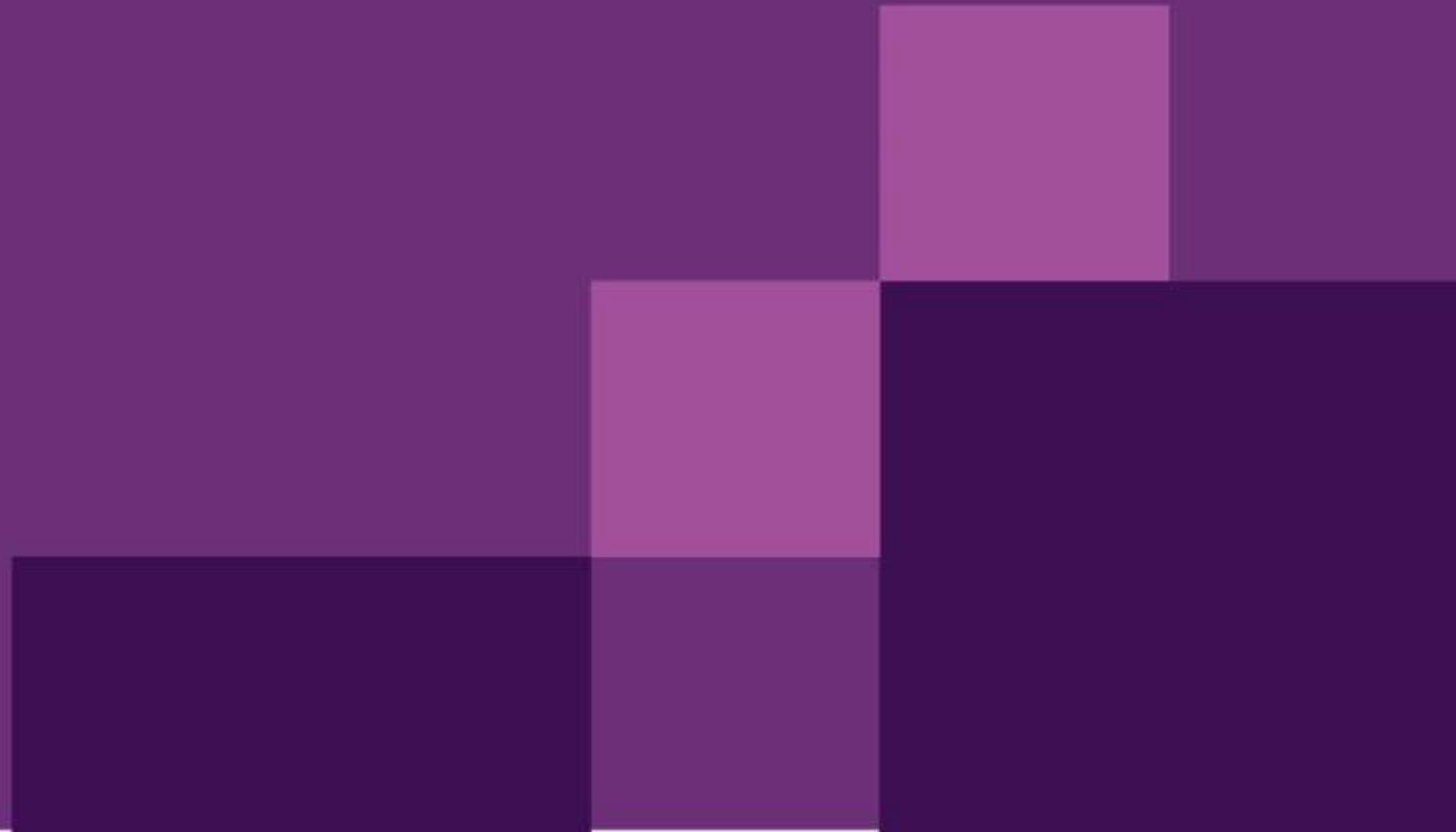
INDUSTRY CHECKPOINT PURPOSE:

To provide assurance of implementation/rule commencement preparations ahead of the industry test period, allowing time for finalising AEMO's and participants' business preparations.

INITIATIVE	INCREASED MT PASA INFORMATION (04 and 09 Oct 2023): Improve the quality and transparency of information for future availability of generators	
CRITERIA	DESCRIPTION	STATUS (as at 1/9): On Track
Go-live criteria	<ul style="list-style-type: none"> AEMO solution tested in-line with requirements for: <ul style="list-style-type: none"> Enabling Participants to include "unit status" and "unit recall time" in bidding for MT PASA Reflecting updated offers in NEM Reports AEMO business ready to support MT PASA 	<ul style="list-style-type: none"> SIT and UAT 100% complete. Preproduction deployment completed. Industry Test in progress All business readiness preparations are completed or on target for completion for 4th and 9th October commencement.
	Participants obligated to provide MT PASA offers including additional information. Participant readiness activity is not a pre-requisite for go-live.	n/a
CONTINGENCY	AEMO to identify new committed readiness date and communicate to the AER	No current indication that contingency will be needed.

October 2023 5MLP

For Noting



October 2023: 5 Minute load profile [5MLP]

5MLP

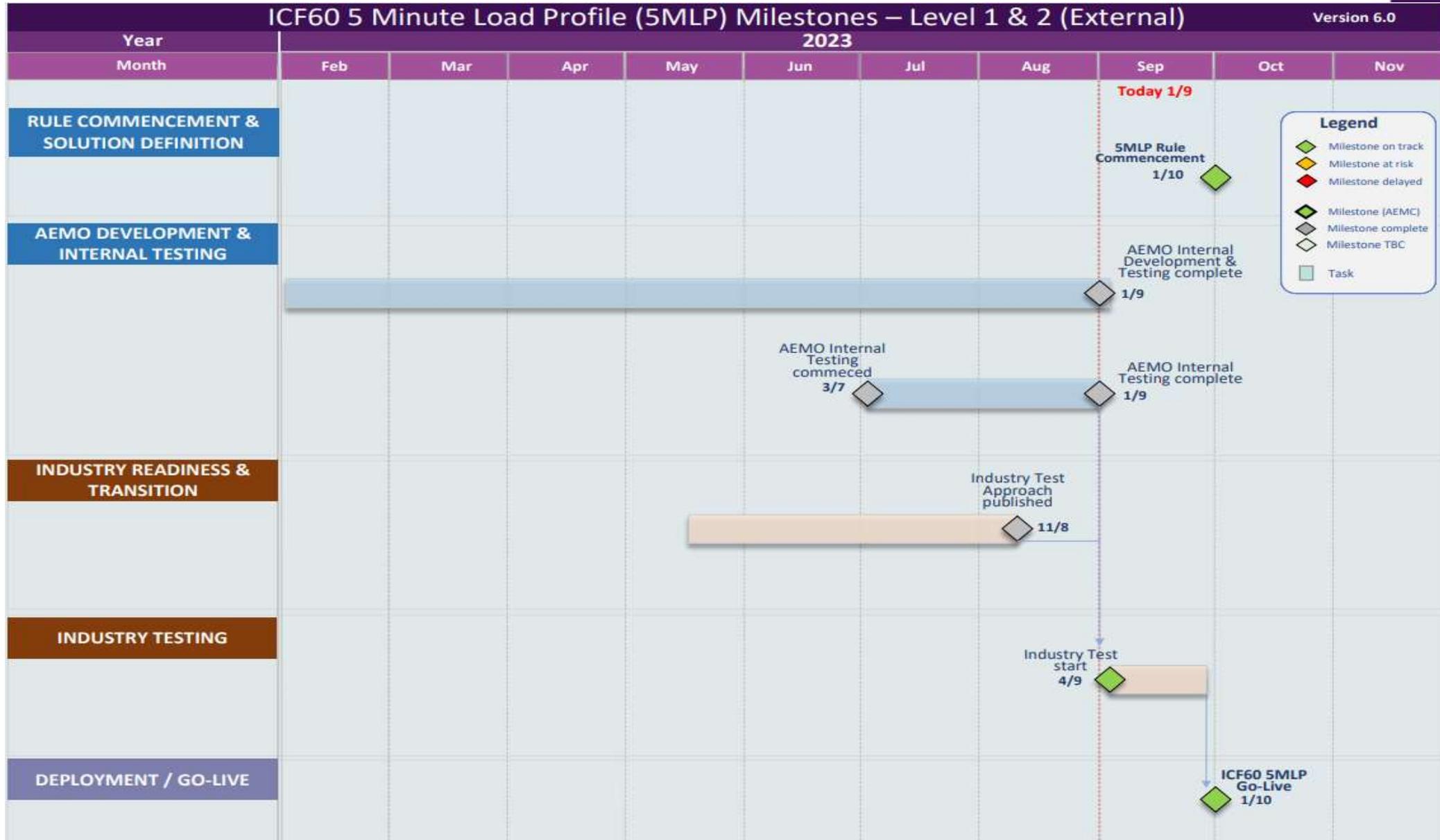
Key Date(s)	Go-live October 2023
Likely impacted stakeholders	FRMPs, Market Customers
Industry testing anticipated	Industry Testing
Overall status	Overall On Track , Industry Test in Progress

Procedures	Technical documentation	AEMO Development and Internal Testing	Industry readiness and Transition	Industry testing	Deployment and go-Live
<ul style="list-style-type: none"> Consultation completed as component of ICF060 	<ul style="list-style-type: none"> No updates to technical documentation required for implementation. Current interfaces and reports remain unchanged. 	<ul style="list-style-type: none"> AEMO Internal testing is progressing for the eMDM changes and on Track for completion 	<ul style="list-style-type: none"> No transition requirements identified for initiative implementation 	<ul style="list-style-type: none"> Industry Test approach confirmed. Scheduled commencement 5 September with RM reports to be produced W/C 11 Sept for participant comparison 	<ul style="list-style-type: none"> On Track for 1 October Procedure commencement

Relevant links

[AEMO | Load Profiling Methodologies Consultation](#)

5 Minute Load Profile Timeline



November 2023 CDR

For Noting

November 2023: CDR Tranche 3 & CDR MSATS LCCD, MSDR Compliance holiday

CDR, MSDR Compliance holiday

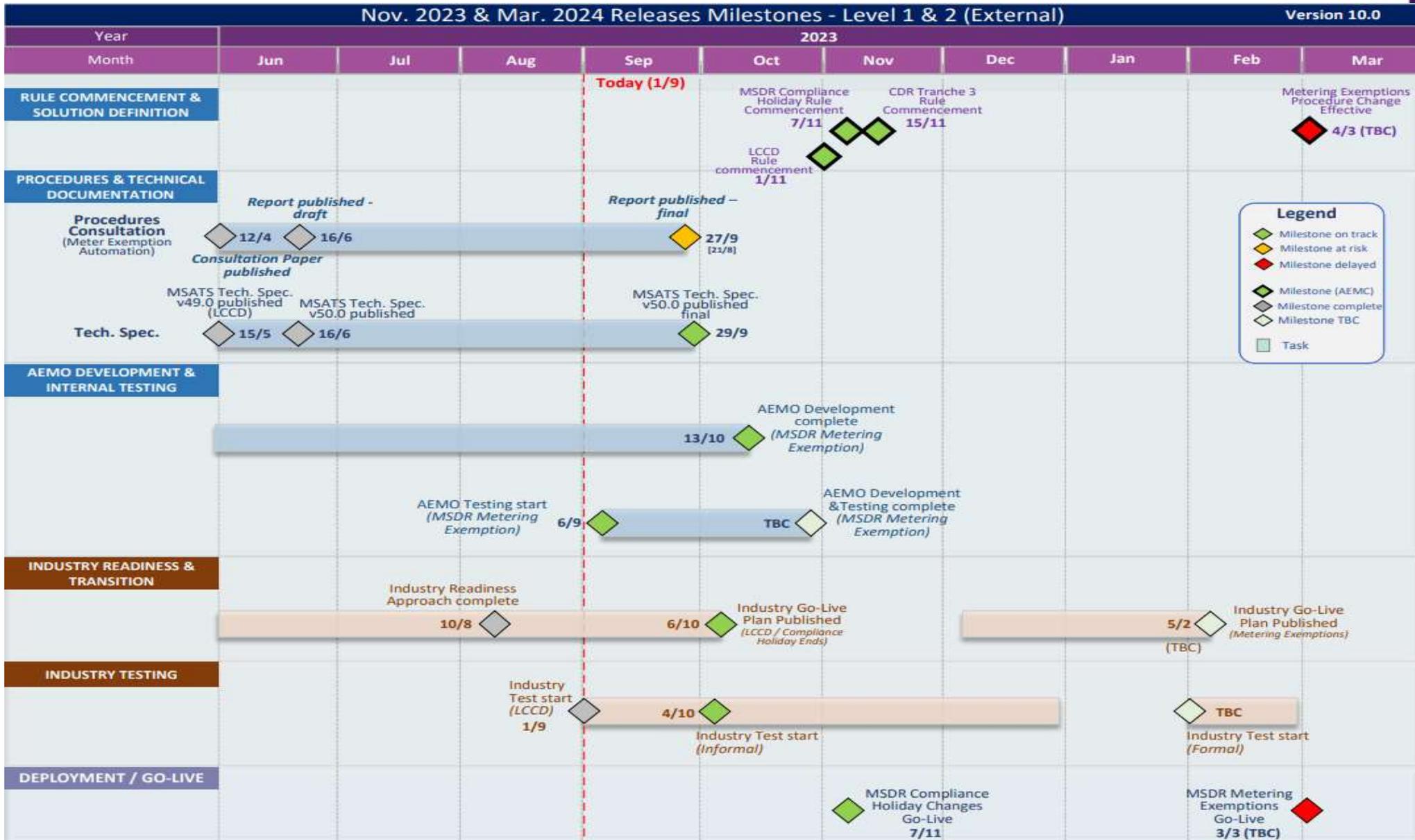
Key Date(s)	Go-live November 2023
Likely impacted stakeholders	FRMP, MC, MP, DNSP, MDP
Industry testing anticipated	Industry Testing
Overall status	Overall On track , LCCD (CDR), MSDR Compliance Holiday completion

Procedures	Technical documentation	AEMO Development and Internal Testing	Industry readiness and Transition	Industry testing	Deployment and go-Live
<ul style="list-style-type: none"> CDR MSATS (LCCD) procedure effective date 1 November 	<ul style="list-style-type: none"> Guide to CDR APIs available on AEMO's website: AEMO Consumer Data Right 	<ul style="list-style-type: none"> AEMO development for CDR Complete. Development in progress for MSDR fields with compliance holiday expiring 7/11. 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> LCCD changes available for Industry Test from 1 September, Q&A sessions in place Pre-prod support for CDR Tranche 3 Retailers 	<ul style="list-style-type: none"> CDR MSATS LCCD population aligned to CDR Tranche 3 rule commencement. MSDR Compliance holiday expires 7th November. LCCD go-live 1 November

Relevant links

[AEMO | Consumer Data Rights \(CDR\) MSATS Minor Amendment Proposal](#)

November 2023 Milestones Timeline

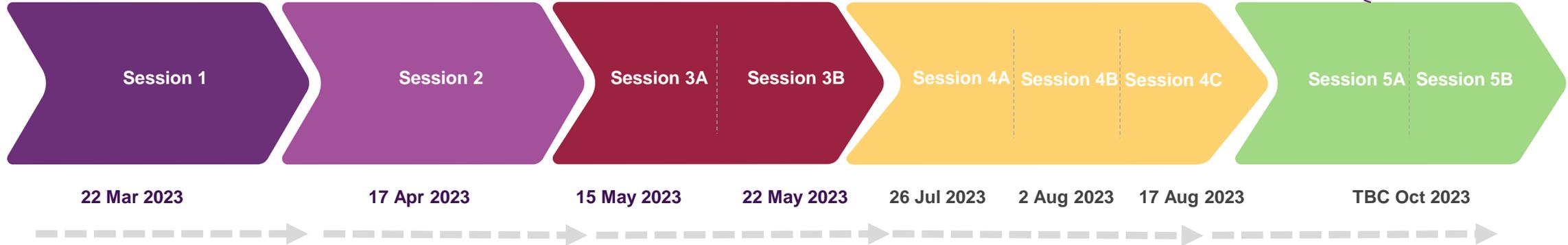


10. Foundational & Strategic Initiatives

Process to date with industry

- Transition strategy workshops with industry concluded*.
- 1to1 conversations held late Aug/early Sep to work through feedback and support preparation for business case workshops.
- Additional time needed for meaningful cost assessments for AEMO and industry.
- Update on the forward schedule to be communicated to Focus Group by 15 September.

Note that dates for business case workshops will be communicated to Focus Group by 15 September.



Session	Introduction – IDX, IDAM & PC	Discovery Workshops – IDAM and PC	Target State Discussion	Transition Strategy	Conclusions and Business Case
Agenda	<ul style="list-style-type: none"> • Introduce initiatives • Outline workshop plan 	<ul style="list-style-type: none"> • Pain points and benefits • Survey 	<ul style="list-style-type: none"> • Concept walkthrough • Survey 	<ul style="list-style-type: none"> • Transition Strategy • Impacts & Benefits • Survey 	<ul style="list-style-type: none"> • Walkthrough of draft • Assessment and completion

*Published information and materials:

- [Target state](#) – published 10 July
- [Target state feedback summary](#)
- Transition strategy – draft shared with focus group 18 July (final expected published at completion of followups with stakeholders in Aug/early Sep)
- Focus Group webpage: <https://aemo.com.au/en/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/nem-reform-foundational-and-strategic-initiatives-focus-group>



Initial insights from Transition strategy phase

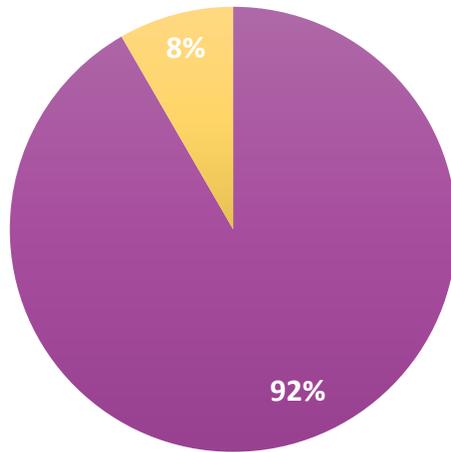
Information provided for noting.

Questions welcome to NEMReform@aemo.com.au

IDAM & Portal Consolidation sentiment

IDAM

Are you aligned with the key principles and Transition tranches and sequencing for IDAM?

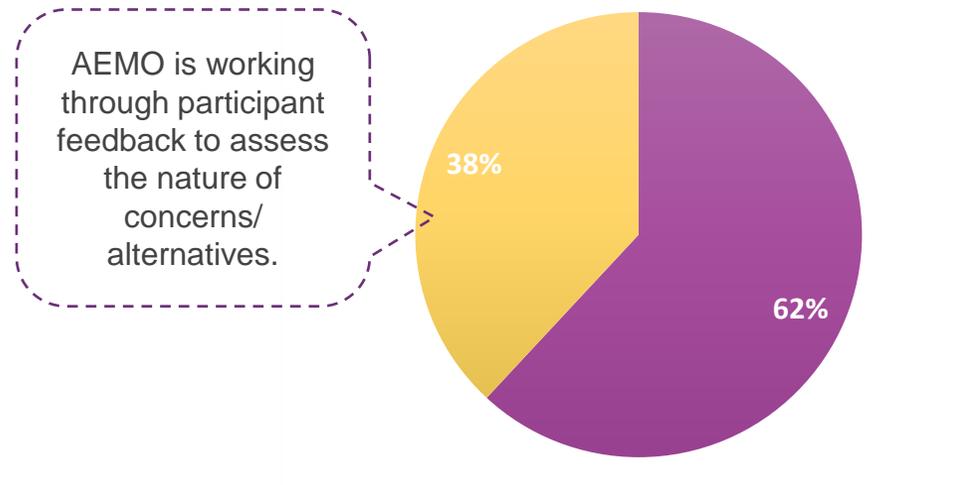


■ Yes% ■ No%

- A participant alignment check was done with the focus group, indicating a strong majority alignment on IDAM.
- Results from in-session polls with industry participants in transition strategy discussion 26 July and 2 August.
- Consolidated to show 1 organisation, 1 vote.

Portal Consolidation (in progress)

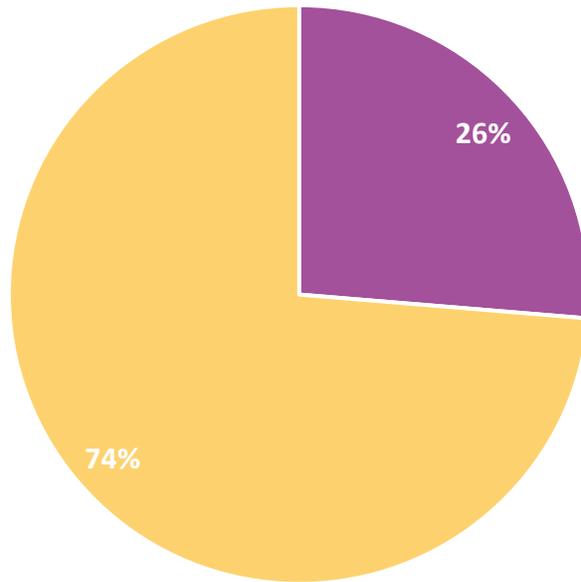
Are you aligned with the key principles, Transition strategy and Sequencing for Portal Consolidation initiative?



■ YES ■ NO

- A participant alignment check was done with the focus group, indicating a smaller majority alignment for Portal Consolidation.
- Results from in-session polls with industry participants in transition strategy discussion 2 August and 17 August.
- Consolidated to show 1 organisation, 1 vote. Note this is initial result; AEMO seeking clarification from participants.

IDX investment phasing (in progress)

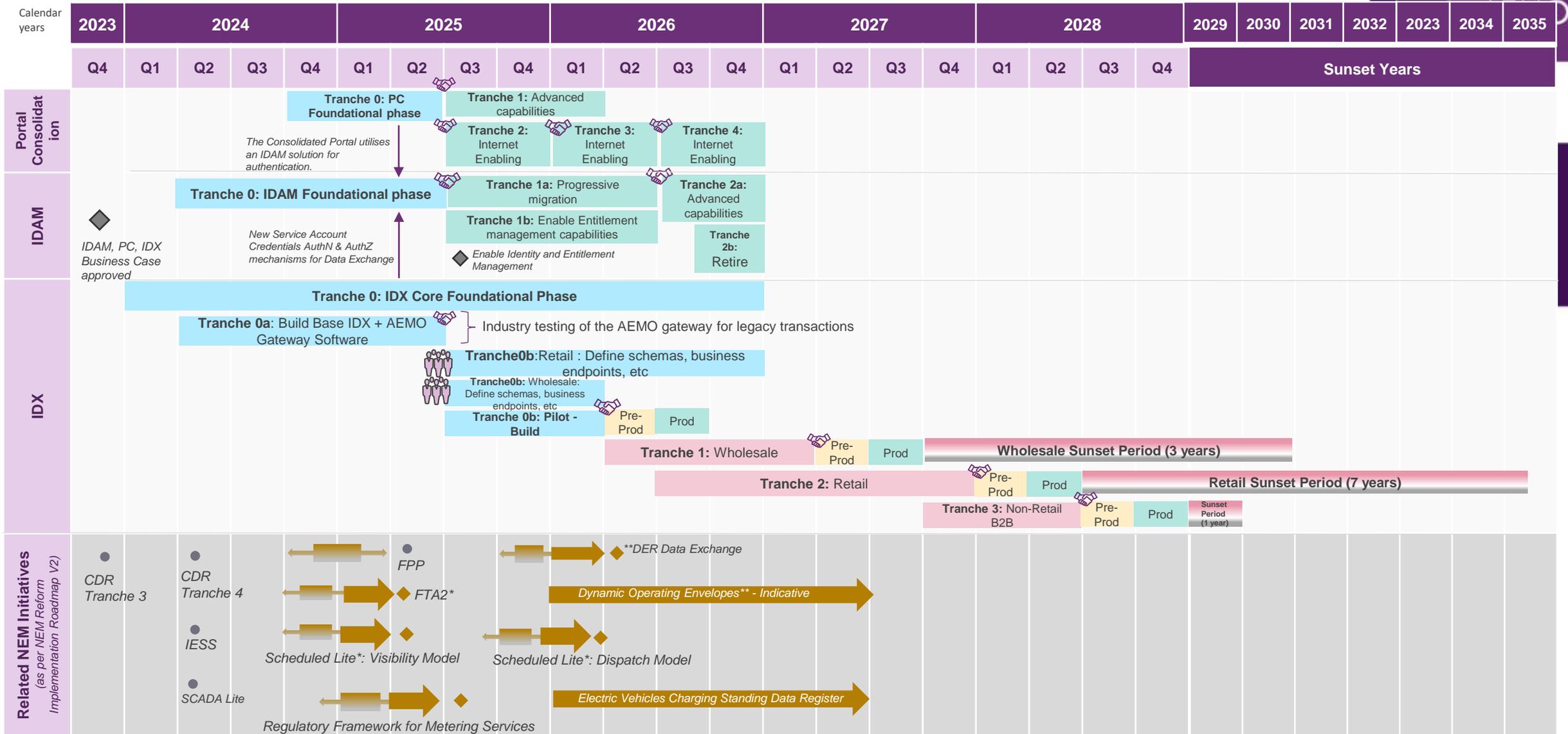


- Option 1: Package up all of IDAM and all of PC and Tranche 0 of IDX
- Option 2: Package up all of IDAM and all of PC and all of IDX

Workshop 4C outcomes:

- IDAM and PC received identified industry support for all tranches to be included in the first investment phase.
- Two packaging options for IDX investment phasing were assessed:
 - Option 1 only the foundational tranche required for new NEM reforms
 - Option 2 both the foundational tranche for new NEM reforms as well as tranches for NEM Wholesale and NEM Retail existing business services
- Participants in attendance identified a preference for investment and planning certainty, noting Option 2 provides significant flexibility for 'opt in' participant defined transition
- Participants who missed the poll have been asked to submit their preference to ensure all parties are able to contribute to establishing the direction of industry phasing.
- Results have been consolidated to provide one vote per organisation. AEMO seeking clarification from one participant whose representatives provided divergent views.

Consolidated Strawman Roadmap (in collaboration with the Industry)



Foundational Tranches - based on the assumed timeline | IDX Tranche Build | Industry Testing | T3A Milestone | **New Service | Working group | Committed effective date | Estimated effective date | Industry testing and trials

* Indicative timeline likely to be pushed out from what is assumed within V2 NEM Reform Roadmap

Timelines for the related NEM Reforms have been taken from V2 of NEM Reform Implementation Roadmap

11. NEM Reform Forums Update

NEM Reform Forums update

Channel	Current focus	Next meeting
Information Exchange Committee (IEC) and Business-to-Business Working Group (B2BWG)	<ul style="list-style-type: none"> The current NEM Reform focus is on considering and preparing for the upcoming consultation regarding B2B procedural impacts associated to the introduction of the IESS Rule. 	14 September 2023
NEM Reform Electricity <u>Wholesale</u> Consultative Forum (EWCF)	<ul style="list-style-type: none"> The current focus is on regular updates for inflight reform IESS, FFR, FPP, MT PASA, and the strategic and foundational initiatives (IDAM IDX and PC). 	19 September 2023
Electricity <u>Retail</u> Consultative Forum (ERCF)	<ul style="list-style-type: none"> The current NEM Reform focus is on considering retail and metering procedural impacts associated with the introduction of the IESS Rule. 	25 September 2023
NEM Reform Implementation Forum	<ul style="list-style-type: none"> Focus on 2023 / 2024 Releases – progress and implementation updates for all inflight initiatives for and 2024. FFR Go Live preparations and Industry Testing MT PASA go-live assessment IESS June Market Trial scope and participant transition support (BDU and Settlements) Approach to Metering Exemption implementation 	26 September 2023
NEM Reform Industry Testing Working Group (ITWG)	<ul style="list-style-type: none"> Focus on testing approaches for 5MLP, LCCD Approach to IESS Market Trials 	28 September 2023
NEM Reform Executive Forum	Agenda: <ul style="list-style-type: none"> AEMOs Foundational & Strategic Initiatives update Overall program delivery status and costs. 	TBC – 2023

For more information and meeting papers for each of the forums, please refer to the [NEM Reform program](#) website.

Executive Forum



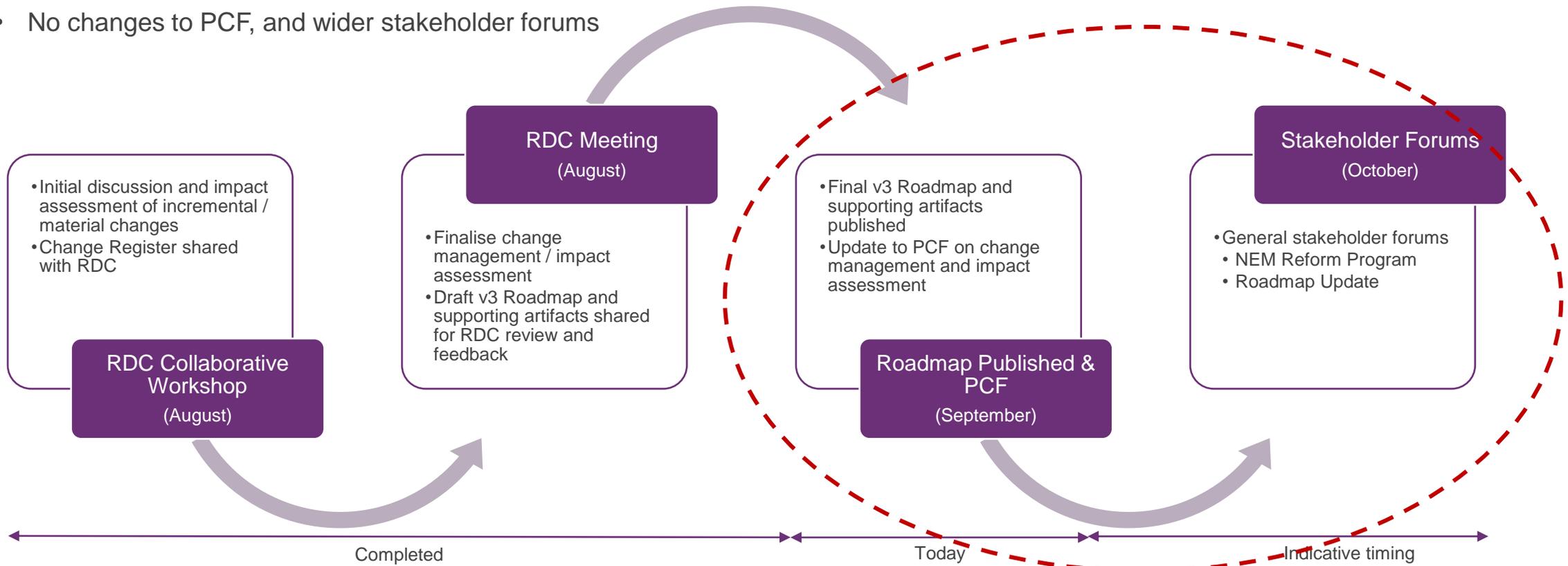
Feedback from PCF members on the NEM Reform Program Executive Forum.



12. NEM Reform Implementation Roadmap Update

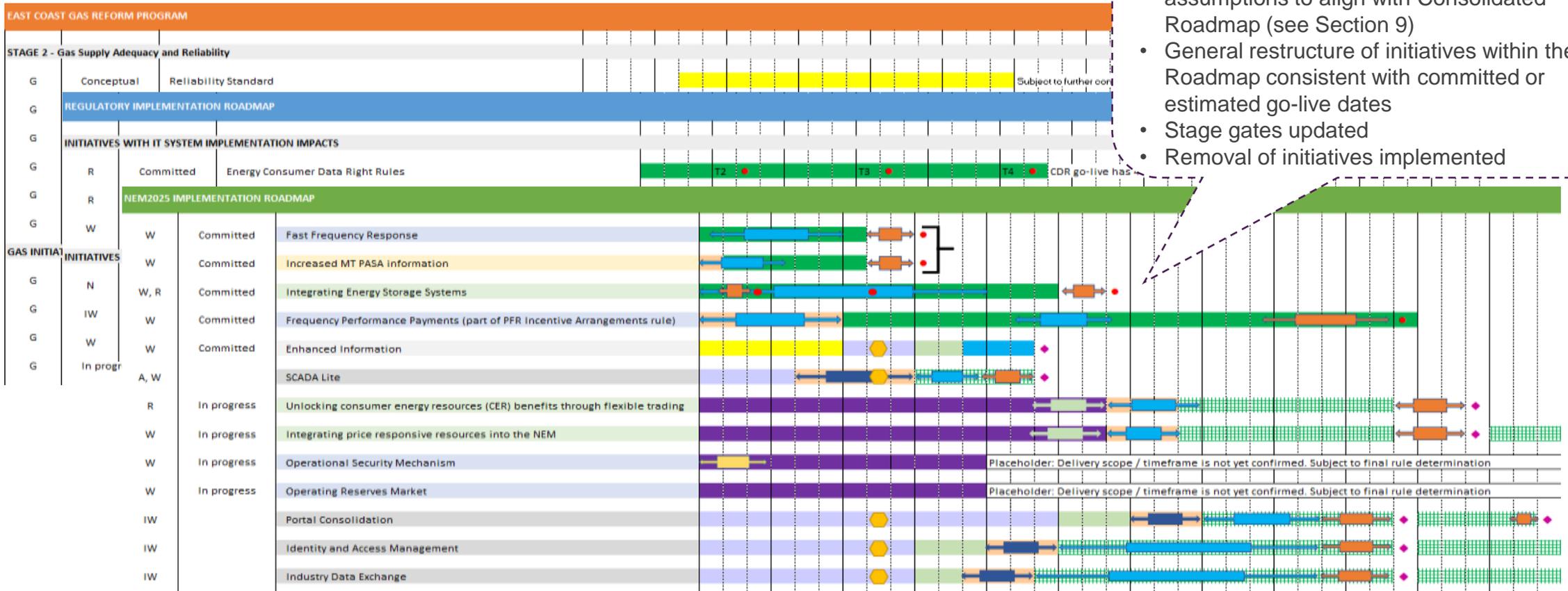
Keeping the NEM Reform Implementation Roadmap up to date

- AEMO has reassessed its proposed schedule, and could bring forward publication of the Roadmap and supporting artefacts to September (previously October). This option removes potential redundancy in timeline and better aligns with scheduled meetings of the RDC and will be subject to any key developments in early September (e.g. OSM directions paper)
- No changes to PCF, and wider stakeholder forums



Draft NEM Reform Implementation Roadmap (V3) developed

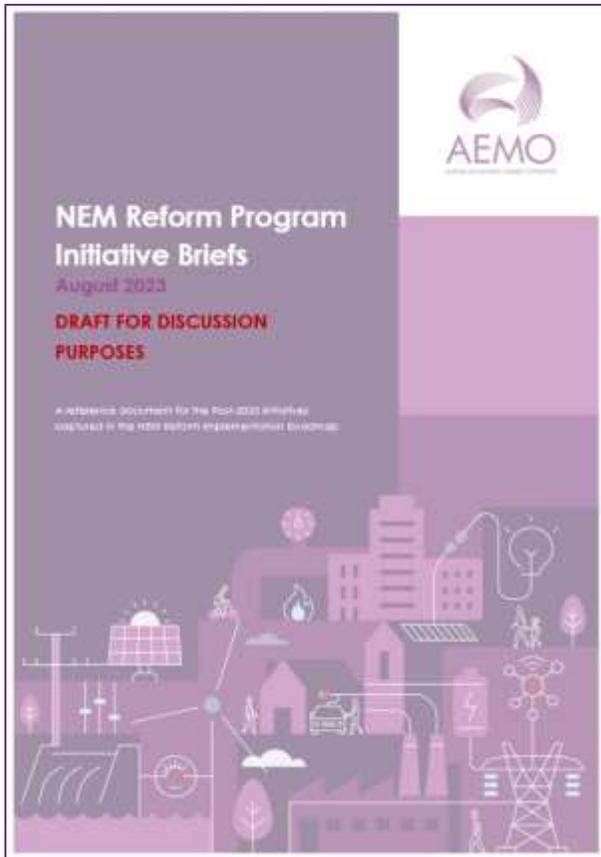
- Various incremental / material changes as per collaborative workshop
- Updates to IDAM, IDX and PC implementation assumptions to align with Consolidated Roadmap (see Section 9)
- General restructure of initiatives within the Roadmap consistent with committed or estimated go-live dates
- Stage gates updated
- Removal of initiatives implemented



AEMO will publish this version of the Roadmap subject to any further feedback from RDC members and any further policy or rule consultation updates in the coming weeks

Updates to supporting artifacts

INITIATIVE BRIEFS



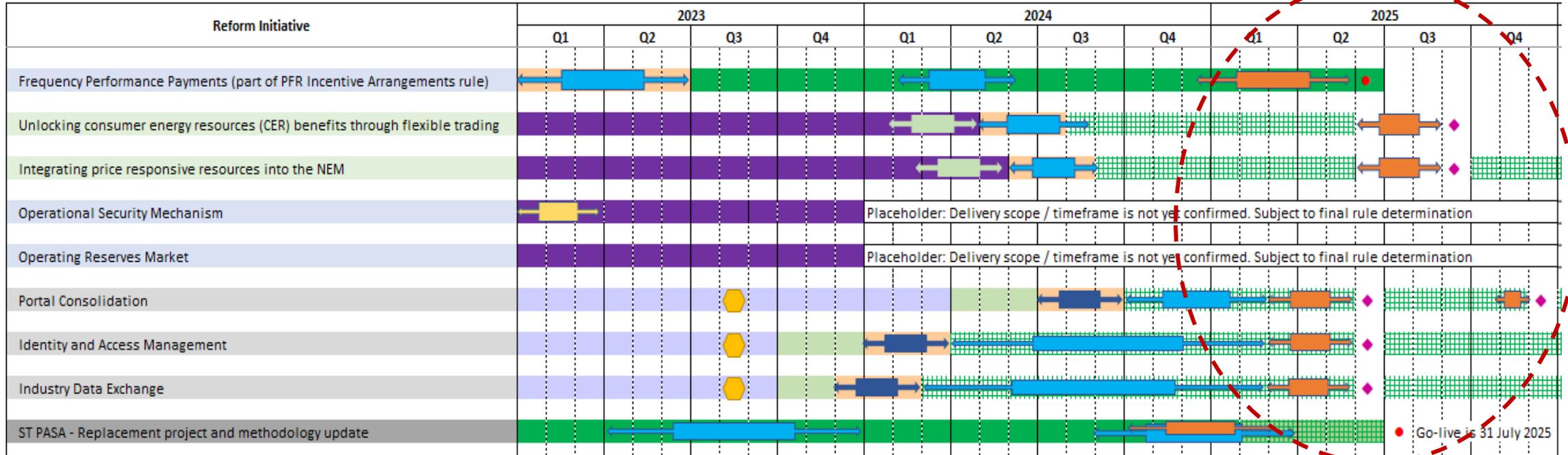
- Various edits to initiatives capturing incremental and material changes including for example scope updates to:
 - Operational Security Mechanism
 - Operating Reserve
 - Enhance Information
 - Congestion Relief Market and Priority Access
 - Data Services
- Renaming of FTA and Scheduled Lite initiatives to align with AEMC rules consultations

PROGRAM SCOPE & GOVERNANCE



- **Program Scope:** Minor edits to inline with changes to Roadmap and Initiative Briefs
- **Program Governance:** Updates to stage gate timing (see Section 5)

2025 remains a congested delivery year despite policy / rules delays and direction changes



Key considerations:

- Timing and outcomes (e.g., scope) from the AEMC rules consultation process on key initiatives (including OSM, ORM, Unlocking CER benefits through flexible trading and Integrating price response resources into the NEM)
- Timing of AEMO foundational / strategic initiatives, as well as potential impact on future scope as a result of various reform initiative of e.g. Integrating price response resources into the NEM, EV Supply Equipment Standing Data Register, DOE, Regulatory framework for metering services (refer to Section 5)
- Ongoing assessment of bundling, sequencing and prioritisation opportunities

Several initiatives are close to final policy / rules change outcomes

Reform Initiative	2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Operational Security Mechanism	Placeholder: Delivery scope / timeframe is not yet confirmed. Subject to final rule determination				Placeholder: Delivery scope / timeframe is not yet confirmed. Subject to final rule determination				Placeholder: Delivery scope / timeframe is not yet confirmed. Subject to final rule determination			
Operating Reserves Market	Placeholder: Delivery scope / timeframe is not yet confirmed. Subject to final rule determination				Placeholder: Delivery scope / timeframe is not yet confirmed. Subject to final rule determination				Placeholder: Delivery scope / timeframe is not yet confirmed. Subject to final rule determination			
Capacity Investment Scheme	Placeholder: Delivery scope / timeframe subject to consultation and final tender guidelines				Placeholder: Delivery scope / timeframe subject to consultation and final tender guidelines				Placeholder: Delivery scope / timeframe subject to consultation and final tender guidelines			
Congestion Relief Market & Priority Access Model	Placeholder: Delivery timeframe is not yet known. Subject to final policy design / rule change proposal from the E				Placeholder: Delivery timeframe is not yet known. Subject to final policy design / rule change proposal from the E				Placeholder: Delivery timeframe is not yet known. Subject to final policy design / rule change proposal from the E			
Data Services	Includes various stages of stakeholder engagement and public consultation, issues paper, draft options paper, and				Includes various stages of stakeholder engagement and public consultation, issues paper, draft options paper, and				Includes various stages of stakeholder engagement and public consultation, issues paper, draft options paper, and			
Electric Vehicles Supply Equipment Standing Data Register	Includes various stages of stakeholder engagement and				Includes various stages of stakeholder engagement and				Includes various stages of stakeholder engagement and			

Key considerations:

- Timing for implementation of these initiatives could add to an already congested delivery period for AEMO and participants, subject to final policy / regulatory outcomes and scope
- For example, OSM and OR in their current direction, along with CRM & PA would all necessitate IT system and business process changes for both AEMO and participants, albeit to a smaller degree in the case of OSM and OR
- While CIS tender guidelines are to be released October 2023 following consultation, the current policy direction for the CIS it appears unlikely a significant industry wide investment in IT systems or business processes will be required under the NEM Reform Program
- Not all participants will be equally impacted by all initiatives

RDC members agreed the need for:

- A holistic review of the DER initiatives to be completed post publication of ESB end of program report
- A prioritisation assessment of those congested initiatives within Program to be completed to further assess bundling and sequencing opportunities

13. Industry Risk Register

Industry Risk Register



- AEMO has incorporated feedback received from participants at the last PCF into the Industry Risk Register.
- PCF participants have been provided with a copy of the Industry Risk Register for visibility and review.
- AEMO welcomes feedback on the Industry Risk Register which can be submitted to NEMReform@aemo.com.au and be provided by Friday 22 September.
- Industry Risk Register will be published on the AEMO website after this date.
- The Industry Risk Register will be reviewed at the PCF quarterly. The next in depth discussion will be on the 13 December.
- Any critical risks identified before this session will be raised and discussed at the PCF.

14. Upcoming Engagements

Upcoming Engagements

For Noting



September						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	28	29	30			

Decemeber						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NEM Reform Program Committees/Forums	
NEM Reform Program Consultative Forum	
NEM Reform Delivery Committee	
NEM Reform Delivery Committee - Collab W	
NEM Reform Implementation Forum	
NEM Reform Electricity Wholesale Consultative Forum	
NEM Reform Executive Forum	
NEM Reform Industry Testing Working Group	
NEM Reform Initiative Specific	
Foundational and Strategic Initiatives	
Other Forums	
AEMO Consumer Forum	
Market Systems User Group (MSUG)	
General & Roadmap Briefing	
Electricity Retail Consultative Forum	
Other	
Natioanl Public Holiday	
State/Territory Public Holiday	
AEMO Office Closed	

To learn more about these events, please visit AEMO's [Industry meeting calendar](#) or contact the program at NEMReform@aemo.com.au.

[Market Systems User Group \(MSUG\)](#)

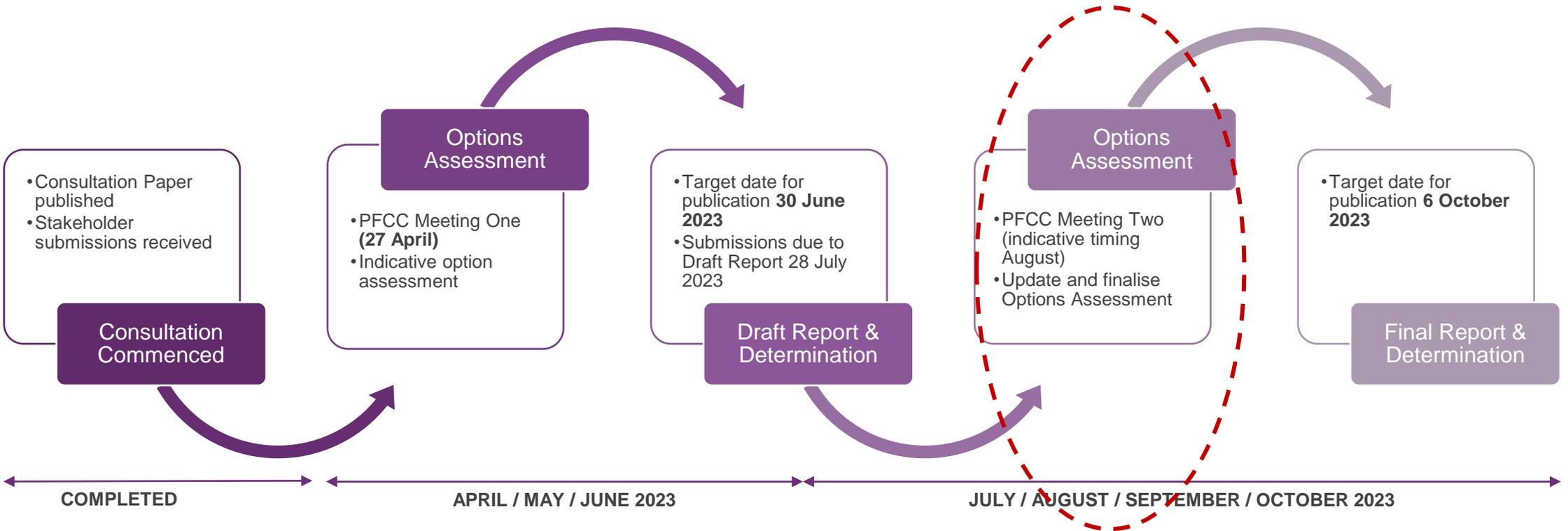
- MSUG is a technical forum focusing on technical specifications published on the IT Change and release management webpage. To receive an MSUG invitation please ask your organisation to include your email in their AEMO help desk bulletin distribution list. Tentative meeting dates are provided in technical specifications with invitations sent about one week prior to the event.
- For further information on this forum please contact AEMO support Hub via the following contact form [link](#) or email support.hub@aemo.com.au



Fee Consultation Update

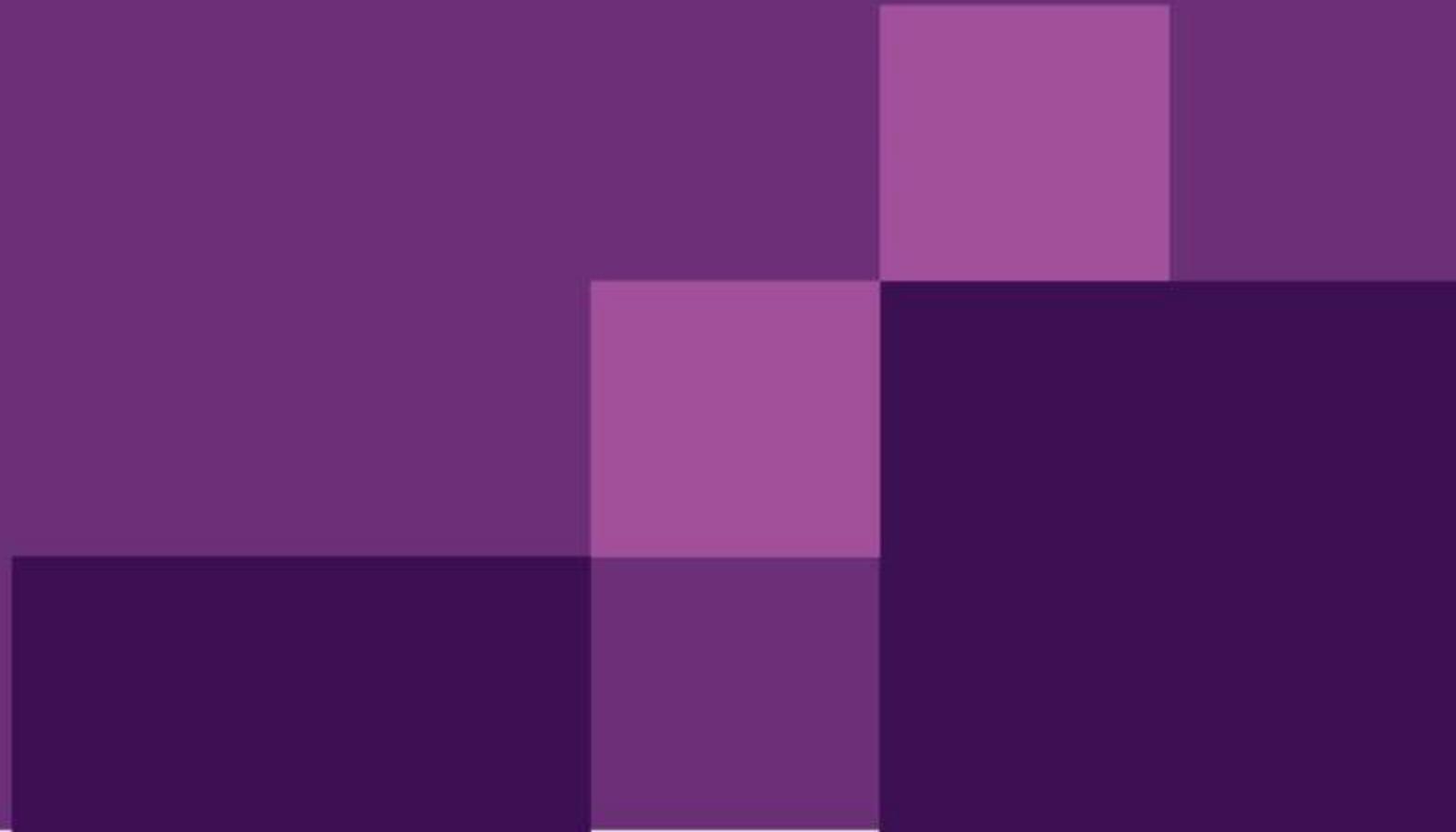
Participant Fee Structure for the NEM2025 Reform Program Declared NEM Project

- AEMO is conducting a consultation on the determination of the Participant Fee structure for the NEM2025 Reform Program declared NEM project. The NEM2025 Reform Program was determined a declared NEM2025 Reform Project on 29 September 2022 following a consultation process
- **On 30 June 2023, AEMO published its Draft Report and Determination for the stakeholder feedback.**





General Stakeholder briefing



NEM Reform Program – General Stakeholder Briefing



On 25 October AEMO is welcoming all stakeholders to a briefing on the NEM Reform Program and the upcoming release of the NEM Reform Implementation Roadmap v.3.

The briefing is set out in two sessions and all stakeholders are welcome to join either or both sessions.

Session 1: General briefing

- 25 October 1.00pm - 2pm (AEST)
- If you're a market participant or provide services in the NEM, and don't attend our regular forums, this is your opportunity to learn more about the program and how to get involved.

Session 2: NEM Reform Implementation Roadmap briefing

- 25 October 2.00pm - 3.00pm (AEST)
- Provides an overview of the NEM Reform Implementation Roadmap including changes in the v.3 release. The session will benefit market participants and other stakeholders who are looking to effectively manage their own change program.

Please register your interest to attend [here](#) by Friday 20 October.

For more information please contact NEMReform@aemo.com.au.

15. General Questions and Other Business



NEMReform@aemo.com.au



[NEM Reform Program Consultative Forum](#)



Appendix A: Competition law meeting protocol

AEMO Competition Law Meeting Protocol



AEMO is committed to complying with all applicable laws, including the Competition and Consumer Act 2010 (CCA). In any dealings with AEMO, all participants agree to adhere to the CCA at all times and to comply with appropriate protocols where required to do so.

AEMO has developed meeting protocols to support compliance with the CCA in working groups and other forums with energy stakeholders. Before attending, participants should confirm the application of the appropriate meeting protocol.

To access the full protocol at AEMO's website, visit: <https://aemo.com.au/en/consultations/industry-forums-and-working-groups>

Appendix B: SCADA Lite Technical Overview

SCADA Lite high-level overview

Legend

General

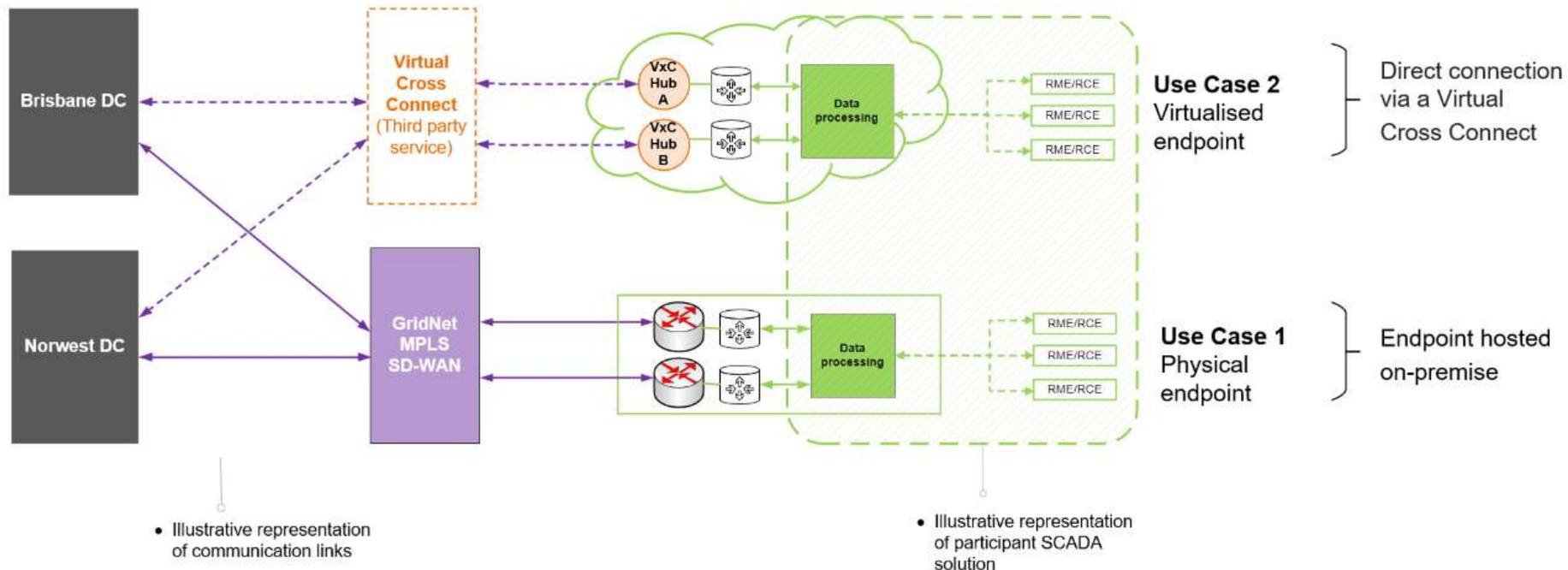
- AEMO Managed SD-WAN Router (Physical Asset)
- Generic router
- Cloud Service (Public / Virtual private)

AEMO

- ICCP / DNP3 Traffic (Use Case 1)
- ICCP / DNP3 Traffic (use Case 2)
- AEMO managed Infrastructure
- Vendor service

Market Participant

- Participant IT/OT assets
- Participant managed Traffic



Power System Data Communication Standard v3.0 (The Standard)

- SCADA Lite functional and non-functional requirements will be developed in line with the published Standard
- Some key clauses that will be relevant to a SCADA Lite connection include:

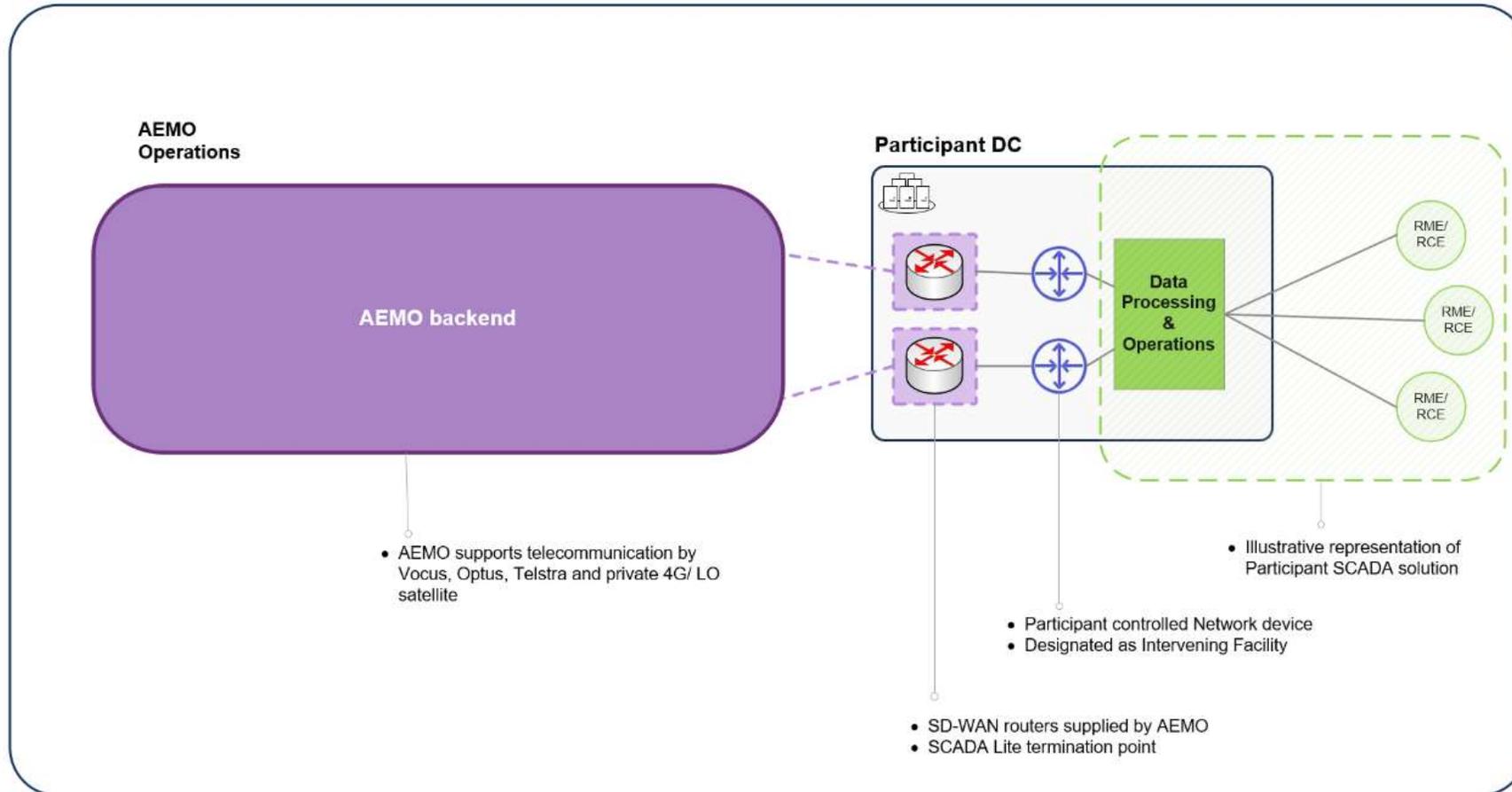
Item	Description
Protocol Definitions	<p><i>“All data to be transmitted as either:</i></p> <ul style="list-style-type: none"> • <i>Secure ICCP; or</i> • <i>Secure DNP3 SAv5.0 (or later version)”</i>
Connections	<p><i>“All Intervening Facilities must maintain simultaneous active data communications with both AEMO co-ordinating centres”</i></p>
Risk management plan	<p><i>“All DCPs must have in place a risk management program that identifies and manages material security risks”</i></p>
Reliability Requirements	<ul style="list-style-type: none"> • <i>Maximum outage times aggregated over 12-month period</i> • <i>Redundant assets</i> • <i>Back-up power supplies for communication infrastructure</i>
Performance benchmarks	<ul style="list-style-type: none"> • <i>End-to-end transmission times</i> • <i>Data resolution</i>
SOCI	<p><i>The Standard may:</i></p> <ul style="list-style-type: none"> <i>(i) extend requirements corresponding with the SOCI Act to DCPs that are not responsible entities or otherwise subject to the SOCI Act; or</i> <i>(ii) apply additional requirements to responsible entities in relation to security risks relating to the transmission of Operational Data</i>

General Properties



- All data to be exchanged will follow SCADA data point schedule published by AEMO to Participants.
- Security and reliability requirements will be baselined according to The Power Systems Data and Communications Standard and the NER.
- Data traffic (routing, forwarding and mapping) between AEMO end-point and Participant SCADA Lite endpoint to be in the control of the market operator.
- Two active links between Participant's Intervening Facility and AEMO co-ordinating centres NOR & BNE.
 - The links will operate as active/active
- Data collected through SCADA Lite will be used for market operations functionality. The data collected by AEMO through SCADA Lite will not be shared with NSPs and/or other Participants. Sharing may be allowed post Participant approval.

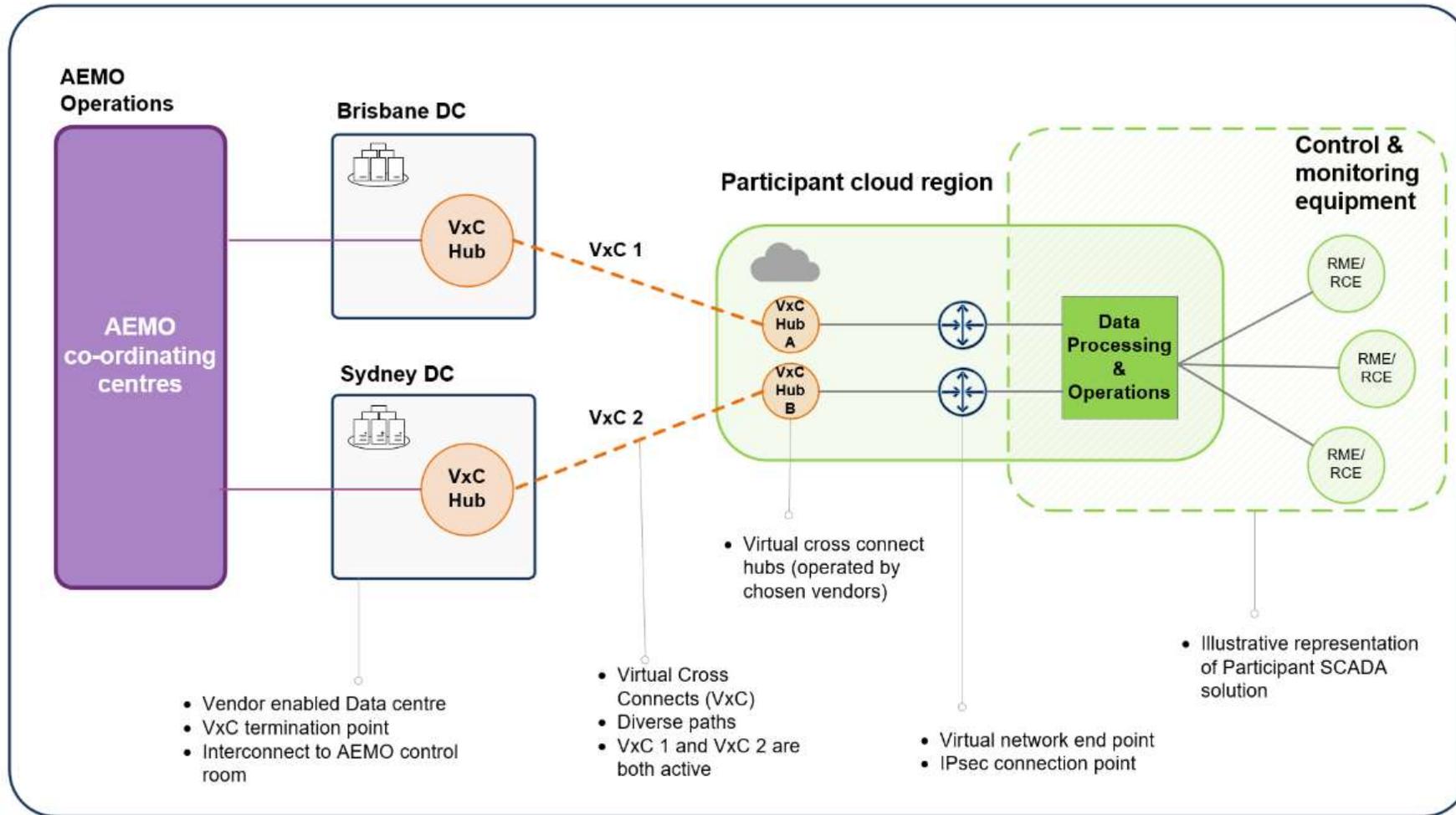
SCADA Lite – Use Case 1



- Dual Cisco SD-WAN routers installed in secure location inside data centre
- AEMO SD-WAN extended to site facility
- AEMO SD-WAN supported by multiple carriers
- AEMO System is designed as a High Availability (HA) network with no single source of failure
- Authentication and certificate exchange managed by AEMO

Note: RME – Remote Monitoring Equipment, RCE – Remote Control Equipment

SCADA Lite – Use Case 2



- The service will initially support the three major cloud providers:
 - Amazon Web Services
 - Microsoft Azure
 - Google Cloud
- Cloud tenancy must be hosted in an Australia based data centre
- IPsec encryption will be utilised over the link to secure traffic within the network tunnels
- VxC (Virtual Cross Connect) links may be procured and provided from multiple service providers

Note: RME – Remote Monitoring Equipment, RCE – Remote Control Equipment



For more information visit

aemo.com.au