

NEM Reform Implementation Forum

Meeting #11 30 May 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 (AEST)	Topic	Presenter(s)
1	1:00 – 1:05pm	Welcome	Greg Minney
2	1:05 – 1:10pm	Actions & Feedback from Previous Meeting	Greg Minney
3	1:10 – 1:15pm	2023 Release Summary	Greg Minney
4	1:15 – 1:30pm	May 2023 Release SummaryProgress and Deliverable updateSAPS preparation	Jim Agelopoulos Gareth Morrah
5	1:30 – 2:20pm	 August - October 2023 Release IESS ADC - Progress Summary and Testing approach Participant impact FFR - Progress Update and Market Start summary Participant impact MT PASA - Progress Summary 5MLP Progress Summary Industry Testing Approach - August and October 	Emily Brodie Greg Minney / Carla Ziser Greg Minney Jim Agelopoulos Greg Minney
6	2:20 – 2:40pm	 November 2023 November Release Progress summary Metering Exemptions – Consultation Update 	Jim Agelopoulos Noura Elhawary
7	2:40 – 3:10pm	 June 2024 Release Progress Update Feedback on Settlement changes BDU Model Design and participant feedback Next steps 	Greg Minney Emily Brodie Ulrika Lindholm Emily Brodie
8	3:10 – 3:20pm	Other Initiatives IDAM,IDX & Portal Consolidation	Ulrika Lindholm
9	3:20 – 3:25pm	Upcoming Engagements	Ulrika Lindholm
10	3:25 – 4:00pm	General Questions & Other Business Indicative high level impact assessment	Greg Minney Ulrika Lindholm

Appendix A:

Supplementary Information

- Increased MT PASA Information
- Fast Frequency Response
- IESS industry readiness approach

Appendix B:

Competition law meeting protocol and AEMO forum expectations

"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



(Ref: Item = Meeting number/Agenda item number/Ref)

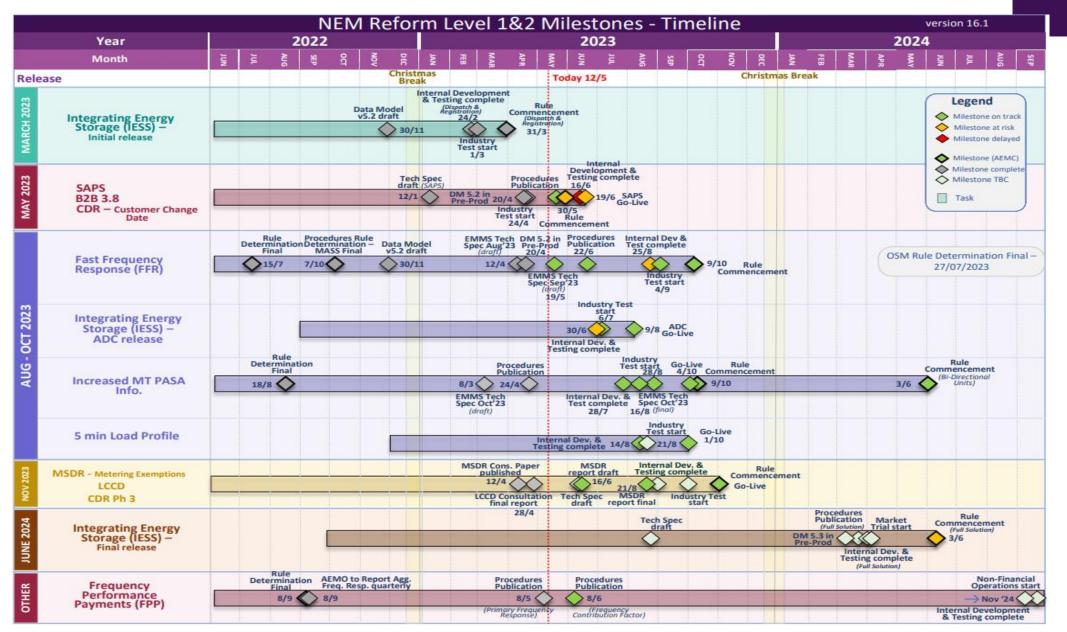
#	Topic	Action	Responsible	Notes
10.8.0	IESS industry readiness	Participants to provide feedback on IESS readiness approach timing and IESS participant impacts, including:	Participants	Closed
		 Settlement impacts Level of interest in a further IESS settlement information session. Indicative timing for readiness documents Completeness and accuracy of participant impacts Areas for further consideration 		
		Feedback to be sent by emailing iess@aemo.com.au by Friday 19 May.		
9.5.3	Industry Testing	AEMO to provide AGL and Ausgrid a summary on the next steps for the May SAPS testing.	AEMO	Closed
6.3.1	CDR API Statistics	AEMO to establish if we can / then provide update on CDR volumes (API requests) back to Implementation forum	AEMO	The ACCC will provide a dashboard for industry to show the CDR volumes later this year.



3. 2023 Release Summary

Release Summary milestones







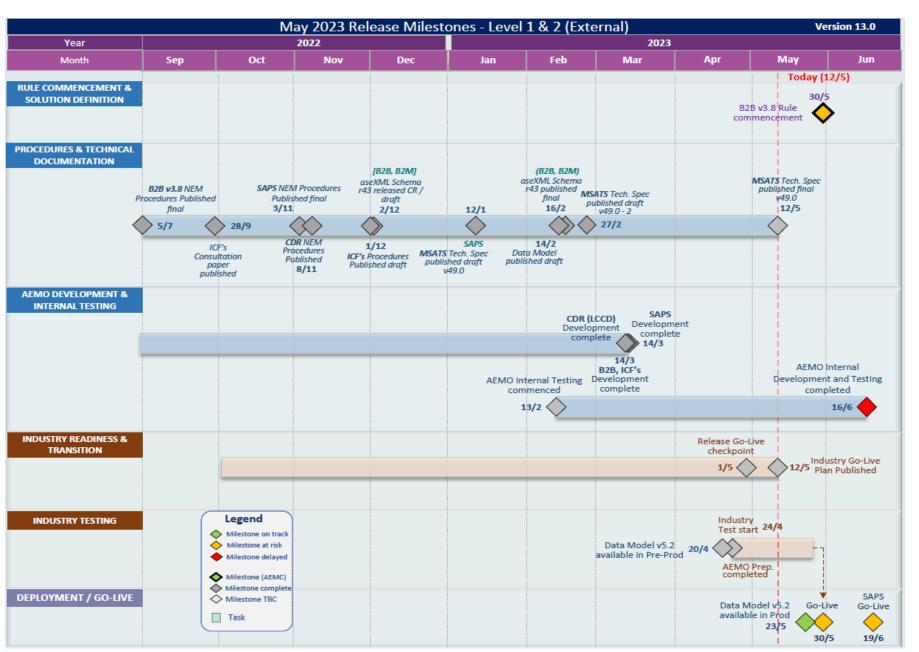
5. May 2023 Release



Progress and Deliverable update

Jim Agelopoulos

Milestone Review





Release Commentary

- EMMS Data Model 5.2 deployed to Production 23/5
- May (Non SAPS) release go-live 30 May
 following 28/5 retail deployment
 - Industry Test in progress as at 24/5
- AEMO internal testing for SAPS release in-progress and on-track to finalise prior to SAPS Go-Live
- SAPS Invitation Testing Scope and approach being developed with participants
- SAPS "Go-Live" planned 19/6, with phased introduction by DNSPs





May Production Release Debrief

Update to be provided at Implementation Forum





Deliverable	Content	Status	Initial Release	Final Release
	B2B v3.8 & Other ICFs (MSATS Release 49.0)			
MSATS Technical Specification (v49.0) Describes the projects and enhancements planned by AEMO from a participant perspective and includes the related changes to participants' IT systems		Final Published	12-Jan-23 27-Feb-23 06-Apr-23	15-May-23
B2M Mapping to aseXML New guide detailing the mapping between the MSATS B2M procedures and the aseXML schema. An updated B2M Mapping to aseXML document was published in early May 2022 for participants.		Final published	05-Dec-22	02-May-23
Guide to MSATS B2B	Guide to MSATS B2B Provides information about the B2B e-Hub functions available in MSATS. Latest version provides details of the new Shared Fuse One Way Notification		19-Oct-21 (previous version)	26-May-23
The aseXML r43 schema will be the current XML version for B2B and B2M following the May 20 Release. The changes in r43 include: B2M updates supporting Stand alone Power Systems, Consumer Data Right and Retail ICFs, while the B2B changes include a new transaction type for Shared Fuse One Way Notifications.		Final published	02-Dec-22	16-Feb-23

The Markets Portal Help is accessible from the following places on AEMO's website:

- New: AEMO's public website. <u>Click Here</u>
- Existing: Requires a MarketNet connection. Click Here



Deliverable Update (Wholesale)

Deliverable	Deliverable Content			
	SAPS, MT PASA, IESS – ADC & Fast Frequency Response			
EMMS Data Model 5.2	Update to various tables to support SAPS, MT PASA, IESS ADC, Settlements, Billing and Fast Frequency Response initiatives for the August to October 2023 Release.	Revision Published	14-Feb-23 21-Mar-23	23-May-23



SAPS preparation

Greg Minney

SAPS Preparation



- SAPS "go-Live" date 19 June
 - AEMO Internal Testing in progress
 - Contingency approaches discussed with impacted DNSP
 - EMMS Data model 5.2 deployed 25/5 to support SAPS settlement processes
- Industry Testing (Invitation) in –progress
 - Establishment of MSRP and SAPS
 - CR processing and exception management
- Establishment of MSRP (Registration)
 - Process can commence in advance of "go-live" date



6. August – October 2023 Release





Four major deployments included in this release:

- 1. IESS Aggregated Dispatch Conformance (9 August)
- 2. Fast Frequency Response (9 August and 9 October)
- 3. Increased MT PASA information (4 October and 9 October)
- 4. 5MLP Updates to 5 Minute Load Profile Calculation (1 October)



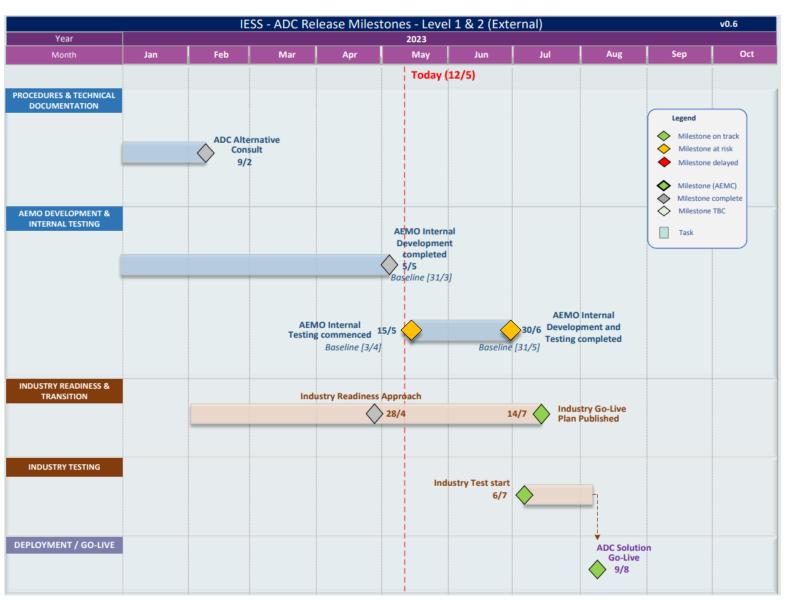
IESS – Aggregated Dispatch Conformance

09 Aug 2023

Emily Brodie

IESS (ADC) milestones and progress





RELEASE COMMENTARY

- AEMO must be ready systems, processes, support
- Individual participant / participant category readiness is not a dependency for go-live
- ✓ <u>Dispatch Procedure</u> consultation complete. *New version to be published shortly which includes template for conformance market notices for aggregates*
- ✓ <u>EMMS tech spec</u> complete
- No further changes to market interface required for ADC implementation
- Internal AEMO development and testing remains behind schedule:
 - Development complete
 - Internal testing schedule being confirmed to meet critical path for Industry Test
- Invitation Industry Test approach being refined.
- Release draft go-live plan (including FFR August components) for comment 19 Jun 2023.



ADC invitation testing approach

NOTE: ADC changes are minor for existing BESS and 'ADC' participants:

- AEMO will enable ADC for certain participants in its systems
- Affected participants will see small changes in dispatch conformance reports.

JUNE

- AEMO engages with BESS & existing 'ADC' participants on (i) desire to participate in testing (ii) assess readiness
- ADC industry test fact sheet published to support participant preparation.
- Info session for BESS and 'ADC' participants.

JULY

06 Jul 2023

- ADC changes released to pre-prod
- Invitations for industry testing available for existing BESS and 'ADC' participants.

AUGUST

09 Aug 2023

- ADC go-live
- ADC registration opens
- Registration process is BAU process, including usual participant supports

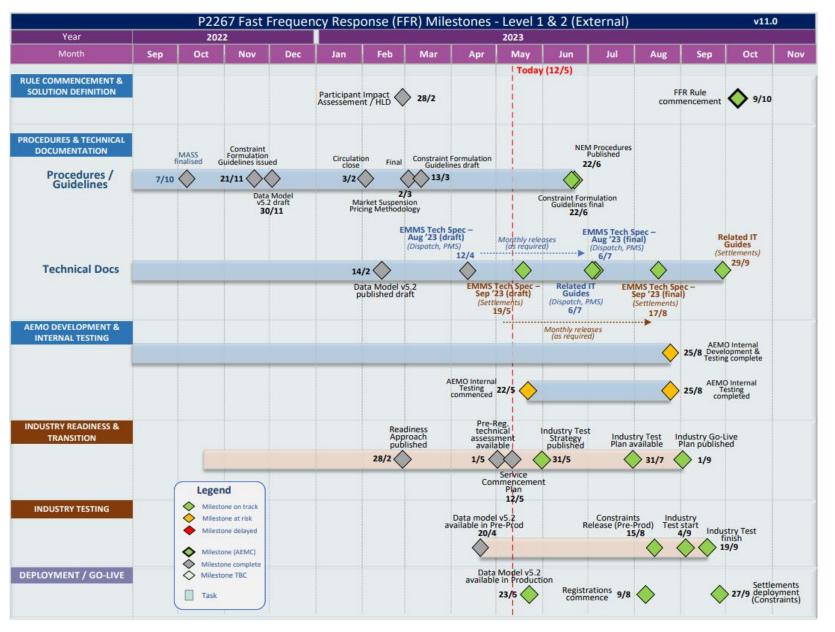


Fast Frequency Response

Greg Minney /Carla Ziser

FFR Milestones and progress





Release Commentary

- EMMS Data Model deployed to pre-prod 20/4, Prod 23/5
- Final version of Service Commencement plan released, to provide outline of approach to commencement of new services.
- <u>Supporting information</u> available for participants to understand technical requirements for publication.
- Pre-Registration technical assessments available, to provide provisional confirmation of VF FCAS maximum capacity
- Updated Technical Spec for PMS, Dispatch API, Bidding and Markets Portal updates published 19/5, If required will be updated monthly.
- AEMO development is in progress, noting some schedule pressures in relation to Integration and UAT testing and development completion of some components
- FFR will involve multiple deployments to enable progressive uptake of data and support participant registration and offers ahead of 9th Oct Rule commencement
- Proposed industry test approach outlined to ITWG and Fact Sheet to be supplied



Scope & key dates

TIMING	ELEMENT	SUMMARY
09 Oct 2023	Introduction of Fast Frequency Response (FFR)	 The Australian Energy Market Commission (AEMC) has made a final <u>rule</u> to introduce two new services to help control frequency as the inertia of the power system reduces. The services will provide "very fast" contingency response, alongside the existing fast, slow and delayed services. The AEMC considers the introduction of these services will also foster innovation in faster responding technologies, which become more important to support the energy transition. The new very fast services will come into effect from 9 October 2023, at which time AEMO will implement a requirement for the services and Frequency Control Ancillary Service (FCAS) providers will be enabled through dispatch processes.
07 Oct 2022	MASS finalised	 Technical Specification provides details of changes required to bidding and dispatch interfaces required to provide offers for the very fast FCAS services EMMS Data Model 5.2, includes updates for the support of FFR is available in pre-production 20 Apr 2023, and production 23 May 2023. Changes supported include updates to settlement tables to incorporate new ancillary service
12 Apr 2023	Electricity Market Management System (EMMS) Technical Specification (Draft) release	 Final version of Service Commencement Plan: Service Commencement Plan: Outlines the approach to facilitating registration of eligible FCAS providers prior to market start. Describes AEMO's approach to determine the amount of each service required under different power system conditions to maintain security (consistent with the Frequency Operating Standard). Describes how AEMO intends to transition from current Contingency FCAS market arrangements to the new arrangements.
11 May 2023	Service Commencement Plan	 Registration of participants proposing to offer very fast FCAS service commence: Supporting materials were published in April to assist potential providers in assessing their capability for Very Fast FCAS. AEMO will engage with existing Fast FCAS providers, prior to this date, who wish to provisionally confirm their Very Fast FCAS maximum capacity, prior to the formal registration application being submitted.
9 Aug 2023	Registrations Commence	Bids for Very Fast FCAS Service effective from 9 Oct.
9 Oct 2023	Rule Commencement	 Technical Specification provides details of changes required to bidding and dispatch interfaces required to provide offers for the very fast FCAS services EMMS Data Model 5.2, includes updates for the support of FFR is available in pre-production 20 Apr 2023, and production 23 May 2023. Changes supported include updates to settlement tables to incorporate new ancillary service

FFR: high-level impacts

TNSP

DNSP

MC

Sch. Load

SGA

IRP

Scheduled loads

Small generation aggregators

Integrated resource providers



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 MARKET SYSTEMS & PROCESSES	INDICATIVE PARTICIPANT CHANG	E IMPACTS				A	AFFECTED I	PARTICIPA	NTS (TBC)					
			Generator	Sch. Load	SGA	IRP	FRMP (Market Cust)	TNSP	DNSP	MC	MDP	MP	ENM	MSRP	Vendors
REGISTRATION	LOW for those:New contingency FCAS providersExisting contingency FCAS providers	3	✓	✓	√	✓									
BIDDING & DISPATCH	 LOW level of process impact, including: Extending current bidding system to see Fast FCAS services New terms/info on constraint equation outcomes 	support Very	✓	✓	√	✓									
RETAIL & METERING	G NONE														
SETTLEMENTS	 LOW with: Extending to display new columns for reports 'Ancillary services' line item on billing new services Impacts to all participants that consumdata 	PDF to include	√	√	√	√	✓								
Generator	Generators FRMP	Financially	responsible mar	ket particip	pant	MDP	N	Metering da	ta provide	r					

MP

ENM

MSRP

Metering provider

Embedded network manager

Market SAPS resource provider

Transmission network service provider

Distribution network service provider

Metering coordinator

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Objectives

To optionally provide participants the opportunity to:

- · prove their updated systems against AEMO's market systems.
- test end-to-end scenarios of updated processes and procedures.
- to contribute to their assessment of overall industry readiness for rule commencement.

Approach

Industry test allows industry participants to further test their system with AEMO's.

In particular to:

- perform pre-prod demonstration of ability to submit bids for Very Fast FCAS as part of the Registration process to provide the new very fast FCAS services. (Applicants established in Pre-prod to perform this demonstration.) Submit and verify FCAS bids via the FTP, API, or Markets Portal 'Energy & FCAS 5min Bids' capability.
- ingest pre-dispatch and dispatch instructions, FFR enhancements to Wholesale Data Interchange MMS Data Model (DISPATCH, P5MIN, PREDISPATCH, TRADING_DATA, FORCE_MAJEURE packages).
- regression test bid, dispatch, and Wholesale Data Interchange functionality (participating and non-participating providers for the new services).
- test bidding processes and automated energy/FCAS trading tools are working correctly.
- ingest Settlement changes for generators and load market customers showing recovery calculations for the new service i.e., Settlement reports and data model via Wholesale Data Interchange (Settlement and Billing packages) and download via Settlements Direct (Markets Portal application).

The industry test strategy and industry test plan are planned for release by 31 May and 31 July respectively





- FFR Industry Test Approach (Dates Indicative):
 - 9th August FFR Services registration commences
 - Once registered participants can submit offers (effective 4/9 to mimic 9/10)
 - Existing FCAS participants can perform testing of offers
 - 28th August Pre-dispatch to include FFR offers
 - 3rd Sept 5min Pre-dispatch to include FFR Offers
 - 4th Sept FFR Offers included in Dispatch Instructions
 - 15th / 18th Sept Settlement run(s) (data approach and settlement week 36 TBC)
- EMMS Data Model 5.2 currently available in Pre-prod supports FFR. Data population commences as per dates above
- AEMO will provide FFR industry Test Fact Sheet to support participant planning

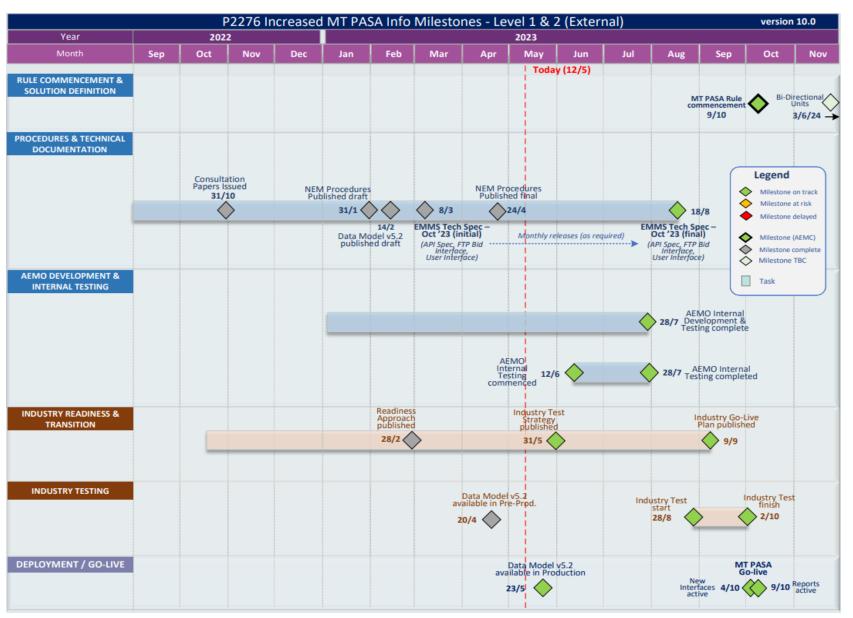


Increased MT PASA Information

Greg Minney

MT PASA Milestones and progress





Release Commentary

- Procedures draft consultation response period completed; no departure form proposed approach noted
- AEMO IT Design and development in progress and on track
- EMMS Data Model release to Preproduction 20/4, production 23/5
- Technical Spec updates released as required.
- Industry Testing for Individual participant confirmation of their updates





TIMING	ELEMENT	SUMMARY
09 Oct 2023	Increased Medium Term Projected Assessment of System Adequacy (MT PASA) Information	The project has been established under the NEM 2025 Reform program to deliver the key changes (people, system, and process) arising from the National Electricity Amendment (Enhancing information on generator availability in MT PASA) Rule 2022 No. 7 (ERC0338) This AEMO initiated rule change highlighted that the lack of detailed information on generator availability is becoming an issue. Rapid change to the NEM's generation fleet, as renewable energy generation enters the market, will drive changes to the operating regimes of aging thermal generation plants leading to several challenges including: Reduction in the number of units made available during certain periods of the day or year leading to a potential lack of reserve or essential system services, Lack of standardised information making it difficult for AEMO to effectively plan and operate the system, Increased complexity in assessment of compliance under the current notice of closure arrangements, Limitations on the ability of participants to coordinate maintenance schedules, and Weakened investment signals The rule change seeks to address this problem by improving the understanding about why particular generators are unavailable and how long they would take to come back online. From 9 October 2023 scheduled generators are required to increase the MT PASA information currently supplied to AEMO (daily) to include: Unit state — that is, a scheduled generating unit's availability or unavailability and the reason for its availability or unavailability (referred to as unit state, reason, or reason code) Unit recall time — to indicate the period in which the plant could be made available under normal conditions after a period of unavailability. AEMO has determined which unit states will require a unit recall time to be submitted

MT PASA: Indicative high-level impacts



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 MARKET SYSTEMS & PROCESSES	INDICATIVE PARTICIPANT CHANGE IMPACTS				Α	AFFECTED	PARTICII	PANTS (TB	C)					
		Gener ator	Sch. Load	SGA	IRP	FRMP	TNSP	DNSP	MC	MDP	MP	ENM	MSRP	Vendors
REGISTRATION														
BIDDING & DISPATCH	 LOW for those: Scheduled generation unit and scheduled bi-directional units required to supply additional data fields. Optional for TNSP and Scheduled Load participants. 	√	✓				√							
RETAIL & METERING														

Generator	Generators
Sch. Load	Scheduled loads
SGA	Small generation aggregators
IRP	Integrated resource providers

SETTLEMENTS

FRMP	Financially responsible market participant
TNSP	Transmission network service provider
DNSP	Distribution network service provider
МС	Metering coordinator

MDP	Metering data provider		
MP	Metering provider		
ENM	Embedded network manager		
MSRP	Market SAPS resource provider		



MT PASA Industry test approach

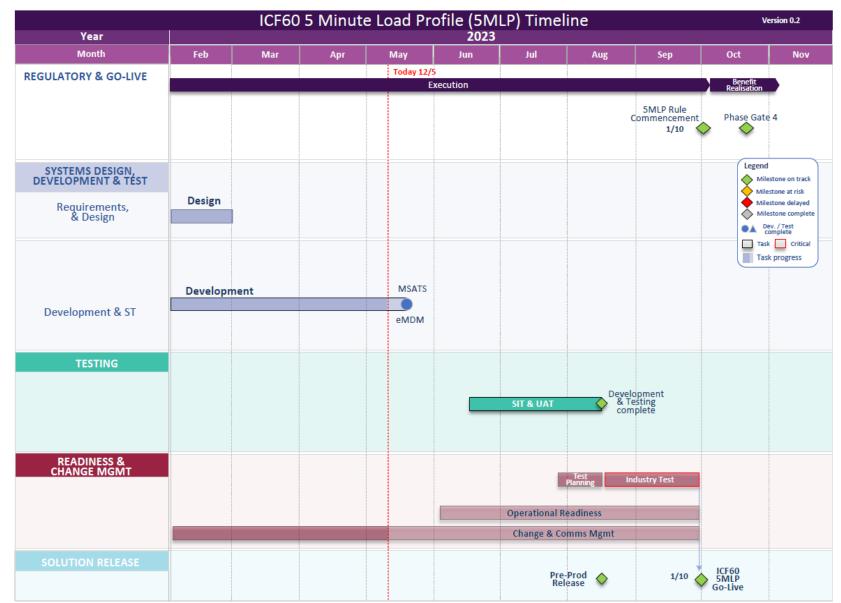
- MT PASA Capability for offer submission available in pre-prod from 28/8
- Participants will be able to submit offers via FTP, Web and API
- Data Model 5.2 supports MT PASA reporting



5MLP (ICF060)

Jim Agelopoulos

5MLP Timelines





Release Commentary

- AEMO development for 5MLP is complete
- AEMO testing scheduled to run from mid-June to mid-Aug
- Industry Test Start Date is TBC. Likely to commence Late Aug / early Sept
- Effective date for 5MLP in production is 1/10

5MLP



- Procedure effective date for 5MLP change is 1 October
- No changes to technical specifications are required to support this change
- Industry Testing period to be confirmed
- Proposed Testing approach
 - Validation of 5MLP changes in Preprod to be via RM Reporting based on 183 days data in the following sequence:
 - Baseline runs with weights (current profiling methodology)
 - Baseline runs without weights (current profiling methodology)
 - Run with new methodology (without weights)



7. November 2023 Release -

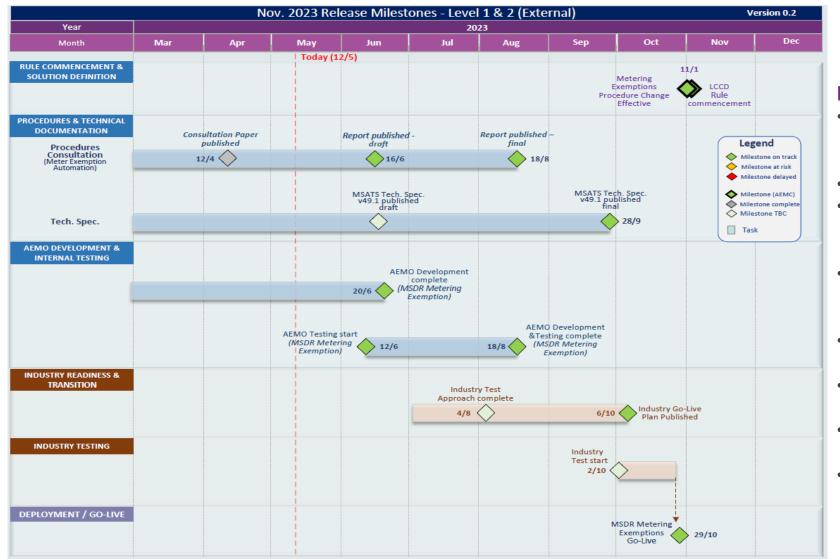


November Release Progress Summary

Jim Agelopoulos

November 2023 Timelines





Release Commentary

- Submissions for the Meter Exemptions consultation closed on 12/5
- Draft report will be published 16/6
- Draft MSATS Technical Specification for the November release has been published
- MSATS development for Meter Exemptions is continuing to schedule
- Planning for effective date for LCCD in pre-prod on 1/9
- Industry Test Start date for Meter Exemptions 2/10
- LCCD effective date 01/11 in production
- CDR Tranche 3 Retailers with >10k customers 01/11



Metering Exemption – Consultation Update

Greg Minney





- Procedure consultation has been published on the <u>AEMO's website</u>.
- Received 11 participants' submissions in the first stage, majority of participants supported implementation date of November 2023.
- Indicative dates (subject to change):

Stage	Date
Consultation paper published	12 April 2023
Submissions due on consultation paper	12 May 2023
Draft report published	16 June 2023
Submissions due on draft report	17 July 2023
Final report published	21 August 2023





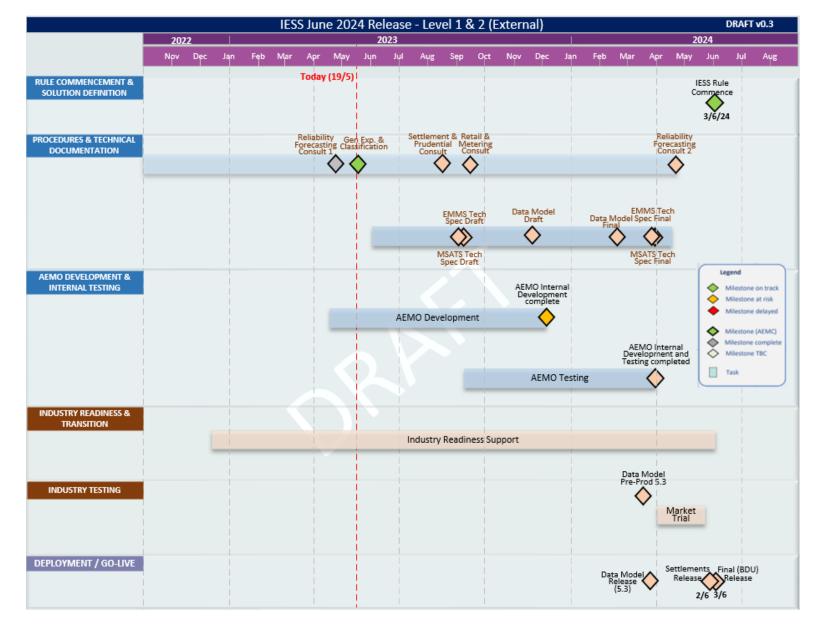
- Scope of changes in the procedure consultation:
 - Automation of the exemption process by creating MSATS interfaces which participants can use to apply for exemptions, and for extensions to the current exemption applications.
 - AEMO proposes to change response timeframes due to the volume of exemption applications which AEMO has been processing.
- Proposed implementation start of November 2023



7. June 2024 Release

June 2024 - IESS Final Release





RELEASE COMMENTARY

- Procedures consultation in progress via EWCF/ ERCF*
- BDU model stakeholder session held Tue 21 Mar and listening session Thu 20 Apr.
 - → Will discuss/publish BDU model and feedback summary for info session on Wed 31 May
- AEMO development completion milestone rated amber with resourcing and scope (BDU) considerations to be addressed to return to green
- Participant impact feedback (particularly on IESS Settlements) is being assessed and will be discussed in this session.
- Following milestones being defined and confirmed:
 - → Draft technical documentation
 - → Industry readiness support
 - Market trial plan
 - → Transition and go-live plans



Feedback: IESS participant impacts (1/2)

- In April, AEMO asked stakeholders to provide detailed feedback on IESS readiness activity timing and participant impacts via:
 - Program Consultative Forum
 - Implementation Forum
 - One-to-one conversations with some participants
- Feedback was sought on:
 - Settlement impacts
 - Level of interest in a further IESS settlement information session.
 - Indicative timing for readiness documents
 - Completeness and accuracy of participant impacts
 - Areas for further consideration



Feedback: IESS participant impacts (2/2)

- Requested feedback by Fri 19 May, 12 detailed responses received as at 23 May from a variety of participants:
 - One participant did not have any concerns with the changes
 - One DNSP participant noted that settlement changes do not affect distributors
 - Remaining 10 respondents were a spectrum of retailers and generators.

AEMO very much appreciates the detail and effort that participants put into this work.



Feedback summary: IESS settlement change impacts

TOPIC	KEY FEEDBACK	NEXT STEPS
System and process impacts	Six participants identified considerable impacts in other operational areas that draw data (directly or indirectly) from the SETGEN and SETCP settlement tables e.g. trading, forecasting, strategy etc	Participants to continue implementation and readiness activities, providing feedback to AEMO where relevant.
Transition approach	Two participants noted that an appropriate transition could minimise impacts (cost/risk) to industry.	AEMO to consider transition options (including those suggested by participants) for discussion at either Implementation Forum or dedicated workshop.
Participant support: - Development - Testing - Trials	 Concern that AEMO's draft timeline compresses the time available for industry implementation, and if AEMO timing slips, will further squeeze industry. Several participants advised that current timing for release of technical specifications & data model is too late to have a quality implementation by June 2024. Variety of suggestions on time industry needs from publication of tech specs, mostly seeking 6-12 months prior to test/trial. Suggestion that 'rolling' drafts are released as AEMO firms up implementation details Test environment – some participants requested a dedicated test/development environment Test/trial period – participants noted that the test/trial period should not be compressed if AEMO is late with its implementation. A minimum of 6 weeks was suggested by one, a minimum of 3 months by another. 	 AEMO to: Reassess tech spec and data model timing. Engage with participants on development needs, including consideration of if/when a support environment is provided Manage the risk of AEMO delays by monitoring against agreed milestones (visible to industry) and will include contingency planning in discussion with industry.
Participant engagement	High level of interest in dedicated IESS settlements workshop.	AEMO to consider content and timing for another dedicated IESS settlements workshop, including agenda items proposed by participants.



Bi-directional unit (BDU) implementation model

- Over the past few months, AEMO has sought detailed feedback from stakeholders on the implementation design and industry transition for the BDU model.
- On Wed 31 May the IESS project will provide an overview of feedback received and resulting response, including adjustments to the BDU model design.
- Session materials will be made available to participants via email and published on AEMO's website.
- As always, participants are welcome to reach out about discussing these materials on a 1to1 basis via iess@aemo.com.au



8. Other initiatives

Recap: A business case is being developed for three Strategic / Foundational initiatives



Pathway	Initiatives	Description
Foundational • Foundational dependency work to deliver	Identity Access Management (IDAM)	A unified mechanism to authenticate participant users and applications when accessing AEMO services.
an uplift to base capability on which reforms are dependent	Industry Data Exchange (IDX)	 Unified access to AEMO services across all markets, using modern authentication and communication protocols, facilitating a cohesive approach to industry data exchange. This will leverage IDAM
Strategic (Related) Strategic dependency work to effectively futureproof capabilities and scalability of systems thereby avoiding investment in systems that will become end-of-life shortly after the reforms take effect	Portal Consolidation (PC)	A 'single pane of glass' user experience for participants accessing all AEMO browser based services

• These initiatives have been identified for the NEM Reform Program and included in the <u>NEM Reform Implementation Roadmap</u>.



Recap: A business case is being developed for three Strategic / Foundational initiatives

Pathway	Initiatives	Description
Foundational	Identity Access Management (IDAM)	A unified mechanism to authenticate participant users and applications when accessing AEMO services.
Foundational dependency work to deliver an uplift to base capability on which reforms are dependent	Industry Data Exchange (IDX)	 Unified access to AEMO services across all markets, using modern authentication and communication protocols, facilitating a cohesive approach to industry data exchange. This will leverage IDAM
Strategic (Related) • Strategic dependency work to effectively future proof capabilities and scalability of systems thereby avoiding investment in systems that will become end-of-life shortly after the reforms take effect	Portal Consolidation (PC)	A 'single pane of glass' user experience for participants accessing all AEMO browser based services

Industry Consultation underway





Session	Introduction – IDX, IDAM & PC	Discovery Workshops – IDAM and PC	Target State Discussion	Transition Strategy	Conclusions and Business Case
Agenda*	Introduce initiativesOutline workshop plan	Pain points and benefitsSurvey	Concept walkthrough	Transition StrategyImpacts & Benefits	SummaryOptions
Audience	ŸŸŸ	9	Q Q		ŸŸŸ











Consultation update – Target state objectives & sentiment

Ulrika Lindholm

IDX Objectives

Lower the barriers to entry

for new Market Participants



Reduced operational costs for industry, AEMO and future industry reforms.

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Improved speed to market, e.g. by addressing the schema change pain points.



Provide the framework for Enhanced and consistent data security exchange



Support innovation and potential new Market data flows



AEMO is embarking on a journey for future sector reforms, which will entail the introduction of new integration channels, patterns, protocols and payload formats to simplify and uplift the way data is exchanged between Market Participants and AEMO

IDAM Objectives





AEMO is embarking on a journey for future sector reforms, which will entail the introduction of a unified identity and access management framework

Portal Consolidation Objectives



Provide integration with the enterprise identity management and user authentication solution

Implement framework and roadmap for transition and implementation





Enhance self-service capabilities



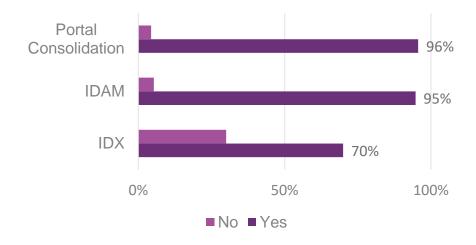
Enable a unified portal experience





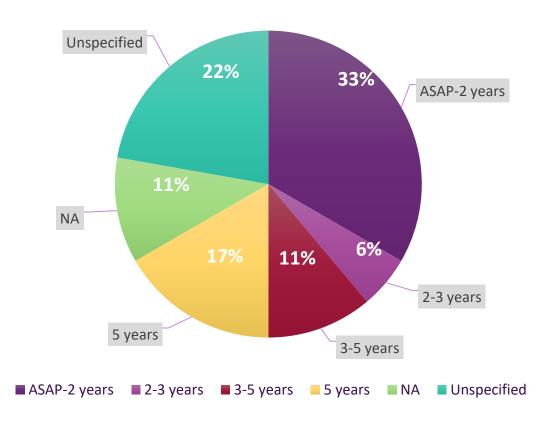
Consultation update - sentiment

Indicative focus group alignment on Target state from Technical session



Target state workshop (Technical Focus Group) held on 15 May. A participant alignment check was done with the Technical focus group, indicating majority alignment. AEMO is working through participant feedback to assess the nature of feedback for IDX.

Survey insight: IDAM Transition timeframes indicated by focus group





9. Upcoming Engagements





	May						
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				

July						
S	M	T	W	T	F	S
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

		J	lune			
S	M	T	W	T	F	S
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4	5	6	7	8	9	10
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	August					
S	M	T	W	T	F	S
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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 Forums
Program Consultativ e Forum
Reform Deliv ery Committee
Refrom Deliv ery Committee - Collab W.
Implementation Forum
Electricity Wholesale Consultativ e Forum
Electricity Retail Consultativ e Forum
Industry Testing Working Group
AEMO Consumer Forum
Placeholder - Executiv e Forum
NEM Reform General Stakeholder Briefing & Implementation Roadmap Briefing
Inititiative Specific Meetings
NEM Reform Foundational and Strategic initiatives
May Go-Liv e Criteria
Other
National Public Holiday
State/Territory Public Holiday



10. General Questions & Other Business



NEMReform@aemo.com.au



AEMO | Implementation Forum





Indicative High Level Impact Assessment

Ulrika Lindholm



Update to be provided at the Implementation Forum





Appendix A: Supplementary Information

- Increased MT PASA Information
- Fast Frequency Response
- IESS June 2024 Readiness Approach
- IDAM/IDX/PC Representation

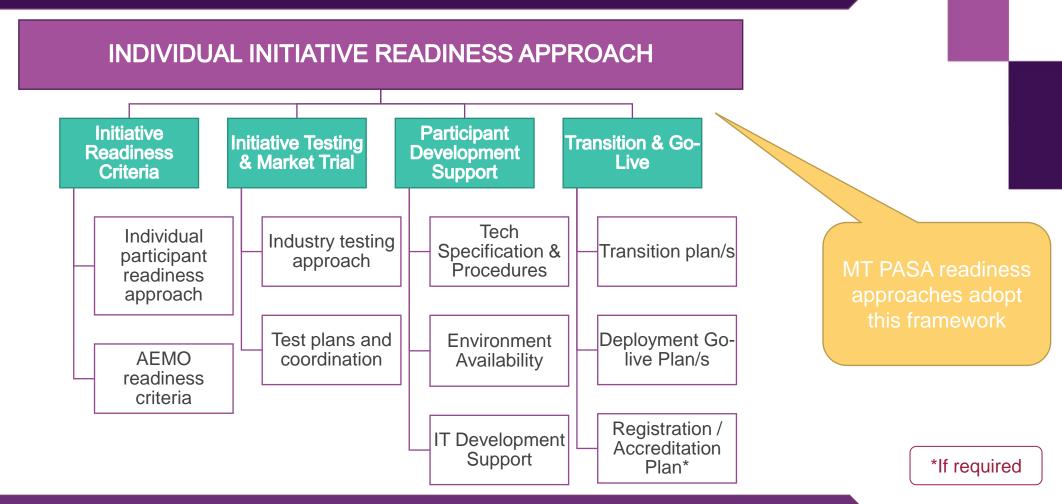


Increased MT PASA Information

Industry Implementation Approach – MT PASA



NEM REFORM READINESS STRATEGY (ALL INITIATIVES)



RISK & CONTINGENCY MANAGEMENT

Initiative Readiness Criteria - MT PASA



Go Live Criteria Management summarises the criteria for decision making on readiness for the initiative to go-live in line with rule commencement timeframes and the efficient operation of the NEM and approach for the initiative

Readiness Component	Proposed Initiative Approach	Rationale
Go-Live Criteria	MT PASA go-Live criteria will reflect Technical Readiness for go-Live and AEMO preparedness to accept updated availability and recall information. Impacted participant readiness will not be considered as criteria for go-live but as individual compliance factor	
Criteria Components	Initiative Readiness components will consist of: Solution Readiness: Market System Changes required to meet initiative requirements AEMO Business Readiness: AEMO business operations and IT Support prepared to operate enhancements from production Deployment Participant Readiness: Impacted participant readiness to provide increased MT PASA information is a participant compliance requirement and will not prevent initiative go-live	Ability for AEMO to receive and process updated information is required for successful implementation of rule
Go-live Decision Management	Initiative go-live to be made on recommendation of AEMO Program on the basis of evaluation against agreed criteria components	
Industry Notification	Decision Milestone to be established for communication of AEMO readiness to deploy and accept information – in line with commencement of Industry Test Period. Progress to be managed via ongoing progress / milestone reporting including deployment for Industry Testing	To be included in project schedules, with Industry communication approach to be determined during execution phase



Initiative Readiness Reporting

Initiative Readiness Reporting outlines the form of participant readiness reporting required to meet go-live criteria decisions, and provide industry wide view on the progress towards implementation for AEMO and Industry. The approach considers whether the initiative requires formalised participant readiness reporting to be implemented

Readiness Component	Proposed Initiative Approach	Rationale
Formal Participant Readiness Surveys and Reporting	Formal participant reporting of readiness not required for Initiative	Impact is to a defined group of participants, with individual participant readiness not impacting other participants preparations
AEMO progress reporting	MT PASA progress reporting against defined L1/L2 milestones as component of PCF and Implementation Forum reporting. This will include reporting against the agreed readiness criteria and checkpoint establishment prior to go-live	





Outlines the expected approach to the conduct of Industry testing, providing and view on release based industry testing requirements. This approach to be validated with industry as part the Industry Test Strategy development

Readiness Component	Proposed Initiative Approach	Rationale
Industry Test Approach	Industry Test Approach to be agreed with participants as component of October Release, with engagement on the scope and timing via ITWG from May Testing Approach for MT PASA will follow and Industry Test approach, where participants will be able to exercise their selected population approach (including API delivery), in line with their own timeframes. No coordinated industry test scenarios are required	Participants can verify success of their changes without reliance on other participant responses – NEM reports available to all
Release Testing Requirements / Considerations	MT PASA Industry Testing will overlap with Industry Test planning and execution for ADC , FFR and potentially Metering Exemptions, with overall co-ordination performed at a release level	





Outlines the Initiative approach to the provision of technical and functional support for participants in their implementation of PASA initiative. Approach is guided by the initiative impact assessment view on scale of change and spread across participant categories

Readiness Component	Proposed Approach	Rationale
Update Market Procedures and Guidelines	Identified Procedures / guidelines / registration processes updated for new service, published in line with agreed milestones	
Update Technical Documentation (Specs, User Guides, FAQ)	Identified External guidelines and technical specs updates published in line with agreed milestones	
Update Data Model	Data model updates included in release 5.2, published in line with agreed milestones	
Update and agree external Report Formats, web Pages, etc	Consistent with procedures with Specifications available in timeframe to support participant development	
Provide Technical Implementation Support	Q&A, response to NEM2025 mailbox query, no specific focus groups to be established, technical support also available via MSUG	
Provide Impacted Participant support	$Q@A, Address\ specific\ questions\ on\ specs\ ,\ service\ introduction\ ,\ process\ and\ eligibility\ -\ AEMO\ to\ support\ via\ Implementation\ Forum\ with\ specific\ briefing\ sessions\ if\ sufficient\ demand$	





Initiative approach to the activities required to transition into operation. Both a longer term (transition) and cutover view are included to manage the scope and timing of required transitional activity

Readiness Component	Proposed Approach	Rationale
Transition Planning and Management	Rule provides for the population of recall times / unit status for planned outages 36 months from 9 th October commencement Capability to provide increased information will be deployed from 1 October to support participant update of required information. Reporting of increased MT PASA information will commence from the 9 th October	Procedures support requirement "from 9th Oct" - software implementation in advance will support participant population ahead of 9th October - and reduce "bow wave" of updates for participants
Go-Live (Cut over) Planning and Communication	Industry Go-Live Plan will be produced to align participant and AEMO deployment activities in line with agreed deployment dates	
Industry Post Go_live Support	Project support for hyper-care/ post go live support Principle to leverage normal business support processes where possible supplemented where required to assist immediate industry issues. This may include post go-live Q&A, Issue management sessions,	Consistent with project implementation scope, API support requirements will be dependent on uptake from participants



Fast Frequency Response

Industry Implementation Approach – FFR

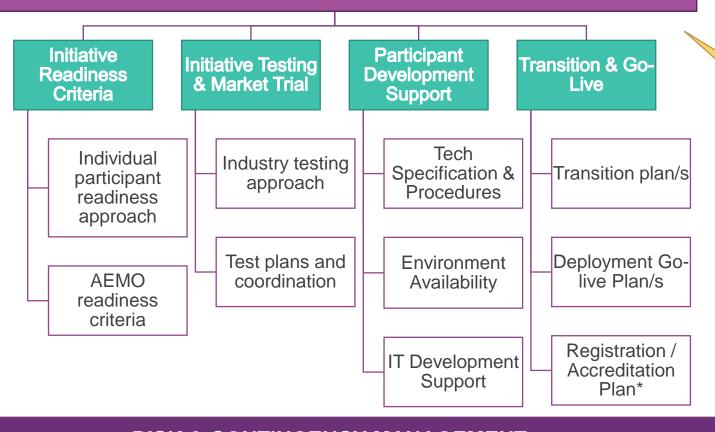
NEM REFORM READINESS STRATEGY (ALL INITIATIVES)

Summary Plus Feedback Question?



T EEdback (

INDIVIDUAL INITIATIVE READINESS APPROACH



FFR readiness approaches adopt this framework

*If required

RISK & CONTINGENCY MANAGEMENT

Go-live Criteria Management



Go Live Criteria Management summarises the criteria for decision making on readiness for the initiative to go-live in line with rule commencement timeframes and the efficient operation of the NEM and approach for the initiative

Readiness Component	Proposed Initiative Approach	Rationale
Go-Live Criteria	FFR go-Live criteria will reflect Technical Readiness for go-Live and readiness for service introduction	
Criteria Components	Technical Initiative Readiness components will consist of Solution Readiness: System Changes required to meet initiative requirements and ongoing stability of existing settlements processes AEMO Business Readiness: Procedures and business operations in place AEMO IT Support Readiness: IT operational support for solution in place Participant Readiness: As an optional service, no pre-requisite participant activity as dependency for technical initiative readiness Market Readiness For Service commencement: to be evaluated based on number of participants registered to provide service, offers in place, assessment of service requirements for market operation.	Technical Capability may be available, but given the optionality of service uptake, Very Fast Services may not be viable at rule commencement
Go-live Decision Management	Decision Milestone to be established for communication of: Technical Go-Live – Decision point for proceed decision based on criteria evaluation, at least 1 month prior to rule commencement Service Commencement: Decision point for service commencement in line with "Predispatch" evaluation. Notification to Industry Via Market Notice	





Initiative Readiness Reporting outlines the form of participant readiness reporting required to meet go-live criteria decisions, and provide industry wide view on the progress towards implementation for AEMO and Industry. The approach considers whether the initiative requires formalised participant readiness reporting to be implemented

Readiness Component	Proposed Initiative Approach	Rationale	
Formal Participant Readiness Surveys and Reporting	FFR will not require formalised participant readiness reporting, in line with Participant readiness Criteria FFR will utilise Registration data and pre-dispatch information as indication of participant intention and readiness to commence offering Very Fast FCAS	FFR is optional service for participant offering. There are no mandatory participant transition, preparation activities that if not performed will impact technical readiness for market or other participants	
AEMO progress reporting	FFR progress reporting against defined L1/L2 milestones as component of PCF and Implementation Forum reporting. Includes milestones at risk and impact on Go-Live Decisions	FFR will implement NEM Reform framework for progress reporting	





Outlines the expected approach to the conduct of Industry testing, providing and view on release based industry testing requirements. This approach to be validated with industry as part the Industry Test Strategy development

Readiness Component	Proposed Initiative Approach	Rationale
Industry Test Approach	Industry Test Approach to be agreed with participants as component of October Release . Industry support to include extended availability of release in Pre-Prod Environment, settlement runs to be scheduled allow participant verification of end to end processes including settlement statement verification	
Release Testing Requirements	FFR currently scheduled to go-live in similar timeframe to MT PASA, with which it will share data model updates, and 5 MLP update (ICF060) where end to end industry testing will require scheduling and support of settlement runs to support participant verification	





Outlines the Initiative approach to the provision of technical and functional support for participants in their implementation of FFR initiative. Approach is guided by the initiative impact assessments view on scale of change and spread across participant categories

Readiness Component	Proposed Approach
Update Market Procedures and Guidelines	Identified Procedures / guidelines / registration processes updated for new service, published in line with agreed milestones
Update Technical Documentation (Specs, User Guides, FAQ)	Identified External guidelines and technical specs updates published in line with agreed milestones.
Update Data Model / AseXML Schema	Data model updates included in release 5.2, published in-line with agreed milestones
Update and agree external Report Formats, web Pages, etc	Consistent with procedures and reports published as component of Technical Specifications
Provide Participant Education (Q&A, Training Course Update, Implementation Advice)	Scheduling and requirements to be discussed at Implementation Forum MSUG sessions to support Technical Specification updates
Provide Impacted Participant support	Participant specific support via NEMReform@aemo.com.au for responses to specific questions





Initiative approach to the activities required to transition into operation. Both a longer term (transition) and cutover view are included to manage the scope and timing of required transitional activity

Readiness Component	Proposed Approach	Rationale
Transition Planning and Management	AEMO will produce a Service Commencement Plan to communicate the decision points and activities (both AEMO and Participant) relating to the service commencement decisions. Transition activities will address the approach to registration updates for Fast FCAS participants, with consideration given to enabling Industry testing activities. Initial FCAS Service registration and participant technical capability assessment for the provision of Very Fast and other FCAS services will be considered as normal business operation.	Key aspect of participant preparation is to guide AEMO decision on market readiness to commence new FCAS services and alignment of registered participants
Go-Live (Cutover) Planning and Communication	Go-Live plans will cover key cutover timeframes, communications and (where required) participant co-ordinated activity to be incorporated. Phased deployment of capability is planned to support registration availability, dispatch data accumulation and bidding commencement prior to rule commencement dates.	To reflect release strategy and timing once determined
Industry Post Go_live Support	Project support for hyper-care/ post go live support Principle to leverage normal business support processes where possible supplemented where required to assist immediate industry issues. This may include post go-live Q&A, Issue management sessions,	Consistent with project implementation scope



IESS June 2024 readiness approach



IESS Glossary

Term	Definition
5MPD	5-minute pre-dispatch
AGC	Automatic generation control
ASL	Ancillary service load
ASU	Ancillary service unit
B2B	Business-to-business
B2M	Business-to-market
BDU	Bi-directional unit
BESS	Battery energy storage system
CR	Change request
CRMP	Cost recovery market participant
DRSP	Demand response service provider
DUID	Dispatchable unit identifier
FRMP	Financially responsible market participant
IESS	Integrating Energy Storage Systems rule
IRP	Integrated resource provider

Term	Definition		
IRS	Integrated resource system		
MSATS	Market settlements and transfer solutions		
MSGA	Market small generation aggregator		
MT PASA	Medium-term PASA		
NCC	NMI classification code		
NECR	Non-energy cost recovery		
NEMDE	National electricity market dispatch engine		
NMI	National metering identifier		
PAE	Profiling and allocation engine		
PASA	Projected assessment of system adequacy		
PD	Pre-dispatch		
PMS	Portfolio management system		
SCADA	Supervisory control & data acquisition		
SoC	State of charge		
UFE	Unaccounted for energy		
WDRU	Wholesale demand response unit		

Context: NEM Reform program industry strategy

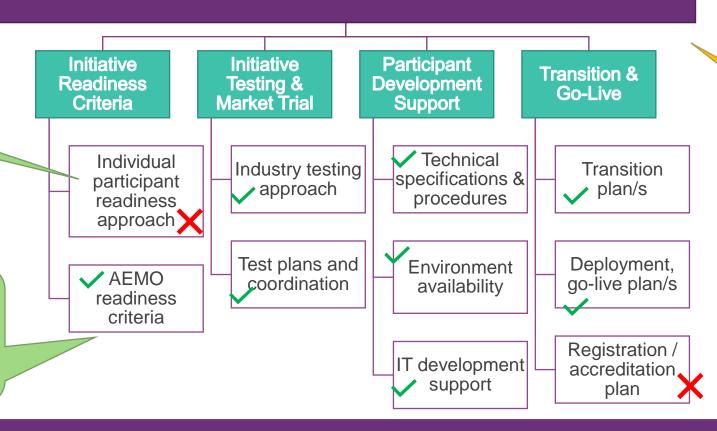


NEM REFORM READINESS STRATEGY (ALL INITIATIVES)

IESS JUNE 2024 READINESS APPROACH

Individual participant (or participant category) readiness is **NOT** a dependency for go-live.

- AEMO Market systems updated and tested
- AEMO business needs to be ready to operate
- AEMO IT support needs to be in place



IESS readiness approach adopts the standard NEM Reform program framework

RISK & CONTINGENCY MANAGEMENT

INITIATIVE READINESS REPORTING & GO-LIVE CRITERIA MANAGEMENT







IESS Readiness Criteria Individual participant readiness approach **AEMO** readiness criteria

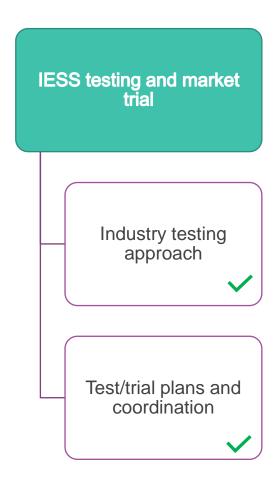
For IESS to go-live:

- AEMO needs to design, build & test its solution/s
- AEMO business needs to be ready to operate
- AEMO IT support needs to be in place
- Individual participant (or participant category) readiness is not a dependency for go-live.
 - For the uninterrupted and reliable operation of the NEM, only AEMO needs to be ready for the June 2024 release/s
 - However participants will likely need to make timely system/process changes in managing their operations and also compliance with the IESS rule.

These criteria will be more fully defined and form the basis of go-live criteria management.







Early thinking on IESS testing/trial approach includes:

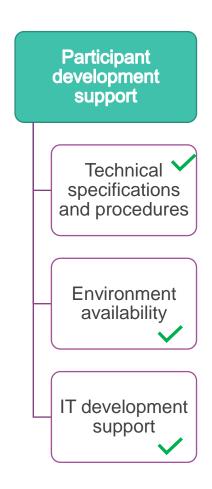
- pre-production will be available for industry testing
- appropriate to hold market trial (scope TBD) given scale of changes across participant categories and settlement impacts

Market trial scoping and planning will occur in:

- consultation with participants
- alignment with the project schedule



Elements of IESS readiness approach: IESS participant development support



- Key procedure changes required for retail, bidding, dispatch, settlements and prudentials. These procedure consultations have been planned
- EMMS and MSATS tech specs/data models will need updates in time for participants to make their system changes
- Development support activities will be discussed in Implementation Forum e.g. information or Q&A sessions etc



Elements of IESS readiness approach: IESS transition and go-live





Deployment / go-live plans

Registration / accreditation plan

Transition plans will be needed for:

- Reclassifying SGAs and Generators/Customers with BDUs to IRP registration category
- Reclassifying relevant loads and generators to "ancillary service units"
- Transitioning participants with existing (pre-December 2021) BDUs to 'single DUID' bidding and dispatch
- AEMO to transition existing NMI Classification Codes where a new code needs to apply.
 - NSPs will not have an obligation to transition NMI Classification Codes
 - However, ongoing from June 2024 nonregistered NMI Classification Codes [LARGE, SMALL & NREG] will be applied by the NSP to create NMIs. AEMO will then apply the new NMI Classification Code once an installation is registered

Deployment / go-live plans will be needed for:

- Introducing new NMI classification codes
- Data model changes
- Bidding format changes
- Alignment of participant and AEMO system deployments

Registration / accreditation plans

- Registration changes relate to reclassifying some participants to IRP category. This will be addressed through transition plans (above)
- IESS does <u>not</u> introduce or trigger any additional accreditation requirements



Elements of proposed IESS readiness approach - IESS readiness reporting etc

IESS READINESS REPORTING & GO-LIVE CRITERIA
MANAGEMENT

Market readiness activities are intended to:

- 1) address readiness challenges and support the prudent implementation of NEM changes
- 2) safeguard the integrity of NEM processes across the various IT system go-lives or market starts, given the market's size, value, complexity and need for continuous operation.

Readiness reporting is used when there is a need for AEMO and industry to have an accurate assessment of industry's readiness for:

- system deployments,
- transitional activities, and/or
- rule commencements.

<u>Participant</u> readiness reporting is not needed. For the uninterrupted and reliable operation of the NEM, only AEMO needs to be ready for:

- 02 Jun 2024 NECR changes AEMO will deploy system changes to adjust settlement reports
- 03 Jun 2024 registration and dispatch changes AEMO will deploy system and process changes to introduce IRP registration category and BDU classification & bidding.

While participants will likely need to make timely system/process changes in managing their operations and also compliance with the IESS rule, AEMO does not propose to monitor participant readiness.

AEMO will report to industry:

- Progress against agreed milestones
- Checkpoints on go-live criteria in the lead-up to implementation.



IDAM/IDX/PC Representation

Background – Strategic / Foundational initiatives



Pathway	Initiatives	Description	
Foundational • Foundational dependency work to deliver	Identity Access Management (IDAM)	A unified mechanism to authenticate participant users and applications when accessing AEMO services.	
an uplift to base capability on which reforms are dependent	Industry Data Exchange (IDX)	 Unified access to AEMO services across all markets, using modern authentication and communication protocols, facilitating a cohesive approach to industry data exchange. This will leverage IDAM 	
Strategic (Related) Strategic dependency work to effectively futureproof capabilities and scalability of systems thereby avoiding investment in systems that will become end-of-life shortly after the reforms take effect	Portal Consolidation (PC)	A 'single pane of glass' user experience for participants accessing all AEMO browser based services	

 These initiatives have been identified for the NEM Reform Program and included in the <u>NEM Reform</u> <u>Implementation Roadmap</u>.

Industry Consultation





Session	Introduction – IDX, IDAM & PC	Discovery Workshops – IDAM and PC	Target State Discussion	Transition Strategy	Conclusions and Business Case
Agenda*	Introduce initiativesOutline workshop plan	Pain points and benefitsCyber considerationsSurvey	Concept walkthrough	Transition StrategyImpacts & Benefits	SummaryOptions
Audience	ŸŸŸ	9 9	©	Q Q	



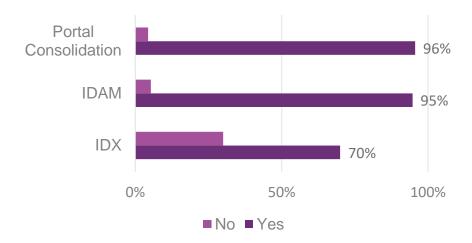






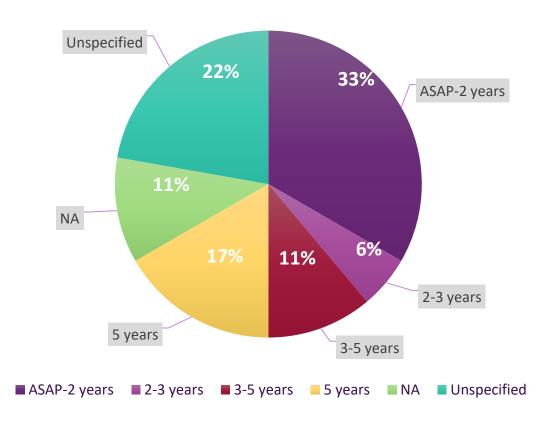
Consultation update - sentiment

Indicative focus group alignment on Target state from Technical session



Target state workshop (Technical Focus Group) held on 15 May. A participant alignment check was done with the Technical focus group, indicating majority alignment. AEMO is working through participant feedback to assess the nature of feedback for IDX.

Survey insight: IDAM Transition timeframes indicated by focus group





Appendix B: 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 regarding proposed reforms or other initiatives, all participants agree to adhere to the CCA at all times and to comply with this Protocol. Participants must arrange for their representatives to be briefed on competition law risks and obligations.

Participants in AEMO discussions **must**:

- Ensure that discussions are limited to the matters contemplated by the agenda for the discussion
- Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO
- Immediately and clearly raise an objection with AEMO or the Chair of the meeting if a matter is discussed that the participant is concerned may give rise to competition law risks or a breach of this Protocol

Participants in AEMO meetings **must not** discuss or agree on the following topics:

- Which customers they will supply or market to
- The price or other terms at which Participants will supply
- Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid
- Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)
- Refusing to supply a person or company access to any products, services or inputs they require

Under no circumstances must Participants share Competitively Sensitive Information. Competitively Sensitive Information means confidential information relating to a Participant which if disclosed to a competitor could affect its current or future commercial strategies, such as pricing information, customer terms and conditions, supply terms and conditions, sales, marketing or procurement strategies, product development, margins, costs, capacity or production planning.



For more information visit

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