

NEM Reform Electricity Wholesale Consultative Forum (EWCF)



Meeting #16
21 May 2024



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 and present.

Agenda

#	Time	Topic	Presenter(s)
1	1:00-1:05pm	Welcome	Chris Muffett
2	1:05-1:10pm	Actions & Feedback from Previous Meeting	Chris Muffett
3	1:10-2:00pm	In-flight Reform Update <ul style="list-style-type: none"> • Integrated Energy Storage System (IESS) • Frequency Performance Payments (FPP) • Project Energy Connect Market Integration (PEC – MI) • Enhancing Reserve Information (ERI) • Improving Security Frameworks (ISF) 	<ul style="list-style-type: none"> • Emily Brodie • Oliver Derum • Nicole Nsair • Oliver Derum • Carla Ziser
4	2:00-2:10pm	Consultation Update <ul style="list-style-type: none"> • Primary Frequency Response (PFR) Requirements consultation 	<ul style="list-style-type: none"> • Akeesh Kusrutzing
5	2:10-2:20pm	Procedures Consultation Roadmap	<ul style="list-style-type: none"> • Nicole Nsair
6	2:20-2:30pm	NEM Wholesale Issues & Changes <ul style="list-style-type: none"> • ICF 002 – Time taken for dispatch targets to be made available to participants • Dispatch conformance messages 	<ul style="list-style-type: none"> • James Kelly • Oliver Derum
7	2:30-2:40pm	Other Reforms <ul style="list-style-type: none"> • ST PASA 	<ul style="list-style-type: none"> • Shivani Mathur
8	N/A	For noting <ul style="list-style-type: none"> • Upcoming Engagements 	N/A
9	2:40-3:00pm	General Questions and Other Business	Chris Muffett

Appendix A:
Competition law meeting protocol and AEMO forum expectations

Appendix B:
ICF Register

"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	Notes
15.3.0.1	Frequency Performance Payments (FPP)	AEMO to provide an overview of the non-conformance with dispatch targets process, and instances where PFR can/has resulted in conformance messages being issued.	AEMO	Closed - addressed in item 6

The latest meeting minutes and materials are available on the [NEM Reform Electricity Wholesale Consultative Forum](#) webpage.

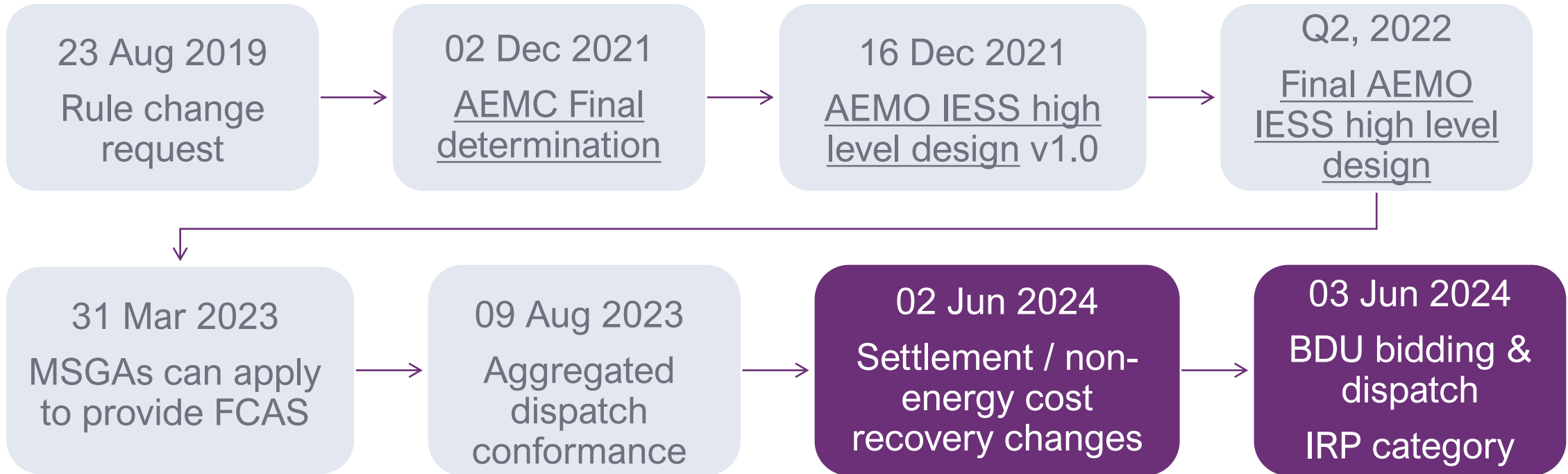
3. In-flight Reform Update

Integrated Energy Storage System (IESS)



Emily Brodie

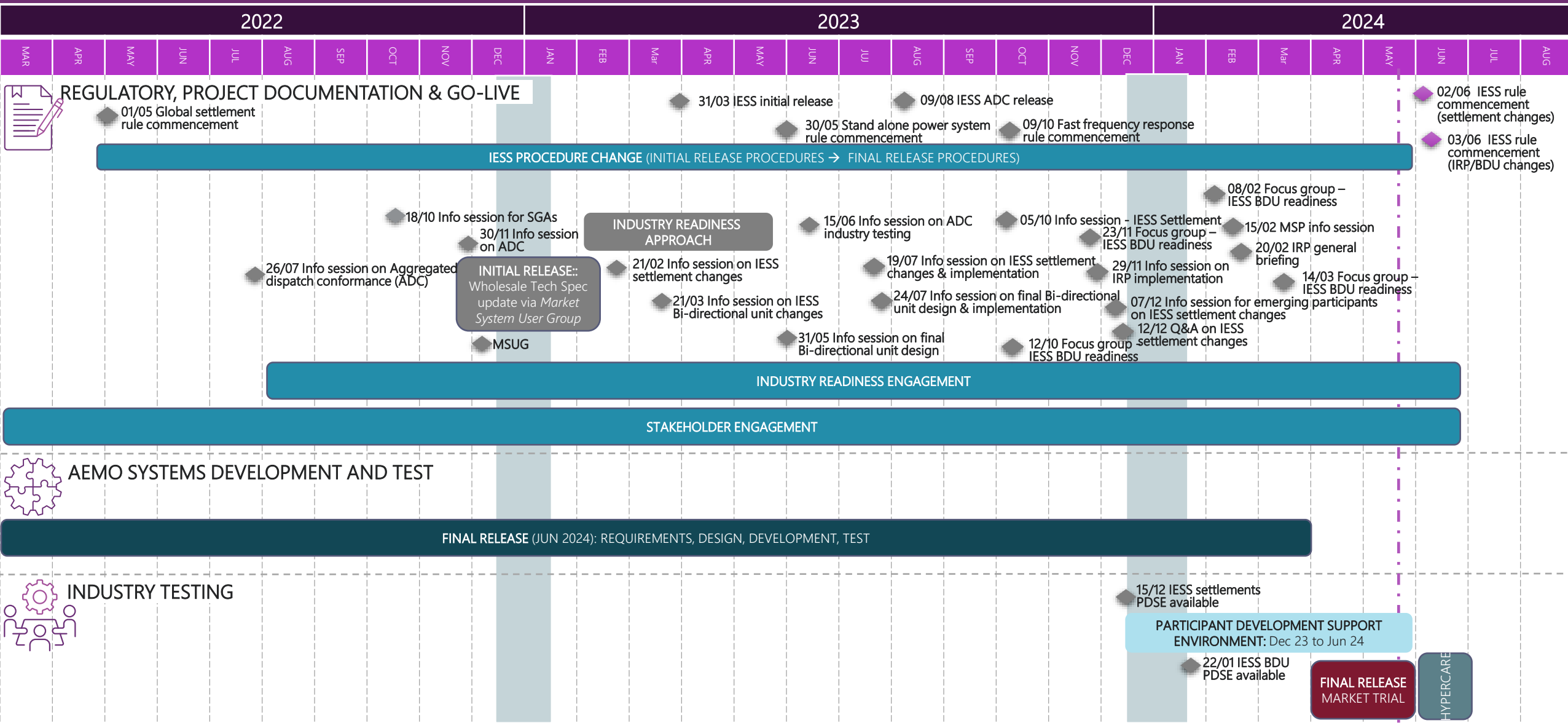
IESS high-level Timeline



MSGA	Market small generation aggregator
FCAS	Frequency control ancillary service/s
IRP	Integrated resource provider
BDU	Bidirectional unit

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

IESS – Indicative Industry Timeline



- IESS Confirmed
- IESS Indicative
- Concurrent initiatives
- Completed activities
- Summer holiday periods: Avoid industry IESS activities where possible
- Market trial (in pre-production): 03 Apr to 24 May 2024

IESS industry readiness in progress

- ✓ < 2 weeks until go-live (Sun 02 & Mon 03 June)
- ✓ Final go-live checkpoint confirmed AEMO's expectation that it will meet the IESS rule commencements



INDICATIVE INDUSTRY ACTIVITIES

- Individual participant preparations
- Market trial close to completion (Daily stand-up calls for market trial participants)
- Industry will continue to be supported during project hyper care period (June 2024).
- BESS participants working with their bidding system vendor and AEMO to cutover BESS to BDU operations.

I ESS key milestones 2024

****Detailed information and dates are in the IESS release schedule****

MONTH	ACTIVITY
JAN 2024	<ul style="list-style-type: none"> ✓ Publish draft market trial plan ✓ Publish final transition plans – BDU, IRP, NCC ✓ PDSE ready for BDU bidding & dispatch
FEB 2024	<ul style="list-style-type: none"> ✓ Publish final market trial plan ✓ Publish draft Industry go-live plan
MAR 2024	<ul style="list-style-type: none"> ✓ Initiative readiness checkpoint (-3months) ✓ EMMS data model released to pre-production
APR 2024	<ul style="list-style-type: none"> ✓ IESS MARKET TRIAL period starts ✓ EMMS data model released to production ✓ Final tech specs available ✓ Publish final Industry go-live plan
MAY 2024	<ul style="list-style-type: none"> ✓ Go-live checkpoint (-1 month, Wed 01 May) • Market trial finishes Fri 24 May
JUN 2024	<p>I ESS rule commencements:</p> <ul style="list-style-type: none"> • Sun 02 Jun: IESS settlements commences • Mon 03 Jun: BDU bidding & dispatch commences • Hypercare

- **Phase 1: IESS standing data changes**
 - Wed 03 Apr 2024 to Fri 12 Apr 2024
- **Phase 2: Settlements & prudential calculations**
 - Wed 03 Apr to Wed 08 May
- **Phase 3: BDU bidding, dispatch & MTPASA**
 - Fri 19 Apr to Fri 24 May 2024

- Other activities throughout Q2 2024 include:**
- Completing remaining minor/administrative procedure consultations
 - Stakeholder engagement
 - NEM Reform forums
 - Information sessions
 - Q&A sessions
 - 1to1 discussions as necessary

Frequency Performance Payments (FPP)



Oliver Derum

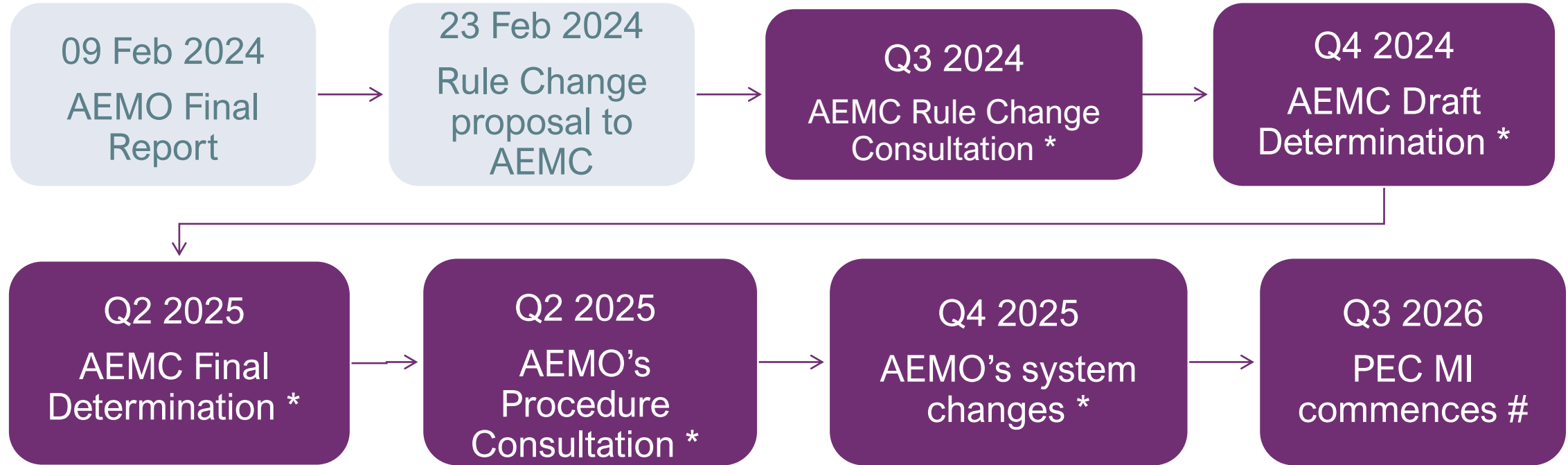
FPP May update

- AEMO is continuing to work with an external provider on the delivery of the FPP app.
- Completion of all functionality by the scheduled start of internal testing is now considered to be at risk (amber).
- Some functionality, especially that related to AEMO's analysis of FPP outcomes, and the management of data exclusions/recalculations may be affected.
- The overall project and all other milestones, including the commencement of FPP non-financial operation on 9 December 2024, remain green.

Project Energy Connect Market Integration (PEC – MI)

Nicole Nsair

PEC-MI *Indicative* High level Timeline



QUICK REFERENCES

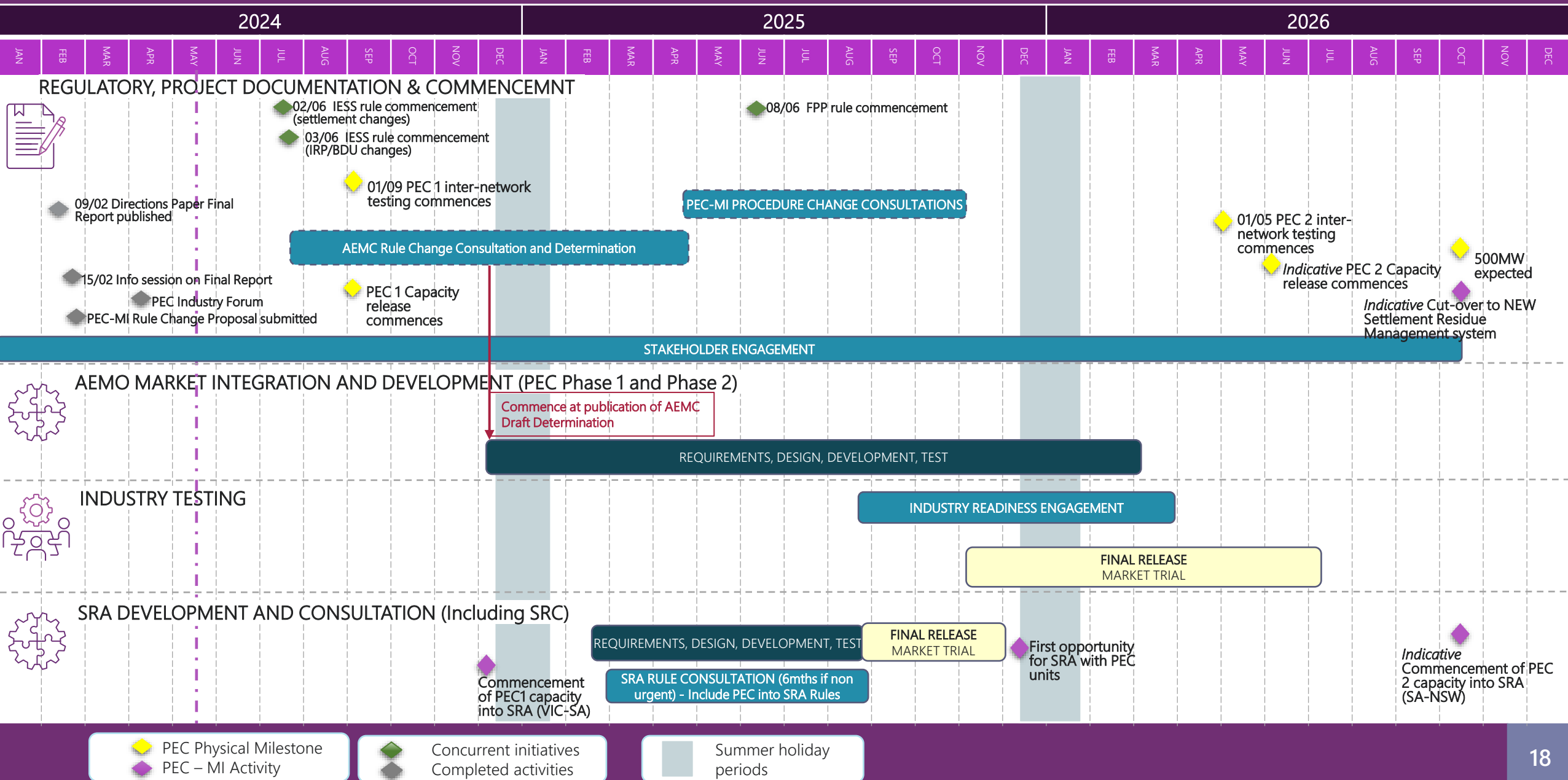
- AEMO - [PEC-MI webpage](#)
- PEC - [Industry webpage](#)
- AEMC - [Rule Change Pending](#)

NB

- * Rule and procedure dates indicative timeframes, subject to AEMC timing
- # PEC 2 will be completed and in service by the June quarter of 2026 (Inter-network testing to commence 1 May 2026)

PEC-MI – Indicative Activity Timeline

As of 20/5



Enhancing Reserve Information (ERI)

Oliver Derum

ERI May update

- The Draft ERI high-level impact assessment (HLIA) will be published on 31 May 2024, with comments invited for two weeks (until 14 June).
- Implementation timelines and milestones will be included in the HLIA and provided in PCF packs from June onwards.
- The only new information to be collected from participants under the ERI changes will be the maximum storage capacity for ‘batteries’ (defined within the ERI rules (NER 3.7G) as scheduled bidirectional units, excluding pumped hydro production units).
 - This will be provided as part of the NER Schedule 3.1 bid validation data, which must be confirmed annually by participants.

ERI – Key elements and implementation dates

From 1 July 2025

At the end of each trading day, AEMO to publish state of charge data for batteries at the DUID level for each trading interval.

At the start of each trading day, AEMO to publish aggregated daily energy limits for other types of scheduled plant (excluding batteries), aggregated by region.

From 1 July 2027

AEMO to publish the state of charge of batteries, aggregated by region, in close to real time.

Improving Security Frameworks (ISF)

Carla Ziser

Improving Security Frameworks (ISF)

- The AEMC made a final determination on 28 March 2024 on a more preferable rule to improve arrangements for security services in response to rule change requests from Hydro Tasmania and Delta Electricity
- The final rule differs from the earlier approach of an Operational Security Mechanism (OSM), and instead provides a framework that will enable AEMO to develop new tools to manage system security

The final rule:



Aligns the existing inertia and system strength frameworks' procurement timeframes (by 1 December 2024)



Removes the exclusion to procuring inertia network services and system strength in the NSCAS framework (by 1 December 2024)

Improves directions transparency (by 4 July 2024).

Empowers AEMO to enable (or 'schedule') security services with a whole-of-NEM perspective.

Transitional Security Enablement Procedure to be published by 30 June 2024



Security Enablement Procedure due 31 August 2025

Full enablement obligations on AEMO will commence on 2 December 2025

The final rule:

Creates a new transitional non-market ancillary services (NMAS) framework for AEMO to procure security services necessary for the energy transition and to trial new sources of security services.



A Transitional Services Guideline must be published by 1 December 2024.

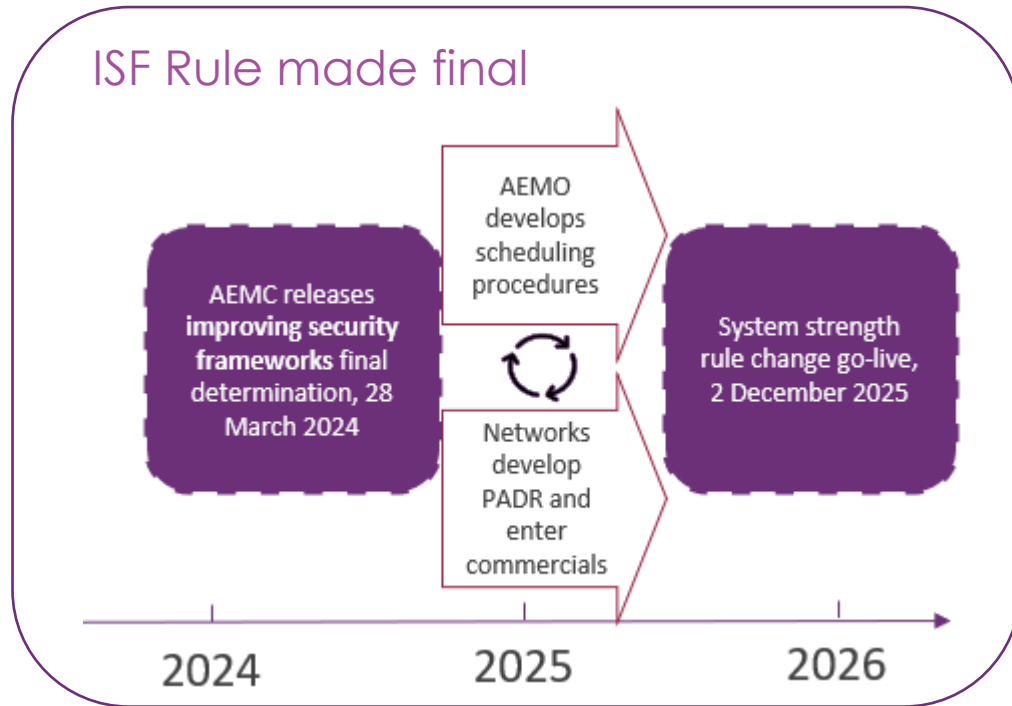
AEMO must publish a statement of security needs, indicating how the transitional services contribute to maintaining a secure power system in the transition, before procuring transitional services.

Introduces a new annual reporting requirement on AEMO, known as the 'transition plan for system security' (or transition plan), in which AEMO will report annually on the steps it will take to manage security through the transition.

The first Transition Plan must be published by 1 December 2024.

Adjusts TNSP cost recovery procedures for non-network security options, to provide certainty and support efficient contracting, commencing 1 December 2024.

Context



Scheduling obligations

- TNSPs settle their contracts, AEMO settles its contracts
- Contract terms are input to the scheduling process for system strength, inertia, NSCAS and other security services
- AEMO must develop a least-cost schedule of security services to meet minimum security needs and support IBR forecast
- AEMO can procure 'transitional services', and these contract terms could also input to the scheduling process

- AEMO’s current area of focus is to develop a Transitional Security Enablement Procedure by 30 June 2024 that sets out minimum or recommended contract requirements.
- Contract requirements that are specified in this procedure must:
 - serve the objectives of the AEMC’s final determination (i.e. provide a common basis for networks to enter into commercial negotiations)
 - Be flexible as to the evolution of AEMO’s scheduling process

Mobilisation activities

Item	Current status
Project initiation	<ul style="list-style-type: none">• AEMO resourcing• Transitional Security Enablement Procedure (to be published by 30 June 2024)• Commencing consultation on methodology documents and other minor changes
Preparation of participant facilitation artefacts	<ul style="list-style-type: none">• AEMO intends to publish a high-level impact assessment by early June 2024• AEMO is open to facilitating a stakeholder session on the HLIA, should interest be raised after publication of the HLIA
Industry engagement	<ul style="list-style-type: none">• NEM Reform engagement (PCF, EWCF)• Collaboration with TNSPs via ENA on Transition Security Enablement Procedure• Initiative webpage published: https://aemo.com.au/initiatives/major-programs/improving-security-frameworks-for-the-energy-transition• Mailbox: NEMReform@aemo.com.au

4. Consultation Update

Primary Frequency Response (PFR) Requirements consultation



Akeesh Kusruting

PFR Requirements Consultation

- Draft published 8 May 2024
- AEMO invites stakeholders to:
 - provide feedback and comments on the accompanying change-marked documents; and
 - identify any unintended adverse consequences of the changes.
- Stakeholders are invited to submit written responses via email to pfr@aemo.com.au, by **5.00pm (AEST) on 24 May 2024**.

PFR Requirements draft

- Considered a minor and administrative change due to the proposed changes reflecting the NER, as amended by the *Clarifying mandatory primary frequency response obligations for bidirectional plant rule*.
- Other changes to note:
 - **Remote Monitoring** – NER S5.2.6.1(b)(8) permits AEMO to request that Affected Providers transmit the status of their frequency controller through existing communications equipment to improve AEMO’s operational awareness of the frequency responsiveness of the system.
 - **State of Charge** – AEMO has specifically clarified in section 6.6 that Affected Units will not be required to provide PFR when managing plant within State of Charge (SOC) limits.

PFR Requirements

- Conditions under which scheduled facilities must provide PFR as per the NER
- Current PFR Requirements:

Unit	Energy Only	Regulation FCAS Only	Contingency FCAS Only	Energy + Regulation FCAS	Energy + Contingency FCAS	Idle (at OMW)
Scheduled generating unit	✓	✗	✗	✓	✓	✗
Semi-Scheduled generating unit	✓	✗	✗	✓	✓	✗

- From 3 June 2024 (In addition to the above):

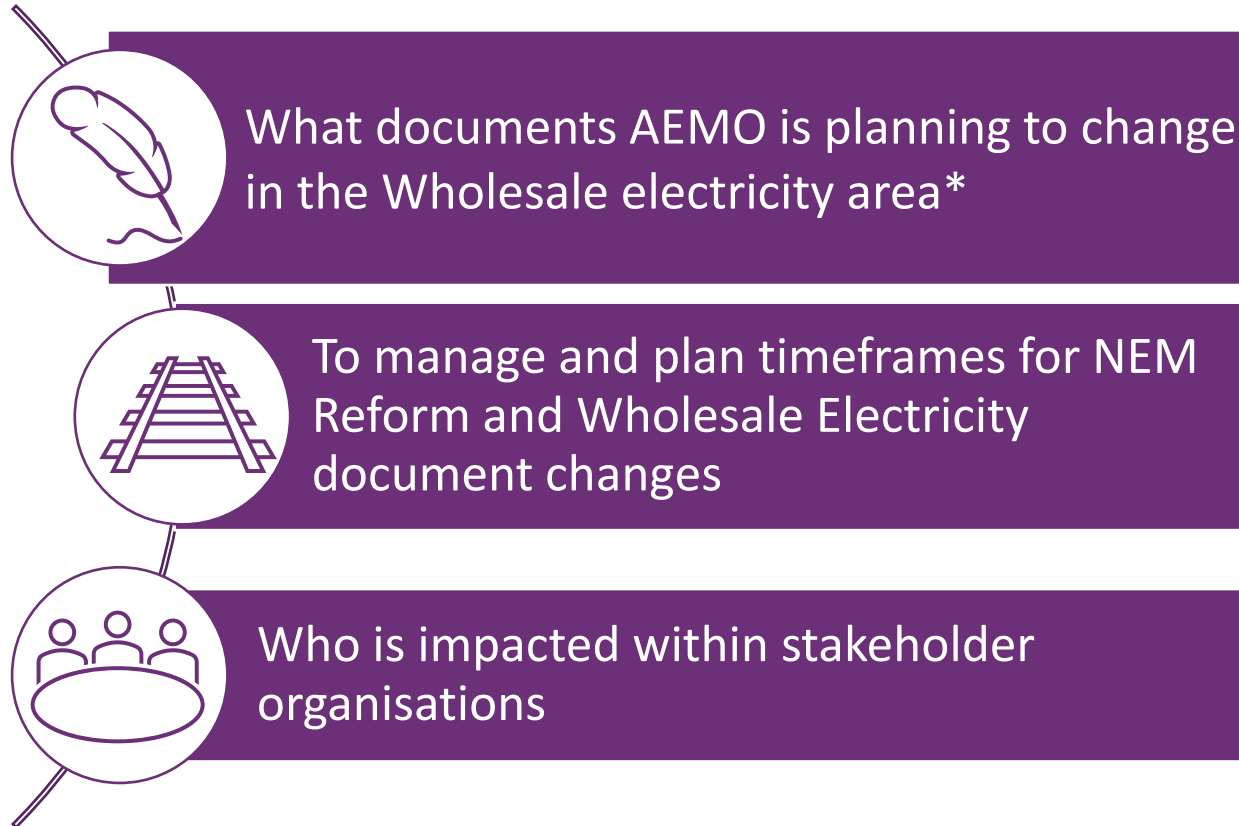
Unit	Energy Only	Regulation FCAS Only	Contingency FCAS Only	Energy + Regulation FCAS	Energy + Contingency FCAS	Idle (at OMW)
Scheduled bidirectional unit (Export Only)	✓	✗	✗	✓	✓	✗

- From 8 June 2025 (In addition to the above):

Unit	Energy Only	Regulation FCAS Only	Contingency FCAS Only	Energy + Regulation FCAS	Energy + Contingency FCAS	Idle (at OMW)
Scheduled bidirectional unit (Export and Import)	✓	✓	✗	✓	✓	✗

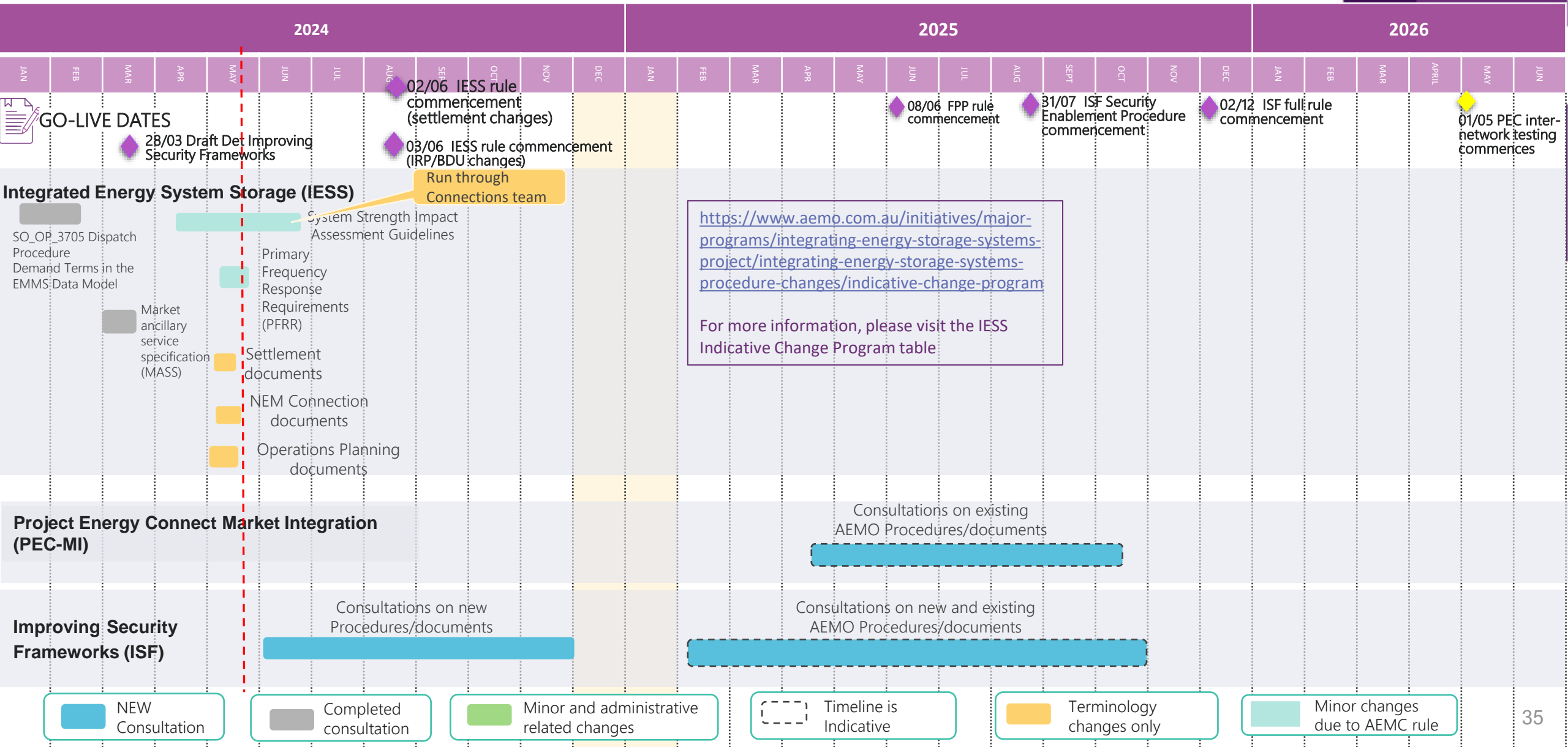
5. Procedures Consultation Roadmap

Procedures Consultation Roadmap



*Retail procedure changes are discussed through the Electricity Retail Consultative Forum (ERCF)

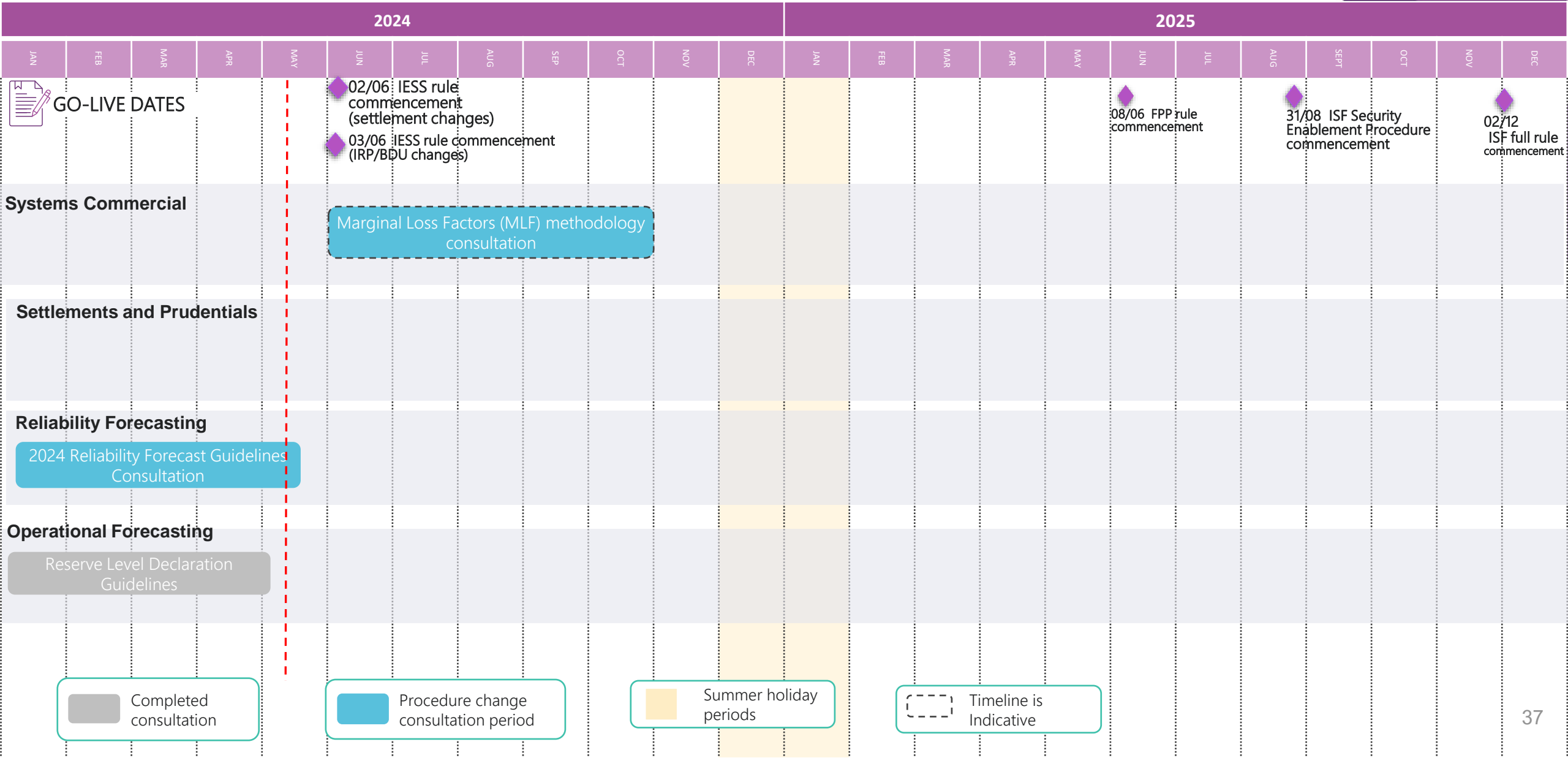
Reform INDICATIVE Consultation Timelines



Consultation Timelines – Reform Inflight projects

In-flight projects	Consultation packages*	Consultation Type	Key dates
IESS Project	Demand Terms in the EMMS Data Model	Terminology update – included on Electricity Market Documents #1 consultation page	Commencement – 19 Feb 2024 Submissions close – 30 Apr 2024
	Primary Frequency Response Requirements (PFRR)	Terminology update to include AEMC rule "Clarifying mandatory PFR obligations for BDU plant"	Commencement – 8 May 2024 Submissions close – 24 May 2024
	Operations Planning documents	Terminology update for IESS	Commencement – 1 May 2024 Submissions close – 15 May 2024
	NEM National Connections documents	Terminology update for IESS	Commencement – 6 May 2024 Submissions close – 22 May 2024
	Settlement documents	Terminology update for IESS	Commencement – 17 April 2024 Submissions close – 3 May 2024
PEC-MI	Settlement documents	Standard consultation	Commence – March 2025
	Operations documents	Standard consultation	Commence – March 2025
Improving Security Frameworks	New ISF documents	Standard consultation	Commence – Q3 2024
	Existing and new AEMO procedures/documents	Standard consultation	Commence – Completed by Dec 2025

Wholesale Electricity Consultation Timeline



Completed consultation

Procedure change consultation period

Summer holiday periods

Timeline is Indicative

6. NEM Wholesale Issues & Changes

ICF 002

Time taken for Dispatch

Targets to be made available to participants



James Kelly

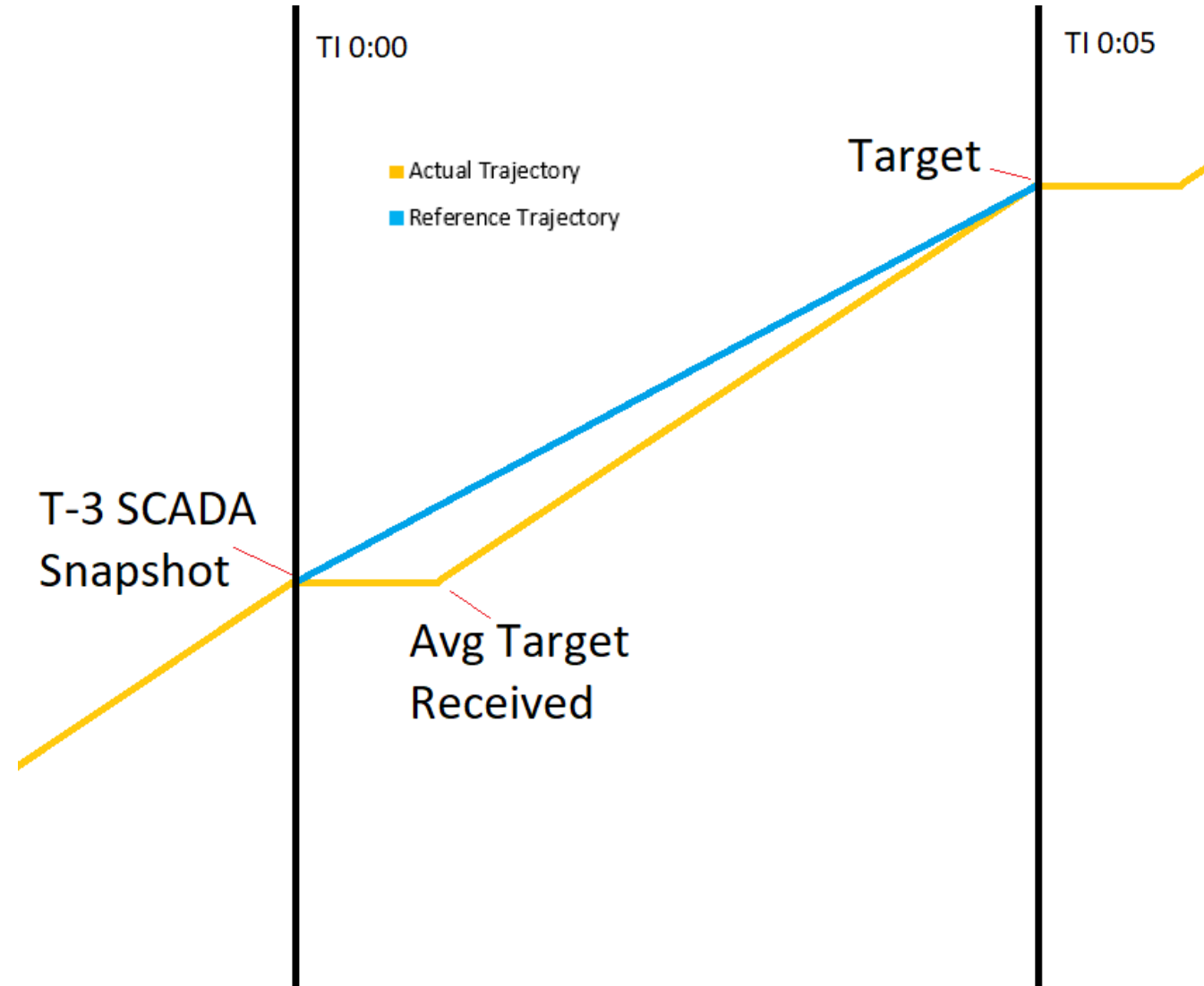
Time taken for Dispatch Targets to be made available to participants

- At the March EWCF, AEMO called for participants to indicate if the dispatch timing was a key issue AEMO should continue to prioritise resources to assess and explore options to resolve.
- One stakeholder sought further explanation of the expected impacts that moving the SCADA snapshot and dispatch process, relative to the start of the trading interval, would have on generators.
- The following slide highlights the high-level impacts of shifting the SCADA snapshot earlier.

Impacts of Shifting the SCADA Snapshot Earlier

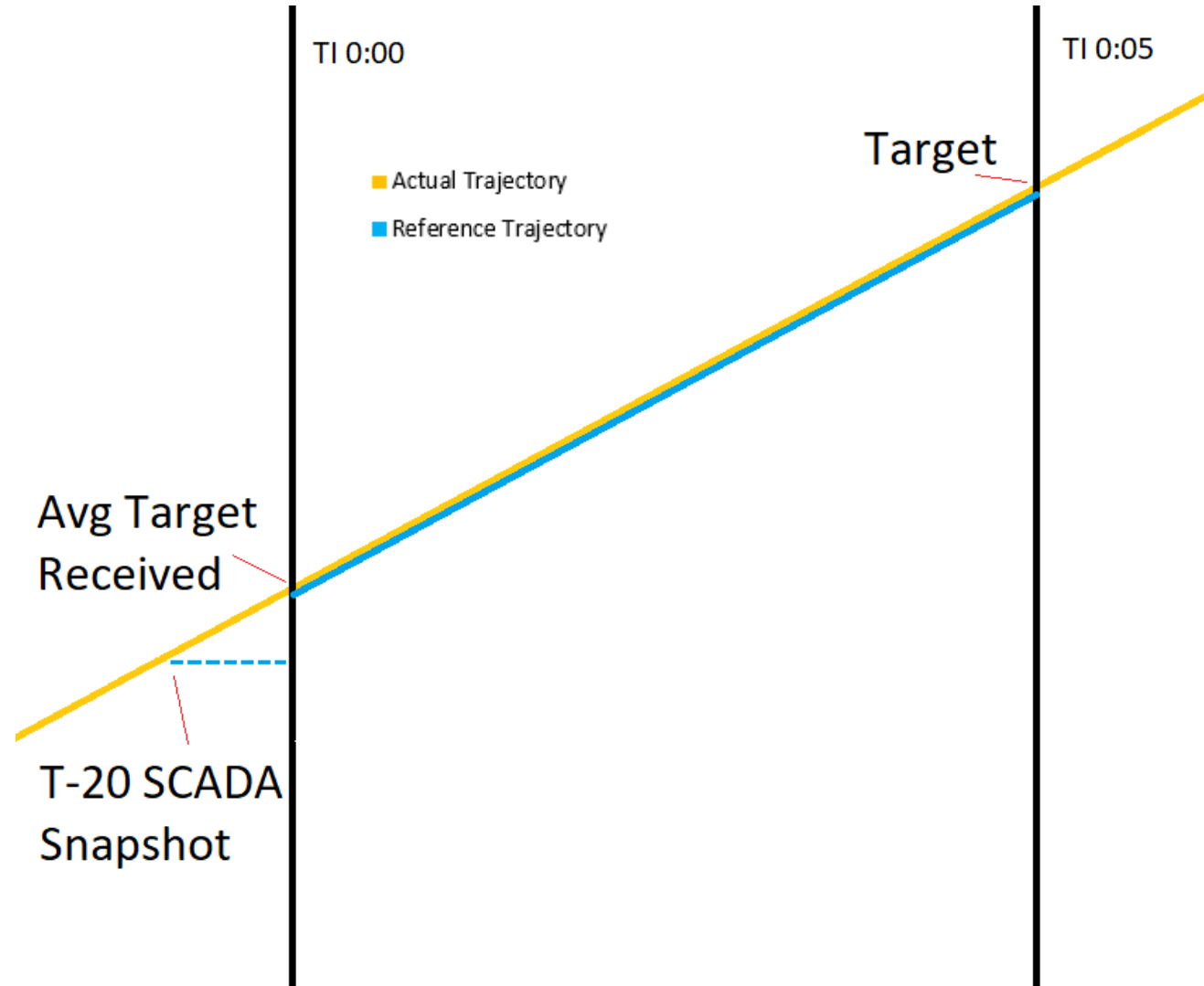
Current State

- Current state:
 - Ramping below max ramp rate
 - Participants receive targets $\sim T+20s$ into the interval
 - This delays ramp, resulting in misalignment between reference and actual trajectory, which may have negative energy revenue implications for facilities.



Taking SCADA snapshot earlier

- Because reference trajectory is target to target misalignment between reference and actual trajectory disappears (in the idealised case).
- While ramping the maximum ramp rate for a unit will never be dispatched as the snapshot will be lower than actual.
- The risk associated with changes to the power system (e.g. a unit tripping) between snapshot and target received remain.



Next Steps

- AEMO will look to compile the resources gathered to-date on the dispatch process and timings and publish on the AEMO website.
- **Participant feedback to date does not provide strong support for AEMO to continue to prioritise resources to explore this ICF within the NEM Reform Program at present.**
- **AEMO will remain mindful of opportunities to progress this issue as part of any related work in the future.**

Dispatch conformance messages

Oliver Derum

Dispatch conformance messages

At the April EWCF, AEMO was asked about the possibility of reducing ‘off-target’ messages (from the AEMO Dispatch Conformance Module (DCM)) when a unit is providing primary frequency response (PRF).

The non-conformance arrangements

The NEM dispatch process is outlined in [Dispatch Procedure SO_OP_3705](#).

Each five-minute dispatch interval (DI), participants receive a Conformance Data Report, including their conformance status.

As shown on the next slide, the arrangements include four levels of status relating to non-conformance, ranging from a simple ‘off-target’ message up to the imposition of a non-conformance constraint on a facility.

A key principle of conformance monitoring is that participants contact the AEMO control room to clarify the reason for non-conformance, such as that a facility is providing PFR (cl 3.1).

Recent scheduling errors

There have been recent examples of scheduling errors (due to issues with how plant had been modelled) leading to persistent non-conformance. These issues have been rectified and are not expected to impact other participants.

Dispatch conformance messages

Dispatch non-conformance statuses and communication

Status	Message to participants	Impact
Off-target	Please move to dispatch target or rebid	No negative impact or consequence for participant. Rebid expected within two Dis.
Not responding	Please move to dispatch target or rebid	If still no response to instructions to rebid (or engagement with AEMO control room) facility will move to NC Pending.
NC Pending	Unit not responding to dispatch target. Non-conformance action pending	Facility has a further opportunity to respond to the instruction to rebid (or contact the AEMO control room) before NC status given.
Non-conforming	Unit declared Non-conforming (NC). NC constraint is invoked. AEMO is requesting a reason for the NC	Participants face not being dispatched according to their bids (due to the imposition of constraints on their output) and potential investigation by AER.

Off-target messages from the DCM do not carry any negative consequences or imputations for participants and represent the DCM working as intended. AEMO's view is that no changes are necessary to the dispatch procedure.

7. Other Reforms

ST PASA

Shivani Mathur

Update



- AEMO has received feedback from stakeholders on the options discussed in the ST PASA briefing held on 15 April.
- AEMO is considering the feedback and will provide an update to the stakeholders by Friday 31st May.

8. For Noting

Upcoming Engagements

For noting

Upcoming Engagements

May						
M	T	W	T	F	S	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		

June						
M	T	W	T	F	S	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

July						
M	T	W	T	F	S	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				

August						
M	T	W	T	F	S	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

- Executive Fourm
- Reform Delivery Committee
- Reform Delivery Committee Collaborative Workshop
- Program Consultative Forum
- Electricity Wholesale Consultative Fourm
- Implementation Forum
- Industry Testing Working Group

NEM Reform Briefings

- NEM Reform Program – General Stakeholder & Implementation Roadmap Briefing
- Industry Briefing: Accelerating Smart Meter Deployment – Draft High Level implementation design.

Other Forums

- Electricity Retail Consultative Forum

Other

- National Public Holiday
- State/Territory Public Holiday

9. Questions and Other Business



NEMReform@aemo.com.au



[NEM Reform Electricity Wholesale Consultative Forum](#)



Appendix A: Competition law meeting protocol and AEMO forum expectations

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.

AEMO Forum and Meeting Expectations

This charter explains expectations regarding participation and behavior in the Australian Energy Market Operator (AEMO)'s stakeholder forums.

Meeting Expectations

All participants will:

- Respect the diversity of the group.
- Speak one at a time – refrain from interrupting others.
- Share the oxygen – ensure that all attendees who wish to have an opportunity to speak are afforded a chance to do so.
- Maintain a respectful stance towards all participants.
- Listen to others' points of view and try to understand others' interests.
- Share information openly, promptly, and respectfully.
- If requested to do so, hold questions to the end of each presentation.
- Remain flexible and open-minded, and actively listen and participate in meetings.
- Abide by COVID-Safe workplace guidelines, if attending a meeting on AEMO's premises.

Roles and Responsibilities

Forum stakeholders agree to:

- Be specific and fact-based in their feedback on a specific workstream or emerging issue;
- Review and provide feedback on papers and reports;
- Relay information to their colleagues or constituents after each meeting and gather information/feedback from their colleagues or constituents, as practicable, before each meeting;
- Maintain a focus on solutions or outcomes that benefit all energy consumers.

AEMO agrees to:

- Provide technical expertise in a manner that is considerate of the audience and their level of expertise;
- Assist participants in understanding issues enough to represent their views;
- Provide all participants the opportunity to voice their views.

Appendix B: ICF Register

Appendix B: Industry Change Form (ICF) Register

No.	Title	Status	Comments	EWCFs discussed at
1	Reducing the notification period for Default Contribution Factors	Closed	Apart from the ICF proponent (Shell), no stakeholders responded to invitations that this change was a priority for them.	Mar 2024 (slide 31) Feb 2024 (slide 35) Nov 2023 (slides 49-50)
2	Time taken for Dispatch Targets to be made available to participants	Open	At the March 2024 EWCF, AEMO presented the results of the initial investigation and sought feedback from participants about content and the priority of this issue. Next steps to be determined based on that feedback.	Mar 2024 (slides 32-48) Apr 2024 (slides 40-41)



For more information visit

aemo.com.au