Minutes WEM Reform Implementation Group – Meeting 3, 2021

Time: 9:30am – 12:00pm
Date: 25 March 2021
Venue: Teleconference

Attendees:

ETIU	Mark McKinnon	Western Power
		vvestern Power
ERA	Mark Riley	AGL
	Michael Zammit	
AEMO	Mike Chapman	
	Mike Hales	AEMO
Western Power	Nadira Nosheen	
Synergy	Oscar Carlberg	Alinta
AEMO	Patrick Peake	Perth Energy
AEMO	Paul Arias	Bluewaters
Bluewaters	Peter Huxtable	Water Corporation
	Pushpa Gurung	
ETIU	Rebecca Petchey	AEMO
ERA	Rebecca White	ETIU
Point Global Consulting	Rhiannon Bedola	Synergy
ERA	Rob Chandler	Western Power
	Robin Parsons	AEMO
Entego Advisory	Shrey Kant Shroff	
ETIU	Simon Middleton	AEMO
ERA	Stacey Fontein	
AEMO	Stephen Eliot	RCP
	Steven Kane	AEMO
PSC	Stuart Featham	AEMO
	Sumeet Kaur	
AEMO	Teresa Smit	AEMO
Clear Energy	Tim Robinson	RBP
AEMO	Tinna Needham	Western Power
	Toby Price	AEMO
APR Energy	Victor Francisco	PSC
Synergy	Wayne Traill	
	Wendy NG	Shell Australia
AEMO		
	AEMO Western Power Synergy AEMO AEMO Bluewaters ETIU ERA Point Global Consulting ERA Entego Advisory ETIU ERA AEMO PSC AEMO Clear Energy AEMO APR Energy Synergy	Michael Zammit AEMO Mike Chapman Mike Hales Western Power Nadira Nosheen Synergy Oscar Carlberg AEMO Patrick Peake AEMO Paul Arias Bluewaters Peter Huxtable Pushpa Gurung ETIU Rebecca Petchey ERA Rebecca White Point Global Consulting ERA Rob Chandler Robin Parsons Entego Advisory Shrey Kant Shroff ETIU Simon Middleton ERA Stacey Fontein AEMO Stephen Eliot Steven Kane PSC Stuart Featham Sumeet Kaur AEMO Teresa Smit Clear Energy Tinn Robinson Toby Price APR Energy Victor Francisco Synergy Wayne Traill Wendy NG

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Joint Industry Plan - Plan Updates (Jai Thomas, Stuart Featham, Mark McKinnon and Ben Brealey)

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- Jai Thomas (JT) provided an update on the implementation of the Energy Transformation Strategy.
 - o There are three meetings of the Taskforce remaining before it dissolves in May 2021.
 - Implementation work will continue following the Taskforce both drafting of Amending Rules and future policy decisions as necessary. Consultation with Market Participants will continue.
- Upcoming work includes:
 - Market power mitigation a consultation paper on the proposed market power mitigation design for the new Wholesale Electricity Market (WEM) will be released in April 2021 and presented to the Transformation Design and Operation Working Group (TDOWG).
 - Power System Security and Reliability framework review, including determining the governance arrangements to enable a single framework is currently underway.
 - Non-Cooptimised Essential System Services (ESS) framework the arrangements for this are under development.
 - The Distributed Energy Resources (DER) Roadmap implementation continues to 2024.
 - The future Whole of System Plan (WOSP) requirements are now codified in the WEM rules. EPWA will start to consider WOSP 2.0 later this year and then engage the sector.
 - Implementation of the new market will continue. The Taskforce is still focusing on 1 October 2022 as a go live date.
- JT said he appreciates the work required of the sector to get ready, including system and busines process changes.
- Liz Aitken (LA) asked what is happening with DER implementation
 - JT said a 12 month process report is going to the Taskforce tomorrow and will then be released to stakeholders. The report will provide an update of the implementation of each of the 36 actions in the DER Roadmap.
 - Work on integrating DER with the WEM is continuing, following the release of the issues paper last year.
 - o Future DER work will be heavily informed by Project Symphony.
 - The focus will be on making sure the broader sector, third parties and contestable retailers have good access to all the materials needed for their participation. Consultation will continue.
- LA asked what work is being done on microgrids.
 - JT said microgrids are captured under the alternative energy service arrangements frameworks. The first point of focus is the relevant definitions.
- Patrick Peake (PP) asked whether there will be formal reports from Project Symphony to spread learnings from the project across the sector
 - JT said yes. The project is seeking ARENA funding and this funding has intensive knowledge sharing obligations attached to it.
 - Energy Policy WA (EPWA) is working with the Australian Energy Market Operator (AEMO) to ensure the platforms developed for Project Symphony can be made available to others.

3	Stuart Featham (SF) provided an update on the JIP.
	Marius Kovler (MK) is the technical program lead who will take over from Ben Brealey.
	 AEMO is seeking to recruit a market readiness role, who will be a key contact person for Market Participants.
	 AEMO is reviewing the Amending Rules gazetted in December 2020 to understand the implementation requirements for AEMO. This work is nearing completion and AEMO is discussing its findings with the Energy Transformation Implementation Unit (ETIU).
	 Cameron Parrotte provided an update on AEMO's reform work at the Strategic Consultative Group meeting last week.
	 AEMO is focusing on assessing the gazetted Amending Rules from a risk perspective. It is considering how it can de-risk its implementation. AEMO considers there are some areas where risk can be decreased, including by using its existing systems and running operational processes rather than systemisation.
	AEMO considers there are some areas where risk can be minimised by having later commencement dates. These matters are not core elements of the new WEM design (e.g. security constrained economic dispatch (SCED), five-minute dispatch, ESS). However, AEMO is of the view some other aspects, including commissioning tests, Projected Assessment of System Adequacy (PASA) and the Short Term Energy Market (STEM), could have staged delivery dates to take some of the delivery pressure off AEMO for Market Start. AEMO will report back to stakeholders following discussion with ETIU on this.
5	MK provided an update on the JIP.
	 He said that other than AEMO including further detail on tranches, there have been no significant changes, including to project milestones.
	 AEMO's focus for the next quarter is on the service transition for the generator performance standards (GPS), constraints and settlement enhancements projects.
	 The dates for publishing of the registration Amending Rules have changed. AEMO is not able to initiate a registration project until the Amending Rules for registration are further developed.
WP slides	Mark McKinnon (MM) provided update on Western Power's progress on implementation.
on doc	Western Power is continuing to provide non-thermal Limit Advice to AEMO. This work is progressing well.
	Western Power is speaking with Market Participants on customer connection changes.
	 Western Power will present a comprehensive update on GPS at the April WRIG meeting. This will include a workplan to January 2022.
	 Western Power is working with AEMO to implement the credible contingency framework, which commenced on 1 January 2021.
	 MM asked Market Participants to get in touch if they need to modify their SCADA (given requirements presented by AEMO later in this session).

- Lynda Venables (LV) provided an overview of Synergy's reform work.
 - Synergy is progressing its site works at Collie, construction of new control room and other activities. It has had good engagement with Western Power and AEMO on this.
 - Synergy is recruiting gas turbine operators and new spot traders to increase its operational capability.
 - Synergy has commenced discussions with AEMO on Synergy's transitional activities. It will engage with Western Power soon.
- Wendy Ng (WN) asked what SCADA changes are required.
 - MM said Western Power is seeking early advice from Market Participants on whether new SCADA points or AGC are required.
 - o Chris Wilson (CW) said that more information will be provided later in this session.

Joint Industry Plan - Market Readiness Engagement (Dora Guzeleva and Mariusz Kovler)

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Dora Guzeleva (DG) outlined that the transitional arrangements for ESS accreditation were presented at TDOWG this week.

- These need to commence earlier than other Amending Rules to enable accreditation to happen prior to market start.
- The Amending Rules are going through legal review and will be published for consultation imminently.
 Stakeholders will have two weeks to provide comment.
- ETIU is also progressing a package of Amending Rules (Tranche 4). This includes:
 - The above Amending Rules;
 - A series of small changes to correct errors and provide additional information for the Reserve Capacity Mechanism (RCM) - especially for year 1 of the 2021 capacity cycle, which commences on 1 July 2021, so the amendments need to be progressed urgently; and
 - o Potentially a head of power for an operational agreement between AEMO and Western Power.
- The Amending Instrument will also commence various Amending Rules relating to activities in the 2021 Capacity
 Cycle. These will be grouped for commencement on the following dates: 1 July 2021, 1 November 2021 and 1 March
 2022. Amending Rules for the 2022 Capacity Cycle cannot be commenced now as they will clash with Amending
 Rules for the 2021 Capacity Cycle.
- Another tranche of Amending Rules will be prepared, for publication in August, to further correct errors and address omissions in the Amending Rules published in December 2020.
- Amending Rules for Tranche 5 (including market power mitigation) will be drafted and consulted on in the second half of 2021.

• MK provided an update on AEMO's implementation activities (see slide).

- o AEMO will present its Test and Trial Strategy at a future WRIG.
- The development of WEM Dispatch Engine (WEMDE) is the largest item on the critical path. AEMO's
 dedicated team is working on this. AEMO has gone to market to procure the development of the main
 logic and is looking to ramp up its work on this project.
- o The design of the technical platform is nearing completion.
- Next steps are outlined on the slide.

Joint Indus	try Plan – Market Readiness Engagement and Reporting Strategy (Kristy McGrath)
9	Kristy McGrath (KM) outlined the four deliverables for the market readiness and engagement project (see slide).
	 The first deliverable – the Market Readiness and Reporting Strategy (the Strategy) – is the subject of this presentation.
	KM said she is engaging with the NEM colleagues to seek lessons learned from their experience.
10	KM outlined eight principles for the Strategy (see slide).
	The key aim is to minimise disruption and risks for Market Participants and customers.
	AEMO is recruiting for a market readiness advisor.
11-13	KM outlined the forums for market readiness engagement (see diagram on slide).
	o AEMO will increase engagement through WRIG IT forums.
	 AEMO will establish a WEM reform readiness working group. This will be an open forum led by Market Participants. This includes coordination of activities set out in readiness plans and a review of survey results on process (including trends and risks).
	 The AEMO website will be the primary channel for reporting survey results and providing information on readiness. This is being built on the back of the AEMO website.
	o AEMO will provide a monthly newsletter.
	 The market readiness survey will be the key tool to collect information on readiness. The survey will be undertaken quarterly from May to December 2021 and then bi-monthly from January 2022.
	 Market Participants will be asked to self-assess readiness. This will be against both general criteria that relates to all Market Participants and specific criteria for that Market Participant.
	PP asked whether KM could circulate her notes.
	o KM said yes (Attachment 1).
SCADA and	control requirements (Chris Wilson and Clayton James)
AEMO slides	 Chris Wilson (CW) said there is an existing operational data points technical specification. This needs to be updated for the new WEM.
3	AEMO will circulate the draft technical specification for Market Participant feedback next week.
	 In the specification, AEMO is seeking to balance power system security without being overly onerous for Market Participants.
	 MR said there have been discussions in the NEM regarding SCADA needs for DER. It would be useful to consider these discussions in developing the WEM technical specification.
	CW said the specification only looks at grid-scale facilities. Consideration of DER will occur later.
	• CW said existing Automatic Generator Control (ACG) specifications are outlined in separate documents. These will be consolidated into the technical specification. The specification will also include information on different technologies, including storage.

 CW said there will be no change for existing intermittent non-scheduled generators that are automatically dispatched.
• Facilities without automated set-point control will need to have this installed if they are a semi-scheduled facility.
AEMO proposes to use five-minute look ahead points as dispatch target points.
AEMO seeks Market Participant feedback on this proposed approach.
Brad Huppatz (BH) asked whether AEMO will circulate the Automatic Balancing Control (ABC) and AGC interface requirements technical specification at the same time.
CW said yes, and consolidated into a single document.
• CW said the key change in the new WEM is the AGC signal will be reused to implement a linear ramp rate (it is not a new signal requirement, but rather a reconfiguration of an existing signal).
 AEMO would like to meet with Market Participants contemplating using ABC to see whether there are any issues with the on-site logic (and hence whether on-site changes may be needed).
CW said AEMO would like to meet with Market Participants that are contemplating having a fast start facility(s) to discuss how it would like to receive the signals – it could be digital or analogue.
• If a fast start facility is automating its own start, it would need to rebid without using a fast start inflexibility profile.
CW provided a self-commitment example.
CW provided a fast start operation example.
CW provided a fast start operation in response to a contingency example.
Clayton James (CJ) said AEMO can assist with any questions on fast start inflexibility profiles offline.
AEMO is considering what it can do to support its and Market Participant readiness.
 Transitional Amending Rules are required to enable AEMO to send signals prior to Market Start. AEMO seeks Market Participant feedback on the best timing for early implementation.
rage Resource Obligation Intervals (Rebecca Petchey)
Rebecca Petchey (RP) provided context for the Electric Storage Resource Obligation Intervals (ESROIs) (see slide).
 RP said AEMO will use the peak demand forecasts used in the Electricity Statement of Opportunities (ESOO) to determine the ESROIs.
AEMO may set the ESROIs the same for each interval, or have variation by season (summer, winter and shoulder).
RP said in setting the ESROIs, AEMO will consider the 10 and 50 per cent probability of exceedance forecasts.
AEMO may set the peak demand period as a single Trading Interval or a service of Trading Intervals (likely 2-3).
RP said AEMO will publish the ESROIs at the same time as the ESOO.

6	RP said AEMO will reassess the ESROIs when it prepares the ESOO in year 3 of the Reserve Capacity Cycle.
	DG asked what is the timeframe for publishing the ESROI for 2021
	 RP said it is dependent on the transitional clauses drafted by ETIU For the 2021 cycle, the ESROIs will need to be published in a different document at a later date. AEMO proposed 20 Business Days before the window for applications for certification opens.
Electric St	orage Resource Metering (Toby Price)
3	 Toby Price (TP) said that separate metering is required for an electric storage resource (ESR) for a hybrid facility (where there are separately certified components and hence visibility on each component's contribution is required).
	 The data from the ESR meter can only be used for certification purposes and testing.
	For a stand-alone storage facility, the Western Power meter (NMI) will be used.
4	TP outlined the design principles for the WEM Procedure (see slide).
5	TP outlined the metering approval process.
	 Metering approval must be sought during the facility commissioning process prior to the capacity year when the facility enters service.
	 Approval would consider for example the accuracy and granularity specifications, data and communications requirements, and the audit capability.
	 AEMO would verify the approval through commissioning testing.
6	TP said the meter specifications must be compliant with the Metering Code and National Measurements Act.
	Netting off is permitted for existing facilities (for example, right-hand diagram on slide).

TP said the meter calculation will depend on the meter arrangement. The WEM Procedure will allow for an approved formulation to allocate the contribution of each certified component. MR asked at what granularity the meter must be. TP said this will be outlined in the WEM Procedure – including when changes to five-minute granularity are required.

- WN asked whether approvals for this metering will be provided through the certification process.
 - o DG said the idea is that Market Participants comply with the WEM Procedure requirements and that compliance is verified through commissioning tests.
 - WN asked whether it being assesses as part of the commissioning process is too late.
 - o DG said that if the facility doesn't pass then the facility does not get any capacity credits.
 - o WN said confidence is needed that the facility will be available.
 - DG said there will be obligations to be compliant at all points in time, and compliance would need to be verified not only at the commissioning stage but also over time.
- Rhiannon Bedola (RB) asked how compliance would work for a facility that has not been built yet.
 - TP said it is the same process the Market Participant will nominate the metering scheme as part of its new build plans. AEMO will check the design will meet the requirements and commissioning will confirm this.
- MR said it is not just the metering costs. There is also the cost of the current transformers (CT) and voltage transformers (VT).
 - o TP said that's a fair comment.
- Liz Aitken (LA) asked whether the metering costs would be reflected in the capacity price.
 - o DG said it is not, but it is a good question. She requested feedback from Market Participants.
- TP said meters can be validated by various data sources (see slide).
 - MR asked whether the WEM Procedure will be similar to the National Electricity Market (NEM) Procedure.
 - TP said AEMO has been engaging with its NEM colleagues. The role of the procedure and the usage of data is more constrained in the NEM so AEMO is not looking to replicate the procedure but is considering the relevant sections.
 - MR said because metering is specialised Market Participants engage high-voltage meter providers in the NEM. If the WEM has different requirements, then the cost of meters in the WEM becomes more expensive.
 - o TP asked MR for recommendations on the sections of the NEM Procedure that are relevant.
 - DG said the metering is not used for settlement the WEM Rules explicitly preclude this.
 - o MR said yes but it is about approval of the specialist rather than the meter itself.
 - DG said that if ESR meters have the same requirements as revenue meters then the desired objectives to not impose unnecessary costs are not being met.

WEM Procedures (Alex Gillespie)

Alex Gillespie (AG) outlined the upcoming WRIG meeting schedule (see slide).

16	 AEMO will publish the WEM Procedure list spreadsheet shortly. This includes the estimated timing on when each WEM Procedure will be consulted on. MR said a lot of change is required and it may be useful to have a change log (including identifying when each line is amended). AG said that the log has version control but not by line. AEMO will consider this.
Next Steps	
18	 Stuart Featham (SF) outlined the next steps (see slide). SF said AEMO is very keen to hear Market Participants' feedback.

Attachment 1 - Kristy McGrath notes



We presented our high-level approach to market readiness at the December WRIG. Today I'm going to fill in a bit more detail ahead of circulating our Market Readiness Engagement and Reporting strategy for consultation.

Given the complexity of our market and the need for continuous operations, market readiness is mission critical, and the strategy we've defined is designed to safeguard the integrity of the WEM as we implement major reforms.

Market readiness is made up of four components.

- Market Readiness Engagement and Reporting (presenting today)
- Industry Testing & Market Trial (presented last WRIG)
- Market Trial Definition, and
- and Market Transition

We'll be consulting with you on Market Trial Definition and Market Transition in upcoming WRIGs.

At a high level, the Market Readiness Engagement and Reporting Strategy does four things:

- explains the scope of market readiness and how market readiness activities will support the transition to the new SCED market
- sets out how market readiness will be planned and implemented to facilitate a smooth cutover to the new SCED market.

- describes how AEMO will engage and support market participants to ensure they are market ready and
- defines the market readiness testing and reporting strategy that will be implemented

We've been lucky to be able to learn from the strategies, processes, and lessons put in place by our AEMO East Coast colleagues who have followed a similar market readiness strategy for the equally large and complex 5MS program. So the strategy and methodologies we are recommending are somewhat tried and tested and are working well for similar programs.



Eight principles that have guided our strategy and approach to market readiness:

1. Minimise disruption – We've designed preparatory activities to minimise the risk of disruption to WEM customers and participants.

2. Collaborative approach

We will consult with you on market readiness through the WRIG, and through new forums including a Readiness Working Group. We'll also be appointing a Market Readiness advisor who will be the key point of contact for market readiness activities and for raising, monitoring, and supporting rectification of risks and issues.

3. Each party is responsible for their own readiness Each WEM participant and AEMO is responsible for developing and implementing their own organisational readiness program.

For AEMO means:

- Developing WEM processes and AEMO systems to ensure compliance with WEM rules and procedures
- Providing WEM participants with the necessary information, documentation and access to enable them to interact with these systems and processes; and
- Coordinating and reporting on industry-wide readiness for go-live.

For WEM participants this means:

- Developing your own systems and processes to comply with the WEM rules
- Ensuring you have the necessary commercial arrangements in place at go-live
- Performing testing and preparatory activities prior to relevant market start timeframes
- Reporting on readiness matters that may affect you and/or other participants.

4. No Surprises

This is a big one. We don't want to have our finger hovering over the go live button, only to have a big red flag raised at the last minute. We really need to hear from you about issues and risks that may affect your readiness as early as possible. We'll be equally as transparent at AEMO. Our survey and reporting process will include a section to readiness issues and risks.

5. Open and honest reporting

In line with no surprises, when reporting on the progress of your organisation's readiness activities, we expect an open and honest approach based on information that is current as at the time of reporting.

AEMO will provide questionnaire templates and guidance on readiness reporting but we won't be able to validate your responses, hence the need for complete honesty as part of the process.

6. Respect for Confidentiality

Any confidential information disclosed in relation to market readiness will be treated as protected information and all survey responses will be reported at an aggregate level to ensure respondents cannot be identified.

7. Transparent Readiness Process

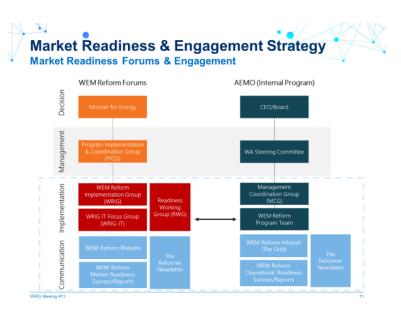
AEMO will explain its market readiness decision-making processes and reasons for its decisions to WEM participants, subject to any confidentiality considerations.

8. Shared commitment

AEMO and WEM participants will jointly commit to

Compliance with WEM obligations from the go-live date; and

Operating in the WEM in compliance with the WEM rules at all times.



As you can see from the model on this slide, along with key decision-making parties, we have forums and channels in place for WEM Reform management, implementation, and communications, which are both internal and external to AEMO.

In terms of implementation,

- We will continue to run the WRIG's with ETIU as the primary forum for program coordination and communication between industry program teams.
- AEMO will be ramping up our WRIG-IT forums in the coming months to showcase technology and share technical specifications and development progress
- To ensure there is adequate focus on Market Readiness, we will also establish a
 WEM Reform Readiness Working Group, an open forum for industry participants
 led by AEMO. This will become the main stakeholder forum for coordinating,
 assisting, and preparing AEMO and participants for the transition to the new
 WEM.

The Readiness Working Group's scope includes:

- Coordination of activities set out in market readiness plans
- Identification, mitigation and resolution of market readiness related risks and issues; and
- Review of survey results on the progress of market readiness activities for the industry and the identification of risks and concerns.

In terms of our external communications - The AEMO website will be the primary channel for reporting on market readiness survey results and will support participants with information on WEM Reform, Market Readiness requirements, reporting calendars and Q&A. I apologise for misinforming you that the Grid Intranet site (which you can see on the right under our internal program) would act as this channel during my last presentation at this forum.

Given the differing change needs of our internal and external stakeholders, we've decided to build different sites catered to your specific change needs –once again in line with advice from our 5MS readiness team.

We will also be producing a monthly 'Reformer' newsletter to keep participants up to date on Reform progress and key readiness reporting dates.

Our Market Readiness surveys are the key tool we will use to collect, analyse and report on Market Readiness across the industry. These surveys will initially be sent out quarterly from May to December 2021, and will run bi-monthly from January 2022 until market go live.



Our readiness reporting approach will ask you to self-assess your progress and status against agreed market readiness criteria. This includes reporting on:

- General criteria which relates to all participants, and is outlined below, and
- Specific readiness criteria which will differ from participant to participant based on your operating model.

As you can see, general criteria focus on the level of establishment and overall progress and status of participant programs. All participant types will report on the same general criteria.

This set of criteria will become less relevant as participants complete program establishment activities and progress further with their implementation programs. The Readiness Working Group will assess if reporting on general criteria is still relevant at scheduled revision dates in the readiness reporting plan.

In terms of specific criteria, these will test the capabilities required to successfully operate in the new, reformed market, based on your business model. These might include the ability to:

- Receive dispatch instructions and targets
- Submit bids into the SCED market
- Apply for capacity credits as part of the RCM
- Receive and reconcile settlements data, receive, and pay invoices; and
- Submit outage and commissioning test requests.

We need your help to define the specific criteria based on your operating models. In the coming weeks AEMO will develop some draft specific readiness criteria based on our understanding of your businesses, and we will consult with you on our assumptions as part of the Readiness Working Group, prior to finalising the readiness reporting criteria.

Slide 5:

Moving to the final slide, Key Readiness Milestones are (read dates off screen)





Early April 2021: Publish Market Readiness Strategy for initial consultation



Mid-April 2021: Specific readiness criteria consultation via RWG



End April 2021: Release of detailed readiness reporting calendar



Early May 2021: Publish Market Readiness Strategy for second round consultation



End May 2021: Release of Readiness Assessment Questionnaire #1



Mid June 2021: Publish Industry Readiness Report #1

With a meeting at 1

So that's a wrap on market readiness. Are there any questions?