

Minutes

WEM Reform Implementation Group – Meeting 6, 2021

Time: 9:30am – 12:00pm

Date: 24 June 2021

Venue: Teleconference

Attendees:

| Name | Organisation | Name | Organisation |
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| Aditi Varma | ETIU | Mark McKinnon | Western Power |
| Adnan Hayat | ERA | Mark Riley | AGL |
| Alan McDonald | Bluewaters | Michael Zammit | VIOTAS |
| Alex Gillespie | AEMO | Mike Chapman | Mike Chapman |
| Annie Sanchez | | Mike Hales | AEMO |
| Benjamin Hammer | Western Power | Nadira Nosheen | ElectraNet |
| Brad Huppatz | Synergy | Oscar Carlberg | Alinta |
| Clayton James | AEMO | Patrick Peake | Perth Energy |
| Christopher Wilson | AEMO | Paul Arias | Bluewaters |
| Dimitri Lorenzo | Bluewaters | Peter Huxtable | Water Corporation |
| Dino Perumal | AEMO | Pushpa Gurung | Independent |
| Dora Guzeleva | ETIU | Rebecca Petchey | AEMO |
| Elizabeth Walters | ERA | Rebecca White | ETIU |
| Erin Stone | Point Global Consulting | Rhiannon Bedola | Synergy |
| Gavin White | ERA | Rob Chandler | Western Power |
| Graham Pearson | AEC | Robin Parsons | AEMO |
| Harry Street | Entego Advisory | Shrey Kant Shroff | Western Power |
| Jai Thomas | ETIU | Simon Middleton | AEMO |
| Jake Flynn | ERA | Stacey Fontein | Western Power |
| Jo Pownall | AEMO | Stephen Eliot | RCP |
| Jo-Anne Chan | Synergy | Steven Kane | AEMO |
| John McLean | PSC | Stuart Featham | AEMO |
| Josephine Nga | AEMO | Sumeet Kaur | Shell Australia |
| Katelyn Rigden | AEMO | Teresa Smit | AEMO |
| Katie Franklyn | Clear Energy | Tim Robinson | RBP |
| Kristy McGrath | AEMO | Tinna Needham | Western Power |
| Liz Aitken | Aitken Energy | Toby Price | AEMO |
| Luke Jankowski | APR Energy | Victor Francisco | PSC |
| Lynda Venables | Synergy | Wayne Traill | Western Power |
| Mariusz Kovler | AEMO | Wendy NG | Shell Australia |
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| Slide No. | Issue |
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| Joint Industry Plan – Plan Updates (Dora Guzeleva, Mariusz Kovler, Tinna Needham, Ben Connor) | |
| 2 - 4 | <ul style="list-style-type: none"> • Dora Guzeleva (DG) introduced the agenda and topics for discussion |
| 5 | <ul style="list-style-type: none"> • Mariusz Kovler (MK) gave an update on the status of the Joint Industry Plan (JIP) from AEMOs perspective highlighting only two additional items: <ul style="list-style-type: none"> ○ a couple of items on the interface specifications dates – these are important to market participants. ○ more importantly there are some settlement enhancements and changes to the go live date which will be discussed in more detail. • Mark McKinnon is an apology, Tinna Needham (TN) gave an update from Western Power, noting they are currently working through generator performance submissions and that they would already be in contact with relevant market participants. <ul style="list-style-type: none"> ○ Also doing another call out if there is any SCADA work from Western Power that’s necessary to enable facilities please – participants to please contact Mark McKinnon. • Ben Connor (BC) noted there are no overall updates to Synergy’s schedule, however they are working through challenges to scheduling all requisite SCADA works they have across their fleet. <ul style="list-style-type: none"> ○ Currently working through scheduling with Western Power and AEMO – though not currently a threat to readiness overall they are working within set of tight constraints. |
| 6 | <ul style="list-style-type: none"> • DG provided an update on the JIP Rule Drafting Timeline: <ul style="list-style-type: none"> ○ The Rule Change Panel (RCP) function is moving to the Coordinator of Energy next Thursday (1 July 2021) and as a result the RCP website will swap to the Energy Policy WA website ○ Website content previously on the ERA website – WEM Rules, Amending Rules, Consolidated and Companion versions of the Rules and Rule Change Proposals etc, will all move to EPWA’s website ○ Expect a new version of the WEM Rules to be published just before 1 July 2021 as there is a significant amount of changes commencing – encourage participants to watch for this version ○ A couple of commencement notices for Chapter 4 Rules with Tranche 4A rules have been gazetted on behalf of the Minister – some commencing on 1 July 2021 with others progressively commencing on 1 August 2021, 1 November 2021, 1 March 2022 ○ When Tranche 4B is published (Exposure Draft currently out for consultation) there will also be a commencement notice – progressively commencing remaining Reserve Capacity Mechanism Rules ○ The reason Rules are commenced progressively is because the rules for the 2021 RCM cycle are very different to the 2022 cycle and they run parallel – have to be careful not to break anything ○ In parallel working on Tranche 5 – decisions endorsed by the Taskforce including Participation and Registration Rules, NCESS Framework, and amendments to accommodate Intermittent Loads ○ Working with lawyers on an updated Companion Version of the WEM Rules – to include all additional changes • Rhiannon Bedola (RB) asked what the status of the Market Power Mitigation Framework is <ul style="list-style-type: none"> ○ DG noted that an update was provided at TDOWG 37 and will most likely be implemented through a Tranche in 2022 – reason for the delay is inconsistency in submissions on the Taskforce paper and when the Taskforce published final report some aspects were approved and some important aspects left for further consultation. ○ EPWA intends to progressively consult with industry on the detailed design and then the Rules - therefore the MPM Framework will not be included in Tranche 5 as originally intended |

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| 7 | <ul style="list-style-type: none"> • MK noted that in the interest of time – he will return to this update after Mark Katsikandarakis (MB) provides a Settlement Enhancements Go-Live Update (which is referenced on slide 15) • MK provided an update on AEMOs implementation Program Activities <ul style="list-style-type: none"> ○ As advised previously AEMO has continued operational market readiness activities – as part of this they have onboarded Mike Read who has been making inroads with stakeholders in recent weeks and will be involved in multiple forums including leading the Readiness Working Group ○ Settlements Enhancements go live is approaching and now is 1 August 2021 ○ As previously announced, there is a preferred supplier for the dispatch engine – going through contracting and ramping up internal/external resources. From backlog sprint planning perspective this will be ramping up in the next week or so. ○ RTMS – a WRIG IT session will be held following this meeting with more detail on API Specifications being presented in this session ○ GPS – completed UAT, service transition and Pen test ready for release on 13 July 2021 ○ Constraints sprints continue – however slight impact on schedule and scope, waiting on WEMDE to finish ○ RCM – progressing strongly and working through analysing the Rules and components that need to be implemented. ○ System planning projects – MT PASA, ST PASA, outage management etc, can't have functional leads investing massive amounts of time for refining backlogs (5 or 6 projects). The system planning backlog should be completed by 13 July 2021. ○ Trying to initiate the registration project as best they can – currently working with stakeholders on Rules • Oscar Carlberg (OC) suggested publishing the WRIG Slides as a matter of priority rather than waiting until the minutes are also circulated. He also noted that an agenda the previous day would also assist in ensuring the right people attend the meeting. <ul style="list-style-type: none"> ○ DG thanked OC for the feedback and noted that EPWA would action this. |
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Market Readiness Meeting Update and Survey Process (Kristy McGrath, Mike Reid)

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| 8 - 9 | <ul style="list-style-type: none"> • Mike Reid (MR) gave an overview of the AEMO Readiness Working Group (RWG) actions <ul style="list-style-type: none"> ○ Alinta, Bluewaters and ERM joined the RWG. ○ At previous RWG meeting they showed members the survey - which is expected to be released Wednesday of next week. The respondents by default will be those down as the contact for participant registrations in the market – but AEMO has asked for updates if different respondent preferred (by Monday for this round of survey). ○ AEMO hope to finish reporting on the survey by end of July – with results brought to WRIG 29 July. ○ Developing through the RWG some specific criteria – understand in more detail participants readiness on particular elements of programs that are relevant to different types of participants (included a couple of questions in survey to define this criteria). Specific criteria are to be incorporated in cycle 3 of the survey. ○ AEMO made minor adjustments to strategy and TOR to sharpen focus – set members of RWG homework to start unpacking internal work programs in ways that will allow AEMO to inform discussion. |
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| AEMO Survey | <ul style="list-style-type: none"> • Kristy McGrath (KM) presented on the WEM Reform market Readiness Survey <ul style="list-style-type: none"> ○ General criteria – simple survey that should take 5 – 10 mins to complete. ○ Questions 1 and 2 – organisation and contact details to ensure no entity is submitting multiple response (KM noted that survey content will be reported at aggregated level). ○ Question 3 – participant type (select multiple). ○ Question 4 and 5 are the main parts of survey and both have 2 quantitative and 2 qualitative parts <ul style="list-style-type: none"> • Question 4 - Program Setup (funding, project plan, governance and team onboarding) • Question 5 – program execution (program delivery and agreements with vendors/suppliers) ○ Question 6 – MR provided detail on gathering information to target specific criteria to ensure each is appropriate for market and participant types. This includes IT Tasks, business operations, commercial and contracts, physical equipment, policy and documentation and resourcing and upskilling. ○ Question 7 is on developing Market Readiness Risk Register. |
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| 10 | <ul style="list-style-type: none"> • MR gave update on timing of survey and reporting schedule <ul style="list-style-type: none"> ○ Survey to be released 30 June 2021 ○ AEMO asked participants to confirm respondent if different to participant registration contact ○ Specific criteria to be addressed in survey by January 2022 • Wendy NG (WN) asked what happens if from these surveys it is determined that participants will not be ready in time for Market Go-live <ul style="list-style-type: none"> ○ MR noted that not yet specific action but the job of the readiness advisor and the RWG is to refine and build up system of information in order to provide advice about risks. Ultimately for Government to decide how to proceed. Will assess individual cases based on the ability of the market to proceed without that participant being able to participate (e.g. if Synergy were unable to proceed) |
| WEM Procedure Updates (Rebecca Petchey, Clayton James) | |
| 11 | <ul style="list-style-type: none"> • Rebecca Petchey (RP) gave overview of feedback for the Electric Storage Resource Obligation Intervals WEM Procedure <ul style="list-style-type: none"> ○ In relation to Post-consultation changes (which closed last month) and noting that the Procedure is due to be published by 1 July 2021 ○ Following feedback AEMO amended Procedure to remove reference to the Peak Demand Period occurring over fewer than 8 Trading intervals because it is unlikely that it would occur over 2 or 3 Trading Intervals <ul style="list-style-type: none"> • E.g. 2021 WEM ESOO – peak demand highest probability of occurring over 2 Trading intervals and do not expect this to change based on current forecasting ○ Other comments addressed where Procedure was not changed as AEMO considered it sufficiently clear or the changes couldn't be made – specific detail on suggestions and AEMOs response is included in the table in the slides. ○ Next Steps – completing final approvals and publishing Procedure next week |
| AEMO SLIDE DECK | <ul style="list-style-type: none"> • Clayton James (CJ) gave an update on MT and ST PASA Modelling Concepts and Scenarios Procedure: <ul style="list-style-type: none"> ○ Intent is to go through scenarios and data requirements to shape what content is included in the Procedure ○ AEMO has to conduct MT PASA (36 months) every week and ST PASA each day ○ The Rules have changed to link more specifically to PSSR Rules – clearer what the objectives are and the standards that have to be meet. New obligations for participants to provide data, some forecasting obligations and some other obligations around updating PASA when there is a material change. • CJ gave an overview of ST PASA Market model <ul style="list-style-type: none"> ○ In general AEMO have to model power system and market in order to identify PSSR risks with PASA ○ ST PASA – plan is to use WEMDE model as underlying core to ST PASA the idea being that it has the same timeframe and same data inputs can be used to run scenarios ○ Basis is to take current bids and offers, real-time and forecast constraints and forecast quantities and put through WEMDE model which produces dispatch targets – this will identify binding constraints etc • Ben Connor (BC) asked CJ to comment on generation data and whether AEMO will be using available / in-service distinction for offer generation in the models <ul style="list-style-type: none"> ○ CJ answered yes this is the idea – noting that the indicators received through those offers are very useful for running scenarios to identify where we might have shortages. ○ BC added that the rules obligation was only in the pre-dispatch horizon that there's an obligation to reflect commitment intent but uncertainty in reflecting this several days out ○ CJ added that its really only for high demand scenarios where you're running short on capacity that this is likely to be a problem in those conditions. Part of doing this is to vary these inputs which will be further discussed. |
| AEMO SLIDE DECK | <ul style="list-style-type: none"> • CJ gave overview of ST PASA Scenario's Modelling <ul style="list-style-type: none"> ○ Overview STP PASA conceptual diagram: <ul style="list-style-type: none"> • For all inputs there are different variables that can be modified and used as base set of inputs of a starting scenario (expected constraints, demand forecast etc). Can then vary these to create different sets of dispatch targets. • Similar to pre-dispatch in terms of the use of high and low load demand scenarios – AEMO will run a range of scenarios to create a set of data, which is then processed to identify where risks might be (e.g. shortage of energy/ESS capacity). Can also use this data to identify whether a |

constraint is binding – not a security issue but what this is useful for is highlighting to participants the likelihood.

- Occurrence of DSP dispatch – using this to identify where it may be necessary to dispatch demand side program.
 - From this AEMO will need to sort through data and publish in a meaningful way – visualisation and appropriate format for viewers – AEMO will seek feedback on this
 - Output of this is to use this to identify risks and send low reserve notifications
- Inputs and Pre-processing – variables that can be changed
 - Current bids and offers – inside of those are forecast quantities for non-scheduled and semi-scheduled facilities. ST PASA to vary some of the expected output. Variation on in/out service quantities – making adjustments and looking to see if risks may occur
 - Variations on DSP available quantities – variations of bids and offers
 - Constraints – forecast constraints based on planned outages, AEMO needs to factor in what might happen for unplanned outages. Introducing some constraints that reflect different forced outages – e.g. major line outage to identify security risks, or varying timeframes of future planned outages to test whether issues created.
 - Demand forecast – creating different demand forecast quantities
 - ST PASA Input Variations
 - Changes that AEMO will put inside Procedure for review and feedback – intermittent variations include high output, low output and reserve capacity levels are all different inputs for a particular scenario
 - Same situation for Availability variations, Realtime constraints, Future Outage Variations, DSP Available quantity variations, demand variations – collection of variables.
 - Idea is to couple variables together to create ST PASA scenarios – e.g. base scenario, high capacity risk scenario etc. List of scenarios based on combinations to check for risks, this will be put in the Procedure.
 - Scenario Modelling and Output Post Processing
 - Identify issues or risks (e.g. not enough online capacity) and advice/intervention (e.g. issue low reserve notifications)
 - As part of the Low Reserve Condition notification need to identify likelihood of occurrence – AEMOs thinking is to base likelihood on scenario that created the shortage and the number of occurrences
 - ST PASA: Data Requirements
 - AEMO expects most information to come through offers – with variations and statistical analysis
 - AEMO will require some modelling information from participants – e.g. wind turbine power curves
 - Risks based on including additional contingency events

**AEMO
SLIDE
DECK**

- CJ gave overview of MT PASA Market Model
 - Overview of Base Market Model
 - As there is no dispatch process or offers 3 years out – AEMO will build a market/power system model which approximates dispatch
 - Mixed integer linear programming model which estimates dispatch based on a number of variables – will include same constraint equations, randomise generator forced outages over period of time etc. It will still feed in same outage schedules and data about future events.
 - Same concept as for ST PASA – analyse shortages and risks to PSSR based on different scenarios
 - Fundamentally same concept as ST PASA just without WEMDE data – input data, model in the middle and a range of different dispatch targets.
 - Overview MT PASA Conceptual Diagram
 - Similar static data (loss factors, generator planned outages, system normal constraints) and then differences in terms of variables AEMO may modify
 - Different variations – known network outage constraints and then AEMO might vary this through changes to outage start/completion times or different demand forecast quantities etc.
 - Variable list is different for input variations considerations – including the need to model forecast quantities for intermittent generators which isn't coming out of bids and offers
 - This can be done in a number of ways including statistical values based on historical data for different times of year to determine what a likely output is. Still working through exactly how to do this.
 - Scenario's Modelling
 - Longer timeframe than a week – so a lot more output data that needs to be processed. Fundamentally same process – process information, look for occurrence of violated constraints or shortages of ESS and capacity, use this to identify risks and then use occurrence to identify likelihood of issue occurring.
 - MT PASA Data Requirements
 - AEMO will need modelling data from participants to support estimating output
 - As the MT PASA is forward looking, AEMO will also need to factor in changes to the power system over time (e.g. network augmentation, decommissioned power stations) and will require data from Western Power and participants to do this.
- MR noted that this was a very useful slide deck and requested that AEMO publish it alongside the Procedure to help participants understand process behind drafting
 - CJ acknowledged this and noted they could work on that.
- WN asked if parties had been engaged to build the models referred to and an estimated timeframe for this?
 - CJ noted AEMO is working through the design and haven't yet engaged a vendor to build the MT PASA model – currently scoping the work package. Participants will receive visibility as the process continues.
- CJ gave an overview of next steps
 - Requested participant feedback on scenarios that should be included or input variable – please provide to AEMO they welcome feedback to include in design

13

- Alex Gillespie (AG) gave a snapshot of the upcoming consultations and publications regarding AEMO WEM procedures
 - Upcoming consultation on Credible Contingency Events, RCM Facility Class and Indicative Facility Class, Data and IT Interface Requirements
 - Final Publication for Electric Storage Resource intervals and Facility Sub-Metering Procedure on 1 July 2021
 - AEMO will take feedback on Facility Sub-Metering Procedure to next WRIG and thanked participants for providing feedback
 - WEM Procedure timeline published on the EPWA website – revised version will be published before the next WRIG and will include the head of powers for the Procedures. If you have any questions please email the WA.ETS@aemo.com.au inbox
- Aditi Varma (AV) asked for clarification on publication of Procedures – if stakeholders identify any errors can the Procedure still be updated?
 - AG said that yes under the Rules there is a 6 month period where Procedures can be amended without going through the Procedure Change Process – in this case they will be taken to WRIG and consulted on.

| Generator Performance Standards (Clayton James) | |
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| | <ul style="list-style-type: none"> • CJ gave update on Generator Monitoring Plans (GMP) <ul style="list-style-type: none"> ○ Rules had requirement to send through proposed GMP before 1 August 2021 ○ AEMO recognises the time constraints on participants and that they are working with Western Power on getting generator performance standards registered. ○ Participants can request an extension, but it has to be done 20 business days before – by 5 July 2021 ○ To support participants AEMO will provide a form and have provided an inbox to process extension request – will also be sending some reminder emails on dates and where to find information |
| Settlement Enhancements Go-Live Updates (Mariusz Kovler) | |
| 15 - 16 | <ul style="list-style-type: none"> • Mark Katsikandarakis (MKK) gave an update on AEMOs progress on the Settlement Enhancements Go-Live project <ul style="list-style-type: none"> ○ AEMO have decided to extend the market trial period for the WEM prudential and settlement service (WEM PaSS) for an additional 4 weeks through to 28 July 2021. This is driven by two key factors: <ul style="list-style-type: none"> • Firstly, AEMO sought feedback from market participants on progress of testing an integration with new system and some participants indicated they would appreciate additional time for testing and also raised some suggestions and improvements. The delay has allowed AEMO to review the suggestions and prioritise accordingly and allow AEMO to incorporate into production prior to the trial; • Secondly, the delay will provide AEMO with more time to progress some user acceptance testing on some core components to ensure accuracy of settlement outcomes ○ AEMO undertook some risk assessment on benefits and impacts on delaying the schedule. Given the market trial release doesn't have a deadline in the Rules, and given the important of accuracy in settlements testing and the impact of outcomes on participants they made the choice to delay |
| 17 | <ul style="list-style-type: none"> • MKK gave overview on Revised Timings for Settlements Enhancements <ul style="list-style-type: none"> ○ First suite of invoices and statements to be issued in the new settlements system as noted on dates listed on the slide, including for STEM, Non-STEM initial and Non-STEM adjustments. ○ Additional work on the market trial environment throughout the remainder of June and July to deploy some bug fixes and improvements for participants visibility e.g. patch release this Friday for market trial and aim to do another one throughout July. ○ Encourage market participants to continue testing and verification throughout extended market trial period. ○ Systems likely to be deployed on 28 July 2021 with the systems being used from 1 August 2021. ○ MK acknowledged that this is 18 months in the making and getting it right is key. |
| Next Steps (Dora Guzeleva) | |
| 19 | <ul style="list-style-type: none"> • DG gave an overview of the next steps noting that; <ul style="list-style-type: none"> ○ There is a WRIG-IT meeting following this meeting to cover Web Services for Real-time market submissions ○ Market Readiness Survey will be released on 30 June 2021 and reporting by end of July 2021 ○ Readiness Working Group on 20 July 2021 ○ Encouraged stakeholders to continue providing feedback and thanked all participants and presenters |

