

Minutes

WEM Reform Implementation Group – Meeting 8, 2021

Time: 9:30am – 12:00pm

Date: 2 September 2021

Venue: Teleconference

Attendees:

Name	Organisation	Name	Organisation
Adrian Theseira	ERA	Paul Elliott	AEMO
Alan McDonald	Bluewaters	Peter Huxtable	Water Corporation
Ben Connor	Synergy	Rebecca Petchey	AEMO
Ben Tan	Tesla	Rebecca White	Collgar
Benjamin Hammer	Western Power	Rhiannon Bedola	Synergy
Brad Huppatz	Synergy	Richard Peppler	Western Power
Carlberg, Oscar	Alinta	Rob Chandler	Western Power
Clayton James	AEMO	Sally Campbell	Western Power
Dino Perumal	AEMO	Shannon Hewitt	Clean Tech Energy
Erin Stone	Point Global	Teresa Smit	AEMO
Geoff Gunner	AEMO	Tinna Needham	Western Power
Gerrymaine	Guest	Varma, Aditi	EPWA
Graham, Sarah	EPWA	Victor Francisco	Psc Consulting
Guzeleva, Dora	EPWA		
Harry Street	Entego		
Jo-Anne Chan	Synergy		
Johnathan Adams	Synergy		
Judy Hunter	Western Power		
Kaur, Sumeet	Shell		
Kristy McGrath	AEMO		
Lane, Jeremy	South 32		
Lei, Sam	Alinta		
Liam Staltari	AEMO		
Liz Aitken	Aitken Energy		
Lynda Venables	Synergy		
Mariusz Kovler	AEMO		
Mark McKinnon	Western Power		
Mark Riley	Perth Energy		
Melinda Chapple	Synergy		
Mike Chapman	Western Power		
Mike Hales	AEMO		
Mike Reid	AEMO		
Ng, Wendy SG	Shell		

Slide No.	Issue
Joint Industry Plan Updates (Stuart Featham, AEMO)	
2 - 5	<ul style="list-style-type: none"> • Stuart Featham (SF) introduced the meeting and noted that: <ul style="list-style-type: none"> ○ There will be standing updates from AEMO, EPWA, WP and Synergy followed by WEM Procedure updates ○ Item 9 will actually be item 4
7 - 8	<ul style="list-style-type: none"> • Mariusz Kovler (MK) provided an update on AEMO's Implementation Program Activities highlighting that the program is in full swing and: <ul style="list-style-type: none"> ○ RCM phase 1 going well - on target to finish development this month and then move to take live process ○ WEMDE going well from a build perspective – integration of this project happening as dispatch engine is developed ○ RTMS - good feedback from the WRIG-IT community and various developers – continue to release the technical specifications ○ Closing off GPS and going through the lessons learnt of GPS and settlements enhancements release 1 • Ben Connor (BC) advised of one minor amendment to Synergy's Joint Industry Plan milestones: <ul style="list-style-type: none"> ○ one of the milestones split into two, no change to the substance of any of that work progressing according to plan • Mike Chapman (MC) provided the following Western Power updates: <ul style="list-style-type: none"> ○ WP has received quite a few additional GPS submissions since the last meeting - of a total 73 facilities WP has received 46 initial submissions which are either being assessed or have gone back to the market participant ○ Encourage any participant with concerns about deadlines to reach out early – there are extension options available ○ Guideline around relevant generation modifications anticipated to be released end of September – reach out with any questions ○ A number of updates published to website – including revised contributions policy, application forms for large generators ○ Facilities readiness works progressing in supporting AEMO information requirements for SCED and Market Participant facility readiness around SCADA changes – commenced discussions with AEMO on requirements for RCM limit advice ○ Revised limit advice Procedure will come to a future WRIG bundled with AEMOs related procedures
WEM Procedure Updates (Alex Gillespie, AEMO)	
9 - 11	<ul style="list-style-type: none"> • Alex Gillespie (AG) provided an overview of the agenda for WEM Procedure discussions which includes: <ul style="list-style-type: none"> ○ Communications and Controls systems WEM procedure ○ Part 2 of the CRC WEM procedure -Linearly De-rating Methodology ○ Frequency Co-Optimised Essential Systems Services Accreditation WEM Procedure ○ Feedback session for feedback received as part of the formal consultations for: <ul style="list-style-type: none"> ▪ Facility Sub Metering, Credible Contingency Events WEM procedure, Indicative Facility Class and RC Facility Class Assessment WEM procedure ○ AG noted that no presentation for the Data and IT Interface Feedback because we didn't receive any feedback as part of consultation
WEM Procedure – Communications and Control Systems (Jas Bhandal, AEMO)	

<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • Jas Bhandal (JB) gave an overview of Communications and Control Systems Procedure, highlighting: <ul style="list-style-type: none"> ○ The Procedure is planned to take effect 1 Oct 2021 and now covers both the current and transitional WEM Rules enacted on 1 Aug 2021 ○ Recap of section 2.36A of the WEM Rules and update of key changes since previous discussion: <ul style="list-style-type: none"> ▪ Updated Critical Outage and Data Communication Providers definitions ▪ New sections 5.1, 5.4 and 5.5 ▪ Updated section 6.4 ○ Updated section B.3.1 – WP reviewed the current historical data recorder performance over the last 4 years and validated that 95% is suitable target for the data recorders ○ Updated section 5.4 – outlines the measuring information that the data recorder must be capable of capturing, time frame to provide recorded measuring information, may determine a list of triggering events to apply to specific locations and this must include trigger events specified in Appendix B.5.2. ○ Section 5.5 – no major changes from the previous discussion, aligning the timeframe to provide recorded measuring information to 3 business days (previously was 48 hours) ○ Appendix C- visual representation of defined terms of DCP, DCF, Intervening Facility and Operational Data to provide clarity • JB highlighted next steps: AEMO will circulate and seek feedback on the Communications and Control Systems WEM Procedure in the new few weeks
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Part 2 of the CRC WEM procedure Linearly De-rating Methodology (Manus Higgins, AEMO)

<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • Manus Higgins (MH) provided an update on Linearly De-rating Capacity (LDC) for Electric Storage resources, noting that: <ul style="list-style-type: none"> ○ Procedure released ahead of the window that opens up on 1 December for the 2021 Reserve Capacity Cycle ○ CRC determines quantity of capacity from facilities to be delivered during peak periods for capacity year ○ New facility classes - ESR component within a scheduled facility or semi scheduled LDC will be applied to ESR component. <ul style="list-style-type: none"> ▪ It also applies to stand alone non-scheduled facilities – unless ESR has been in operation for 5 year period, however the ESR components will take some time to come online so we don't expect to see the Relevant Level Methodology used much ○ Batteries do degrade and increased cycling increases the degradation rate – AEMO wants to know market participants expect to get out of ESR component ○ AEMO allowing the Market Participant to provide us with the LDC for the ESR component: <ul style="list-style-type: none"> ▪ AEMO will look at the figure provided – forecast degradation rate, independent engineers report, how ESR will be operated and the ESR Obligation Intervals ▪ AEMO wants to assess whether conflict is there with regard to intent to operate ▪ intend to publish alongside the ESOP • MH noted that the Procedure out for consultation in September 2021 - CRC WEM Procedure effective 1 November 2021
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WEM Procedure – Frequency Cooptimised Essential System Services (FCESS) Accreditation (Toby Price, AEMO)

See
Relevant
AEMO
slide
deck

- Toby Price (TP) provided an update on the FCESS Accreditation Procedure, highlighting that:
 - AEMO will release the Procedure for consultation next week
 - TP gave an update on key content and walked through the process for RoCoF Ride-Through Accreditation and for setting the RoCoF Ride-Through Cost Recovery Limit
 - Transitional process from October with relevant facilities and Market Participants to set accreditation parameters for each service
- TP gave an overview of FCESS Accreditation Process and spoke to the following key points:
 - Key related documents which form the framework – relevant WEM Procedures, FCESS Testing Guideline, FCESS Application form, Technical Specification (brought to WRIG previously)
 - Transitional Process (section 1.49) – Existing Facilities
 - Process of reviewing information available to AEMO and identifying portfolio facilities that need to run through the transitional process
 - Those facilities identified – run through light accreditation process (from October)
 - Accreditation Parameters – published on WEM Website
 - Transitional Process – New Facilities (section 2.34A)
 - AEMO is interested in feedback from industry on appetite for participating in new markets
 - AEMO has ability to prioritise the transitional process over new applications – essential that there is sufficient on-boarded capability for new market commencement
 - Separated performance requirements and accreditation parameters
 - AEMO may reject facility if unable to meet performance requirements and/or participant may withdraw application
 - Regulation Performance Requirements
 - AEMO conducted studies – technical minimum on size of Facility that AEMO through AGC is capable of operating to manage system frequency – along with range of system sizes and number of providers
 - TP highlighted that regulation is a facility response rather than a unit response, therefore any service that's delivered is a net service delivered at the connection point or close to it
 - Overview of AGC SCADA Latency diagram
 - Need to establish where the obligations lie so we are very clear that there is time from receipt of a set point to response
 - These limits will be published in accordance with the Communication and Control WEM Procedure
- TP gave an overview of Contingency Reserve Performance Requirements and noted:
 - Minimum reserve quantity more of an economic than a technical minimum
 - The initial value AEMO proposes is 5 MW – AEMO wants feedback on that number
 - Highlighted exemption criteria from those specific Performance Requirements where the Market Participant can demonstrate equivalent performance delivery through alternative means
 - AEMO acknowledges some obligations may not be achieved technically by Facilities – Procedure has exemption criteria framework. Revocable time-based exemption to the requirements.
 - Facility Speed Factor:
 - Create range of reference profiles based on Facility's droop settings and droop dead band settings, and nameplate capability of the Facility – as well as characteristics of the frequency trace and compare with Facility's response after subtracting inertial component (where relevant)
 - Integrate power response to get energy to make the comparison with reference profiles clear (Facility Speed Factor set by exceeded Speed Factor at the Frequency minimum (nadir).

<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • Rebecca White (RW) asked whether the 5 second response time includes the time to communicate that response back to AEMO (i.e. includes the SCADA lag)? <ul style="list-style-type: none"> ○ TP responded with no – the obligation as it stands currently is that following receipt of a set point a facility starts to respond to that set within 5 seconds but communication latency can be anywhere between 5/20/30 seconds so there is a variety of communication lag times that exist. What we are trying to do is look at whether we can firm up those obligations for latency in parallel to looking at the size of the systems that we are controlling ○ The whole AGC system is being tuned to the capability and settings of all participating facilities • Brad Huppatz (BH) asked why the accreditation quantity has been set at 48.975Hz when Credible Contingency Frequency Band has been set at a lower value of 48.75Hz. Isn't this understating available Facility response? <ul style="list-style-type: none"> ○ TP noted AEMO is trying to provide a really clear framework for quantification of response and remembering that all facilities are going to be assessed in the same manner. ○ When procuring the service everyone is been treated under the same circumstances and within that you have the ability via modification of droop settings to vary the quantity of accredited performance. ○ Clayton James (CJ) additionally confirmed that the lower bound is what we try and operate the system to be above – going below that means load shedding <ul style="list-style-type: none"> ▪ the mechanisms that we use are all based on models and data that have inherent error and we try and operate just above those extreme limits to allow for those types of error and cater for things that might not operate the way that you would expect ▪ not every contingency raise provider will operate the way you expect and some will fail to provide the service so we need to ensure some margin of error. This is our starting point, and we will review that over time in terms of its effectiveness • Claire Richards, Enel X (CR) asked - Does the 5MW minimum refer to an individual facility or aggregate offer to the market per participant? <ul style="list-style-type: none"> ○ TP noted it is to the Facility – so that could be an aggregated facility, but the minimum is a Facility level. • TP gave an update on the Maximum Contingency Reserve Block Size <ul style="list-style-type: none"> ○ Maximum quantity of individually triggerable block responses ○ 60 MW limit for an individually operable response ○ E.g. if within a facility, there was more than 1 individually triggerable response that would be acceptable to be larger than 60 MW but each much be offered as a single price quantity pair into dispatch to ensure that we don't over procure in the event that we have shallow frequency excursion and block responses • TP outlined the RoCoF Control Service Performance Requirements and highlighted that: <ul style="list-style-type: none"> ○ Inertia is defined in WEM Rules (as kinetic energy of a rotating mass) ○ To be quantified through a registered performance standard or historical data where we have it ○ There is also an obligation to have a High-Resolution Synchronised Data Recorder at the connection point to verify inertial contribution to events • TP briefly outlined Accreditation Parameters <ul style="list-style-type: none"> ○ AEMO is looking to capture both maximum capability under any Relevant Operating Configuration but also alternative Standard Operating Configuration • TP gave an overview on FCESS Verification <ul style="list-style-type: none"> ○ Procedure outlines processes for Facilities that fail to meet Performance requirements and accreditation parameters • RW asked - Going back to RoCoF, it sounds like a machine providing synthetic inertia (e.g. battery) wouldn't be able to be accredited for RoCoF? <ul style="list-style-type: none"> ○ TP confirmed that is correct – the current rule definition is explicit to the definition of inertia – the explanatory box connected with that definition identifies that AEMO will explore the ability of facilities without spinning masses to provide the service and look at bringing them in which would require a rule change to allow such Facilities to accredit for the service ○ AEMO talking with developers and providers of technology about their capability to provide synthetic inertia or equivalent, it's an ongoing process and we would encourage people who have data or experience in other jurisdictions to provide any data that they have
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<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • TP gave an overview of RoCoF Ride-Through Cost Recovery Limit <ul style="list-style-type: none"> o RoCoF Ride-Through Cost Recovery Limit slide o AEMO undertook some studies and looked at worst case systems conditions to determine RoCoF Upper Limit that it's cost recovery limit cannot exceed • TP gave an overview of Accreditation of RoCoF Ride Through Capability, highlighting that: <ul style="list-style-type: none"> o It is a relatively light framework for setting the accreditation parameters and setting the limits o The review of RoCoF Sensitive Equipment - a generic list which AEMO will publish on the WEM website which may require assessment so if you have technology on that list you should consider reviewing as part of that engineering study o Participants must seek accreditation to avoid being a causer for the service by: <ul style="list-style-type: none"> ▪ submit a report or registered GPS to AEMO ▪ Demonstrating ride through of RoCoF events, else, be deemed a causer for RoCoF Control Service cost recovery. • Jo Ann Chan (JC) asked – what were the correct figures for the RoCoF Safe Limit again? <ul style="list-style-type: none"> o TP noted that the RoCoF Safe Limit is .25Hz/s over 500ms (appendix 13) therefore we are setting it as per the rule obligation at .25 Hz/s above that .5Hz/s over 500ms • RW asked if a Facility doesn't have this information at hand – does it have to procure the engineering study expert or report or can it just accept paying for RoCoF costs? <ul style="list-style-type: none"> o TP confirmed that you can pay for the RoCoF costs which, from market start, we're not expecting to be significant, but you can also make an internal determination about the value in paying for the engineering study • Oscar Carlberg (OC) asked – given the RoCoF is going to be a temporary market that kicks in when we drop below that inertial safe limit, what is that going to look like to a MP? I just read Leon's comment that a participant can opt not to run during those intervals but what kind of notice will a participant get that we might be dropping into a time when we need to be running the RoCoF market? <ul style="list-style-type: none"> o TP replied – we will be publishing through the ahead schedules any sort of non- zero costs to the RoCoF control service which is pretty critical to communicate to providers of that service that they're needed, so there will be forecasts in the week ahead schedules based on Facility offers o CJ added that AEMO forecasts through pre-dispatch in the week ahead schedules what quantities of service are clearing and also the prices of those so <ul style="list-style-type: none"> ▪ it's not a temporary market – there's always some quantity. Whether the cost of that quantity is non-zero and you can adjust your offers, or if you have a particular ride through accreditation that might mean you're going to be up for some of those costs you can then adjust your offers. ▪ Market Participants can choose to go and take some of the costs with that, or don't go and avoid that cost – there's optionality and its visible by pre-dispatch and market schedules
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WEM Procedure Facility Sub Metering – (Toby Price, AEMO)

<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • TP thanked respondents and gave an overview of Facility Sub-Metering feedback, noting that: <ul style="list-style-type: none"> o The most common feedback received was that participants would like a process to communicate a proposed sub-metering arrangement to AEMO prior to the initial audit – as the Facility seeks to confirm that what is installed is compliant/meets the requirements of the Procedure: <ul style="list-style-type: none"> • AEMO does not have a head of power under the rules to run a proposed arrangement • AEMO may provide informal advice to market participants on the proposed arrangement approval process – but will need discuss with EPWA about arrangements to facilitate this o AEMO made several amendments for clarity – slides provide further detail on changes
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WEM Procedure: Credible Contingency – Post-Consultation Changes (Leon Kwek, AEMO)

<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • Leon Kwek (LK) gave an overview of the Credible contingency Procedure changes, highlighting that: <ul style="list-style-type: none"> o Third time consulting with WRIG – the Procedure can now be found published on the website o Mostly minor changes to tighten things up and make clauses clearer o Procedure is about credible contingency events, about how AEMO defines what's credible versus non-credible. How we respond in real-time to make those classifications, e.g. if we have a bushfire near the transmission network and it's how we communicate changes to the network o It's not about getting any and all information – there are pathways to do that already o Theme of many comments was to structure Procedure on "Credible Event" and Non-Credible event – however AEMO retained overall structure o List of power system elements was considered to be key to contain in the Procedure
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WEM Procedure: Indicative Facility Class and RCM Facility Class Assessment (Katelyn Rigden, AEMO)

<p>See Relevant AEMO slide deck</p>	<ul style="list-style-type: none"> • Katelyn Rigden (KR) gave an update on the feedback on the Indicative Facility Class WEM Procedure, thanking respondents and highlighting that: <ul style="list-style-type: none"> ○ AEMO consulted on the procedure in early July and published end of July - The Procedure is live on the WEM Website ○ No substantial changes to the Procedure ○ Most consistent feedback was around references to dates being confusing. As dates were deferred under transitional rules 1.36A and 1.36B AEMO amended the Procedure to clarify the dates and times of the obligations ○ Submission on changing structure – AEMO retained drafting to ensure future changes are simpler • AG provided the following notice of upcoming consultations: <ul style="list-style-type: none"> ○ early September - Frequency Co-Optimised Essential System Services Accreditation ○ early September – Communications and Control System Requirements ○ mid /Late September – Certification of Reserve Capacity
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Joint Industry Plan – Plan and Progress Updates (Dora Guzeleva)

<p>6</p>	<ul style="list-style-type: none"> • Dora Guzeleva, EPWA (DG) provided an update on the JIP Rule Drafting Timeline, noting that: <ul style="list-style-type: none"> ○ Not a lot of updates compared to last time ○ Tranche 4B is still with lawyers – there are some deficiencies in drafting ○ Complexity is causing delays and preventing us from seeking approval from the Minister however we still think we are on track for 1 October ○ Tranche 5 is continuing to be drafted <ul style="list-style-type: none"> ○ notably in process – drafting sections of the Non Co-optimised ESS framework in consultation with WP and AEMO ○ drafting parts of the rather complex participation and registration framework changes ○ drafting rules around intermittent loads • No longer confident that the description of the Reliability Standards framework is correct <ul style="list-style-type: none"> ○ managed to include in Tranche 4b the majority of what we call interim security and reliability framework changes including – forcing a system restart, how changes that impact on technical standards would be handled and provisions that relate to security and reliability • Uncertain whether we will be able to include Market Information in Tranche 5 – it may be delayed to Tranche 6 • Tranche 6 – currently working on various small changes but none of them of any policy consequence
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Next Steps (Stuart Featham)

<p>12</p>	<ul style="list-style-type: none"> • SF gave an overview of the next steps: <ul style="list-style-type: none"> ○ Next WRIG 9:30am Thursday 30 September 2021 ○ Next WRIG IT 23 September 2021: RTMS – Market Participant Training and Testing details ○ Next WRIG IT 14 October 2021: Agenda TBC • RW asked – will consideration of the point Toby mentioned about a head of Power for AEMO to consider sub-metering arrangements early in the process be included in Tranche 6? <ul style="list-style-type: none"> ○ DG replied - we haven't talked about that in detail. We have to understand what's required here and whether it's appropriate to include something, we will have to make sure we understand the timing requirements around that. We need to talk to AEMO first before we can give you an answer.
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