

WDR Consultative Group #11

Tuesday 18 May 2021

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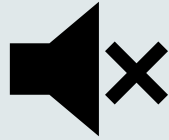
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**PLEASE NOTE THIS MEETING WILL BE RECORDED FOR THE
PURPOSE OF PREPARING MINUTES**

*We acknowledge the
Traditional Owners of country
throughout Australia and recognise
their continuing connection to
land, waters and culture.*

*We pay our respects to their
Elders past, present and emerging.*

Online forum housekeeping



1. Please mute your microphone, this helps with audio quality as background noises distract from the information being shared.



2. Video is optional, but having it turned off helps with webinar performance and minimises distractions.



3. We ask that you utilise the Chat function for any questions or comments you may have if you are unable to use audio.



4. If you have dialled in via phone, could you please email your name and organisation to WDR@aemo.com.au for our records.



5. Be respectful of all participants and the process.

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**:

1. Ensure that discussions are limited to the matters contemplated by the agenda for the discussion
2. Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO
3. 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:

1. Which customers they will supply or market to
2. The price or other terms at which Participants will supply
3. Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid
4. Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)
5. 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.⁴

AGENDA

#	TIME	TOPIC	PRESENTER
1	10:30am – 10:35am	Welcome	Ruth Guest (Chair)
2	10:35am – 10:55am	Update on potential 5MS impacts on WDR	Ruth Guest
3	10:55am – 11:00am	Notes, actions and feedback from previous meeting	Emily Brodie
4	11:00am – 11:05am	WDR Industry Risk Register	Emily Brodie
5	11:05am – 11:10am	Stakeholder update	Emily Brodie
6	11:10am – 11:15am	Debrief on ENA WDR endorsement workshop	Ruth Guest
7	11:15am – 11:25 am	Final determination: Baselines policy	Katalin Foran
8	11:25am – 11:45am	Predictability of Load Calculator	Alice Michener
9	11:45am – 11:50am	Summary of feedback on post-event dispatch conformance framework	Madison Pigliardo
10	11:50am – 11:55am	Approach to updating MSATS tech spec for WDR	Armando Estrella
11	11:55am – 12:05pm	Approach to Industry Testing Plan	Priti Zacharopoulos
12	12:05pm – 12:25pm	PMS update and stakeholder feedback session	Kevin Gupta and Madhuri Malhotra
13	12:25pm – 12:30pm	General questions and closing	Ruth Guest
APPENDICES			
A	Indicative program schedule		
B	Procedure changes timeline		
C	Project and system document changes		

Update on potential 5MS impacts on WDR

Ruth Guest

Potential 5MS effects on WDR

1. Retail IT platform deployment delay
2. Contingency planning

(1) Retail IT platform deployment delay

- 5MS retail go-live has been re-scheduled from 31 May to the back-up date of 21 June 2021
 - Unable to satisfactorily resolve outstanding issues to be confident that 31 May go-live will be successful.

At the Feb-21 WDR CG meeting, AEMO:

- Explained that the WDR Portfolio Management System deployment may be delayed *if* the 5MS MDM deployment is later than 31 May 2021.
- Presented two options to manage a consequent impact to the DRSP registration process:
 - Option 1: Process applications in PM System when it's ready (potentially up to late August)
 - Option 2: Process applications manually from 24 June
- Sought feedback from the WDR CG on the best way to manage a potential PMS implementation delay, including any new options.

Four responses received from the WDR CG:

- Option 1 was favoured by 3 respondents with caveats:
 - Concerns raised about potential for late application processing to impact DRSPs' ability to participate from day one (24 Oct 21)
 - Preference for any delay to PMS system deployment to be closer to 4-weeks rather than 8-weeks
- One respondent favoured Option 2 to maximise time available prior to WDR commencement to iron out issues.

Next steps

Mar/Apr

Monitor likely 5MS Retail system deployment date

May 2021

If 5MS retail system deployed on 31 May, then it is possible that 24 June PMS release may go ahead as planned.

AEMO will establish an alternative process for assessing baseline eligibility

Jun 2021

Continue to plan for 24 June PMS go-live as per latest 5MS updates. AEMO will:

- Publish registration forms and guides as planned
- Revert to WDR CG with alternative plans if 24 June PMS go-live is under duress
- Work to understand DRSP application timing, to ensure any delays minimise impacts.

- ✓ AEMO introduced a WDR *industry risks and issues register*, including the risks associated with any PMS delay and their mitigations
- ✓ Draft register was presented at April meeting for WDR CG consideration

(2) 5MS contingency planning: Background, context and next steps

- Industry discussion occurring to plan for 5MS contingency events
- Possible knock-on effects to WDR
- AEMO is considering extent of WDR contingency planning needed
- Proposing discussion at June WDR CG on contingency approach, including potential to develop a contingency plan

DISCUSSION:

- What potential impacts to your program do you have concerns about?
- What would you like considered/communicated around WDR contingency?

Notes, actions and feedback from previous meeting

Emily Brodie

Responses to WDR CG #10 meeting actions

#	Topic	Action	Response
10-04-01	Stakeholder update	AEMO to call for nominations for the Fri 28 May WDR registrations workshop.	Complete
10-07-01	WDR industry risk register	WDR CG to provide feedback on the risk register and the risk management approach to wdr@aemo.com.au	No responses received

WDR industry risk register

Emily Brodie

Feedback

- No feedback received – AEMO assumes this indicates the suitability of:
 - Industry risk register content to date
 - Proposed approach to managing the register

Industry risk register review – May 2021

Review area	Register ID	Proposed change
Current issues	n/a	n/a
“High” or “critical” risks	n/a	n/a
New risks	n/a	n/a
Existing risks that have been identified as requiring review	R3	Decrease likelihood of risk occurring as indicated by stakeholder feedback

Risk review: Proposed changes

ID	Risk name	Risk description	Mitigations	Comments
R3	Not enough participants or participant types for invitation industry testing	If there are too few participants or participant types ready to take part in invitation industry testing then industry's ability to interact with AEMO's market systems may be inadequate during the industry testing period.	<p>AEMO to define minimum requirements for invitation industry testing i.e. numbers of participants for each participant type for cohesive industry testing.</p> <p>Participants can use pre-production to run their own testing after the industry testing period however there will be reduced AEMO test support.</p> <p>AEMO will hold one-to-one conversations with participants to understand their industry testing intentions in late April/May</p> <p>Use WDR CG forum to discuss, escalate and resolve in May/June aligned with development of the WDR Industry Testing Plan.</p> <p>If there are no participants willing to test, AEMO will compress the industry testing period and scope.</p>	<p>One-to-one conversations are underway.</p> <p>So far several companies have indicated their willingness to participate in WDR invitation industry testing.</p>

PROPOSAL	EFFECT
Change the likelihood of R3 from "possible" to "unlikely"	Risk rating improves from 'medium' to 'low'
Change the residual likelihood from "unlikely" to "rare"	Residual risk rating remains at 'low'

Stakeholder update

Emily Brodie

Upcoming WDR engagement

Meeting	Meeting Date
WDR registration workshop	Fri 28 May 21
WDR CG #12	Tue 15 Jun 21
WDR CG #13	Tue 20 Jul 21

Proposed agenda for June WDR CG meeting:

- Meeting is 4 days prior to WDR registration opening
- Administrative matters
- Contingency discussion
- Q&A session?



Please provide agenda suggestions at any time to WDR@aemo.com.au

Debrief on ENA WDR endorsement workshop

Ruth Guest

Debrief on ENA WDR endorsement workshop

- Workshop held Tue 11 May
- Productive and respectful conversation between DNSPs and prospective DRSPs, facilitated by ENA
- DNSP technical concerns raised
- DRSP need for clarity, consistency and timeliness for endorsement process
- Common understanding reached of what DNSPs should/shouldn't endorse
 - Distribution-connected WDR aggregation $\geq 5\text{MW}$ at a single TNI
- **Next step:** ENA to develop strawperson endorsement process for DNSP/DRSP consideration

Final determination: Baselines eligibility, compliance and metrics policy

Katalin Foran

Final determination

- The Policy:
 - establishes the methodology by which AEMO will determine baseline eligibility and compliance under the WDRM; and
 - sets out the thresholds for baseline compliance metrics.
- Thank you to all who have contributed to the consultation through discussion in consultative groups, one on one meetings and submissions.
- Final determination to be published 20 May.

Topics discussed in the final determination

TOPIC	FINAL POSITION	AEMO'S ANALYSIS
Accuracy threshold	To remain at 20%	<ul style="list-style-type: none"> Allows for sufficient baseline predictability, without leading to operational difficulties, while allowing for maximum NMI participation.
Bias threshold	To remain at $\pm 4\%$	<ul style="list-style-type: none"> Allows for a level of "noise" in the baseline bias calculation Does not allow a baseline to be eligible for WDRM if it is systematically and materially biased.
20% adjustment cap	Feature of the baseline methodologies. Not part of the Policy.	<ul style="list-style-type: none"> Current baseline methodologies available (with cap) may not be suited to highly variable/temperature sensitive loads. AEMO does not anticipate creating a baseline methodology based on the 'CAISO 10 of 10' framework that simply removes the cap on adjustments. To create sufficiently accurate baseline for temperature sensitive loads, it is likely that new baseline methodologies would need to be formulated.
Reviewing WDRM and grandfathering of baseline eligibility	No grandfathering of eligibility	<ul style="list-style-type: none"> Broad agreement on no grandfathering of eligibility in case of metrics changes in the future (with sufficient notice/consultation given).
New baseline methodologies	Alternative methodologies can be proposed	<ul style="list-style-type: none"> Broad agreement from participants that new baseline methodologies needed in the future. Alternative methodologies that can: <ul style="list-style-type: none"> demonstrably and reliably meet the accuracy and bias metrics are compliant with the NER, and materially increase participation in the WDRM <p>can be put forward to AEMO for consideration in Q2 2022 for AEMO's assessment¹³ using the process in the WDR Guidelines.</p>

Predictability of Load Calculator

Alice Michener

What is PoL assessment (1)?

- To participate in WDRM, a load must demonstrate a level of predictability, so the baseline can be established, against which demand response settlement and dispatch performance will occur.
- The testing of this predictability is referred to as predictability of load (PoL) assessment.
- PoL assessment is undertaken:
 - Prior to classification of a WDRU (baseline eligibility assessment).
 - At regular intervals during normal operations (baseline compliance testing).

What is PoL assessment (2)?

- PoL assessment for a load applies the relevant baseline methodology to the consumption data on a history of days for which a demand response did not occur, and using statistical techniques assesses whether the load meets the baseline methodology metrics.
- The baseline methodology metrics used for PoL assessment are accuracy and bias.
- PoL assessments produce two outputs:
 - **Accuracy** score, validated against the accuracy metric.
 - **Bias** score, validated against the bias metric.
- Each score must be below its respective threshold to pass eligibility.

Example of PoL calculation

Methodology Parameters	
Methodology	All Days
Logic	10 of 10
Required number of eligibility days	50 days
Eligibility TIs window	3pm - 8pm
PoL baseline adjustment window	3 hours ending 1 hour prior to TI being calculated
Variable inputs	
Meter data range	01/01/21 - 02/03/21
No. days of meter data	60

Why isn't this 50?

If Eligibility Days is 50 and logic is 10 of 10 – 10 historical days will be required to calculate baselines on the 50th day

Meter data

Example of PoL calculation

Date	TIs																			
	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00										
Fri 01/01/2021	12.608	8.4531	7.232	8.603	10.588	8.424	11.168	8.251	10.436	7.346	7.808	9.051	6.896	8.353	6.896	7.5	6.016	7.252	7.384	7.554
Sat 02/01/2021	8.128	6.171	7.408	6.301	6.304	8.31	7.296	8.74	6.128	8.104	6.16	8.127	6.355	6.712	6.312	5.563	6.192	5.654	7.712	5.388
Sun 03/01/2021	7.536	6.327	7.352	8.111	6.672	3.796	6.352	3.618	6.32	8.902	6.192	8.777	6.355	6.443	6.704	5.86	6.416	6.02	7.088	6.391
Mon 04/01/2021	8.144	8.152	8.336	10.193	12.368	3.934	12.8	3.668	3.136	3.244	6.208	10.091	6.176	6.355	6.688	7.631	6.16	7.653	7.232	7.828
Tue 05/01/2021	8	10.541	8.016	15.206	14.08	15.003	14.544	14.423	14.08	13.643	22.368	12.008	10.384	10.208	8.978	6.08	9.295	7.264	3.944	
Wed 06/01/2021	8.064	10.387	8.592	14.647	14.4	13.391	14.256	13.396	13.712	12.622	10.64	11.445	7.056	10.208	7.533	7.2	9.055	7.504	3.932	
Thu 07/01/2021	7.36	3.54	12.096	12.47	13.408	13.135	12.064	12.684	11.856	11.881	7.632	11.169	6.24	10.115	7.384	5.8	8.876	6.976	3.621	
Fri 08/01/2021	8.56	3.063	9.072	12.643	12.048	13.254	11.2	13.023	11.248	11.635	8.128	10.321	7.072	9.344	7.384	7.973	7.744	8.858		
Sat 09/01/2021	7.264	6.697	8.32	3.525	6.496	3.254	6.272	3.121	6.368	8.15	6.368	7.419	6.4	6.556	6.544	7.44	6.456			
Sun 10/01/2021	7.296	7.243	7.888	11.202	6.4	3.925	6.448	3.747	6.544	8.66	6.32	7.672	6.512	6						
Mon 11/01/2021	7.344	10.846	7.76	14.34	13.12	14.893	11.304	14.876	3.744	13.461	18.656	10.489	20.784	8						
Tue 12/01/2021	7.568	10.788	7.68	15.803	12.384	15.313	13.408	14.701	12.288	13.338	9.072	10.307	6.312	8						
Wed 13/01/2021	16.392	9.613	23.632	13.834	17.744	14.413	17.328	13.373	16.304	12.106	14.32	9.256	10.576	7						
Thu 14/01/2021	8.672	3.32	20.736	12.121	14.096	13.296	13.424	12.453	13.28	11.201	3.344	8.717	6.784	7						
Fri 15/01/2021	8.72	3.08	20.344	10.47	14.328	13.089	13.888	12.351	12.4	10.873	9.584	8.358	8.336	6						
Sat 16/01/2021	6.784	6.021	6.304	7.865	5.368	3.21	5.696	8.772	5.152	7.786	5.352	5.775	5.456	4						
Sun 17/01/2021	6.312	6.038	6.336	8.272	6.272	3.645	6.128	3.19	5.68	8.3	5.328	6.124	5.456	4						
Mon 18/01/2021	6.8	8.056	6.328	11.579	13.04	14.143	14.032	13.046	3.2	11.636	6.064	8.605	5.648	6						
Tue 19/01/2021	6.624	8.381	6.16	12.187	11.728	13.793	11.76	13.181	11.28	12.515	8.096	3.333	5.536	6						
Wed 20/01/2021	14.192	7.897	13.168	11.553	14.784	12.762	14.272	12.18	12.328	11.708	3.488	8.997	6.448	7						
Thu 21/01/2021	7.12	7.778	6.608	11.512	13.216	11.823	14.032	11.143	13.664	10.708	10.16	8.519	7.392	6.581	5.344	8.528	5.216	8.216	6.208	7.581
Fri 22/01/2021	7.088	7.693	14.328	9.373	20.88	11.038	11.352	10.396	11.264	10.372	7.552	8.44	5.152	7.175	4.864	6.628	4.36	6.336	6.256	7.38
Sat 23/01/2021	7.2	5.898	7.168	8.189	5.248	7.974	6.256	7.852	6.032	7.411	5.568	5.802	5.072	4.301	5.36	4.475	5.408	4.252	6.096	4.954
Sun 24/01/2021	6.224	5.384	6.464	8.655	4.736	8.5	5.808	8.326	5.744	7.789	4.848	5.967	4.768	5.042	4.816	4.588	4.528	4.34	5.392	5.038
Mon 25/01/2021	6.72	3.131	7.184	13.854	13.2	14.164	12.392	13.932	3.664	11.897	6.592	3.034	7.184	7.453	6.112	6.873	5.824	6.217	6.416	7.338
Tue 26/01/2021	6.384	10.578	11.68	14.524	12.016	14.388	12.416	13.37	11.872	11.871	4.896	8.926	5.568	7.544	5.264	6.936	5.168	6.505	6.096	7.64
Wed 27/01/2021	7.12	11.013	11.712	14.646	11.712	13.741	11.36	13.352	12.096	11.128	9.68	8.483	6.816	7.437	6.288	6.787	6.176	6.507	7.152	7.58
Thu 28/01/2021	5.616	10.355	16.376	12.31	10.336	13.373	11.264	12.618	11.12	10.412	7.712	8.181	5.632	7.177	4.344	6.748	4.688	6.408	5.68	7.262
Fri 29/01/2021	6.096	3.618	6.328	11.781	8.816	3.003	3.488	8.367	3.304	6.794	7.728	5.248	5.584	4.3	5.344	5.448	5.12	5.466	6.224	6.439
Sat 30/01/2021	6.24	8.047	6.624	11.458	6.192	3.663	5.336	8.375	6.208	7.191	6.64	5.35	6.4	4.84	6.096	4.31	5.376	4.556	6.16	5.126
Sun 31/01/2021	6.128	7.576	6.272	11.078	5.44	10.33	5.44	3.544	5.328	7.726	6.176	5.436	6	4.776	5.312	4.329	5.056	4.696	5.32	5.163
Mon 01/02/2021	6.384	10.4	6.64	14.888	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784	14.784
Tue 02/02/2021	16.816	10.247	14.624	17.466	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448	12.448
Wed 03/02/2021	7.296	10.111	13.552	15.805	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312	11.312
Thu 04/02/2021	11.008	3.602	13.824	14.179	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376	24.376
Fri 05/02/2021	13.76	3.53	18.432	13.636	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888	13.888
Sat 06/02/2021	6.432	8.032	6.176	11.527	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32	6.32
Sun 07/02/2021	6.496	7.763	6.24	10.083	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312	7.312
Mon 08/02/2021	5.952	8.816	5.744	11.591	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936	3.936
Tue 09/02/2021	8.544	11.062	13.632	12.58	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448
Wed 10/02/2021	6.016	11.058	14.496	11.773	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696
Thu 11/02/2021	6.08	11.276	16.256	10.748	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432
Fri 12/02/2021	7.808	3.377	19.2	3.133	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816
Sat 13/02/2021	6.16	8.169	5.712	8.705	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728	5.728
Sun 14/02/2021	6.768	8.7	6.272	10.556	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312	6.312
Mon 15/02/2021	13.664	11.174	13.304	15.106	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08
Tue 16/02/2021	21.92	3.698	11.696	14.062	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352	16.352
Wed 17/02/2021	8.128	3.418	7.12	13.303	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736	14.736
Thu 18/02/2021	7.504	3.347	7.184	13.772	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76
Fri 19/02/2021	7.328	10.061	6.328	14.632	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312	10.312
Sat 20/02/2021	8.544	11.062	13.632	12.58	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448	14.448
Sun 21/02/2021	6.016	11.058	14.496	11.773	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696	13.696
Mon 22/02/2021	6.08	11.276	16.256	10.748	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432	12.432
Tue 23/02/2021	7.808	3.377	19.2	3.133	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816	12.816
Wed 24/02/2021	6.16	8.169	5.712	8.705	5.728	5.728	5.728	5.728												

Example of PoL calculation

		15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00										
Date		15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00										
Fri 01/01/2021		12.608	8.4531	7.232	8.603	10.588	8.424	11.168	8.251	10.436	7.346	7.808	3.058	6.896	8.353	6.896	7.5	6.016	7.252	7.984	7.554
Sat 02/01/2021		8.128	6.171	7.408	6.301	6.304	8.31	7.296	8.74	6.128	8.104	6.16	8.127	6.56	6.712	6.312	5.563	6.192	5.654	7.712	5.988
Sun 03/01/2021		7.536	6.528	7.352	8.111	6.672	3.796	6.352	3.618	6.32	8.902	6.192	8.777	6.368	7.043	6.704	5.86	6.416	6.02	7.088	6.391
Mon 04/01/2021		8.144	8.15	8.15	10.133	12.368	3.934	12.8	3.668	3.136	3.244	6.208	10.031	6.176	8.831	6.688	7.631	6.16	7.653	7.232	7.828
Tue 05/01/2021		8	10.541	8.016	15.206	14.08	15.003	14.544	14.423	14.08	13.643	22.368	12.008	10.384	10.401	6.576	8.978	6.08	9.295	7.264	3.944
Wed 06/01/2021		8.064	10.387	532	14.875	14.4	13.331	14.256	13.396	13.712	12.622	10.64	11.445	7.056	10.203	7.312	8.713	7.2	3.055	7.504	3.932
Thu 07/01/2021		7.36	3.54	12.016	12.47	12.408	13.135	12.064	12.684	11.856	11.881	7.632	11.163	6.24	10.115	6.608	8.556	6.8	8.876	6.976	3.621
Fri 08/01/2021		8.56	3.063	9.072	12.643	12.048	13.254	11.2	13.023	11.248	11.635	8.128	10.321	7.072	3.944	7.344	8.32	7.856	7.973	7.744	8.858
Sat 09/01/2021		7.264	6.697	8.32	10.525	6.436	3.954	6.272	3.121	6.368	8.15	6.368	7.419	6.4	6.56	6.544	5.436	7.328	5.545	7.44	6.456
Sun 10/01/2021		7.296	7.243	7.888	11.502	6.4	3.925	5.448	3.747	6.544	8.66	6.32	7.672	6.512	6.555	6.448	5.408	7.248	5.436	7.6	6.394
Mon 11/01/2021		7.344	10.846	7.76	14.3	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Tue 12/01/2021		7.568	10.788	7.68	15.867	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Wed 13/01/2021		16.392	9.613	23.632	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12
Thu 14/01/2021		8.672	3.32	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Fri 15/01/2021		8.72	3.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Sat 16/01/2021		6.784	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Sun 17/01/2021		6.312	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Mon 18/01/2021		6.8	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Tue 19/01/2021		6.624	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Wed 20/01/2021		14.192	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Thu 21/01/2021		7.12	7.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Fri 22/01/2021		7.088	7.633	7.12	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Sat 23/01/2021		7.2	5.898	7.12	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Sun 24/01/2021		6.224	5.864	6.464	6.4	6.4	13.12	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Mon 25/01/2021		6.72	3.131	7.184	13.854	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571	13.12	14.571
Tue 26/01/2021		6.384	10.578	11.68	14.524	12.016	14.368	12.416	13.31	11.312	11.871	8.436	8.926	5.568	7.544	5.264	6.936	5.168	6.505	6.036	7.64
Wed 27/01/2021		7.12	11.013	11.712	14.646	11.712	13.741	11.36	13.352	12.036	11.128	9.68	8.483	6.816	7.437	5.264	6.936	5.168	6.505	6.036	7.64
Thu 28/01/2021		5.616	10.355	16.376	12.31	10.336	13.373	11.264	12.618	11.12	10.412	7.712	8.181	5.632	7.177	5.264	6.936	5.168	6.505	6.036	7.64
Fri 29/01/2021		6.036	9.618	6.928	11.781	8.816	3.003	3.488	3.867	3.304	6.734	7.728	5.248	5.584	4.3	5.264	6.936	5.168	6.505	6.036	7.64
Sat 30/01/2021		6.24	8.047	6.624	11.458	6.192	3.663	5.336	3.375	6.208	7.191	6.64	5.35	6.4	4.84	5.264	6.936	5.168	6.505	6.036	7.64
Sun 31/01/2021		6.128	7.576	6.272	11.078	5.44	10.33	5.44	3.544	5.328	7.726	6.176	5.436	6	4.776	5.264	6.936	5.168	6.505	6.036	7.64
Mon 01/02/2021		6.384	10.4	6.64	14.888	14.784	15.212	10.672	14.546	8.464	11.868	6.896	8.34	6.768	6.985	5.264	6.936	5.168	6.505	6.036	7.64
Tue 02/02/2021		16.816	10.247	14.624	17.466	12.448	15.256	12.768	14.331	12.24	11.631	7.76	8.056	6.544	6.537	5.264	6.936	5.168	6.505	6.036	7.64
Wed 03/02/2021		7.236	10.111	13.552	15.805	11.312	14.586	11.744	13.574	10.464	11.027	7.395	6.528	6.586	6.586	5.264	6.936	5.168	6.505	6.036	7.64
Thu 04/02/2021		11.008	3.602	13.824	14.173	24.376	12.413	25.008	11.353	11.36	10.431	7.28	7.878	6.272	6.553	5.264	6.936	5.168	6.505	6.036	7.64
Fri 05/02/2021		13.76	3.53	18.432	13.636	13.888	12.442	12.736	11.58	11.744	10.245	7.6	7.312	6.32	6.651	5.264	6.936	5.168	6.505	6.036	7.64
Sat 06/02/2021		6.432	8.032	6.176	11.527	6.32	3.097	6.208	6.543	5.904	7.533	5.984	5.85	6.08	4.563	5.264	6.936	5.168	6.505	6.036	7.64
Sun 07/02/2021		6.436	7.763	6.24	10.083	7.312	3.631	5.152	3.224	5.152	8.256	5.2	6.301	5.344	4.722	5.264	6.936	5.168	6.505	6.036	7.64
Mon 08/02/2021		5.952	8.816	5.744	11.591	3.936	13.433	8.328	11.533	8.064	3.502	5.152	7.42	4.992	5.432	5.264	6.936	5.168	6.505	6.036	7.64
Tue 09/02/2021		8.544	11.062	13.632	12.58	14.448	14.571	13.536	14.221	11.168	13.125	7.32	10.203	5.648	7.373	6.128	7.146	6.256	7.653	6.656	3.033
Wed 10/02/2021		6.016	11.058	14.436	11.773	13.636	13.543	12.544	13.421	12.016	12.378	7.248	3.986	5.2	7.38	5.552	7.085	6.816	7.44	6.448	8.875
Thu 11/02/2021		6.08	11.276	16.256	10.748	12.432	12.683	12.592	12.588	10.784	11.789	8.448	6.629	5.28	7.384	5.168	7.062	6.032	7.321	6.528	3.145
Fri 12/02/2021		7.808	3.377	19.2	3.133	12.816	12.486	10.376	12.657	10.768	11.618	6.896	3.567	4.376	7.306	4.752	6.986	5.304	6.834	6.512	8.125
Sat 13/02/2021		6.16	8.163	5.712	8.705	5.728	3.158	5.44	3.189	4.328	8.584	4.896	7.025	4.768	5.211	4.72	4.952	5.408	4.977	6.436	6.211
Sun 14/02/2021		6.768	8.7	6.272	10.556	6.312	3.936	6.436	3.765	6.4	3.23	6.304	7.423	6.048	5.326	5.808	5.056	6.816	4.933	7.104	6.253
Mon 15/02/2021		13.664	11.174	13.304	15.106	14.08	14.501	14.624	14.707	10.192	14.26	7.888	11.253	7.088	7.351	7.152	7.463	7.28	7.254	8.436	3.001
Tue 16/02/2021		21.92	3.638	17.636	14.062	16.352	14.58	16.436	14.273	14.688	13.983	13.168	10.673	7.396	7.674	7.44	7.212	7.296	7.087	14.048	8.214
Wed 17/02/2021		8.128	3.418	7.12	13.903	14.736	10.402	13.664	11.328	14.192	12.025	10.848	10.047	7.328	7.394	6.768	6.987	6.624	6.852	7.936	7.341
Thu 18/02/2021		7.504	3.347	7.184	13.772	13.76	3.506	13.072	10.46	12.864	11.38	10.272	3.533	6.784	7.277	6.288	6.831	6.176	6.745	7.216	7.739
Fri 19/02/2021		7.328	10.061	6.328	14.632	10.312	8.7	12.608	8.453	12.544	8.66	3.056	7.333	6.32	6.277	5.904	6.516	5.472	6.558	6.48	7.572
Sat 20/02/2021		8.544	11.062	13.632	12.58	14.448	14.571	13.536	14.221	11.168	13.125	7.32	10.203	5.648	7.373	6.128	7.146	6.256	7.653	6.656	3.033
Sun 21/02/2021		6.016	11.058	14.436	11.773	13.636	13.543	12.544	13.421	12.016	12.378	7.248	3.986	5.2	7.38	5.552	7.085	6.816	7.44	6.448	8.875
Mon 22/02/2021		6.08	11.276	16.256	10.748	12.432															

Example of PoL calculation

- The initial steps to calculate bias and accuracy scores involve the same steps as the baseline settlement calculation.
- For each TI calculate:
 - unadjusted baseline
 - uncapped adjustment factor
 - capped adjustment factor
 - apply the adjustment value to the unadjusted baseline to produce the **adjusted baseline value**
- Once all TIs in all assessment days have been calculated, the accuracy and bias scores are calculated using the following statistical methods:
 - RRMSE (Relative Root Mean Square Error) = accuracy score
 - ARE (Average Relative Error) = bias score

	15:30		1
Fri 01/01/2021	12.608	8.45312	7
Sat 02/01/2021	8.128	6.171	7

RESULTS			
	Score	Metric	Status
Accuracy	19.1%	20%	PASS
Bias	2.6%	4%	PASS

What is the PoL Calculator?

- The PoL Calculator is an Excel-based tool which will be available on the AEMO website.
- It will provide potential DRSPs the ability to estimate NMI baseline metrics prior to registration.
- The PoL Calculator may assist in determining:
 - Which NMIs to include in an application.
 - What methodology might best suit a NMI.
 - How the accuracy/bias scores differ for a NMI between the four available methodologies.

How does PoL Calculator work?

- PoL Calculator inputs:
 - meter data (inputted by the participant)
 - public holiday information for the selected region of the NMI's TNI (contained in the calculator)
 - selected baseline methodology's logic and metrics as outlined in the [Baseline Eligibility Compliance and Metrics Policy](#) (contained in the calculator)
- PoL Calculator outputs:
 - Accuracy and bias scores
 - NMI WDRM eligibility status based on validation against the accuracy and bias metrics.
- Accompanying the tool will be a user guide and some common Excel troubleshooting steps.

How does the tool work?

- Live demonstration of the tool to be held during meeting.

Summary of feedback on post-event dispatch conformance framework

Madison Pigliardo

Feedback received

1. Clarity on 24/7 monitoring and response requirements

- Clarifications were requested regarding whether 24/7 monitoring and control of dispatch instructions was required for WDR
- Draft policy does not currently specify 24/7 monitoring requirements which are included in similar AEMO documents for other generation types

2. Increase the WDR interval error threshold for over-delivery

- Proposed interval error threshold for WDR dispatch is 6 MW of over or under delivery
- Feedback suggested the error threshold for over-delivery be increased to allow a buffer for DRSPs to over-delivery to ensure full dispatch instructions and reduced system security risks

3. Improve declaration of non-conformance rules explanation

- Rules outlined in Section 4.1 lack clarity

AEMO response to feedback

1. 24/7 monitoring and response requirements

- AEMO has updated the document to make explicit the requirement that plant be monitored and are able to respond to dispatch instructions any time. All dispatch intervals are subject to conformance calculations
- This will also be included AEMO registration documentation for WDR

2. WDR interval error threshold for over-delivery

- AEMO has determined not to increase the 6 MW interval error threshold for over-delivery
- Unexpected over-delivery of WDR above the 6 MW threshold is a risk to system security for multiple reasons including an under-forecasting of demand

3. Improve declaration of non-conformance rules explanation

- Section 4.1 wording updated to improve explanation of rules

Approach to updating MSATS tech spec for WDR

Armando Estrella

Purpose and audience

- MSATS Technical Specification:
 - Describes the WDR technical changes required to participants' systems for the updated MSATS* system
 - Provides guidance about the changes to their Wholesale market system under the NER.
- This information is aimed at business analysts and IT staff in participants' organisations.

*Market Settlement and Transfer Solution

NEM Retail Systems: WDR participant change heatmap

B2M / B2B interfaces

MDMT

B2M aseXML schema

NMID

CATS

MSATS B2M APIs

B2B transactions

B2B aseXML schema

VIC TUoS

CATS / MDM Processes

Profiling

CATS standing data

Meter data validation

Estimation / substitution

Energy allocation

CR processing

MSATS Browser / Reports

Meter data screens

Reports

SDR

NMID

WDR

Baselines

Major
impact

Moderate
impact

Some
impact*

* Mainly relates to adding DRSP participant type & related attributes

Summary of WDR impact on Retail lifecycle

NMI creation

No change

NMI Discovery/ Standing Data

- AEMO to create new DRSP role
- DRSP role will be discoverable in Type 2 NMI Discovery
- DRSP will be entitled to access standing data as per CATS Procedures

NMI Role assignment

- AEMO to assign DRSP role to relevant WDRU NMIs

Metering changes

No change

Role changes

No change

NMI re/de-energisation

No change

NMI extinction

No change

Removal of DRSP role in MSATS

- AEMO to create a participant ID to replace the DRSP participant ID showing that a DRSP no longer exists and the NMI is no longer a classified WDRU.

High-level overview of MSATS tech spec changes for WDR

MSATS B2M	<ul style="list-style-type: none">• Create the DRSP role in retail systems
MSATS B2B	<ul style="list-style-type: none">• Enable B2B accreditation for DRSPs

Update timeline

Document	Early version released	Comments due	Updated version published
MSATS technical specification	mid Jun 2021	early Jul 2021	mid Jul 2021
New or updated MSATS/eMDM guides	early Aug 2021	mid Aug 2021	early Sep 2021

Approach to Industry Testing Plan

Priti Zacharopolous

Topics covered in the Test Plan document

Industry Invitation Test Plan will include details on the following topics:

- Test Scenarios
- Documentation approach for test cases and test data (*Test Workbook*)
- Test Environment
- Roles and Responsibilities (AEMO and participants)
- Test and Defect Management Tool and access
- Entry and Exit Criteria
- Defect Management and Triage Process
- Test Schedule
- Key Contacts for WDR Industry Testing phase

DISCUSSION:

- What other details should be included in the Test Plan? If so, why?
- Are there any areas listed above that should be excluded? If so, why?

Industry Test Workbook

- The following information will be captured in the **WDR Industry Test Workbook** which will follow the same format as the 5MS project:
 - Test Scenarios
 - Test Cases and steps
 - Test Data
 - Order of Execution
- The Industry Test Workbook will be included in the Test Plan document

Proposed schedule for Test Plan

Proposing ~2 week delay compared with initial schedule:

- Allows AEMO to better balance resources across WDR testing workstream
- Test plan and workbook will be available well ahead of industry testing period (6 Sep to 1 Oct)

Document	Early version released	Comments due	Updated version published
WDR Industry test strategy (complete)	25 Feb 2021	11 Mar 2021	01 Apr 2021
WDR Industry test plan (initial schedule)	Jun 2021	Jul 2021	Jul 2021
WDR Industry test plan (proposed schedule)	Thu 15 Jul 21	Fri 30 Jul 21	Tue 10 Aug 21

DISCUSSION:

- To what extent does the proposed timeline impact your WDR implementation program?

Portfolio Management System update and stakeholder feedback session

Kevin Gupta and Madhuri Malhotra

Context

The new **Portfolio Management System** will allow DRSPs to:

- Manage their portfolio of WDRUs
- Submit new classification and aggregation requests.

The audience for this session is therefore prospective DRSPs.

Session aims

- Preview mocked-up user interface screens for new PMS
 - External-facing screens for DRSPs based on AEMO's understanding of what DRSPs would want to see
- Run through a set of screens to give a flavour of the basic functionality and look and feel
- Seek feedback on the data and how it is grouped/presented
- **Not** seek feedback on fundamental functionality (e.g. csv upload) as this is fixed due to time and cost limitations
- Provide an indication of registration functionality. NOTE: This will be explored in detail at the WDR registration workshop (Fri 28 May)

Applications in .zip and .csv format

SN#	Terminology for 'Application Type' column	Definition
1.	New	<ul style="list-style-type: none"> Used when a new NMI is being requested to be classified in a new and existing group. In all initial applications 'new' is expected by default.
2.	Amend	<ul style="list-style-type: none"> Used when information against NMI is requested to be modified. Can be used for initial (e.g. awaiting application scenario) and subsequent applications.
3.	Add	<ul style="list-style-type: none"> Used in disaggregation scenarios only. This is when the participant is moving an existing NMI e.g. NMI 1234 from DUID 1 to DUID 2. In this example, 'add' is expected in the DUID2 specific WDRU_NMI.csv file. Not expected in initial applications. Participant is expected to provide updated and correct data at the DUID level e.g. when there is a change in MRC value because of disaggregation.
4.	Remove	<ul style="list-style-type: none"> Used in disaggregation scenarios only. This is when the participant is moving an existing NMI e.g. NMI 1234 from DUID 1 to DUID 2. In this example, 'remove' is expected in the DUID1 specific WDRU_NMI.csv file. Not expected in initial applications. Participant is expected to provide updated and correct data at the DUID level e.g. when there is a change in MRC value because of disaggregation.
5.	Declassify	<ul style="list-style-type: none"> Used in declassification scenarios only. System will immediately declassify the NMI without needing business review. Participant is expected to provide updated and correct data at the DUID level e.g. when there is a change in MRC value because of the declassification. Not expected in initial applications.

* Definition may update during development

General questions

Ruth Guest

WDR contact and information



Mailbox

wdr@aemo.com.au



WDR program information

<https://aemo.com.au/initiatives/trials-and-initiatives/wholesale-demand-response-mechanism>



WDR stakeholder engagement options

<https://aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/wdr>

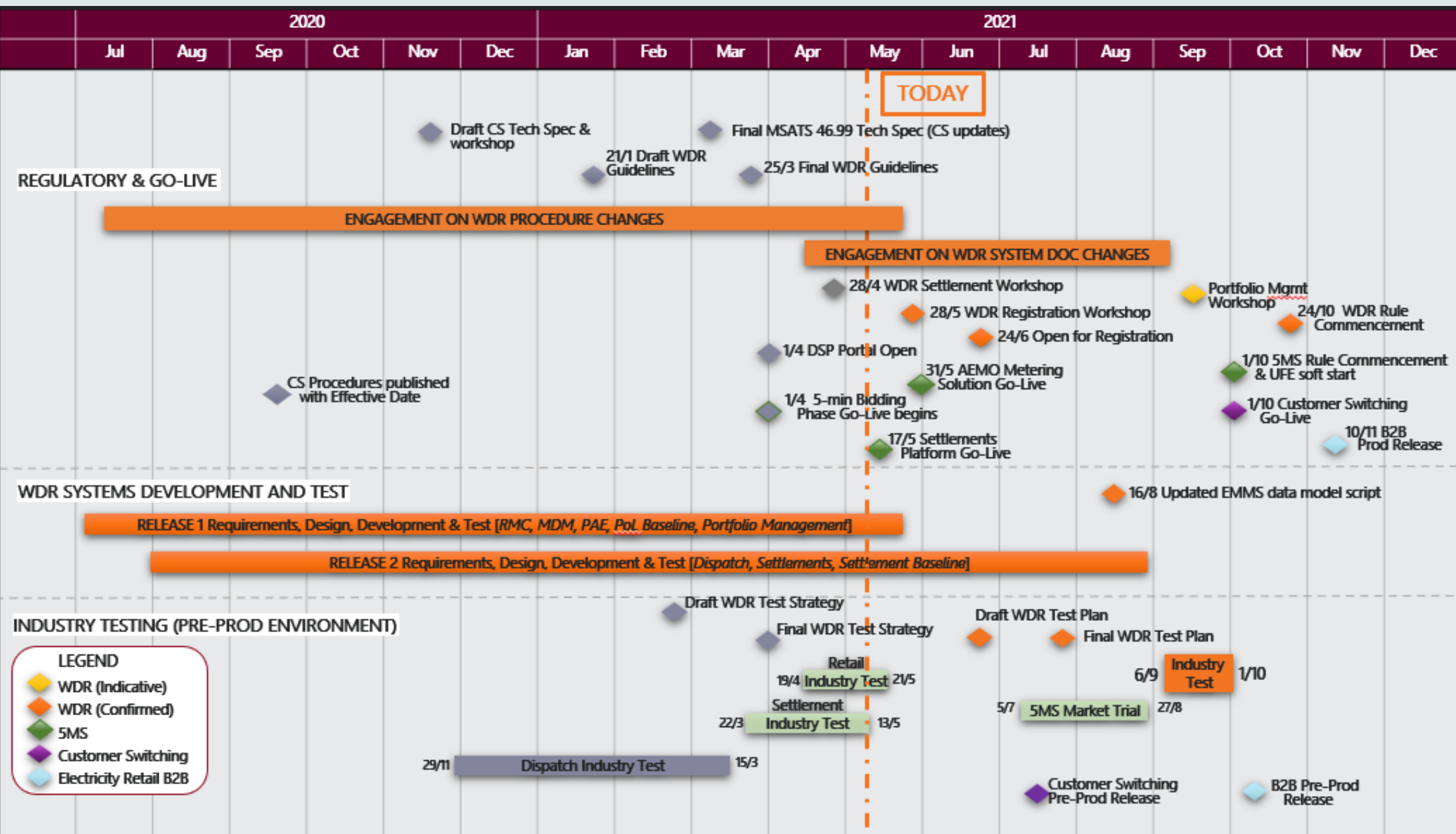
Thank you for your
participation!

APPENDIX A

Indicative program schedule

Indicative program schedule

Current as of 11 MAY 21



APPENDIX B

Procedure changes timeline

Procedure change timelines

Current as of 11 MAY 21

Procedure package	Consultation Paper	Round 1 Consultation	Draft	Round 2 Consultation	Final
WDR Guidelines	Thu 22 Oct 2020	Fri 27 Nov 2020	Thu 21 Jan 2021	Fri 19 Feb 2021	Thu 25 Mar 2021
Settlements and Prudentials procedure – CLP	Fri 04 Sep 2020	Fri 16 Oct 2020	Thu 12 Nov 2020	Fri 4 Dec 2020	Mon 18 Jan 2021
Settlements and Prudentials procedure - Estimations	Thu 05 Nov 2020	Fri 18 Dec 2020	Mon 18 Jan 2021	Wed 10 Feb 2021	Thu 4 Mar 2021
Retail procedures & B2B guide	Mon 12 Oct 2020	Tue 17 Nov 2020	Tue 15 Dec 2020	Tue 02 Feb 2021	Tue 16 Mar 2021
Market & System Operations procedures	Fri 09 Oct 2020	Tue 17 Nov 2020	Fri 11 Dec 2020	Fri 29 Jan 2021	Fri 12 Mar 2021
Demand-side participation information guidelines	Wed 26 Aug 2020	Wed 30 Sep 2020	Wed 11 Nov 2020	Wed 25 Nov 2020	Fri 18 Dec 2020
Baseline Eligibility, Compliance and Metrics Policy	Fri 18 Dec 2020	Fri 5 Feb 2021	Thu 18 Mar 2021	Thu 8 Apr 2021	Thu 20 May 2021

APPENDIX C

Project and system document changes

Project and system document change timelines

Current as of 11 MAY 21

Area	Document	Early version released	Comments due	Updated version published
DISPATCH CONFORMANCE	Post-event dispatch conformance policy	01 Apr 2021	22 Apr 2021	21 May 2021
TESTING	WDR Industry test strategy	25 Feb 2021	11 Mar 2021	01 Apr 2021
	WDR Industry test plan	Jun 2021	Jul 2021	Jul 2021
WHOLESALE – EMMS	EMMS technical specification	Apr 2021	mid May 2021	31 May 2021
	Data Interchange (DI) online help	Aug 2021	n/a	Sep 2021
PORTFOLIO MANAGEMENT SYSTEM	Guide to Portfolio Management System (PMS)	mid Aug 2021	late Aug 2021	mid Sep 2021
	Markets Portal online help (PMS updates)	mid Aug 2021	late Aug 2021	mid Sep 2021
RETAIL – MSATS/eMDM	MSATS technical specification	mid Jun 2021	early Jul 2021	mid Jul 2021
	New or updated MSATS/eMDM guides	early Aug 2021	mid Aug 2021	early Sep 2021

EMMS Data Model script: WDR updates



The Electricity Data Model is the definition of the interface to participants for NEM wholesale data published by AEMO. A database conforming to the Electricity Data Model can contain a local copy of all current participant-specific data recorded in the main NEM database.

Detailed information on the packages, tables and reports in the Electricity Data Model are set out in supporting guides:

<https://www.aemo.com.au/energy-systems/market-it-systems/electricity-system-guides/wholesale-it-systems-software>

