

WA Electricity Consultative Forum

28 June 2023



We acknowledge that this meeting is being held on Aboriginal land, the land of the Whadjuk people of the Noongar Nation.

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

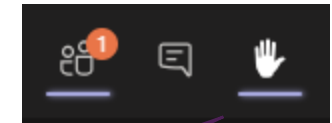
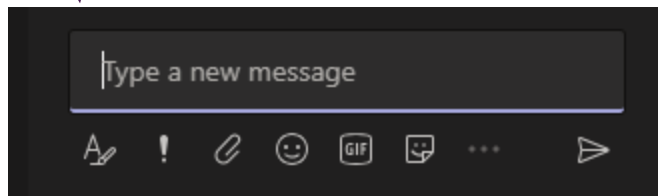
Join the Discussion and Teams



1. Click the chat icon to open the chat window

1. Click the hand icon to raise your hand

2. Type your question in the chat window



2. Keep your hand raised until you're called upon

3. Lower your hand after

Agenda

Item	Time	Item	Speaker
1.	1pm – 1:05pm	Welcome and Minutes (3 May 2023)	Chair
2.	1:05pm – 1:10pm	WEM Market Fees and Charges for 2023-24	Martin Maticka (AEMO)
3.	1:10pm – 1:35pm	AEMO Operational Updates	
		3.1 Power System Update – Winter Outlook	Paul Elliott (AEMO)
		3.2 Reserve Capacity update	Neetika Kapani (AEMO)
		3.3 Non-Co-Optimised Essential System Services (NCESS) update	Toby Price (AEMO)
4.	1:35pm – 1:55pm	AEMO Project Updates	
		4.1 AEMO WA DER Roadmap update	Tom Butler (AEMO)
		4.2 WEM Reform Program update	Andrew Smith (AEMO)
6.	1:55pm – 2:00pm	Other Business	
7.	2:00pm	Next Meeting – 23 August 2023	Chair

***Please note this meeting will be recorded for minute production**

WEM Market Fees for 2023-24

Presented to WA Electricity Consultative
Forum

Martin Maticka, Group Manager WA
Market Development

28 June 2023



Summary WEM Fees FY24

- **AEMO WEM fees in FY24 at \$1.5263/MWh is consistent with AR6.**
- **ERA Regulator fee is \$0.2063/MWh and EPWA Coordinator fee is \$0.0779/MWh.**
- Revenue recovering budgeted costs with increases driven by the delivery of the **WEM Reform program** and **new market ‘go live’** in October 2023.
- Forecast energy consumption in FY24 based on draft 2023 WEM ESOO.
- AEMO submitted **in-period proposal** in April for additional forecast capital expenditure to deliver WEM Reform program in full. Any resulting operating expenditure impact will be reflected in **AEMO WEM fees in FY25 onwards.**

	Budget 2022-23	Budget 2023-24	Variance (\$)	Variance (%)
Revenue Requirement (\$m)	41.9	56.1	14.2	34.0%
Consumption (GWh)	17,950	17,948	-2	-1.1%
WEM Fees				
AEMO WEM fees (\$/MWh)	1.1559	1.5263	0.3704	32.0%
ERA Regulator fee (\$/MWh)	0.1727	0.2063	0.0336	19.5%
EPWA Coordinator fee (\$/MWh)	0.0718	0.0779	0.0061	8.4%
Total WEM fee (\$/MWh)	1.4004	1.8105	0.4101	29.3%

Questions and Feedback

wa.marketdevelopment@aemo.com.au

For more information
please visit www.aemo.com.au

Power System Update

Winter readiness 2023

Presented to WA Electricity Consultative Forum

By Paul Elliot, Manager - WA Power System Operations

28 June 2023



Agenda

Winter 2023 Readiness

- Weather and Climate
- Power System Readiness

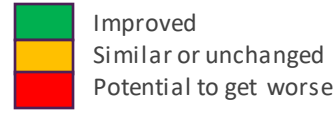
Review of June 2023



















Winter 2023 Readiness



Winter Outlook



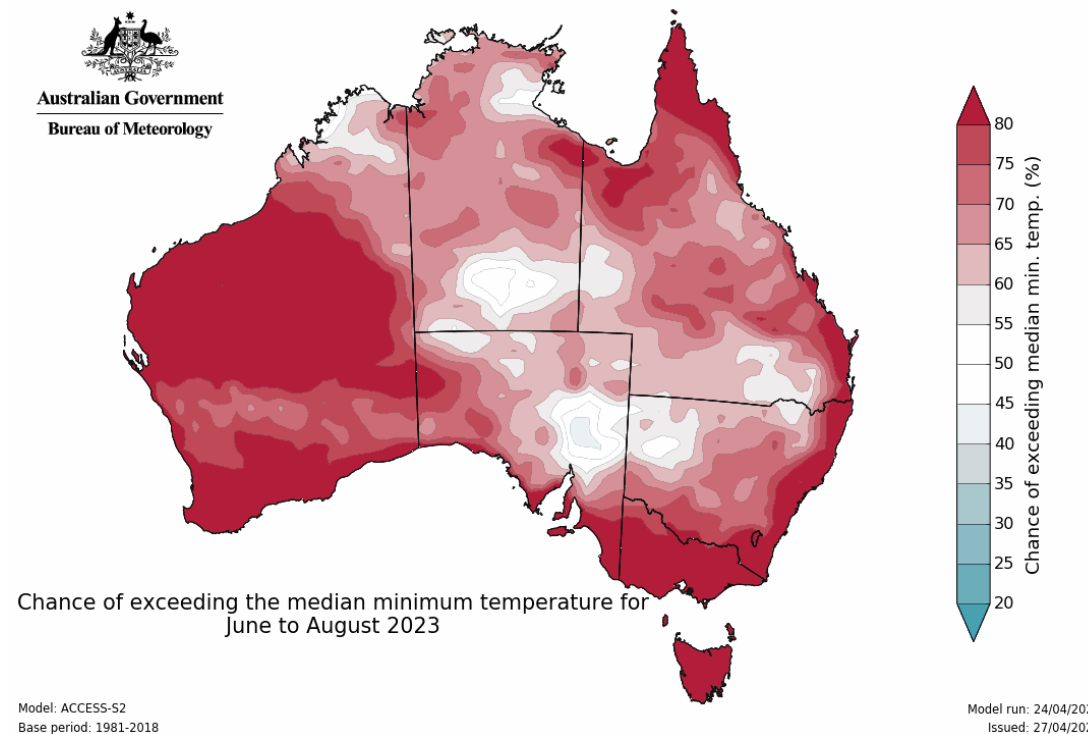
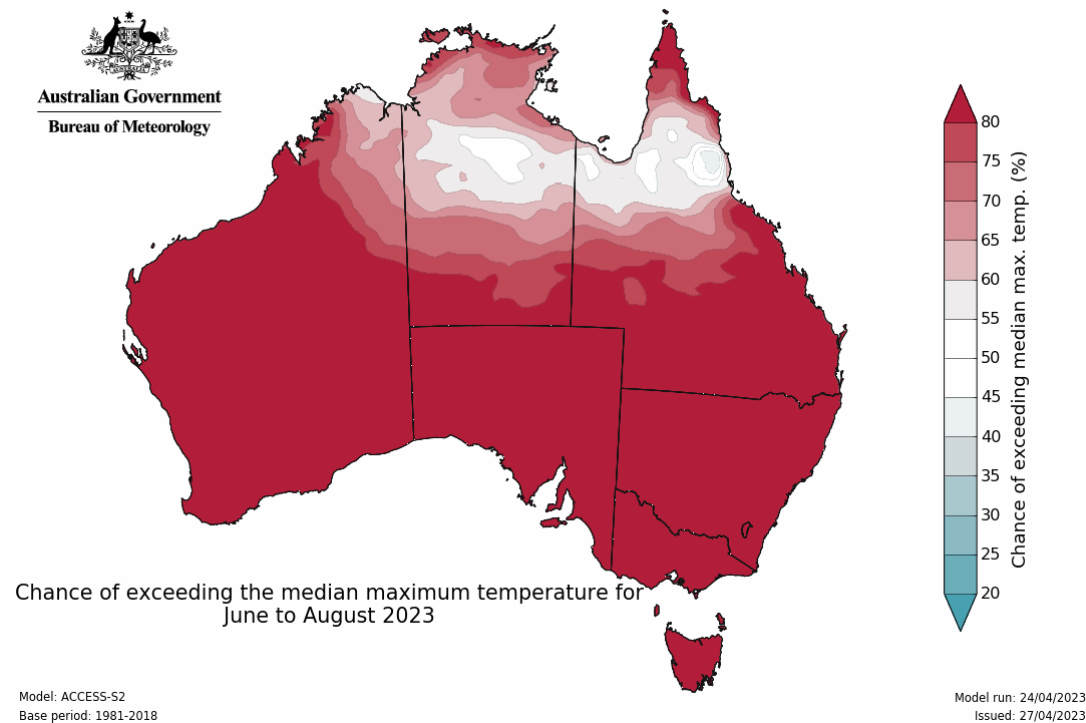
Impact	West/East	Comparison to last winter
 Extreme cold snaps		Drier and warmer conditions expected but potential for extreme cold snaps still exists.
 Widespread flooding		Lower than average rainfall expected reducing risk of flooding.
 Extreme peak demand		Historically winter demands have not been as high as summer. Potential for cold snaps.
 Generation availability		Slightly reduced scheduled generation availability expected for the WEM.
 Network outages		Less scheduled electricity High Impact Outages (HIOs).
 Reliability		Similar unserved energy (USE) and loss of load probability (LOLP) forecast. Potential for unplanned plant outages to degrade electricity/gas system reliability.
 Fuel supply		Similar for NEM and WEM. Improved coal stockpiles in NEM/WEM. Gas storage generally at high levels
 Health of markets		Improved financial position, prudential risks are comparably lower than for winter 2022.

June to August 2023: Climate Outlook

Maximum temperatures

27 April 2023

Minimum temperatures



Maximum temperatures are likely to be above median for majority of the country.

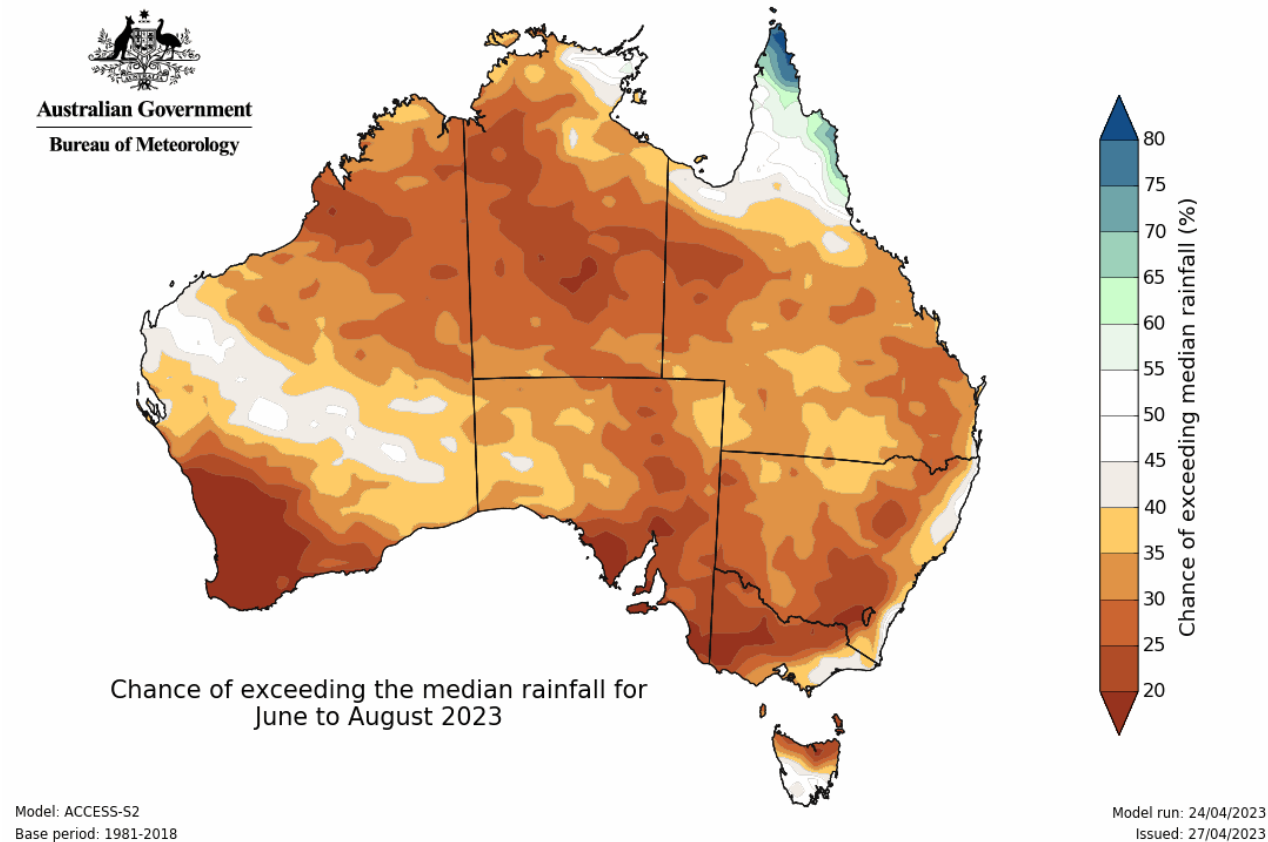
Minimum temperatures are generally likely to be warmer for WA, Vic and Tas and for coastal areas around the country.

Although maximum temperatures are generally expected to be warmer than average during El Niño year, decreased cloud cover often leads to cooler-than-average night-time temperatures during winter–spring, particularly across eastern Australia.

June to August 2023: Climate Outlook

Rainfall (27 April 2023)

- Median to above-median rainfall likely for northern Australia, coastal areas of NSW, southern Tas and parts of WA.
- Below-median rainfall likely for majority of the eastern states and south-west WA.



Regional hazards: May – August 2023



Fire danger

- Moving into peak bushfire period for northern Australia
- High fuel loads following good wet season rainfall
- Watchpoints: Top End (NT), N WA, central E QLD



Drought

- Low rainfall recent months
- Dry outlook until at least spring
- Watchpoints: SE QLD, W TAS, SW WA



Coastal inundation & erosion

- Winter storms can cause coastal inundation along southern Australia coasts



Frost

- Dry outlook suggests increased frost risk
- Watchpoints: Grain-cropping regions across southern Australia

Network and Generation Winter Risks

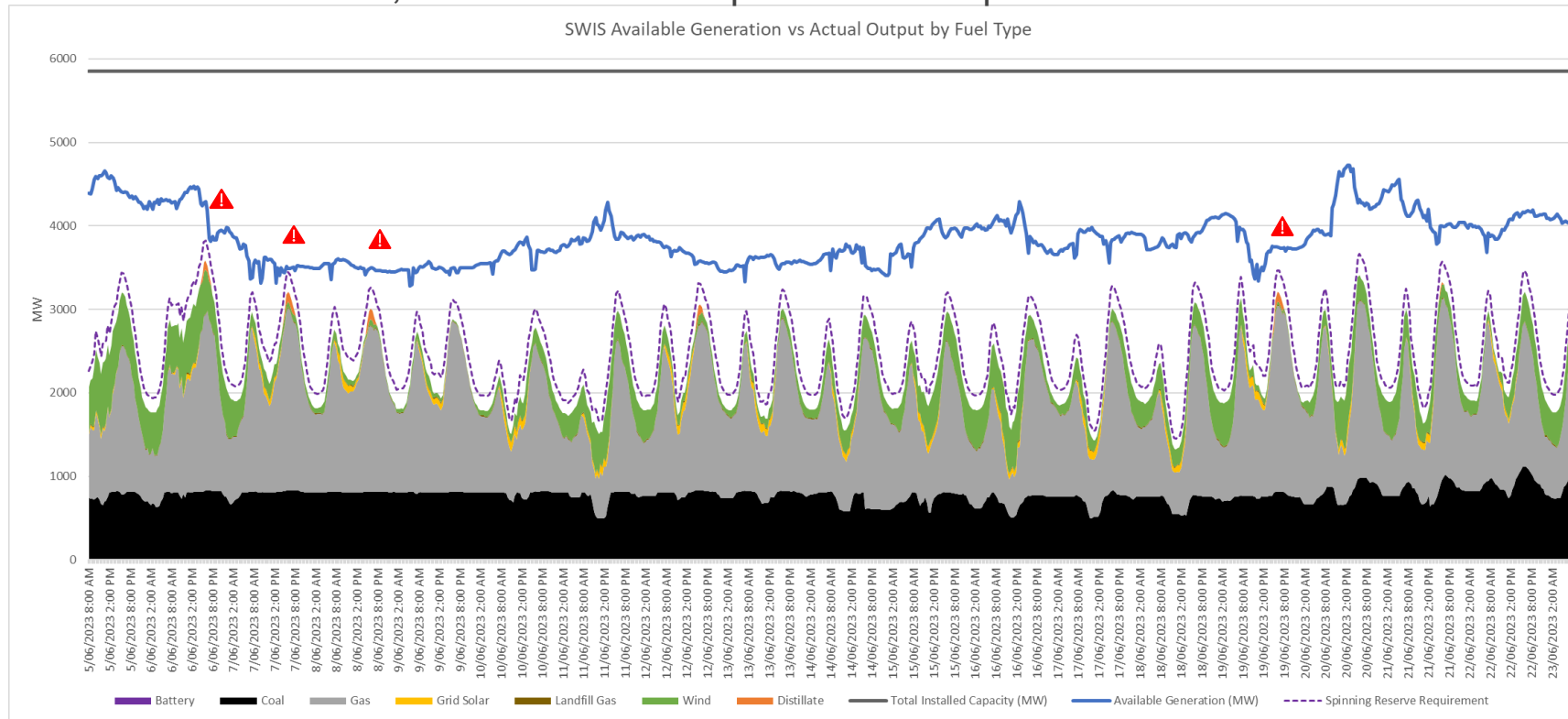
Risks	Mitigation
Network and generation forced outages exceeding limits historically observed.	<ul style="list-style-type: none"> • Detailed interaction between AEMO and Western Power and Generators to respond to forced outages and identify appropriate actions to be taking.
Network and generation maintenance / commissioning activities extending beyond target completion dates.	<ul style="list-style-type: none"> • AEMO is working closely with Western Power and Generators to understand delays/modifications to planned maintenance.
Bushfires/grassland fires impacting generation or network assets.	<ul style="list-style-type: none"> • Monitor risks with asset owners. • Contingency plans in place.
Unplanned network events including during high/low demand periods.	<ul style="list-style-type: none"> • Minimum Demand Threshold framework and contingency plans in place.

June 2023 review



Balancing supply and demand

- The outlook for winter had indicated a tight but manageable balance between supply and demand.
- Recent challenges with forced outages and a number of days with low wind availability have resulted in a significant number of tight peaks.
- As plant has returned to service, this outlook has improved for the period ahead.

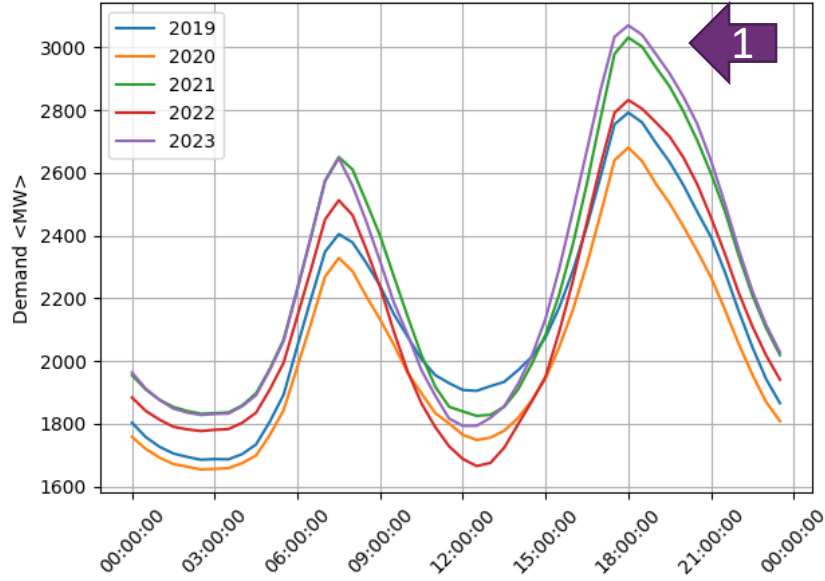


▲ Forecast LOR 2 Conditions

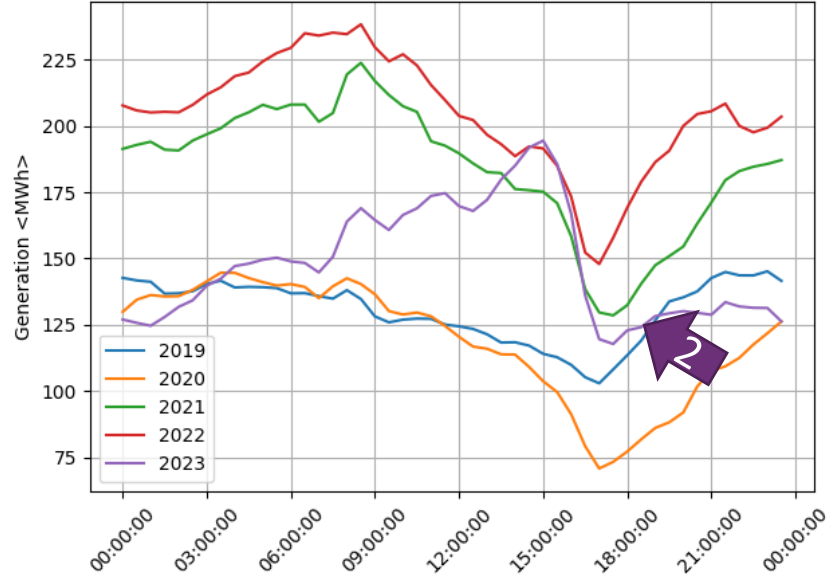
Available Generation (MW) = Total Scheduled Generation – Scheduled Generation Outages + Wind Generation + Grid Scale Solar Generation – Network Constraints (110 MW)

Records & Trends

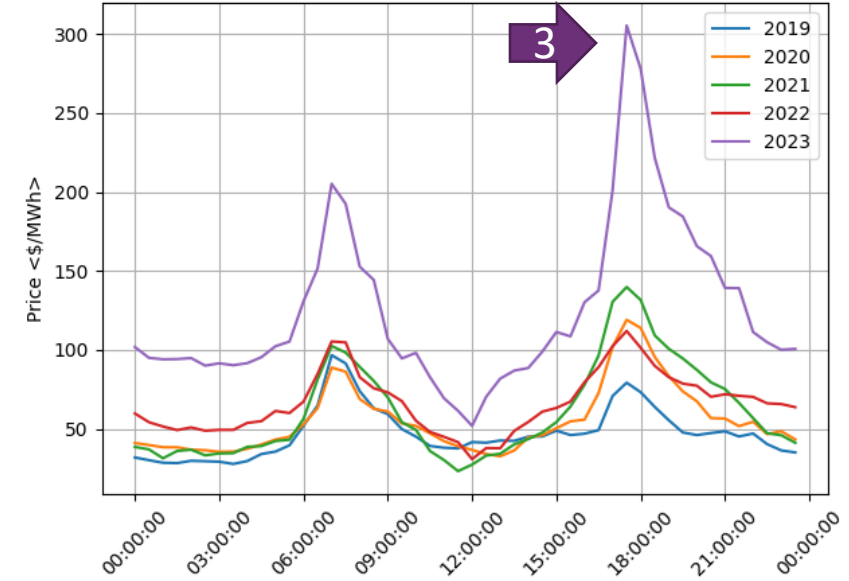
June Average Operational Demand By Year



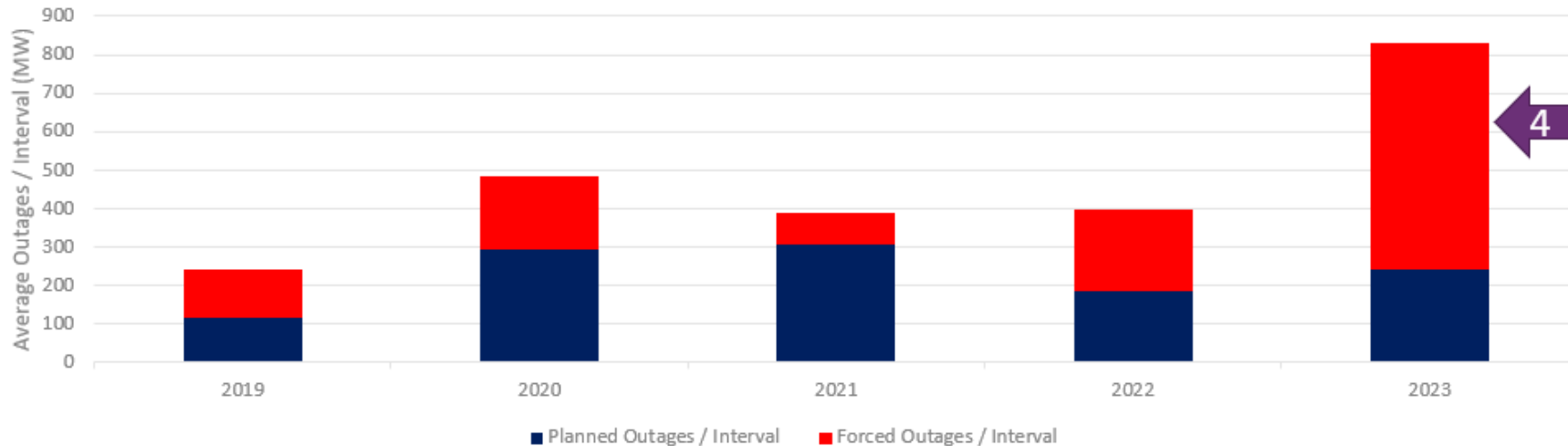
June Average Intermittent Generation By Year



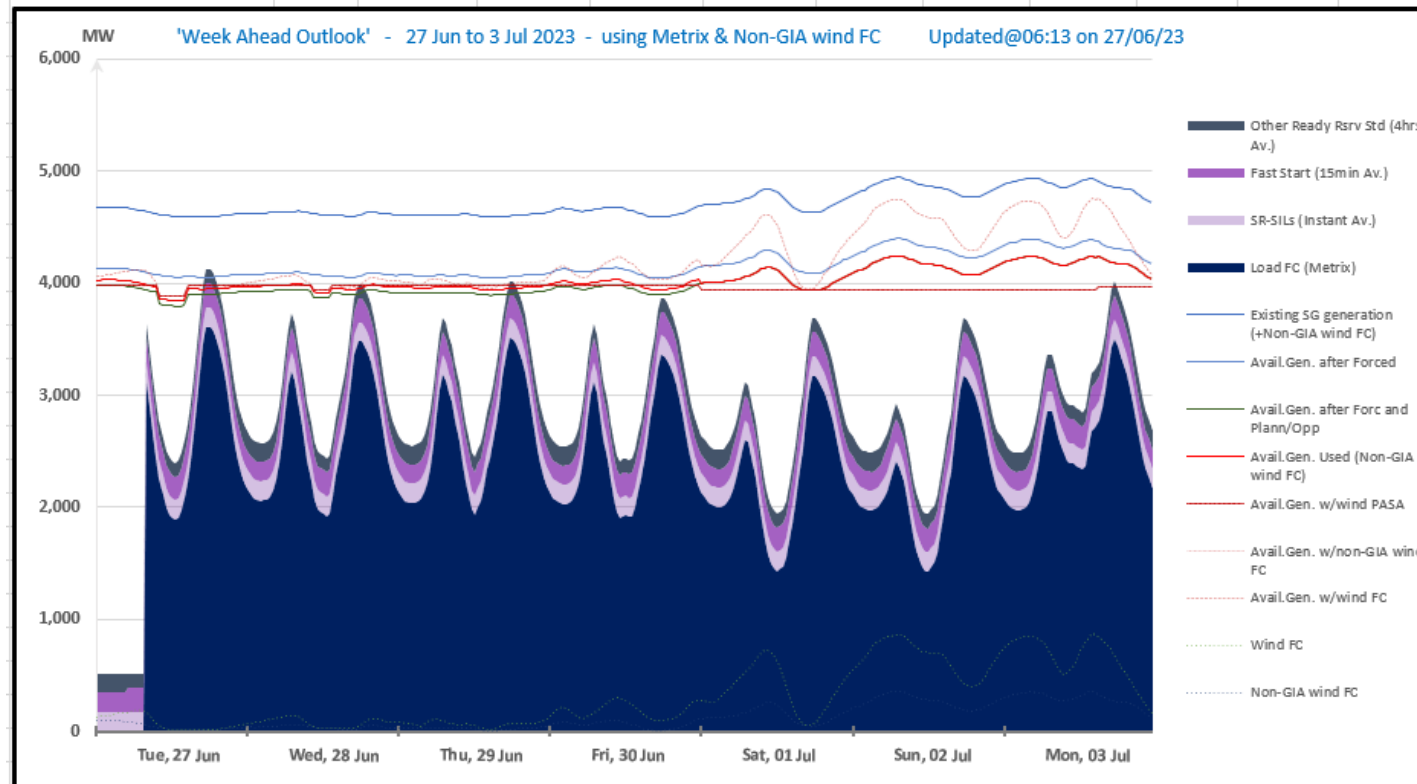
June Average Price Generation By Year



Average June Outage by Interval per Year



Example of 7 day lookahead



Detailed week ahead outlook is used for operational planning, and considers latest forecast, available generation, and various wind assumptions.

Actions AEMO can take

Dispatch all capacity in the market, including DSP

Under Emergency Operating State, instruct all participants to support the system

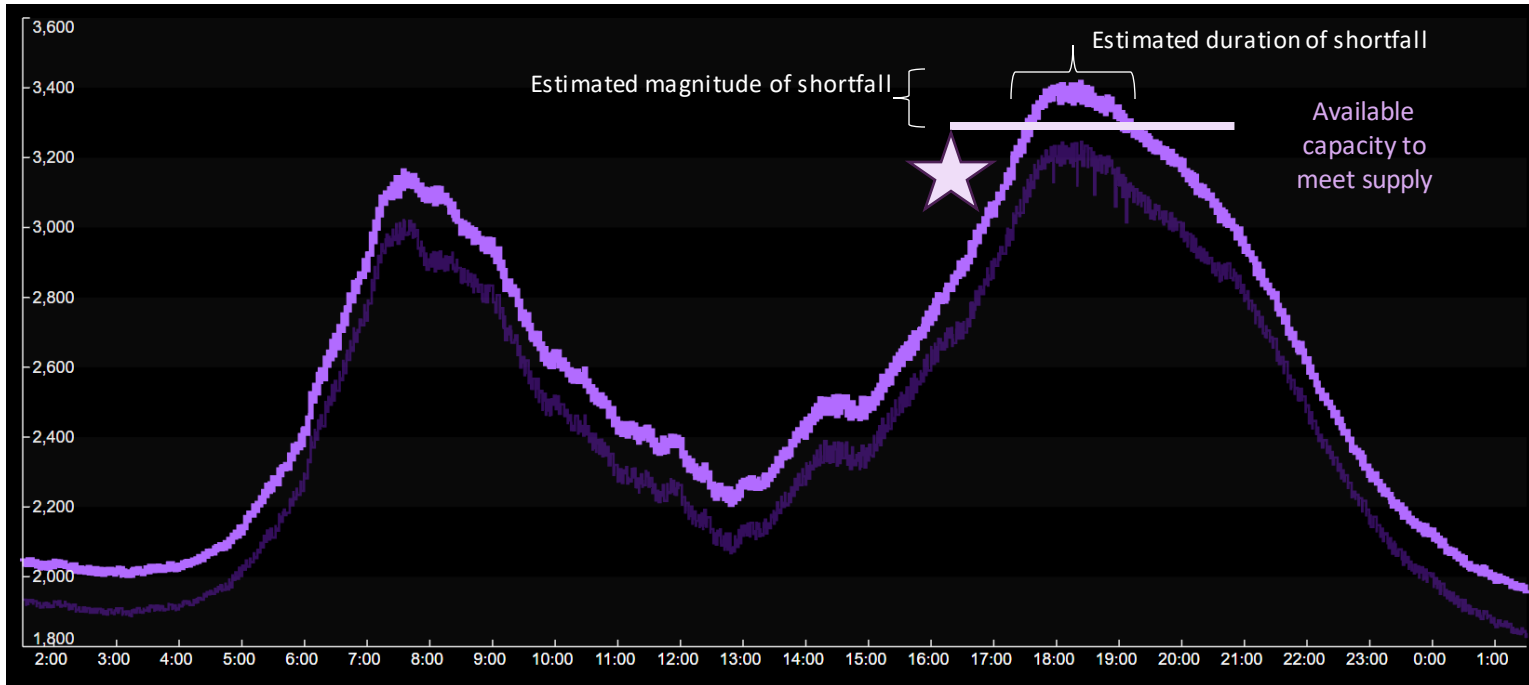
Operate the system with reduced Ancillary Services
-> increased risk of UFLS

Instruct Western Power to manually load shed

*Timing of constraint and lead time to dispatch may influence the order in which these actions are taken

Management of tight system conditions

Indicative representation



Considering the time and magnitude (MW) until peak, a relevant quantity of load shedding will be instructed.

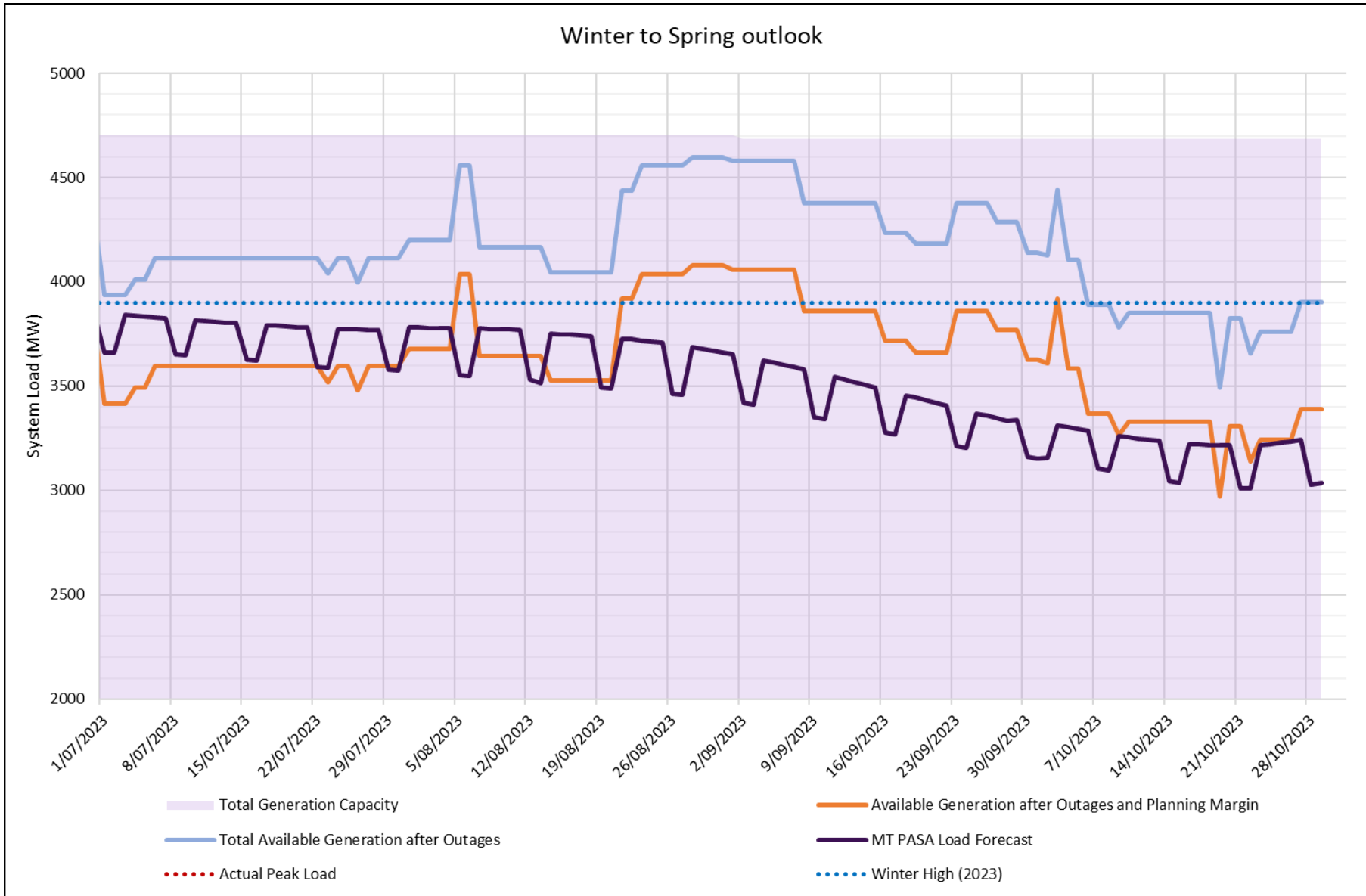
LOR 2 condition forecast

- Dispatch all available generation and demand side responses
- Generators providing reserves are dispatched at lower levels and will increase output as required.
- A High Risk and subsequent Emergency Operating State will be declared before final actions are implemented
- Spinning Reserves may be compromised to some extent during peak, such that if the largest contingency were to occur, Automatic Under Frequency Load Shedding may occur.

LOR 3 condition forecast

- All above actions taken
- Proactive load shedding may occur to maintain reserves for frequency control

Winter to Spring lookahead



Winter will continue to be challenging, depending how weather conditions impact actual demand.

Critical focus areas

While June has been particularly tight, the risk of similar conditions remains going forward. To support this we encourage focus on:

- Detailed outage coordination
- Ensuring ongoing communication of risks related to outages and operational challenges
- Ensuring adequate fuel availability
- Staff mobilisation when required to ensure confidence in response

Questions and Feedback

wa.sm.operations@aemo.com.au

For more information
please visit www.aemo.com.au

Reserve Capacity Update



Presented to WA Electricity Consultative Forum

by Neetika Kapani, Manager, Reserve Capacity (WA) AEMO

28 June 2023



Announcements & reminders

- AEMO undertook a consultation process on proposed deferrals to the 2022 & 2023 Reserve Capacity (RC) Cycle timetables.
- The primary reason for the deferrals was to allow more time for AEMO and Western Power to work in tandem to ensure accuracy of the inputs and outputs of the Network Access Quantities (NAQ) model.
 - The NAQ framework is being implemented for the first time for the 2022 RC Cycle and will be used to assign Capacity Credits for this Cycle.
 - Submissions closed on 19 June.
 - Stakeholders were generally supportive of the proposed deferral dates and AEMO received one formal submission.
 - AEMO published the revised timetables for the 2022 RC Cycle on its [website](#).
 - AEMO is considering its position with respect to the 2023 RC Cycle timetable and will notify stakeholders of the outcome in the next few weeks.

2022 Reserve Capacity Cycle – deferred key dates

28 July

- AEMO will assign Capacity Credits and NAQ values.

2023 Reserve Capacity Cycle – proposed deferred key dates

17 August

- AEMO will publish the 2023 WEM Electricity Statement of Opportunities (ESOO).
- Drafting of chapters is underway.
- Board approval to publish is to be sought in early August.

24 August

- The Certified Reserve Capacity window closes.
- Participants are encouraged to engage with the RC team for any CRC related queries.

Announcements & reminders cont.

Other items to note

- AEMO is undertaking analysis to determine the Supplementary Reserve Capacity (SRC) quantity expected to be procured for the 2023-24 Capacity Year.
- Consultation on the SRC WEM Procedure is underway with an effective date of 1 July 2023.
- Winter RC testing is underway. Participants are encouraged to self-test before formal testing commences in the first week of July.

Questions and Feedback

wa.capacity@aemo.com.au

For more information
please visit www.aemo.com.au

WA DER Program Update

Presented to WA Electricity Consultative
Forum

Tom Butler, Manager WA Distributed
Markets

28 June 2023



WA Distributed Markets

June 2023

Enabling distributed energy resources and new technologies to be an integral part of the SWIS through the WEM by supporting security and reliability, as we move towards a 100% instantaneous renewable energy power system.

Program Status

The program is on track per DER Roadmap Actions, making good progress on key deliverables and moving to **green** status over May-June. Major focus has been on running the 'Test and Learn' phase of Project Symphony with testing delivering knowledge bank that will be used to form recommendations over the coming period.

Key Activities This Period

- **Stakeholder engagement:** WA DER Market Participation Forum held on 14 June.
- **Project Symphony**
 - Testing of WEM scenarios over April–June, with intensive analysis underway across all partners.
 - Commenced consideration of key recommendations for WEM participation.
- **Technology Integration**
 - Engagement with EPWA, Western Power to further develop DER Orchestration Roles and Responsibilities
 - Progressed research into potential roles for DER in the system restart process.
- **WEM DER Register**
 - Technical specification review and engagement with Network Operator.
 - Commenced detailed design for changes.

Focus For Next Period

- **Stakeholder engagement:** Next WA DER Market Participation Forum set for 5 July.
- **Project Symphony**
 - Testing continues to end of June.
 - Recommendations development over July-August for WEM participation to inform policy and rule development following the pilot.
- **Technology Integration**
 - Finalisation of research into potential roles for DER in System Restart.
- **WEM DER Register**
 - Engagement with the Network Operator.
 - API and system changes to commence with targeted go-live of 2 October.
- **Forward work plan**
 - Developing forward work plan for implementation.
 - Consideration of DER Roadmap Actions 26, 27, 29 and 30 to achieve stated milestones over the 2023-2025 period.



Questions and Feedback

WADERProgram@aemo.com.au

For more information
please visit www.aemo.com.au



WEM Reform Program Update

Presented to WA Electricity Consultative
Forum

By Andrew Smith, Program Director,
WEM Reform, WA

3 May 2023



WEM Reform Program Status Update | June 2023



Overall Status

The Program status remains **amber** due to the tight schedule compression and multiple critical delivery risks. A comprehensive readiness and risk assessment is being finalised for the first of four Go-Live decision gates on 27 June.

Key Activities This Period

Procedures: Presented/consulted on WEMPs including: Limit Advice Requirements, Reserve Capacity Performance Monitoring, Settlements, Meter Data Submissions and Verification of Dispatch Inflexibility, Rule Participant Registration Processes, Transitional Registration.

- **System Development/Releases:** Highlights include:
 - **WEMDE and WEMDE UI:** Completed most of the remaining features and addressed defects (both internal and external facing)
 - **Outage Management:** Release 2 successfully deployed in MPT and RFM, Release 5 in UAT
 - **STEM:** Complete STEM Release 2 to RFM (est. end of June) for Market Participant testing
 - **Settlements:** Complete Release Settlements to RFM (est. 30 June) for Market Participant testing
 - **Registration:** Completed Release 1 to MKT (Pre-Production)
- **Market Readiness Reporting:** Completed Survey No.9
- **Market Trial & Transition:**
 - Commenced testing of Integrated Release 2 into RFM Environment
 - Completed and published Go Live Decision Framework, draft Transition Schedule and the Cutover Plan
 - AEMO Decision Gate 1 'Go-Live' decision (27 June)

Focus For Next Period

Procedures: Present/consult on WEMPs including: Reserve Capacity Testing, Prudential Requirements, Outages, Capacity Credit Allocations and Reliability Standard Implementation, Verification of Dispatch Inflexibility, Meter Data Submissions, GPS Compliance Tests and Generator Monitoring Plans.

- System Development/Releases:** Progress work including:
- **WEMDE:** Complete the remain features and focus on addressing defects identified through testing fully integrated systems.
 - **RCM:** Complete RCM Phase 3 integration development
 - **STEM:** Complete next STEM to RFM as part of next Integrated Release (est. 17 July)
 - **Registration:** Complete release into Production (est. 3 July)
 - **Market Readiness Reporting:** Publish Market Readiness Report No.9
 - **Market Trial & Transition:**
 - Complete next Integrated Release into RFM Environment (est. 17 July) and continue testing
 - AEMO Decision Gate 2 'Go-Live' decision (24 July)
 - **Financial:** Provide responses to ERA queries regarding In-period submission for additional funding

Stakeholder Engagement

Industry Testing Forum (ITF) Mon/Wed weekly	WRIG Meeting 22 June	WAEFC Meeting 28 June	Market Readiness Report 9 30 June	ETCG Meeting 6 July	WRIG Meeting 27 July
--	-------------------------	--------------------------	--------------------------------------	------------------------	-------------------------

Registration-SCED deployment

The Registration-SCED application will be deployed into the production environment on 3 July 2023. Market Participants are required to take several actions in the new registration system (Registration-SCED) prior to NWCD to participate in the WEM from 1 October 2023.

Key actions and deadlines Market Participants should be aware of are:

Forms for submission	Deadline for submission
Submission of Market Participant Standing Data form	Required by 5:00PM on 1 August 2023.
Submission of Facility General Information, Standing Data, Facility Technology Type and Separately Certified Components forms	Required by 5:00PM on 1 August 2023.
Submission of a new (SCED) Facility registration form for all currently registered Facilities in the Balancing Market	Required by 5:00PM on 25 August 2023.
*If your Facility will be a Scheduled Facility, Semi-Scheduled Facility or Non-Scheduled Facility and applying for NTDL status the deadline is earlier at 5:00PM on 8 August 2023.	

Refer to the Registration Schedule on [The Reformer website](#) for full details of the participant actions required and associated deadlines. Additional information and recordings of WRIG-IT forums is also available on The Reformer, for access please reach out to the ETS team at wa.ets@aemo.com.au.

Rule Participants are strongly encouraged to understand their obligations and associated deadlines, failure to meet the deadlines may impact your ability to participant in the WEM from 1 October 2023.

Questions and Feedback

wa.ets@aemo.com.au

For more information
please visit www.aemo.com.au

Upcoming Forums and Working Groups

WA DER Market Participation Forum
5 July 2023

WEM Reform Implementation Group (WRIG)
27 July 2023

WA Electricity Consultative Forum (WAECF)
23 August 2023



For more information visit

aemo.com.au