



**Energy Transformation  
Implementation Unit**

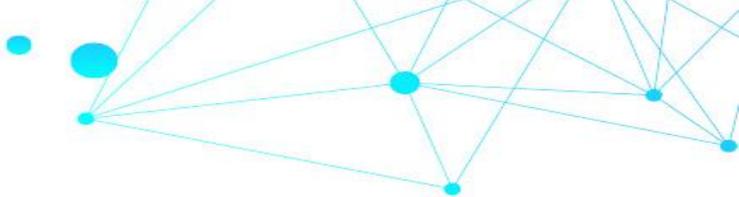
# Transformation Design and Operation Working Group Meeting 35

19 April 2021





# Ground rules and virtual meeting protocols



- Please place your microphone on mute, unless you are asking a question or making a comment.
- Please keep questions relevant to the agenda item being discussed.
- If there is not a break in discussion and you would like to say something, you can ‘raise your hand’ by typing ‘question’ or ‘comment’ in the meeting chat. Questions and comments can also be emailed to [TDOWG@energy.wa.gov.au](mailto:TDOWG@energy.wa.gov.au) after the meeting.
- The meeting will be recorded for minute-taking purposes. Please do not make your own recording of the meeting.
- Please state your name and organisation when you ask a question to assist with meeting minutes.
- If there are multiple people dialling in through a single profile, please email [TDOWG@energy.wa.gov.au](mailto:TDOWG@energy.wa.gov.au) with the names of the attendees to be recorded in the minutes.
- If you are having connection/bandwidth issues, you may want to disable the incoming and/or outgoing video.



# Agenda

9:30

**Operating Protocol – brief summary**

---

9:50

**Market Power Mitigation**

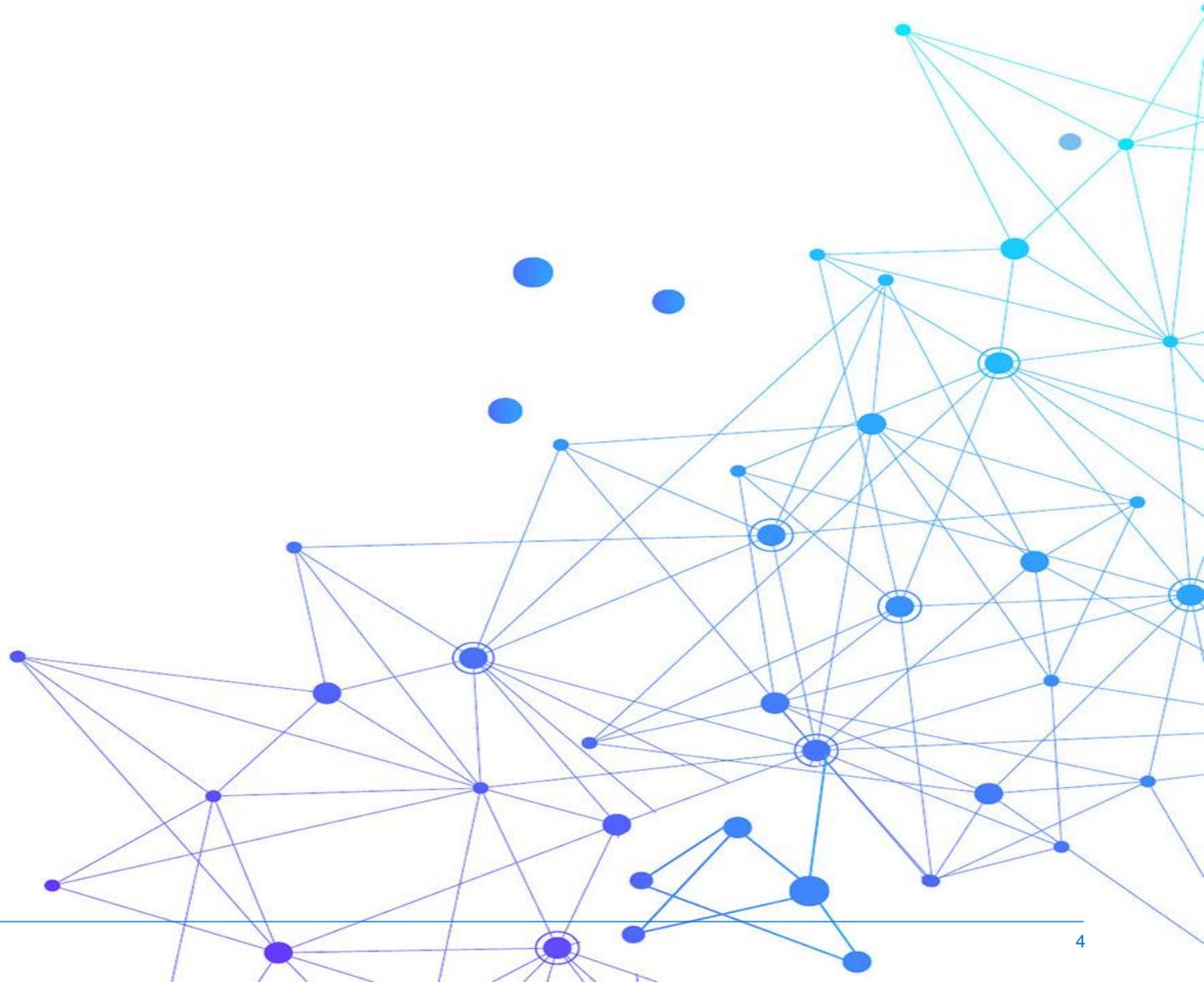
---

11:30

**Forward schedule for WEM Rules gazettal and commencement**

---

# Operating Protocol





# Operating Protocol

## New Section 3.1A

- Head of power for AEMO and Western Power to develop and maintain an "Operating Protocol" which outlines how each party operationalises its obligations under the WEM Rules as they relate to PSSR.
- New clauses 3.1A1 - 3.1A.2 establish the head of power and outline the mandatory items that must be addressed by the Operating Protocol.
- New clauses 3.1A.3 - 3.1A.6:
  - an agreed version of the Operating Protocol to be published by 1 October 2022 on the WEM Website;
  - obligation on both parties to operate and provide information in accordance with the processes outlined in the Operating Protocol; and
  - obligation on Western Power to notify and advise AEMO of threats to PSSR.
- New definitions for Operating Protocol, Operating Zone and Operational Voltage Envelope.



# Operating Protocol

## Voltage Control and Management

- New clause 3.1A.7:
  - AEMO must determine and specify a secure Operational Voltage Envelope for each Operating Zone.
- New clause 3.1A.8 sets out AEMO's considerations in determining a secure Operational Voltage Envelope:
  - applicable voltage standards under the Technical Rules;
  - voltage requirements identified by a Network Operator; and
  - operation of facilities and equipment within their defined capability limits.
- New clause 3.1A.9:
  - a Network Operator must operate its network within the secure Operational Voltage Envelope where reasonably possible and inform AEMO in the event it cannot.
- New clause 3.1A.10 requires the Operational Voltage Envelope to be specified in the Operating Protocol.



# Operating Protocol

## Mandatory Items

- New clause 3.1A.2 outlines the mandatory items that must be contained within the Operating protocol, including:
  - descriptions of SWIS Operating Zones and the sharing of information between AEMO and WP on relevant Operating Zones;
  - general operational communication processes between AEMO and WP for applicable Operating States;
  - processes for the management of Islands in the SWIS;
  - general processes for AEMO and WP in relation to voltage control and management;
  - processes for the management of emergencies, including the delegation of functions in an emergency;
  - processes in relation to load shedding and restoration;
  - sharing of information to support operational planning processes; and
  - processes to support network outage reviews and reporting requirements.

# Market Power Mitigation



# Mechanisms for Market Power Mitigation (1)

- All markets have measures for mitigating the exercise of market power
  - ACCC’s commissioned international review of market power mitigation measures in electricity markets:
    - » *“All jurisdictions that we examined, have a mixture of different types of measures, both ex-ante and ex-post, for mitigating the exercise of market power”*
- Mechanisms for market power mitigation can be classified as either ex-ante or ex-post
  - Ex-ante measures are those that involve setting rules that restrict behaviour of firms with the aim of avoiding the exercise of market power prior to it occurring
  - These ex-ante measures can:
    - » be structural in nature, ie, restrictions on the market share of participants, or
    - » target or prohibit specific conduct, eg, administrative pricing in circumstances when firms may have undue influence over prices
  - Ex-ante measures (such as the “capping” techniques applied in the US) are intrusive and unlikely to be acceptable in WA
- Trade-offs exist between:
  - ex-ante measures that may introduce inefficiency through overly restricting behaviour, and
  - ex-post measures, which can be costly and contentious in the absence of specific conduct rules

## Mechanisms for Market Power Mitigation (2)

- Most market power mitigation measures are based on the premise that in a competitive wholesale electricity market, a facility's offer will be approximately equal to its variable costs.
- Regardless of whether Market Rules explicitly require participants to offer at "SRMC", a Regulator is likely to apply the SRMC concept in its market surveillance activities, adjusting for the incorporation of startup costs where relevant.
- In markets with three-part offers energy, no-load, and start up costs are offered separately. The WEM retains one-part offers where all variable costs are represented through a \$/MWh offer price. This will continue to complicate the market power surveillance activities.
- While Synergy has historically been the major generator with market power, in future, others could also become generators with significant market power
  - Synergy remains the largest participant in the WEM (41% of generation in 2019) but is no longer the only participant with a portfolio large enough to be able to control prices.
  - At times, Alinta Energy (19% of generation in 2019) and Summit Southern Cross (approx. 30% of generation in 2019) will also have sufficient capacity to be able to unilaterally determine the market wide energy price

# Summary of current market power mitigation measures

Instrument/feature	Description
Ex-ante price caps	Set at SRMC of 40MW OCGT plant Maximum STEM Price (gas fuel) Alternative Maximum STEM Price (liquid fuel)
Availability rule	STEM submissions must match RCM capacity
SRMC offer rule	Participants must not offer 'in excess of SRMC' where such behaviour relates to market power. ERA required to consider 'behaviour related to market power' including where 'offer prices do not reflect the participant's reasonable expectation of its 'SRMC'
Good faith offer rules	Participants must have intention to honour submissions and must not mislead other participants
Record keeping	Participants required to keep internal records of reasons for changes to submissions
Gate closure	Prevents rebidding after gate closure: moving to 1.5h for IPPS, 2.5h for Synergy
AEMO market surveillance	AEMO must publish the market surveillance data catalogue (2.16.3), undertake data analysis (2.6.4) and supply to ERA
Market monitoring (ex-post)	ERA responsible (2.16.9) with support from AEMO. Participants may blow the whistle (2.16.8)

# Deficiencies in the existing market power mitigation regime

Current market power mitigation mechanisms are largely reactive (ex-post) rather than pro-active (ex-ante)

The nature of the ex-post regime leads to regulatory uncertainty

Ex-post investigations are complex, resource intensive and time-consuming

There are lengthy delays between the regulator detecting inappropriate behaviours and remedies being delivered

The adverse outcomes for other market participants and consumers may persist for extended periods before the behaviour is remedied

The requirement for the ERA to refer findings to the ERB has restricted its ability to be transparent about market power investigations

Limited transparency and available timely information make compliance with the regime challenging

Market participants lack clarity regarding their trading conduct obligations

There are no direct obligations on market participants to ensure compliance and report breaches

# Effects of WEM design changes on market power

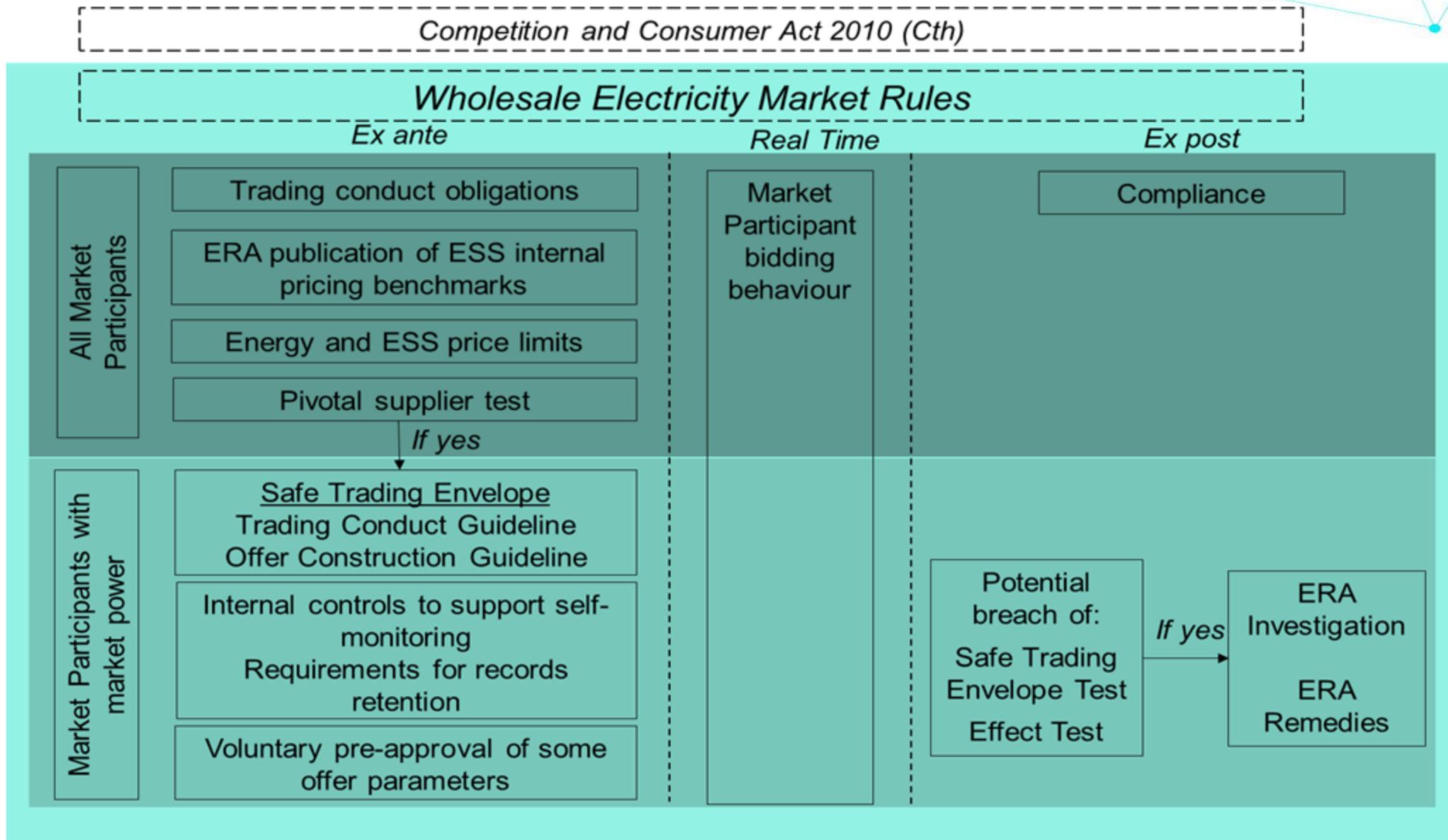
Design changes will significantly improve efficiency of market, but do increase scope for market power exercise

Design feature	Old market	New market	Implication
Gate closure	Energy: 2.5hrs for Synergy, 1.5hrs for others LFAS: up to 9.5 hours	No more than 15 minutes	Much greater scope for late offer 'opportunistic' changes ('rebidding'), balanced with ability to respond to changed market conditions close to real-time (pro-competitive)
Dispatch interval / trading interval	30 minutes / 30 minutes	5 minutes / 30 minutes until 2025, then 5 minutes / 5 minutes	Potential for disorderly bidding responding to high or low prices, but only until 2025.
Synergy dispatch	Portfolio offers, dispatch within portfolio selected by AEMO, no visibility of facility offer prices	Facility offers, dispatch determined by dispatch algorithm (same as everyone else), ex-post visibility of facility offer prices	Synergy has more control of its facilities, so more ability to exercise market power, but other participants have more information about Synergy facility operation and pricing
Capacity Credits	Reissued annually, network congestion not considered Price based on fixed costs of OCGT peaker with adjustment for over/under capacity	Incumbents hold rights indefinitely, network congestion considered Price based on fixed costs of OCGT peaker, with steeper adjustment when over/under capacity	Capacity prices expected to reduce, so all participants likely more reliant on energy revenue to meet fixed costs. New entrants less likely to get CCs, so incumbents have relatively less pressure to compete for energy revenue.
AS/ESS procurement	LFAS market open, but cleared separately to energy Reserve = Synergy @ administered margin + contracts	Regulation, Contingency Reserve cooptimised with energy All capable participants can participate New SESSM as backup to RTM	Removal of administered 'margin values' calculation for reserves provides gaming opportunity for Synergy. Increased participation and credible threat of entry reduces potential for long term market power exercise, but SESSM still takes time to work through, with potential for sustained inefficient outcomes in the interim.
Dispatch and network congestion	Unconstrained dispatch. Constrained on and off payments in case of network congestion. WP expected to build out to ease network congestion.	Constrained dispatch. No constrained payments. Uplift payments for positive mispricing – related but different. WP less likely to build out to ease network congestion	Decreased opportunity to game constrained off payments Increased likelihood of localised market power in front of a constraint.
STEM	Participants must cover contract position in STEM. Potential AS capacity not offered	Participants can leave position open until RTM Potential ESS capacity must be offered	More capacity will participate in STEM, but with recognition that more costs need to be accounted for in offer prices. Taking positions in STEM reduces ability to game in RTM.
Capacity refunds	Paid when not offering sufficient into STEM, for forced outages, and planned outages above a threshold. Can be issued dispatch instructions inside startup time, and will face refunds for not responding.	Paid when not offering sufficient into STEM or RTM, for forced outages, and planned outages above a threshold. Will not be issued dispatch instructions inside startup time.	Some reduction in ability to avoid capacity refunds from not offering capacity, but potential gaming opportunity in withholding capacity by offering as "Available" rather than "In-Service", even where pre-dispatch schedule shows facility will be cleared in real-time.
Record keeping requirements	Required for submission changes	New record keeping requirements for differences from standing data	Additional types of discrepancy now included
ERA powers	ERA can issue Category A civil penalties, must refer other cases to ERB.	ERA can issue civil penalties in all categories, and issue infringements for a portion of civil penalty values.	Increases ERA's ability to respond to and deter inappropriate market power exercise.

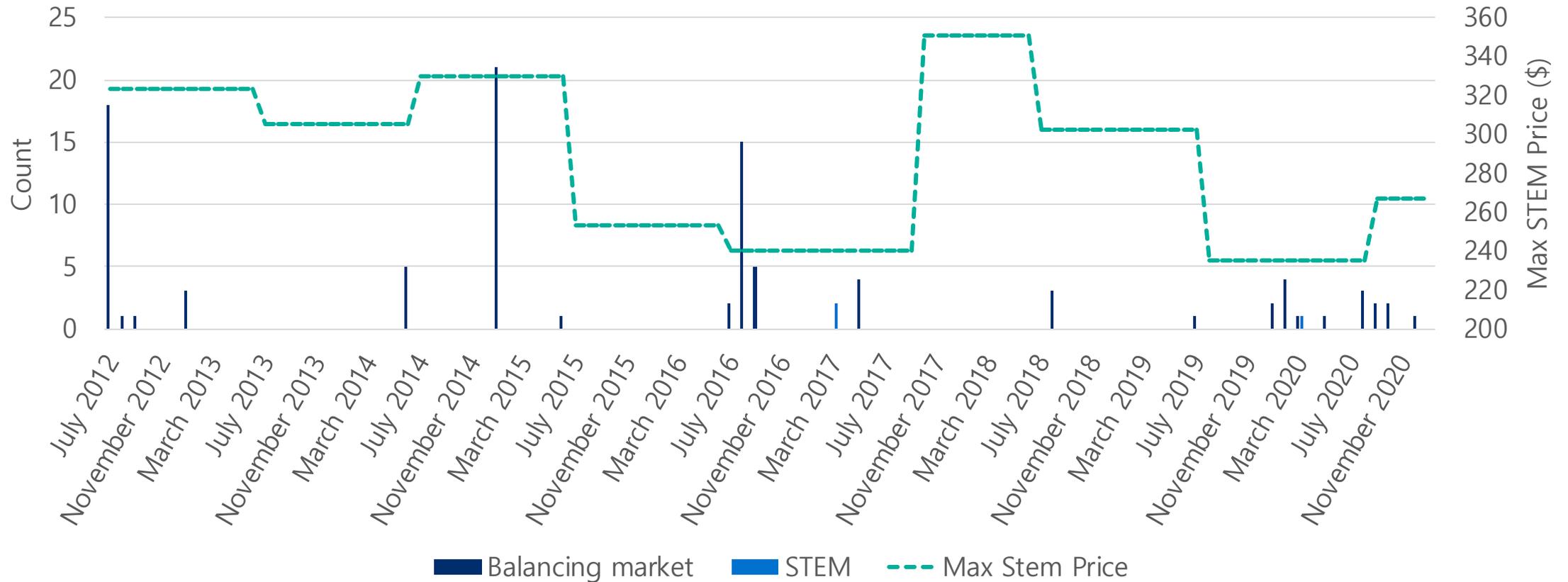
# Overview of proposed market mitigation arrangements (1)

- Reduce reliance on ex-post investigations
- Adopt an objective measure of market power - a three-part market power test:
  - » Determine the presence of market power through a “pivotal supplier test”
  - » Consider whether the participant is operating within the safe trading envelope
  - » Assess how the market power exercise has affected market outcomes (“an effects test”)
- Provide guidance on what constitutes unacceptable exercise of market power - trading conduct obligations for market participants
- Remove uncertain concepts from the rules:
  - » Replace the present SRMC offer rules with a requirement to make offers consistent with those that the participant would have made in the absence of market power
  - » ERA to provide offer construction guidelines
  - » ERA to potentially publish its internal pricing benchmarks with respect to the ESS markets
- A safe trading envelope that identifies acceptable trading activity for participants with market power, encompassing the trading conduct obligations and offer construction guidelines
- Provide participants with an opportunity to ensure their conduct is compliant by seeking pre-approval of some offer parameters
- Set energy and ESS price limits as a backstop mechanism

# Overview of proposed market power mitigation arrangements (2)



# Trading Intervals with a binding price cap vs Max STEM Price



Since balancing market start in July 2012, the Max STEM price has been reached 96 times in the balancing market (0.06% of Trading Intervals), and 3 times in the STEM (0.002%). In none of these cases did liquid generation set the price above the Max STEM price



# Energy price caps

- In the WEM, 'scarcity signalling' is explicitly the role of the RCM, and not the energy market.
  - » Reasonable to use highest SRMC in fleet as both the offer price cap and the scarcity price (subject to interactions of energy price with ESS price).
- However, should decrease focus on mechanistic approach based on frequent calculation of SRMC of specific equipment, due to acknowledgement of the range of things that can be accounted for in reasonable costs.
  - » Move towards principles based caps - ERA to determine based on their estimate of highest cost unit in fleet, with methodology to be published in a WEM Procedure.
  - » ERA to review energy offer cap every 3 years, based on estimate of highest cost in fleet + 10% rounded up to nearest hundred dollars.
  - » Removes the need for regular manual reassessment by indexing the price to key fuel inputs, but only where fuel price has changed by at least 10% since last time price was set.
  - » Backstop method for participants to submit costs to ERA as evidence the cap should be raised.

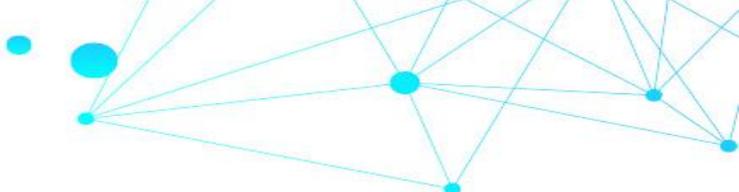


# ESS price caps

- While SESSM provides a backup market power mitigation mechanism, it takes time. Having no price cap or a price cap based on VOLL risks exposure to extreme ESS pricing while a SESSM is run and a resulting new facility can be built.
- Set ESS price caps using similar approach to energy price cap. ERA to determine every 3 years:
  - Based on higher of:
    - » Energy price cap less energy price floor (this is the maximum opportunity cost at times of high energy demand)
    - » Potential costs not recovered in the energy market when running at minimum generation in order to provide ESS:
  - + 10%, rounded up to nearest \$100.
  - Indexed via inclusion of energy price caps – when energy price cap changes, ESS price cap changes.
  - Participants can submit costs to ERA as evidence the cap should be raised.



# Stakeholder consultation and Next Steps



- The consultation period closes at **5:00pm WST on Wednesday 28 April 2021**.
- Feedback can be submitted in any of the following ways:
  - Email your written submission to [energytransformation@energy.wa.gov.au](mailto:energytransformation@energy.wa.gov.au)
  - Contact [energytransformation@energy.wa.gov.au](mailto:energytransformation@energy.wa.gov.au) to arrange a one-on-one discussion.
  - Post your written submission to Energy Policy WA at Locked Bag 11, Cloisters Square, WA 6850
- In the interests of transparency and to promote informed discussion, submissions will be made publicly available on [www.energy.wa.gov.au](http://www.energy.wa.gov.au) unless requested otherwise.
- The Taskforce will consider the high-level market power mitigation framework, taking into account stakeholder feedback, prior to its dissolution on Friday 21 May 2021.
- Detailed development of the design and amending WEM Rules will be released by Energy Policy WA for further consultation with the sector in the second half of 2021.

# Rule Drafting Timeline

Work package	March	April	May	June	July	August
<b>TRANCHE 0 - GAZETTED</b> <ul style="list-style-type: none"> <li>Governance of constraints</li> <li>Technical Rules change management</li> </ul>						
<b>TRANCHE 1 - GAZETTED</b> <ul style="list-style-type: none"> <li>Generator Performance Standards Framework work</li> <li>Administrative Package</li> <li>Frequency Operating Standards and Contingency Events Framework works</li> </ul>						
<b>TRANCHE 2 - GAZETTED</b> <ul style="list-style-type: none"> <li>Foundation Market Parameters (incl. STEM)</li> <li>Frequency Co-optimised ESS</li> <li>Operating States and Tech Envelope</li> <li>Scheduling and Dispatch</li> <li>Outage Management and Commissioning Tests</li> <li>Operational Planning (PASA)</li> <li>WEM Monitoring and Compliance</li> <li>Market Settlement</li> </ul>						
<b>TRANCHE 3 - GAZETTED</b> <ul style="list-style-type: none"> <li>Reserve Capacity Mechanism (RCM) Prioritisation and Network Access Quantities Framework work</li> <li>Participation of storage/hybrid facilities in the RCM</li> <li>RCM changes consequential to SCED</li> </ul>						
<b>TRANCHE 4</b> <ul style="list-style-type: none"> <li>Transitional Arrangements (e.g. ESS accreditation)</li> </ul>						
<b>TRANCHE 5</b> <ul style="list-style-type: none"> <li>Non-Co-optimised ESS Framework work</li> <li>Market Information Framework work</li> <li>Market Power Mitigation</li> <li>Reliability Standards Framework work</li> <li>Participation and Registration framework work</li> </ul>						
Drafting instructions and rule drafting	Stakeholder consultation		Ministerial approval, publication of the Amending Rules and Gazetta			

# Commencement schedule for specific WEM Rules

Item	Tentative dates for commencement
Corrections to gazetted RCM rules and supporting Registration rules (Ch-4 and 1.45)	1 July 2021
ESS accreditation and related transitional provisions (section 2.34A, section 2.36A and new section 1.49,)	1 July 2021
Operating protocol (new section 3.1A)	1 July 2021

\*Sectoral Governance rules will also commence on 1 July 2021



# Meeting close

Questions or feedback can be emailed to [TDOWG@energy.wa.gov.au](mailto:TDOWG@energy.wa.gov.au)