

WEM Reform Market Readiness Report No.4

9 Sept 2022



About this report

- The Market Readiness Report is intended to monitor WEM participant preparedness for the start of new market arrangements in the WEM, in accordance with the [Market Readiness Engagement and Reporting Strategy](#)

Prior to July 2022

Readiness reporting focused on:

- Measuring the extent to which respondents have established and commenced internal readiness work programs
- Identifying the areas where respondents anticipate the most significant effort and challenges.

From July 2022 onward

Readiness reporting now measures progress and status against Specific Readiness Criteria

- The Specific Readiness Criteria allow stakeholders to gauge each respondent's progress in delivering outcomes of relevance to their particular business and facilities
- Different sets of criteria apply to different types of entity; market participant, network operator, system operator and regulatory authority.

- Previous Market Readiness Surveys:
 - [Survey No. 1](#): Released 30 June 2021, Reported end July 2021
 - [Survey No. 2](#): Released end 31 2022, Reported 11 March 2022
 - [Survey No. 3](#): Released 29 April 2022, Reported 7 June 2022
- The fourth Market Readiness Survey was released on 29 April 2022 and supported by a [Survey User Guide](#).
- Survey invitees were identified as follows.
 - All registered market participants, noting AEMO excluded market participants known to no longer be active.
 - Prospective participants intending to commission new facilities before or shortly after go-live were included.
 - Where a common organisation is affiliated with multiple market participants, a single invitation in respect of that organisation was issued.
- Participation in the survey is voluntary and the results reported here have been aggregated and anonymised, with the exception of those for AEMO, Western Power and the ERA. Some of Synergy's results have also been reported in additional detail, relative to other market participants.
- This Market Readiness Report will be published on AEMO's website.
- For any queries or suggestions related to the report or survey, please contact wa.ets@aemo.com.au.

Key Insights



Need to enhance WEM Reform engagement

- Reduced survey coverage this round may reflect the more demanding detail to be reported
- Most large market participants are strongly engaged with the WEM Reform process – smaller participants less so
- AEMO to consider response transparency



Survey gives good visibility on readiness of key market entities

- Survey responses provided by key market entities gives the WEM Reform Program broad and deep visibility across wide range of activity
- A sound platform to inform and support implementation and transitional activities



Response quality varies, feedback required

- Respondents may not be consistently reporting project status
- AEMO to provide feedback to improve response consistency



Understanding of market capabilities, a work in progress

- Some respondents appear to under/over-state the scope of some market capabilities
- E.g. constraint management won't include an API build
- Continue buildout of Reformer resources



Continued strong interest in dispatch changes

- Some participants advise confusion regarding requirements and seek further guidance on how artefacts fit together
- AEMO to investigate options to further improve guidance



Participants seeking faster progress on specifications and procedures

- Some respondents report availability of AEMO's procedures and specifications as a key bottleneck for their work
- AEMO to continue to press projects to publish draft documentation as early as possible.



Participants report most facilities "On Track"

- Large majority of facility capacity is reported "On Track" for dispatch and ESS
- AEMO has commenced out-reach to major generators to continue to build their understanding of requirements, milestones and artifacts



Skilled resourcing – a persistent issue

- Some respondents (including AEMO) are finding it difficult to recruit or engage suppliers
- Smaller respondents are more likely to try to implement changes using existing resources



Western Power dependent on AEMO for several key artifacts

- Western Power highlights important areas in which it is dependent on AEMO deliverables
- Outages and Commissioning Test WEM Procedures, Outages API Spec, Transition Plan
- AEMO to continue collaboration with WP



ERA dependent on AEMO for data solutions for monitoring and surveillance functions

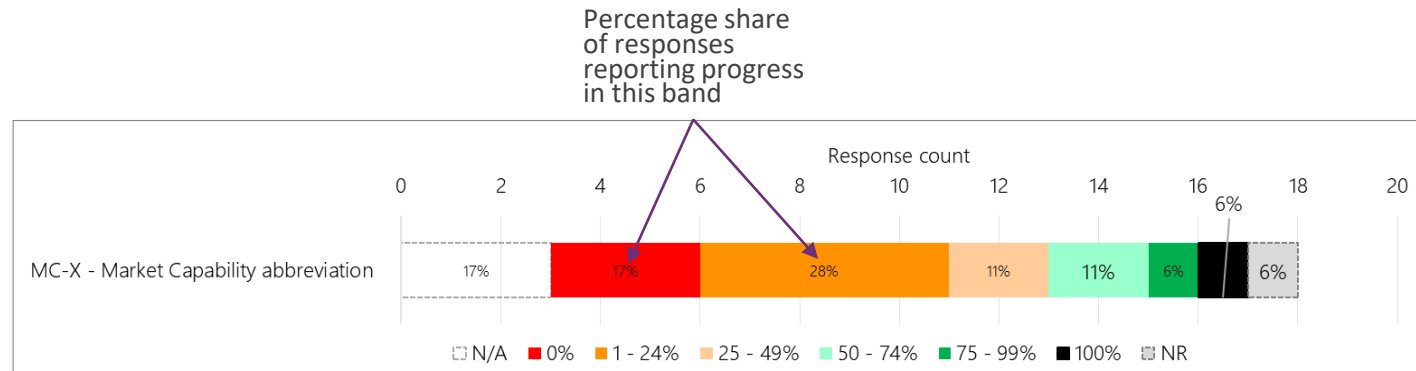
- ERA has multiple regulatory functions for which it depends on AEMO for data
- Delays in AEMO advising its data solution are adversely affecting ERA's readiness status
- AEMO is commencing solution planning

How to read this report

Results for Market Participants

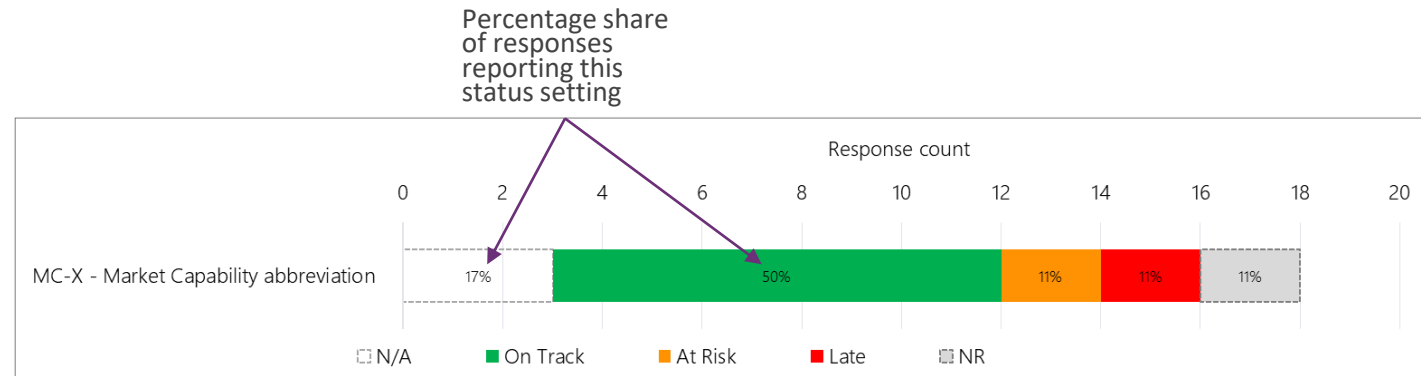
Progress Charts

- Possible values:
 - “N/A” – respondent considers market capability not applicable to them
 - Percentage progress of 0%, four equal bands, or 100%
 - “NR” – no response provided to this question
- Measuring counts of each value among all responses
- Colour scheme shifts away from red as progress approaches 100%



Status Charts

- Possible values:
 - “N/A” – respondent considers market capability not applicable to them
 - Status of work as “On Track”, “At Risk” or “Late”
 - “NR” – no response provided to this question
- Measuring counts of each value among all responses

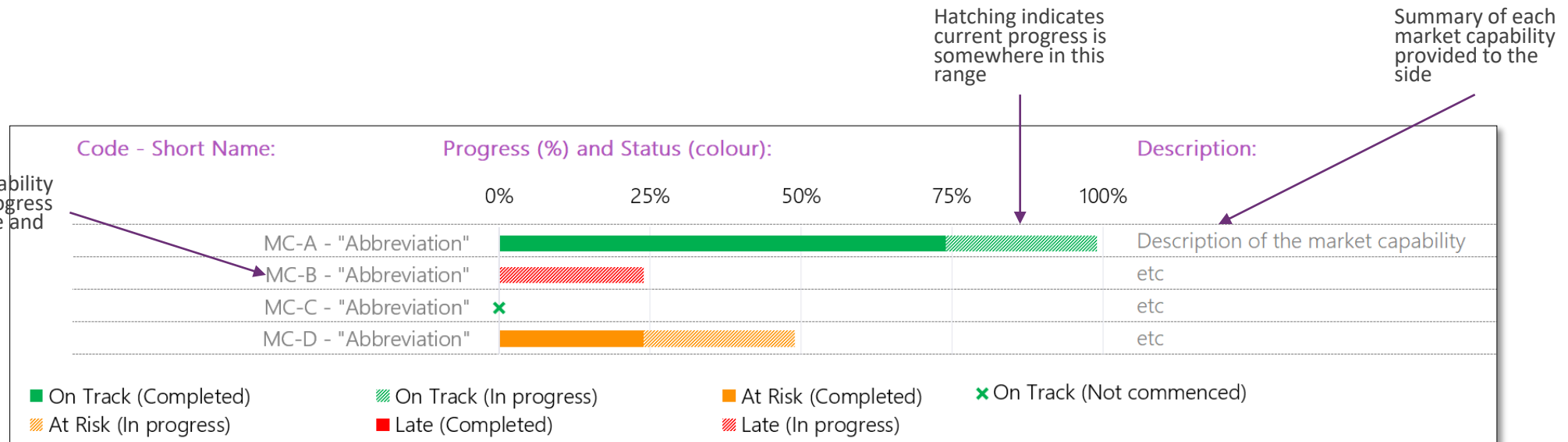


How to read this report (cont.)

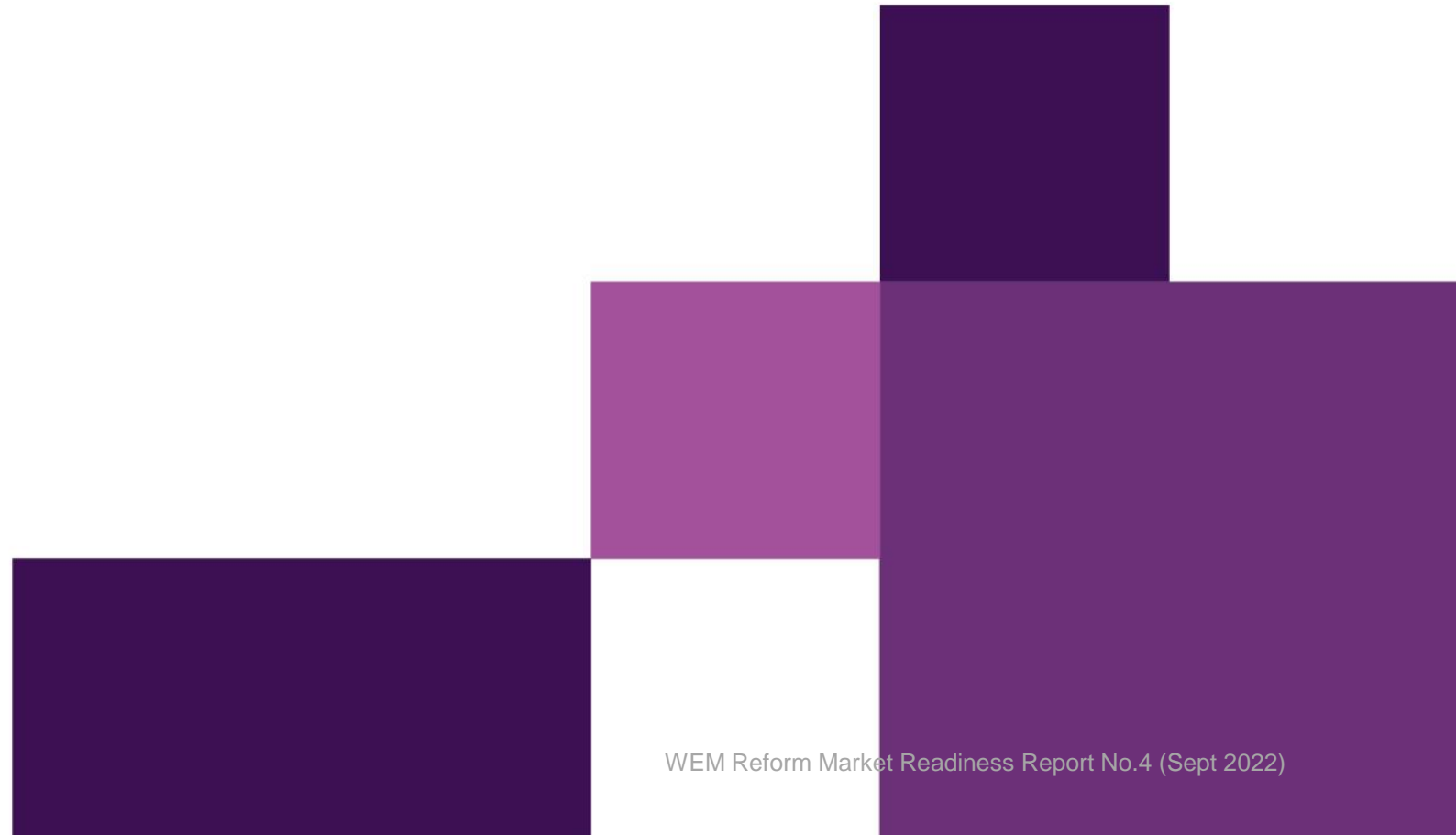
Results for Other Reporting Entities (ERA, Western Power, AEMO)

- All results for a given entity presented on a single chart
- Chart scale measures percentage progress of four equal bands, or 100%
- X used to mark projects yet to commence.
- Currently in progress portion of work indicated by hatching
- “N/A” and “NR” options not used.
- Colour reflects status of work as “On Track”, “At Risk” or “Late”

Example Market Capability MC-B is reporting progress in the 0 – 24% range and status of “Late”



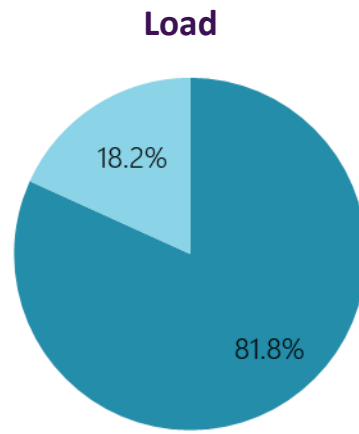
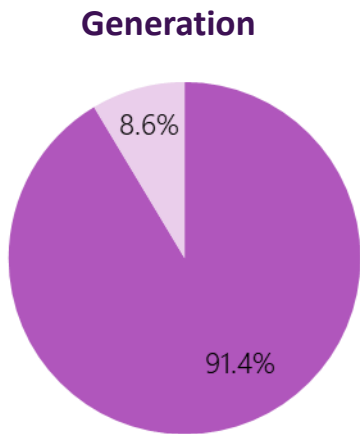
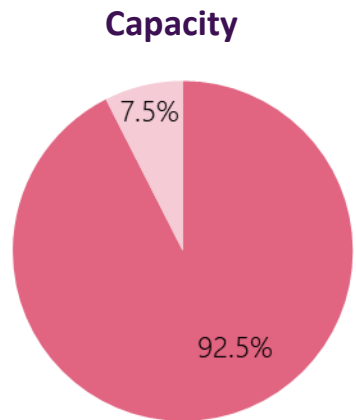
Response rates and coverage



Participation



- 43% of survey invitees responded (c.f. 65% from Survey 2)
- 2 new respondents (incl AEMO), 12 Survey 3 respondents did not respond Survey 4
- Responses covered most of the energy generated, capacity credits and energy consumed in the market
 - Market Generator coverage by capacity down (92.5% compared to 97.4% in Survey 3)
 - Market Generator coverage by energy down (91.4% compared to 99.8% in Survey 3)
 - Market Customer coverage down (82% compared to 98% in Survey 3)
- Reduced response rate
 - new survey questions required additional effort to establish reporting capacity
 - As measures to drive higher response rate for Survey No.5, AEMO will increase its direct engagement with participants and investigate including summary of non-responses in future reports



■ Capacity credits held by respondents
 ■ Capacity credits held by non-respondents

■ Energy generated by respondents
 ■ Energy generated by non-respondents

■ Energy purchased by respondent:
 ■ Energy purchased by non-respon

Statistic	Value	Comment
Survey invitations issued	47	Note multiple participantIDs aggregated in one invitation where appropriate (62 participantIDs covered by an invitation)
Completed responses	21 (43%)	Response rate based on completion of unique invitations.
Generation coverage	>91%	Share of 2021 portfolio measured either by energy or capacity
Consumption coverage	82%	Aggregated consumption metered across all NMIs assigned to Survey respondents as share of total energy supplied (2021).

Respondent types

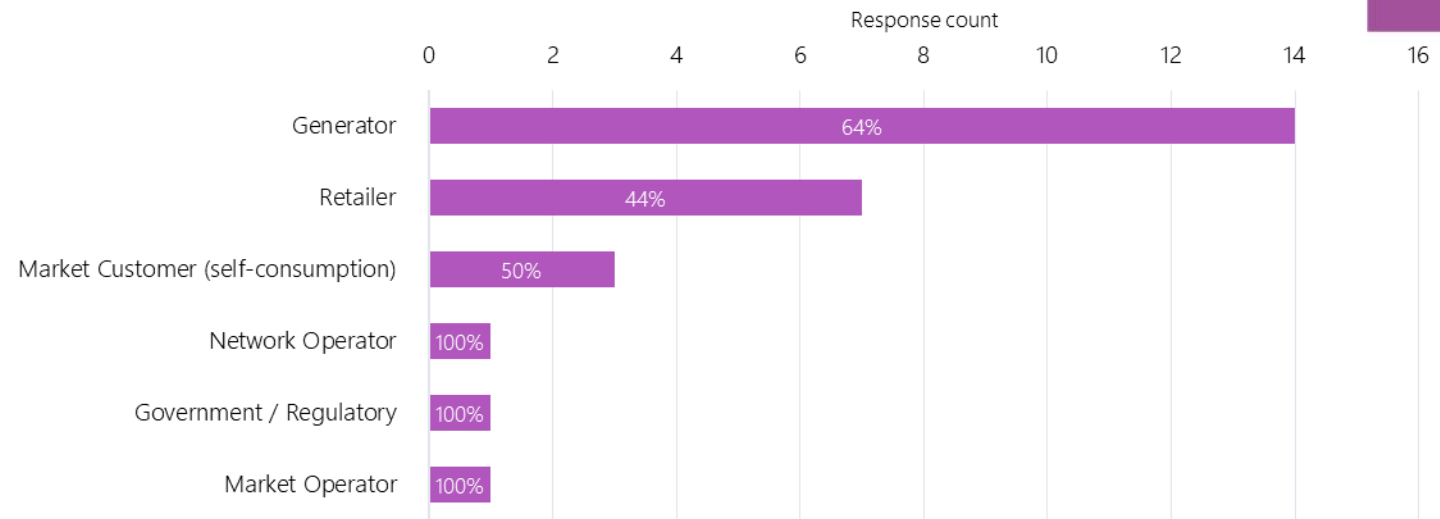
Market Generators

- 14 of 22 generators polled responded
- 21 facilities assumed operational at Go-Live are not covered by a response:
 - These facilities account for around 7% of capacity/energy.
 - All of these facilities are covered by 12 participants, of which 7 account for >95% by capacity and 4 account for >95% by energy

Market Customers

- 11 of 24 Market Customers polled responded, covering around 82% of traded energy load.
- 7 of 16 retailers responded
- 4 of 7 large industrial users responded – market customers that are not retailers

Western Power, ERA and AEMO have all responded



Results for Market Participants

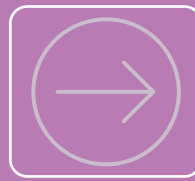
Participant and Facility level market capabilities

Capabilities may relate to the participant or specific facilities



Participant-level market capabilities

MC-1-MP-01 - Constraint Management	MC-1-MP-02 - RTMS	MC-1-MP-05 - Commercially prepared for SCED.	MC-1-MP-06 - WEMDE (consuming other data)
MC-2-MP-01 - RCM - Year 1	MC-2-MP-02 - RCM - Year 2	MC-2-MP-03 - RCM - Year 3	
MC-3-MP-01 - Outage Management	MC-3-MP-02 - PASA (MT & ST)	MC-3-MP-03 - Commissioning Test	MC-3-MP-04 - GPS
MC-4-MP-01 - Settlements Reform	MC-4-MP-02 - STEM	MC-4-MP-03 - Registration (Participant-level)	MC-4-MP-05 - Miscellaneous transitional activities



MC-1-MP-03 - WEMDE (Dispatch instructions)

- Able to receive, understand and act on dispatch instructions.



MC-1-MP-04 - WEMDE (ESS)

- Facilities are ready to provide Frequency Co-optimised ESS and /or Non Co-optimised ESS



MC-4-MP-04 - Registration (Facility level)

- Comply with all facility registration requirements



Facility-level market capabilities

The results for participant-level MCs are reported separately to facility-level MCs.

Results for Market Participants – Part 1



Participant-level
market capabilities

MC1: Ready for SCED

MC-1-MP-01 - Constraint Management:

Able to retrieve and assess constraint information to inform trading and investment decisions

- Most report limited or no progress – three in four are <25%
- Most report either “Not Applicable” (N/A) or “On Track”
- Comments suggest potential misconceptions as to what is required of participants here (e.g. API build – which won’t be required).

MC-1-MP-02 - RTMS:

Able to make real time market submissions.

- Most respondents report some progress – four in five are <50%
- Most report status as either “N/A” or “On Track”
- Comments against the two “Late” reports suggest ‘later than expected’ and not ‘critical path jeopardised’.

MC-1-MP-05 - Commercially prepared for SCED

Participant-specific, but may include revision of contracts, trading practices, financial arrangements.

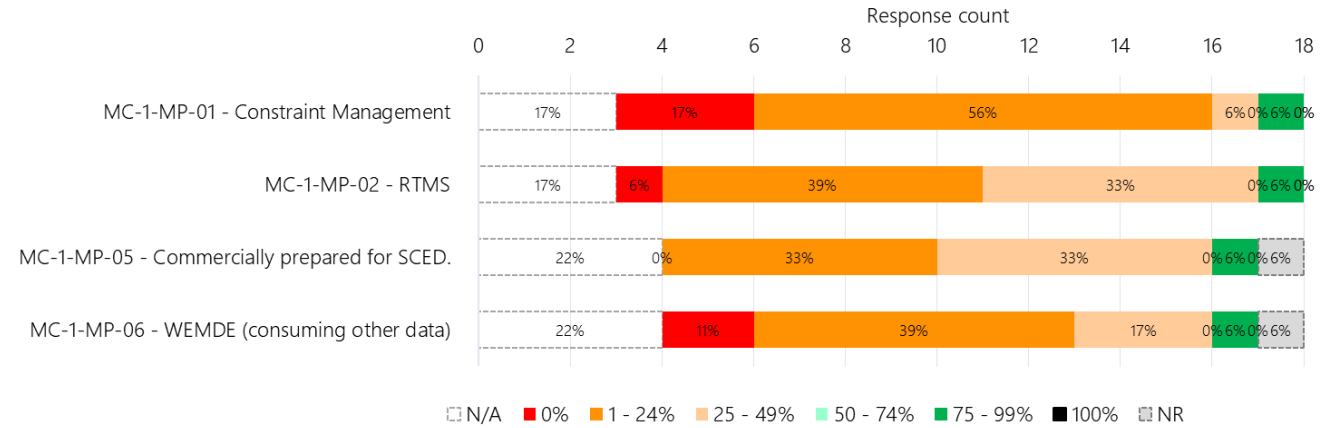
- Except for “N/A”s, all respondents report some progress – though most report <50%
- Most report status as either “N/A” or “On Track”
- Comments identify diverse areas/issues of focus, including contracts, development of internal system automations, internal training and processes

MC-1-MP-06 - WEMDE (Consuming other data)

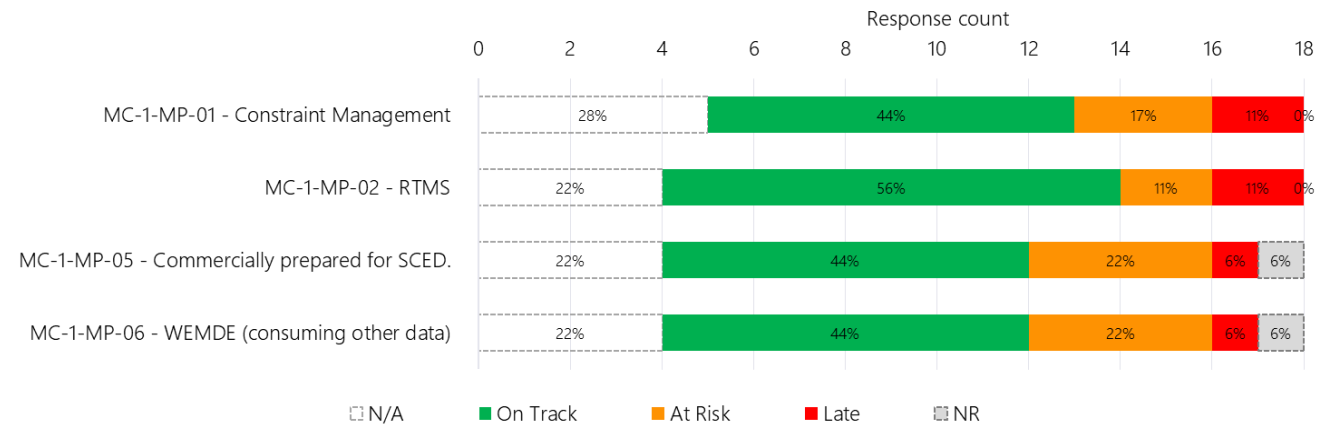
Can consume and act on continuously published market information.

- Most report limited progress (<25%)
- Most report status as either “N/A” or “On Track”
- Comments suggest:
 - Some reliance on software outsourcing
 - Continuing deferral of work, while waiting on a larger proportion of procedures and technical specifications to be published

MC1 – SCED: Progress



MC1 – SCED: Status



MC2: Ready for evolved RCM

MC-2-MP-01 - RCM - Year 1:

Understand new obligations and submission changes for Year 1 of 2021 and 2022 Reserve Capacity Cycle

- Around a third still reporting less than 50% progress, but none report work not-commenced
- Yet almost 75% report this area to be “On-Track” – the remainder report “N/A” or didn’t respond (“NR”)
- No comments received to explain this disparity – AEMO to explore with participants.

MC-2-MP-02 - RCM - Year 2:

Understand NAQ impacts and process changes for the 2022 Reserve Capacity Cycle.

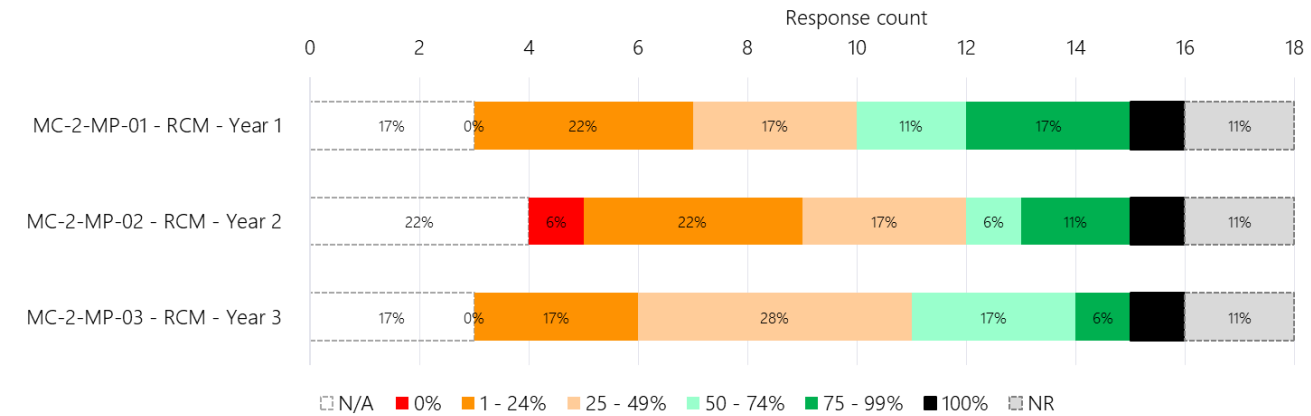
- Most report as “On Track” and only two report as “At Risk” (the remainder report “N/A” or no response)
- More than two in five report less than 50% progress
- Just under a quarter report more than 50% progress (AEMO to investigate the 100% progress response)
- Some respondents report waiting on additional details from AEMO to be able to progress

MC-2-MP-03 - RCM - Year 3:

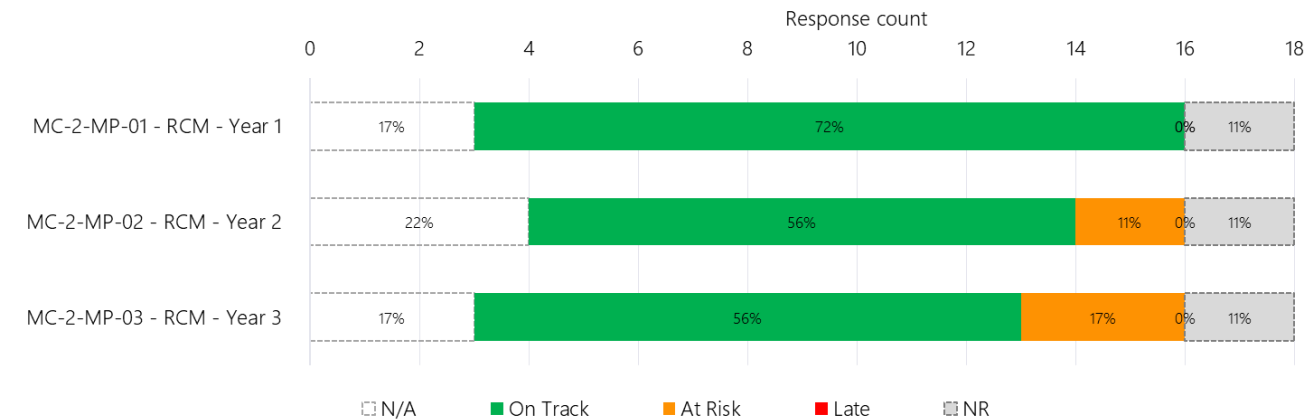
Understand new obligations for Year 3 of 2021 Reserve Capacity Cycle, including settlements.

- More than two in five report less than 50% progress, but none report work not-commenced
- Just over a quarter report more than 50% progress (AEMO to investigate the 100% progress response)
- Most report as “On Track” while three report as “At Risk” (the remainder report “N/A” or no response)
- Respondents are waiting on additional details from AEMO to be able to progress

MC2 – RCM: Progress



MC2 – RCM: Status



MC3: Ready for more robust System Planning processes

MC-3-MP-01 - Outage Management:

Able to submit and update equipment outages

- More than two in five report less than 50% progress
- Just under a quarter report more than 50% progress
- Just under three in four report status as “On Track” or “N/A”
- Comments raise need for specifications and procedures

MC-3-MP-02 - PASA (MT & ST):

Understand and respond to ST & MT PASA outcomes and comply with information provision requirements.

- Around half report progress below 50%. Around two in ten report more than 50% progress.
- Just under three in four report status as “On Track” or “N/A”
- Comments suggest participants are not as concerned about this market capability

MC-3-MP-03 - Commissioning Test:

Ready to manage facility commissioning testing.

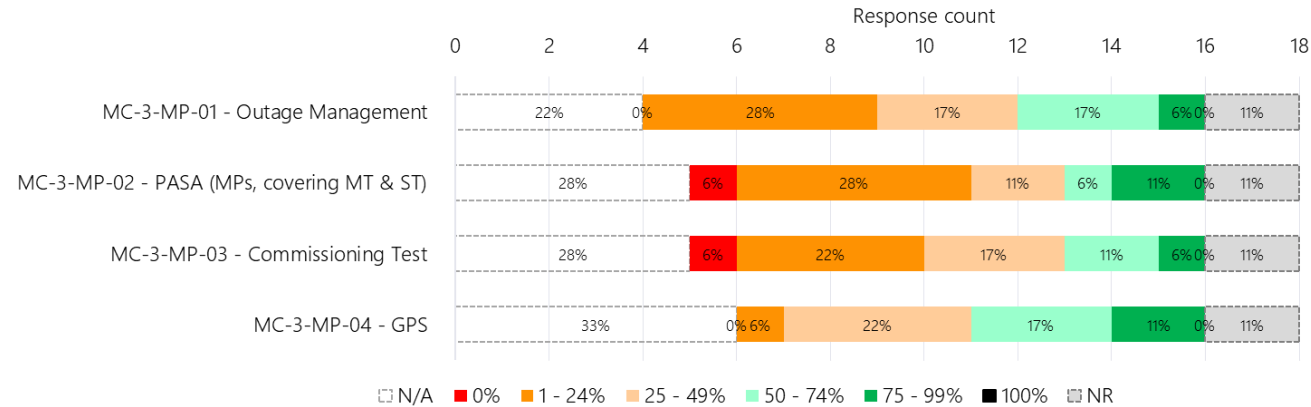
- Around a third report progress of 25% or more (AEMO to explore what these responses mean – since there’s limited published detail to make progress against at this time)
- Just under three in four report status as “On Track” or “N/A”
- Comments suggest participants are not as concerned about this market capability

MC-3-MP-04 - GPS

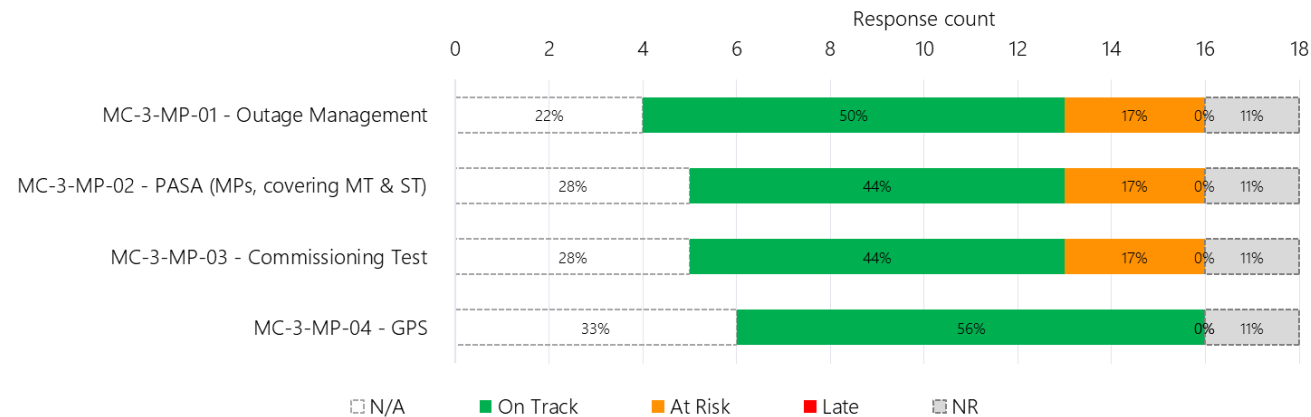
Compliant with generator performance standards framework

- Half report progress of 25% or more and just over a quarter report progress of 50% or more
- All status reports see this item as “On Track” (excluding “N/A” and non-responses)
- AEMO to follow up on one non-response

MC3 – System Planning: Progress



MC3 – System Planning: Status



MC4: Ready for evolved Market Operations & Admin

MC-4-MP-01 - Settlements Reform:

Able to complete settlement under new arrangements (including prudentials, CCA, IRCR)

- A majority report progress in the 1 - 24% range. One reports no progress (deliberately deferring work) and one other reports close to completion (though may be more accurate to report "N/A") Two thirds report status as "On Track".
- Three reports of "At Risk" or "Late" appear to reflect internal constraints.

MC-4-MP-02 - STEM:

Able to participate in STEM, following consequential modifications to this market.

- All respondents treating this item as relevant have commenced work and almost four in ten report progress of 25% or more. Two reports that this work is close to completion may be more accurate to report "N/A".
- Two thirds report status as "On Track". One report of "At Risk" reflects internal resource constraints.
- Comments flag the need for additional details from AEMO

MC-4-MP-03 - Registrations:

Comply with all participant registration requirements.

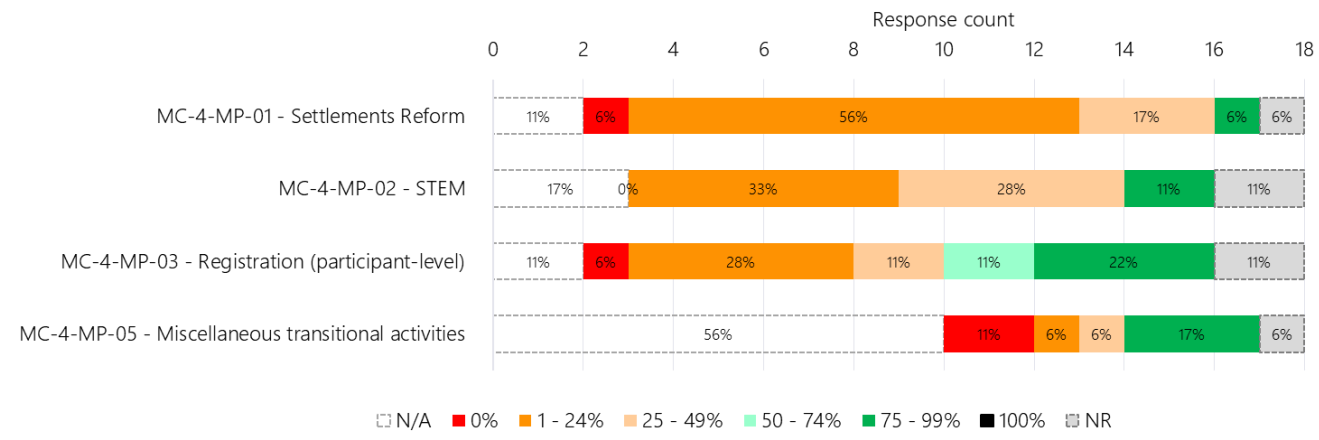
- Progress reports are almost evenly divided between early (1 – 24%), mid (25 – 74%) and close to completion (75 – 99%). One respondent reports no progress (deliberately deferring work).
- Besides "N/A"s and non-responses, all report this area as "On Track"
- Comments indicate some participants anticipate little or no changes and are waiting to be advised otherwise.

MC-4-MP-05 - Miscellaneous transitional:

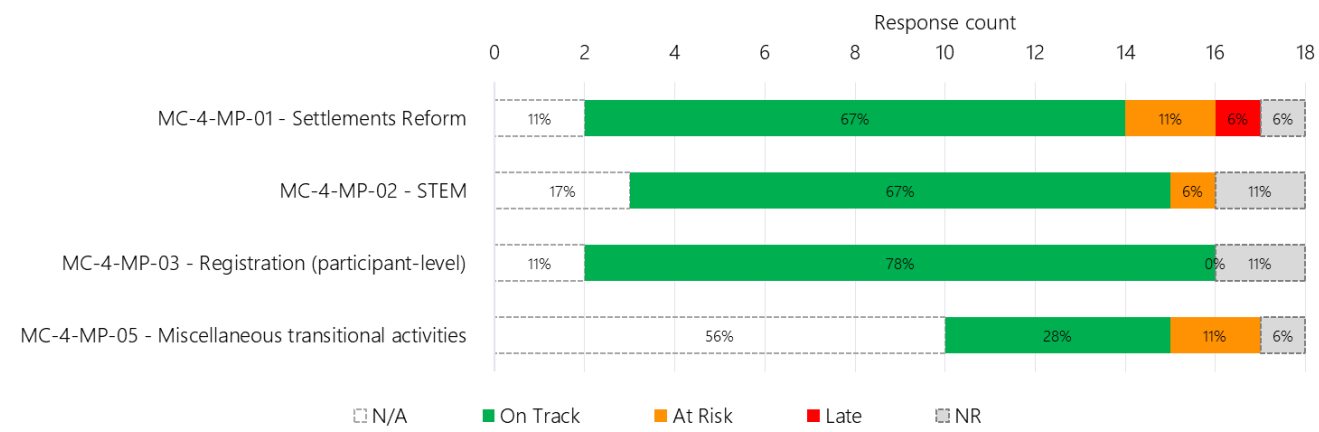
Miscellaneous transitional requirements – a catchall for other miscellaneous readiness requirements not covered by other capabilities.

- A majority report this item as "N/A". Only around two in ten report progress of less than 50%, while a similar share report the work 75% complete or more.
- Of the minority accepting this item as relevant, most report it to be "On Track".
- Of two reports of "At Risk", one arises due a need for clarification of the associated level market capabilities and the second appears to reflect internal resource constraints.

MC4 – Mkt Ops & Admin: Progress



MC4 – Mkt Ops & Admin: Status



Results for Market Participants – Part 2



Facility-level market capabilities

MC1 and MC4: Facility-level readiness

Note: charts presented here are scaled by facility capacity. System and market-wide risks to Go-Live map closely to the readiness of adequate fleet capacity

MC-1-MP-03 - WEMDE (Dispatch Instructions):

Able to receive, understand and act on dispatch instructions at facilities.

- Almost nine tenths of facility capacity reports progress of 25% or greater.
- More than four fifths of facility capacity reports status of “On Track”

MC-1-MP-04 - WEMDE (ESS):

Relevant facilities are ready to provide Frequency Co-optimised ESS and /or Non Co-optimised ESS.

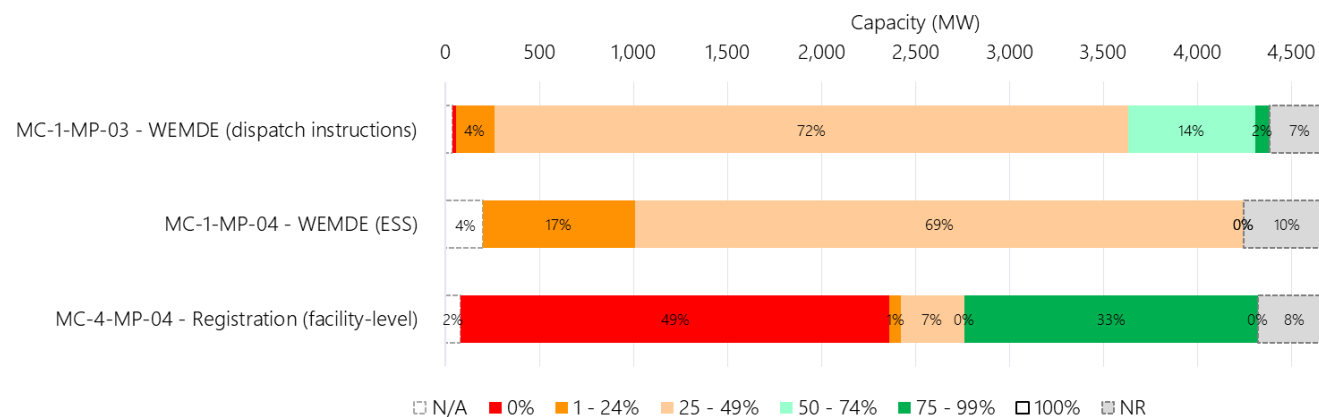
- More than two thirds of facility capacity reports progress in the 25 – 49% band. No facility capacity reports zero progress. Only 5% of facility capacity reports ESS as “N/A”.
- Just under four fifths of facility capacity reports status as “On Track”
- Comments against the two “Late” reports suggest ‘later than expected’, rather than ‘critical path jeopardised’.

MC-4-MP-04 – Registrations (Facility-level)

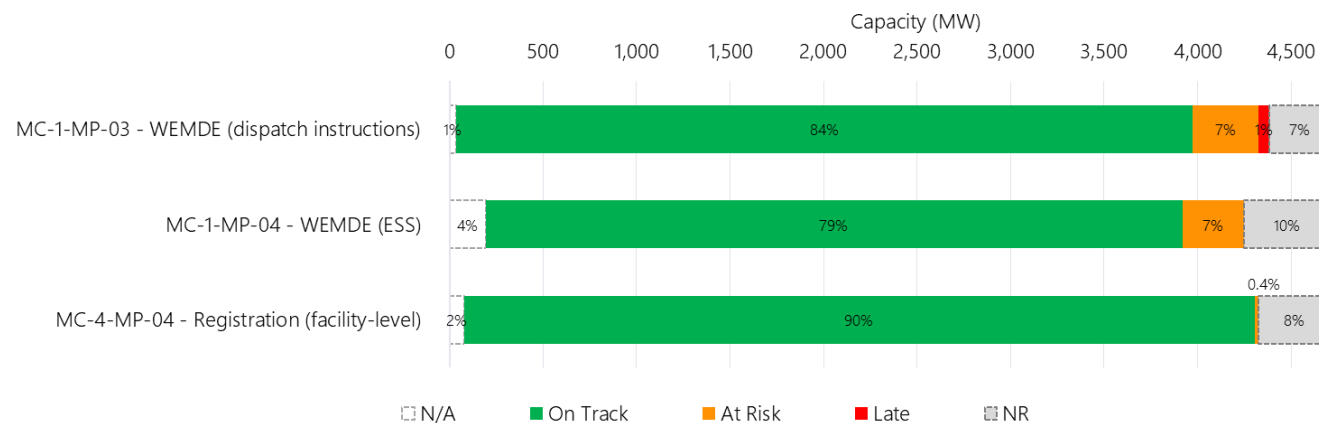
Comply with all facility registration requirements.

- Around half of facility capacity has made no progress on this item, yet a third report it as close to complete (75 – 99%)
- Almost all capacity report status as “On Track”
- Results suggests participants believe this requirement will be straight-forward to satisfy (though some may under-estimate complexity, especially for edge cases).

Facilities Dispatch, ESS and Registration: Progress



Facilities Dispatch, ESS and Registration: Status



Results for Other Reporting Entities



AEMO's Readiness

Progress and status against all level 2 market capabilities

Code - Short Name:	Progress (%) and Status (colour):					Description:
	0%	25%	50%	75%	100%	
MC-1-AEMO-01 - Constraint Management						Can meet constraint equation requirements for SCED, RCM and Outage Mana
MC-1-AEMO-02 - RTMS						Real time market submissions enabled
MC-1-AEMO-03 - WEMDE						Dispatch engine is compliant and solves robustly, predictably and efficiently.
MC-1-AEMO-04 - WEMDE UI						Dispatch engine integrated for real time operations
MC-2-AEMO-01 - RCM - Year 1						Able to manage Year 1 workflows for 2021 Reserve Capacity Cycle
MC-2-AEMO-02 - RCM - Year 2						Able to manage Network Access Quantities (NAQ) throughout the 2022 Rese
MC-2-AEMO-03 - RCM - Year 3						Able to manage Year 3 workflows for 2021 Reserve Capacity Cycle
MC-3-AEMO-01 - Outage Management						Ready to manage outages
MC-3-AEMO-02 - Forecast Integration						Timely and fit-for-purpose forecasts are supplied to all systems
MC-3-AEMO-03 - MT PASA						Can assess and manage power system adequacy over MT horizon
MC-3-AEMO-04 - ST PASA						Can assess and manage power system adequacy over ST horizon
MC-3-AEMO-05 - System Operation Planning Tools						Can efficiently support system operations planning
MC-3-AEMO-06 - Commissioning Test						Ready to manage facility commissioning testing
MC-3-AEMO-07 - GPS						Ready to monitor and enforce generator performance standards for all Tx connected facilities
MC-4-AEMO-01 - Settlements Enhancements						Settlement base systems upgraded and updated
MC-4-AEMO-02 - Settlements Reform						Ready to manage weekly settlement of reformed market
MC-4-AEMO-03 - STEM						Ready to manage and settle STEM in reformed market
MC-4-AEMO-04 - Registration						Existing facilities registered appropriately and AEMO is ready to register new facilities
MC-4-AEMO-05 - Digital Platform						Market interface systems enabled, accessible and supported

- On Track (Completed)
- On Track (In progress)
- At Risk (Completed)
- On Track (Not commenced)
- At Risk (In progress)
- Late (Completed)
- Late (In progress)
- At Risk (Not commenced)

Overview readiness status

AEMO is reporting the delivery of 7 of its 19 market capabilities to be “At Risk” in terms of readiness for Go-Live. Resourcing challenges, additional system complexities and cost inflation are several of the reasons for this overall status. Key drivers, risks and mitigations are discussed below. However, AEMO continues to expect to achieve the October 2023 go-live date.

Key drivers of overall status

- AEMO continues to face difficulties in securing sufficient resources to maintain delivery velocity. AEMO is still not able to recruit and retain sufficient internal resources (developers, business analysts, project managers etc).
- AEMO has successfully brought to bear an outsourcing strategy to increase the capacity for some projects. Project velocity is now increasing. The drivers for budget pressure are explained in the following two bullets.
- Projects are identifying additional complexities and design requirements, which increases scope and forecast costs.
- AEMO also observes cost inflation consistent with broader labour market and service sector patterns.

Key Achievements

- WEMDE successfully transferred the first dispatch instructions to the Energy Management System
- Completed:
 - first release for Outage Management system,
 - second release for RTMS system,
 - final (5th) release for RCM Year 1,

Key risks and mitigations

- If project delays continue to accumulate this would adversely impact Go-Live. AEMO will continue to actively manage this risk.
- Without adequate coordination, an effective preparation for Go-Live by all Rule Participants could be compromised. AEMO expects to release a draft Market Trial Strategy in October/November 2022 and is recruiting for a role to lead the Market Trial & Transition.

Comments on all items not reported “On Track”

MC-1-AEMO-03 - WEMDE: The dispatch algorithm is functioning well. Successful test of transferring dispatch instructions to the Energy Management System. The remaining elements of core implementation are underway, with underlying infrastructure the next focus.

MC-1-AEMO-04 - WEMDE UI: Work has commenced on Dispatch Instructions and AEMO will brief Market Participants on arrangements. Implementation is proceeding in parallel to maintain progress – e.g. currently building Standards Screen and technical stories.

MC-2-AEMO-02 - RCM - Year 2: NAQ Engine has been developed but delays in completing testing have delayed some key design choices. AEMO is considering resourcing options and re-prioritisation of scope to minimise delays.

MC-3-AEMO-01 - Outage Management: Project has completed successful first release (planned outages for submissions). Draft API Swagger provided to Western Power for planned and forced outages of network equipment. Additional requirements have emerged during the second phase and AEMO is reviewing scope and resourcing to ensure delivery within schedule.

MC-3-AEMO-03 - MT PASA: Training and development for the core Plexos model took longer than planned, delaying the final development stage by around two months. The model has now been tested and gaps addressed. Planning has commenced to proceed to the last phase of this project. AEMO considers the flow-on impacts remain manageable at this stage.

MC-3-AEMO-06 - Commissioning Test: The associated project has been late in commencing, due to resource contention. AEMO will advise strategy to manage slippage following planning.

MC-4-AEMO-04 - Registration: The associated project has dependencies on Tranche 6 of the WEM Amendment Rules, hence AEMO is proceeding with implementation of no-regrets elements in parallel with establishment documentation and decisions. AEMO expects to quickly finalise project scope and resourcing and recover much of the delay.

MC-4-AEMO-05 - Digital Platform: A proof of concept has been tested to allow AEMO's planned new message-queueing service (robustly manages message queuing between systems) to operate across on-premises and cloud-based systems. Some of the WEM Reform program's other enabling technologies have dependencies on whole-of-organisation infrastructure initiatives, decisions and standards. AEMO will continue managing these dependencies through pragmatic adjustments to approach.



Western Power's Readiness

Progress and status against all level 2 market capabilities

Code - Short Name:	Progress (%) and Status (colour):					Description:
	0%	25%	50%	75%	100%	
MC-1-NOP-01 - Customer connections	<div style="width: 100%; height: 10px; background-color: green;"></div>					Customer connection policies and contracts are ready for new transmission generator access offers
MC-1-NOP-02 - Limit Advice	<div style="width: 25%; height: 10px; background-color: green;"></div>					Able to provide non-thermal limit advice to AEMO for the development of network constraint equations.
MC-1-NOP-03 - SCADA	<div style="width: 75%; height: 10px; background-color: green;"></div>					SCADA and communications are established to support individual facility bidding etc
MC-1-NOP-04 - GIA	<div style="width: 25%; height: 10px; background-color: green;"></div>					GIA generators are transitioned to SCED.
MC-1-NOP-05 - Operational protocols	<div style="width: 25%; height: 10px; background-color: green;"></div>					Synergy, Western Power and AEMO Control Rooms, activities, coordination and protocols are established.
MC-1-NOP-06 - NCESS	<div style="width: 50%; height: 10px; background-color: green;"></div>					Can undertake NCESS Procurement to resolve network limitation issues.
MC-1-NOP-07 - RoCoF	<div style="width: 25%; height: 10px; background-color: green;"></div>					Can demonstrate Rate of Change of Frequency (RoCoF) ride through capability.
MC-2-NOP-01 - Limit Advice for RCM	<div style="width: 75%; height: 10px; background-color: green;"></div>					Able to provide thermal limit advice to AEMO for Reserve Capacity Cycles (2022 onwards).
MC-3-NOP-01 - Outage Intention Plans	<div style="width: 0%; height: 10px; background-color: red;"></div> x					Able to submit an annual Outage Intention Plan to AEMO.
MC-3-NOP-02 - Equipment list	<div style="width: 25%; height: 10px; background-color: green;"></div>					Able to submit the expanded Equipment List (including secondary equipment).
MC-3-NOP-03 - Outage plans	<div style="width: 25%; height: 10px; background-color: green;"></div>					Able to plan and coordinate network outages with other participants, and submit network outages plans
MC-3-NOP-04 - Commissioning Test	<div style="width: 0%; height: 10px; background-color: red;"></div> x					Able to support the assessment of Commissioning Test Plans.
MC-3-NOP-05 - GPS	<div style="width: 25%; height: 10px; background-color: red;"></div>					Existing Transmission connected generator systems are GPS registered.
MC-4-MDA-01 - Weekly meter data	<div style="width: 25%; height: 10px; background-color: green;"></div>					Can provide meter interval data on a weekly basis to enable Weekly Settlement.
MC-4-NOP-01 - Event and performance monitoring	<div style="width: 100%; height: 10px; background-color: green;"></div>					High resolution data provided to AEMO to enable event monitoring and monitoring of generator performance.
MC-4-NOP-02 - ERA review	<div style="width: 0%; height: 10px; background-color: red;"></div> x					Able to support the periodic ERA Review and Study of the impact of Network Operator Outages on the market.
MC-4-NOP-03 - Coordinator of Energy review	<div style="width: 0%; height: 10px; background-color: red;"></div> x					Able to support the periodic Coordinator of Energy review of the Outage Planning process.

- On Track (Completed)
- ▨ On Track (In progress)
- At Risk (Completed)
- x On Track (Not commenced)
- ▨ At Risk (In progress)
- Late (Completed)
- ▨ Late (In progress)

WP Comments on all items (cont)

MC-3-NOP-01 - Outage Intention Plans: Work has not commenced on the Outage Intention Plan as this is dependant on AEMO to finalise the WEM Procedure Outages for industry consultation (Sep 2022). Western Power is required to submit its inaugural Outage Intention Plan in Mar 2024.

MC-3-NOP-02 - Equipment list: AEMO have provided Western Power with draft API (Technical Specification) to enable Western Power to commence design. Western Power are awaiting further collaboration and industry consultation from AEMO on the WEM Procedure Outages (Sep 2022), and for AEMO to finalise the API Technical Specification before scoping and design can complete.

MC-3-NOP-03 - Outage plans: AEMO have provided Western Power with draft API (Technical Specification) to enable Western Power to commence design. Western Power are awaiting further collaboration and industry consultation from AEMO on the WEM Procedure Outages (Sep 2022), and for AEMO to finalise the API Technical Specification before scoping and design can complete. Delays to the WEM Procedure and Technical Specification finalisation will impact project costs (stranded resources).

MC-3-NOP-04 - Commissioning Test: Expected to commence in early 2023 when AEMO release the WEM Procedure Commissioning Test.

MC-3-NOP-05 - GPS: WEM Procedures published (Feb 2021). Generator Performance Standards: Relevant Generator Modification Guideline published (Jul 2022). Generator Performance Standards: Guideline for the Assessment of Technical Requirements published (Jul 2022). Final version of the Generator Performance Standards: Guideline for the Assessment of Technical Requirements to be published (Dec 2022). Assessment of Existing Transmission Connected Generators GPS assessments continue with engagement from Market Participants and AEMO (Aug 2023).

MC-4-MDA-01 - Weekly meter data: Western Power is due to commence execution in September 2022 for the work required to provide weekly (contestable) meter data for the settlement of the Non-STEM.

MC-4-NOP-01 - Event and performance monitoring: Completed in October 2021 based on a manual process. Introduction of automation pending AEMO provision of connection point (expected Sep 2022). Delays to the connection point information will impact project costs (stranded resources).

MC-4-NOP-02 - ERA review: Internal processes and systems are required to be developed to enable this capability.

MC-4-NOP-03 - Coordinator of Energy review: Internal processes and systems are required to be developed to enable this capability.

Western Power comments on all items

MC-1-NOP-01 - Customer connections: Completed - August 2021. Internal processes implemented and are available via the Western Power website.

MC-1-NOP-02 - Limit Advice: WEM Procedure for Developing Limit Advice published (April 2021). Non-thermal Limit Advice for System Normal submitted to AEMO (Jun 2022). Non-thermal Limit Advice for System Abnormal (AEMO Priority Circuits) to be submitted to AEMO (Oct 2022). Non-thermal Limit Advice for planned outages for one year beyond market start to be submitted to AEMO (Jul 2023). Internal processes and systems and resource structure to be defined and implemented (ahead of July 2023).

MC-1-NOP-03 - SCADA: All SCADA and communications have been established for all Market Participants that have requested them. A final request will be made to AEMO and Market Participants at the next WRIG (Aug 2022) to advise Western Power of any remaining SCADA work required to enable an existing Market Participant facility to participate in the new market. New requests will be subject to Western

Power's Customer Project lead times.

MC-1-NOP-04 - GIA: Western Power will commence the review of GIA generator contracts in late 2022. Western Power will need to develop a plan to support AEMO activities to transition GIA generators from the GIA tool to WEMDE. Development of this plan is dependant on AEMO sharing their Transition and Rollback Plan with Western Power (Required ahead of Market Trials).

MC-1-NOP-05 - Operational protocols: Synergy, AEMO and Western Power Control Rooms have commenced engagement, AEMO will continue to lead this engagement. Western Power is supporting the update of the AEMO / Western Power Operating Protocol which is due to be published in Oct 2022. Internal processes and systems specific to the control room will be reviewed for change based on the outcomes of the Operating Protocol update and wider WEM Rules amendments.

MC-1-NOP-06 - NCESS: The NCESS framework has been applied for both in progress Network Control Services (NCS) commercial events. The Network Opportunity Map (2022) and the inaugural Transmission

System Plan will be published in Oct 2022. The plans will include potential non-network solutions that would be procured in accordance with NCESS. The existing Network Control Services (NCS) process and systems is being revised to align with the NCESS Framework. The revised process will be tested with the (first) next Western Power NCESS Trigger Event.

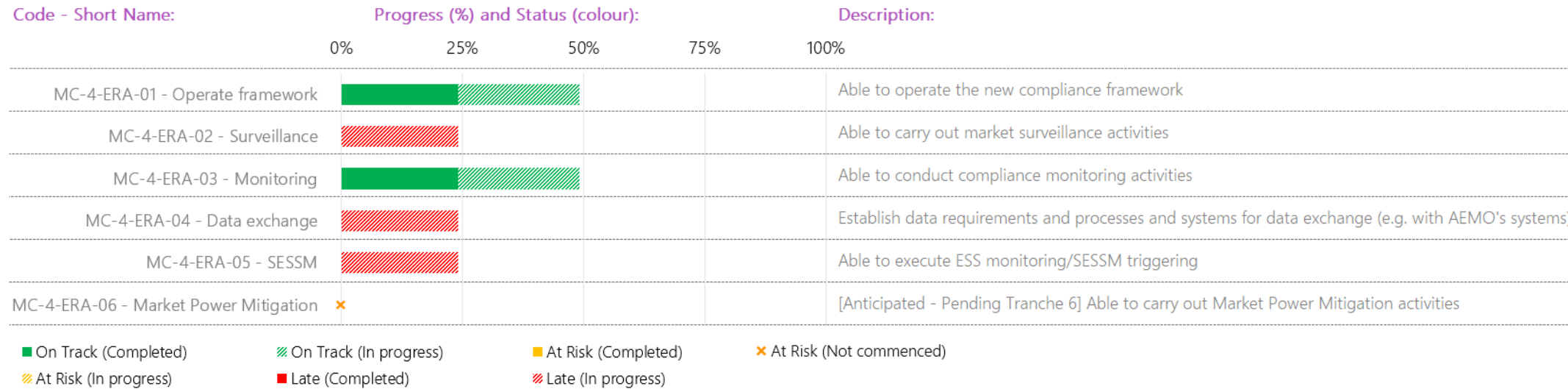
MC-1-NOP-07 - RoCoF: Western Power has commenced initial discussions with AEMO regarding the approach for accreditation of Western Power's RoCoF ride-through (minimum) for the transmission and distribution networks. Further discussions are required to understand the approach required to seek exemption.

MC-2-NOP-01 - Limit Advice for RCM: Thermal Limit Advice to enable the 2022 Reserve Capacity Cycle has been provided to AEMO (Jul 2022). Internal process and system updates are in finalisation and are required to be implemented ahead of Mar 2023, to support the 2023 Reserve Capacity Cycle, and future annual cycles.



Economic Regulation Authority's Readiness

Progress and status against all level 2 market capabilities



ERA comments on all items

MC-4-ERA-01 - Operate framework:

There is interdependency for this project with the work that EPWA is currently doing in terms of updates to the Regulations and also further changes to the compliance framework proposed to be included in Tranche 6. The ERA understands the Tranche 6 changes should be available shortly and the Regulation changes should be complete by end of 2022. However, if these timeframes are delayed then this could result in delays for this project.

MC-4-ERA-02 - Surveillance:

Refer ERA-05 and ERA-06 but ERA will need to have data interfaces in place with AEMO's systems. This will be largely dependent on AEMO's intended design for data sharing arrangements with the ERA (and EPWA) for the new market. Regular meetings are in place between AEMO, EPWA and ERA to confirm these arrangements. EPWA and ERA and working together to finalise our [edit: their] data requirements.

MC-4-ERA-03 - Monitoring:

ERA will need to have data interfaces in place with AEMO's systems. This will be largely dependent on AEMO's intended design for data sharing arrangements with the ERA (and EPWA) for the new market. Regular meetings are in place between AEMO, EPWA and ERA to confirm these arrangements. EPWA and ERA and working together to finalise our data requirements.

MC-4-ERA-04 - Data exchange:

ERA will need to have data interfaces in place with AEMO's systems. This will be largely dependent on AEMO's intended design for data sharing arrangements with the ERA (and EPWA) for the new market. Regular meetings are in place between AEMO, EPWA and ERA to confirm these arrangements. EPWA and ERA and working together to finalise our data requirements.

MC-4-ERA-05 - SESSM:

Project is currently running late but is being prioritised and anticipated to back on

target over next quarter. There is also dependency on the requirement for ERA to have data interfaces in place with AEMO's systems. This will be largely dependent on AEMO's intended design for data sharing arrangements with the ERA (and EPWA) for the new market. Regular meetings are in place between AEMO, EPWA and ERA to confirm these arrangements. EPWA and ERA and working together to finalise our data requirements.

MC-4-ERA-06 - Market Power Mitigation:

EPWA is currently consulting on MPM arrangements with stakeholders. ERA understands high level design but is unable to commence implementation until draft rules are available from EPWA

Key Activities Looking Forward

Key delivery activities for the next 3 months include:

- Publish further draft technical specifications and guidance regarding dispatch instructions, a roadmap for the WEMDE B2B platform; deliver an external WEMDE showcase.
- Deliver specifications for Outage Management APIs (Outage Plans) and progress Release 2 of the Outage Management System
- Clarify and communicate scope and timing of interface specifications on a regular basis through WRIG.
- Progress RCM Phase 2 (implementing NAQ for the 2022 RC Cycle).
- Support participants in the development of their GMPs; support Western Power with development of guidelines; and ensure timely engagement on proposed GPS .
- Draft and consult on multiple WEM Procedures (refer latest WEM Procedures Timeline⁽¹⁾)
- Revise project scopes as required to reflect the changes required by Exposure Draft 2 of Tranche 6 of the WEM Rules and advise the market of any further implementation impacts ASAP (note preliminary advisory already provided for RTMS – see WRIG materials for 23/08/2022 meeting on the Reformer).
- Consolidate market readiness reporting against specific readiness criteria by means of direct engagement with and feedback to respondents.

(1) <https://aemocloud.sharepoint.com/sites/EXT-COM-REF/SitePages/Timelines.aspx#procedures-timeline>. For access to the Reformer SharePoint site, please contact wa.ets@aemo.com.au.

Next steps

- Continue with bi-monthly surveys and reporting cycle using the specific readiness criteria (market capabilities) reported against here.
- Release schedule:

Survey/Report Number	Market Readiness Survey	Market Readiness Report
5	End Sep 2022	End Oct 2022
6	End Nov 2022	End Jan 2023
7	End Jan 2023	End Feb 2023
8	End Mar 2023	End Apr 2023
9	End May 2023	End Jun 2023
10	End Jul 2023	End Aug 2023