

5MS & GS Program General Information Session

16 July 2021

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Welcome and Introduction

Peter Carruthers – Business Advocate (Chair)

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Purpose of the Information Session

The general information session provides an opportunity for stakeholders who:

- 1. Are not directly engaged in the 5MS Program to receive an **update** on the Program's progress and an **insight** into the key areas of focus.
- 2. Have not previously engaged with the 5MS Program to receive a high-level **introduction** to the Program.

Call to action



Contact us: 5MS@aemo.com.au

- The intention of this session is to provide an introduction the impacts of the five-minute settlement and global settlement rules and an overview of the readiness activities and support that is available until 5MS rule commencement on 1 October 2021.
- It is the responsibility of each registered participant to review the impact of these rules on their organisation.
- After this session:
 - ✓ Check the 5MS and GS rules to confirm that your organisation understands the changes that are required for 5MS on 1 October 2021 and GS on 1 May 2022.
 - ✓ Confirm that your organisation has an appropriate readiness plan in place.
 - ✓ Use the 5MS Program website to access information on procedure and systems changes.
 - ✓ Contact AEMO at 5MS@aemo.com.au to provide us with an update on readiness if you have not already participated in Readiness Reporting
 - Send AEMO any questions you may have, or request join a working group or find out more about testing.

Topics covered during this session

Recap on the 5MS and GS Rule and Program

Anne-Marie McCague – Stakeholder Engagement Lead

AEMO 5MS Program Update

Rowena Leung – Program
Director

How are market participants impacted by the 5MS and GS rules?

Greg Minney – Readiness Manager

5MS Capability Market Trials

Greg Minney – Readiness

Manager

Industry Readiness – how is the industry progressing?

Greg Minney – Readiness
Manager

Contingency Planning

Peter Carruthers – Business Advocate

Questions & Feedback

Feel free to ask questions throughout the session via:



WebEx comments

For more detailed questions, or for any further questions you may have after the session, or to provide engagement feedback, email:

- <u>5ms@aemo.com.au</u>

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Recap on the 5MS and GS Rule and Program

Anne-Marie McCague – Stakeholder Engagement Lead

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5MS Background



The AEMC announced a final rule to:

- 1. Reduce the time interval for financial settlement in the NEM from 30 minutes to five minutes (5MS).
- 2. Introduce a 'global settlement' framework for settlement of the demand side of the wholesale electricity market. Moving away from the settlement-by-difference approach and the concept of a Local Retailer.



5MS rule change:

 The AEMC rule change aligns the market's price signal with the dispatch of the physical electricity system, which occurs every 5minutes.

GS rule change:

- Global Settlement is an alternative methodology to settlement-bydifference, where unaccounted for energy (UFE) costs are distributed equitably across all retailers.
- Refer to the <u>AEMC's Information sheet</u> for a full list of expected benefits as a result of these rule changes.



- AEMO is responsible for implementing the 5MS and GS rules and has established the Five-Minute Settlement (5MS) Program to manage this activity.
- The 5MS Program is working with industry to ensure these rules are in place and participants are ready, by the rule commencement dates.
- Industry engagement and consultation is managed by industry working groups and forums.

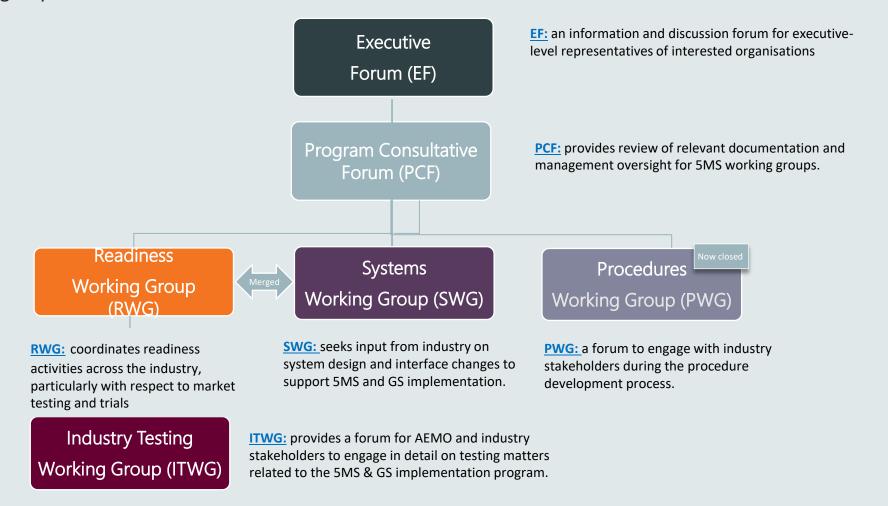


Rule Commencement Dates:

- 1 October: Full commencement of 5MS and the soft start of GS
- 1 May 2022: Full commencement of GS.

Industry Engagement Framework

Engagement between AEMO and industry is crucial to the 5MS Program's success, which is why each 5MS workstream has been aligned to an industry working group.



Added support meetings we are hosting

General Q&A Sessions
(Monthly)

Retail Production Q&A
(2 x Weekly)

Ad-hoc meetings with
participants

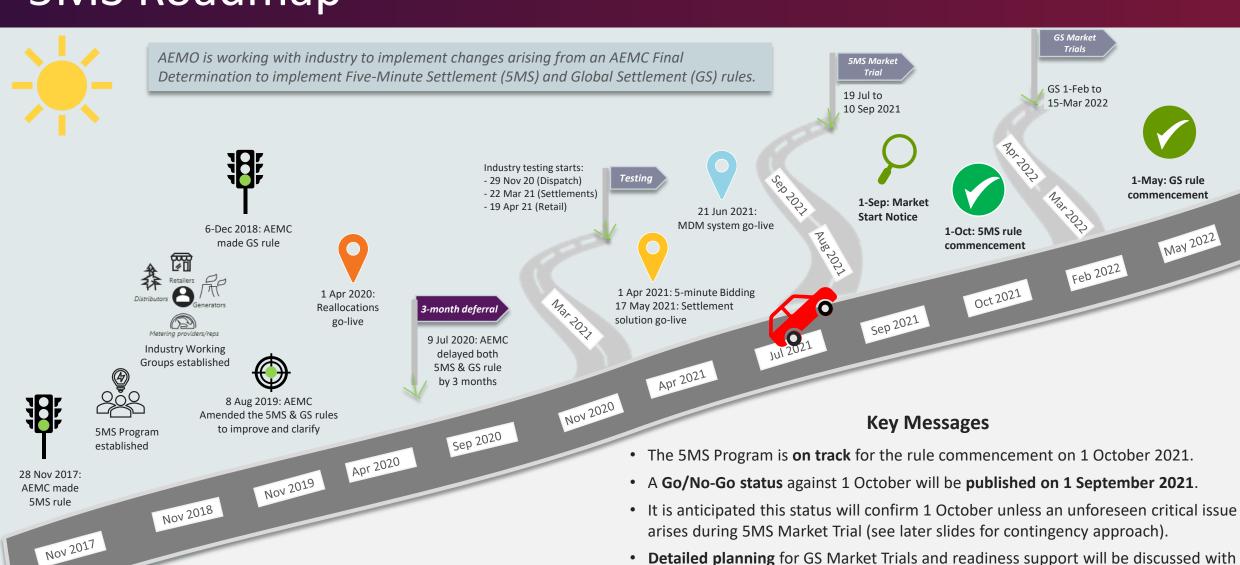
- These meetings and frequencies change as our releases and milestones are reached and to cater for the needs of participants.
- Click here to find out more about <u>AEMO 5MS Industry Working Groups</u> and <u>calendar</u>.
- If you are interested in attending any of our working groups or meetings email 5ms@aemo.com.au

AEMO 5MS Program Update

Rowena Leung – Program Director

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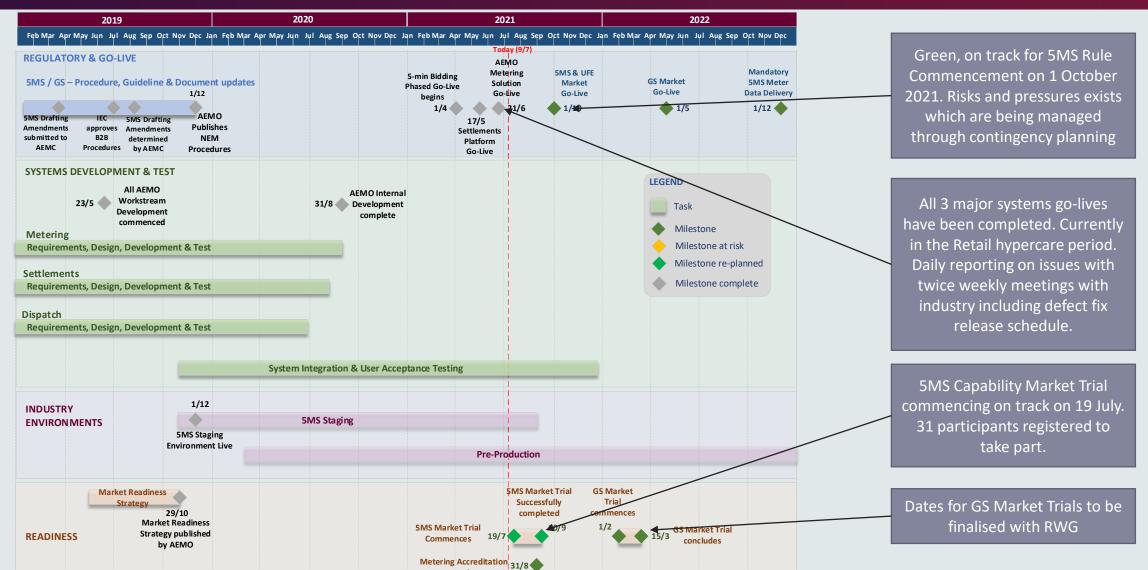
5MS Roadmap



the 5MS working groups.

• Detailed planning for GS Market Trials and readiness support will be discussed with

AEMO's 5MS Program Timeline



complete

What's available in AEMO's production environment now?

Bidding

- 5MS Bidding Service
- Transition period Participants can submit six equal 5-min bids that will emulate a 30-min bid.
- Participant Data model to support 5-min bids and offers
- Unique 5-min bids may be submitted from 00:01 on 1 October 2021

Retail

- Metering participants can submit meter data in 5-min, 15min and 30-min granularity
- Updated RM Reports supporting
- B2M via API capability
- Updated NMI Classification Code.

Settlements

- 5MS capable Settlements system is live and operating in 30-min.
- Participants may submit reallocations for the period post 1 October 21 in 5-min granularity.
- Updated Prudential's dashboard
- Version 5.0 of participant data model, to support 5-minute settlement

Next Steps for AEMO

- Execute 5MS Capability Market Trial with industry
- Close open Retail issues in line with defect fix schedule
- Complete Readiness Reporting Round 9 in August
- Issue market start notice on 1 Sep
- Commence operating in 5-min mode from 00:01 1
 October 2021 and including UFE in settlement statements
- Set out detailed readiness approach for Global Settlements hard start on 1 May 2022



How are market participants impacted by the 5MS and GS rules?

Greg Minney – Readiness Manager

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What is changing?

5MS

- Bids/offers will be submitted in 5-min granularity
- Meters will need to read and send 5-min data
 - All type 1,2,3 meters by 01-Oct-21
 - Transmission connected Type 4 by 01-Oct-21
 - Type 7 supplies
 - Type 4 and Vic AMI meters by 1 Dec 2022
- Settlement will be on a 5-min basis
- Reallocations need to be on a 5-min basis

Global Settlements

- Unaccounted for energy (UFE) will be allocated to all Retailers in a market area on a pro-rata basis
 - GS soft start will commence on 1 October 2021. From this date the UFE will be included on Retailers' settlement statements and RM Reports but will not be included in the amount payable.
- From 1 May 2022 (GS hard start), Retailer will become financially liable for UFE
- MSATS Standing Data changes
- NCONUML NMIs and Cross Boundary meters should be in place by 1 October 2021 to support UFE reporting

What's changing?



Generator

5MS Rule

- Submit 5-minute bids
- Manage 5-minute reallocation, if applicable
- Manage 5-minute metering data
- Manage new NMI Classification Codes



Retailer

5MS Rule

- Manage 5-minute metering data
- Manage 5-minute reallocations, if appl.
- NMI classification codes

GS Rule

- Reconcile market settlement invoices, incl. unaccounted for energy (UFE)
- Receive and process new
 Manage non-contestable unmetered loads (local retailers only)



Distribution Network Service Provider

5MS Rule

Develop capability to receive 5-minute metering data

GS Rule

- Create and maintain cross-boundary NMIs and meters in MSATS.
- Develop capability to manage and apply new NMI classification codes.
- Create and maintain non-contestable unmetered load NMIs, inventory tables and calculation methodologies.

What's changing?



Metering Coordinator

5MS Rule

- Engage with FRMP's and MP's on configuration and/or replacement of certain meters to enable 5-minute granularity.
- Facilitate the installation of new and replacement 5-minute type
 4 & 4A meters installed.

GS Rule

 Assist with the resolution of any connection point or metering issues identified as part of UFE reporting, particularly cross-boundary metering.



Metering Data Provider

5MS Rule

- Manage 5-minute metering data delivery
- Update accreditation where necessary
- Receive and process new NMI classification codes

GS Rule

- Provide Metering Data to support GS Implementation
- Assist in the resolution of any metering issues identified as part of UFE Reporting



Metering Provider

5MS Rule

- Update accreditation when necessary.
- Submit application to AEMO for metering installation data storage exemptions when necessary.
- Install, replace or reconfigure meters to 5-minute trading intervals as arranged by MC's, and in line with rule requirements
- Create or update MSATS NMI standing data as required.

GS Rule

Assist with resolution of connection or metering issues identified as part of UFE publication.

Metering Transition Plan

"Metering transition" means the metering installation and reconfiguration, metering data delivery and standing data update activities needed for the NEM to transition to 5MS and GS.

The Metering transition plan supports each element of the 5MS and GS metering transition by:

- Outlining the expected responsibilities, activities, dependencies and timeframes for completion for elements of the metering transition
- Forming the framework for the metering component of participant progress and readiness reporting
- The activities that support different parts of the metering transition are grouped into the following categories:
 - Meter installation and reconfiguration
 - Metering data delivery
 - MSATS standing data creation and maintenance
 - Metering service provide (MSP) accreditation updates.



Capability Essential for 5MS Rule Commencement

The Program, in consultation with RWG, has established critical capability that **must** be in place to support the smooth operation of NEM at 5MS rule commencement.

Generators and MNSPs are able to submit 5-min offers

✓ Generators representing >80% of regional load are reporting 'On-track' to be able to submit 5-minute granularity offers

All essential meters* are able to produce and store 5-min data

- ✓ 100% of MPs associated to essential metering are reporting 'On-track' for all applicable MTP activities.
- ✓ 100% of MCs associated to essential metering are reporting 'On-track' for all applicable MTP activities.

All essential meters* are able to deliver 5-min metering data

✓ 100% of MDPs associated to essential metering are reporting 'On-track' for all applicable MTP activities.

AEMO capability

- ✓ The 5-minute bidding and dispatch solution, including the web bidding interface, is deployed.
- ✓ The Metering Data Management (MDM) solution is deployed.
- ✓ The 5-minute settlement solution is deployed.

Where delivery of this capability is seen at risk, contingencies will be required to facilitate 5MS Rule Commencement

5MS Capability Market Trials

Greg Minney – Readiness Manager

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Participant Testing Types

AEMO has facilitated early industry testing in the pre-production environment and a dedicated 5MS Staging environment to support participant readiness.

The approach to participant testing was developed in consultation with industry and is captured in the Industry Test and Market Trial Strategy

Туре	Definition	Environment	Example
Industry Testing	Self-testing of functionality such as connectivity, and/or coordinated multiparty testing of functional scenarios	Staging, pre- prod	 Testing a change request (CR) or processing a reallocation
Market Trial	AEMO coordinated multi-party end-to- end testing of business process scenarios	Pre-prod	Meter exchange involving CRs, services orders and 5-minute meter reads
Invitation Industry Testing	AEMO coordinated testing of business process scenarios with a select number or subset of participants with systems ready for testing.	Pre-prod	Testing NMI transfer Process

5MS Market Trial - Key Messages

The objectives of the Market Trial is to provide participants with an **opportunity to prove their updated systems** against AEMO's market systems, **test end-to-end scenarios**; and contribute to **assessment of overall industry readiness** for rule commencement.

Key things to know:

- The trials run from 19 July through to 10 September 2021
- **AEMO's pre-production environment** is used as the test environment
- 31 participants have registered to participate in this activity
- **Settlement runs** to *mimic* **production** operation and **Retail scenarios** *support* key process testing and verification.

High Level Timeline

Description	Date	Owner
5MS Capability Market Trial preparation completed by participants	12-Jul-21	Participants
5MS Capability Market Trial preparation completed by AEMO	12-Jul-21	АЕМО
5MS Capability Market Trial commences	19-Jul-21	АЕМО
5MS Capability Market Trial concludes	10-Sept-21	АЕМО

- To **support participants** in *preparing* for and *participating* in the Market Trial, the 5MS testing team have scheduled the following sessions:
 - Twice weekly preparation sessions (Tuesday and Thursday) from 22 June to 19 July
 - Daily check-in sessions from Market Trial start (19 July) and end (10 September)

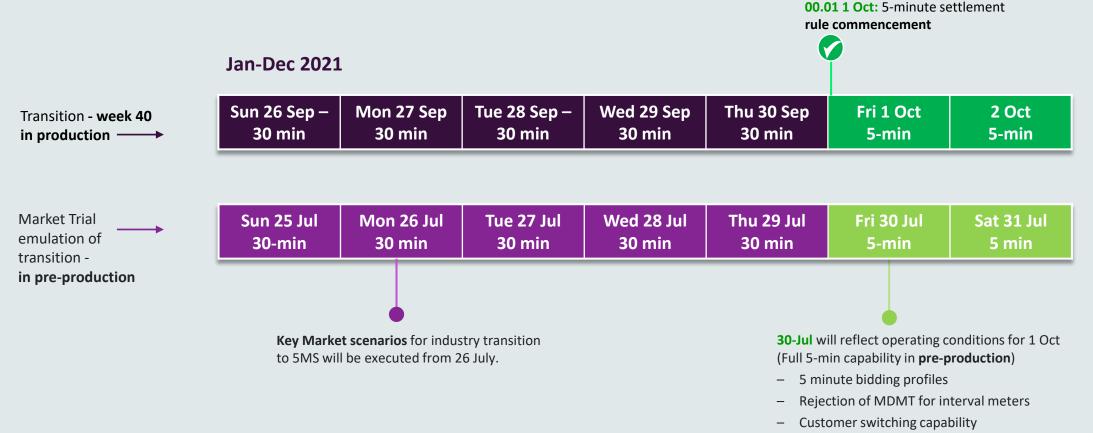
Please note: Registrations were required by 25 June. However, participants that haven't registered but would like to participate should contact 5MS@aemo.com.au to discuss.

Transition from 30 to 5-minute settlement

Market trial schedule reflects transition from 30 to 5-minute settlement

- Overall schedule will reflect settlement operation during "transition week" and subsequent 5-minute operation.
- Alignment of bidding capability with Market trial schedule.





5MS Market Trial Scenario Examples

Sun 25 JulMon 26 JulTue 27 JulWed 28 JulThu 29 JulFri 30 JulSat 31 Jul30-min30 min30 min30 min5-min5 min

Examples – to be executed prior to 30 July

Verify unable to submit varied 5-min bids

Submission of 5 minute metering data

Meter reconfiguration to 5 Minute

NMI Reclassifications for GS

Examples –to be executed from 30 July

Verify successful submission of varied 5-min bids

Verify rejection of MTMD meter data files for interval meters

Verify production of RM settlement reports in 5-min increments, including UFE

Verify creation and reception of 5-min settlement statements include preliminary, final and transition invoice.

Preparation checklist

Next Steps for Registered Participants – Entry Criteria:

- Confirm access to pre-prod
- ☐ Confirm in/out boxes are clean
- ☐ Confirm you are on the right Schema version for your testing and/or correct data model for wholesale
- Check the security access your test team will require to execute their tests i.e. folder access or only MSATS folder access etc.
- ☐ Confirm NMI lists with paired participants
- ☐ Confirm subscriptions in pre-prod wholesale to ensure you get all the reports you are expecting
- ☐ Confirm FTP and/or API access for your defined test scope
- ☐ Attend one of the three Practitiest trainings if required



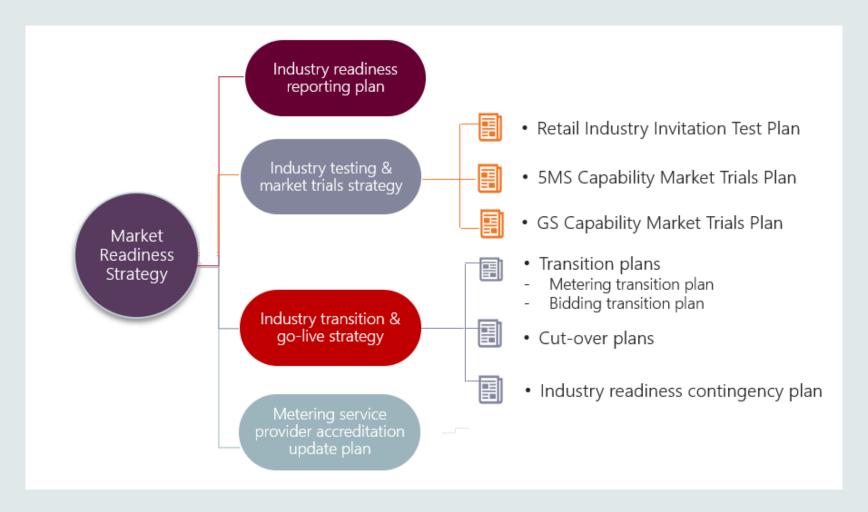
Industry Readiness – how is the industry progressing?

Greg Minney – Readiness Manager

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Readiness approach

AEMO's Readiness Workstream is responsible for activities in preparation for transition to and commencement of the 5-Minute Settlements and Global Settlement rules. Activities include:



Readiness reporting approach

- 1. Readiness reporting is voluntary
- 2. We encourage open and honest self-assessment
- 3. Responses are confidential (although we do publish a list of respondents)
- 4. Results are **aggregated** to produce a report
- 5. Results are discussed with our RWG and together we identify any actions that need to be taken

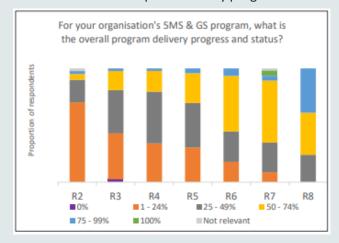


Reporting Criteria

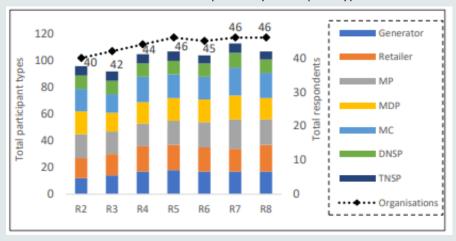
 Program establishment and progress General Overall governance Readiness Common to all participants Criteria Implementation of capability for 5MS/GS Specific Specific to participant type, including AEMO Readiness • Required for the successful operation of the Criteria market in 5MS/GS scenario Metering Monitors the status of metering transition **Transition** activities defined in the Metering transition Plan plan monitoring

Summary of results so far

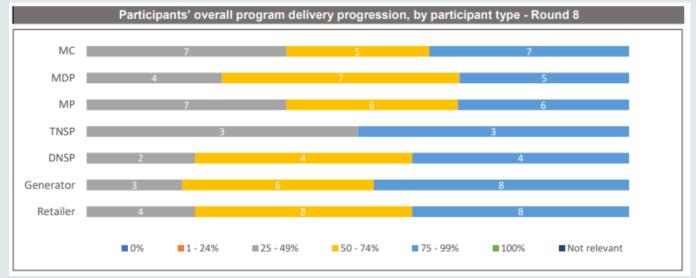
Overall Participant Delivery progress



Overall Participation by Participant type



Overall Delivery progress by Participant type



Industry Readiness — Round 8 (as at 22 June)



Activity	Status	Trend	Comments
AEMO Business Readiness for 5MS and GS (Part A)	On-track	1	 Status: On-track All AEMO platforms are now in Production operating at 30 minute Settlement. Retail Platform deployed 21 June Market Trial scheduled for 19th July commencement Trend: Up AEMO's last platform (Retail) went live on the 21st June
Essential Industry Capabilities for 5MS commencement (Part A)	At-risk	1	 Status: At-risk Multiple MSPs plans reflect 10% tranche 1 meters made 5-minute capable post MTP completion date of 31 July, providing little schedule contingency for Metering Data delivery. Current plans satisfy compliance obligations but are late against MTP dates AEMO to engage the RWG to conduct detailed contingency planning for metering scenarios Generators "on-track" with individual program risks reported Trend: Down Multiple MSPs with limited contingency for meter capability upgrade and metering data delivery
Summary: Part A 5MS Rule Commencement Essential Industry Capability	On-track	Ţ	 Status: On-track AEMO's Retail platform went live on the 21st June. All key 5ms platforms now in production Tranche 1 metering plans meet compliance obligations but have reduced schedule contingency in event of delayed delivery Trend: Down AEMO's Retail platform is now live, however, MSP time contingency has reduced with heightened risk profile
Other industry capabilities for 5MS and GS (Part B)	On-track	Ţ	 Status: On-track Majority of Participants reporting their overall programs as on-track, but some Participants are now reporting some non-essential capabilities as at-risk or late Metering transition activities have heightened risk profile Trend: Down Increase in Participants reporting items at-risk or late compared to the previous readiness reporting round

Next Steps and Further Information

- Readiness Reporting Round 9 will be issued on 2 August.
 This will be the final readiness reporting prior to 5MS commencement and will be used to inform the market start notice for 1 October 2021
- Further information on Readiness Reporting and previous reports are available on the 5MS webpages.
- !! If your organisation has not participated in Readiness Reporting please contact the 5MS mailbox to provide us an update on your organisation's status.



Contingency Planning

Peter Carruthers – Business Advocate (Chair)

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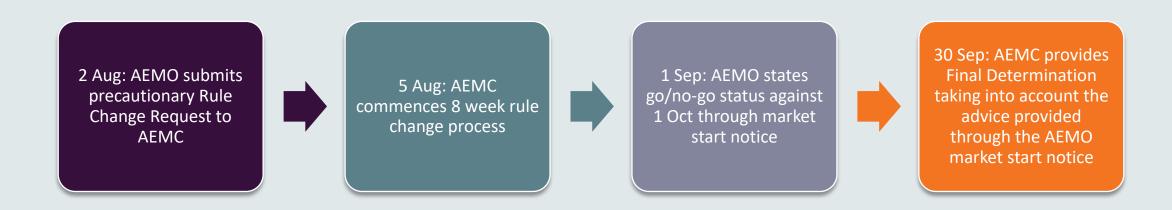
Overview of 5MS Contingency Planning

- Industry Contingency plan developed by RWG in April 2020.
- **26 contingency scenarios identified**, with associated monitoring, responses and trigger points.
- Scenarios coverage includes:
 - AEMO "Not Ready" to operate for 5MS Rule commencement
 - Minimum / Essential criteria not met for 5MS Rule Commencement
 - Essential Meters not fully compliant at 5MS rule Commencement
 - Essential Meter(s) metering data delivery issues
 - Delays to platform deployments
 - Platform Deployment failures
 - Post go-live inaccuracies and issues
- Where applicable contingency responses **utilise existing** NEM operating processes.
- Monitoring Mechanism a number of scenarios include monitoring of participant and AEMO progress via readiness reporting and completion of planned milestones.
- As component of RWG readiness reporting assessment will be made against identified contingency scenarios for contingency implementation.



AEMO will submit a Rule Change Request as an "insurance policy" against a critical issue arising

- The 5MS Program is a large complex program. While the program is progress as "green, on track" for 1 October, risks and pressures remain within the AEMO and industry programs.
- With the commencement of Market Trial, the 5MS Program is now on the **critical path to 1 October**. The following risks to critical path that could impact 1 October have been identified:
 - Cutover or significant post go-live issue with the Retail IT Platform
 - Unexpected significant issue during Market Trial
 - Essential capability issue for participant readiness (without a contingency response).
- AEMO will confirm the go/no-go status for the 5MS Rule Commencement on 1 September through a market start notice. Participants should assume that 1
 October will proceed unless otherwise notified by AEMO on 1 September.
- AEMO will submit a <u>precautionary</u> Rule Change Request to the AEMC by 2 August. This is the latest possible date to allow for the 8-week rule change process with a Final Determination on 30 September. This is a <u>risk mitigation measure</u> and is a form of "insurance policy" for a major unexpected issue.



Meeting Close

Peter Carruthers – Business Advocate (Chair)

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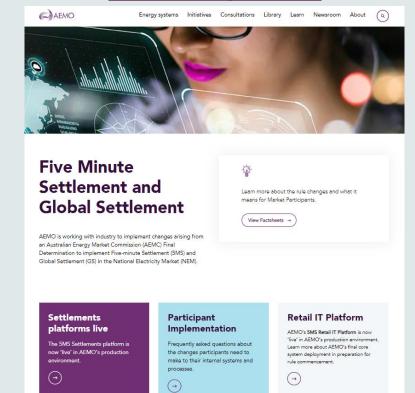
Get in touch and let us know your organisation's plan for 1 October

- All participants should assess their readiness status for the changes that will come into
 effect from 1 October 2021.
- Information is available on the <u>AEMO 5MS Program website</u> to help support the understanding of AEMC's 5MS and GS rules
- Contact us:
 - Let us know how your organisation is tracking for 5MS commencement on 1
 October 2021 and Global Settlements on 1 May 2022
 - Join our mailing lists or working groups
 - Ask for further information
 - Request a call with one of our experts



How can I learn more?

AEMO's 5MS Program website



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Contact the 5MS team at: 5ms@aemo.com.au

Key AEMC links:

<u>Rule Amendment</u>Deferral Decision

• 5MS Rule

• GS Rule



Questions?

