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# Five-minute settlement and global settlement

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**September 2021**

5MS and GS Soft Start Industry Go-live Plan

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# Important notice

## PURPOSE

This paper describes the go-live approach with respect to the upgrade of AEMO's systems for 5MS rule commencement and global settlements soft-start.

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## VERSION CONTROL

Version	Release date	Changes
0.1	02 August 2021	Draft released to the 5MS/GS Readiness Working Group for comment
1.0	02 September 2021	Final released after RWG comment

# Executive summary

AEMO and National Electricity Market (NEM) participants are currently implementing the five-minute settlement (5MS) and global settlement (GS) market reforms, and the implementation program has entered its market readiness phase.

The National Electricity Rules (NER) changes for 5MS and GS have amended or introduced new regulatory obligations on certain NEM participants and AEMO. They require significant updates or changes to market procedures, metering and market and participants' systems at various times. AEMO has a key coordination role, through collaboration with its industry working groups, to ready industry and itself for the various system and market "go-live" dates.

This document describes the go-live approach with respect to the upgrade of the relevant systems for the commencement of the 5MS rule and global settlements soft-start.

At a high level, the go-live responsibilities are set out below:

- AEMO to assess the level of Industry and AEMO readiness for the commencement of the Five-Minute Settlement rule and to issue a 5MS start notice in confirmation of that date.
- AEMO to enable the market software to commence operations in line with rule requirements
- Participants to complete their preparations in readiness for 5MS market commencement on 1 October 2021
- Participants to enable their systems and processes in line with 5-minute settlement and GS soft start operation

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# 1. Introduction

This chapter explains the Australian Energy Market Operator's (AEMO) five-minute settlement (5MS) and global settlement (GS) implementation program. It then details the purpose and context of the 5MS and GS Soft Start Industry Go-Live Plan. For the purposes of ease of reading, all references to 5MS rule commencement or 5MS commencement should be assumed to include the global settlements soft start.

## 1.1 AEMO's 5MS and GS implementation program

The Australian Energy Market Commission (AEMC) made the 5MS rule<sup>1</sup> in November 2017 and AEMO's extensive 5MS implementation program began in early 2018.<sup>2</sup> GS activities were incorporated into the program when the GS rule<sup>3</sup> was made in December 2018 because aligning 5MS and GS implementation activities is intended to minimise costs for AEMO and market participants.

On 9 July 2020, the AEMC determined that the commencement of the 5MS rule and GS rule should be delayed by 3 months, so that they commence on 1 October 2021 and 1 May 2022 respectively.<sup>4</sup>

The program covers the procedural, IT system and market readiness arrangements needed to implement 5MS and GS using the following workstreams:

- Procedures – defines and implements the required changes to market procedures
- Systems – designs, develops, tests, and implements changes to AEMO's market systems
- Readiness – coordinates, assists, and prepares AEMO and participants for the transition to 5MS and GS.

AEMO's 5MS and GS implementation program has entered the market readiness phase of the project. This paper relates only to market readiness.

## 1.2 5MS start notice

AEMO issued the 5MS start notice on 1 September 2021. On the basis of the 5MS readiness and risk assessment, AEMO concluded that the NEM is ready to operate in accordance with the Five-Minute Settlement rule (including Global Settlement soft-start) as scheduled on 1 October 2021. Participants should prepare for the 5MS Market Start on 1 October 2021 accordingly.

## 1.3 5MS Transition

The Five-Minute Settlement rule and Global Settlements soft-start will commence on 1 October 2021. The commencement follows the implementation of upgraded market platforms and the transition of required metering installations to support the commencement of 5-minute settlement.

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<sup>1</sup> *National Electricity Amendment (Five minute settlement) Rule 2017 No. 15*, Australian Energy Market Commission, available at: <https://www.aemc.gov.au/rule-changes/five-minute-settlement>, as further amended by the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019 No. 7*, available at <https://www.aemc.gov.au/rule-changes/five-minute-settlement-and-global-settlement-implementation-amendments>

<sup>2</sup> Details of AEMO's 5MS and GS implementation program: <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>

<sup>3</sup> *National Electricity Amendment (Global settlement and market reconciliation) Rule 2018 No. 14*, Australian Energy Market Commission, available at: <https://www.aemc.gov.au/rule-changes/global-settlement-and-market-reconciliation>, as further amended by the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019 No. 7*, op cit.

<sup>4</sup> Details on the delayed implementation of five minute and global settlement: <https://www.aemc.gov.au/rule-changes/delayed-implementation-five-minute-and-global-settlement>

### 1.3.1 Document purpose

This document describes the go-live approach with respect to the deployment of Retail and Bidding Service upgrades at the commencement of the Five-Minute Settlement rule and Global Settlements soft-start.

### 1.3.2 Development approach

The 5MS and GS Soft Start Industry Go-Live plan is developed in consultation with industry through the 5MS and GS Readiness Working Group (RWG). Table 1 below illustrates AEMO's engagement approach and timeline for developing the plan.

**Table 1 5MS and GS Soft Start Industry Go-Live Plan development timeline**

<b>Milestone</b>	<b>Date</b>
Initial engagement with the RWG	6 July 2021
Publish draft for industry feedback	30 July 2021
Deadline for industry feedback	15 August 2021
Publish final plan	01 September 2021

# 2. 5MS and GS Soft Start Industry Go-live Plan Framework

## 2.1 Scope

- In scope
  - Go-live approach, including the go/no-go decision approach and communication mechanism with the industry
  - Timing of Market Start Notification
  - Deployment of Retail and Bidding releases
  - Transitional impacts for inflight CATS transactions
  - Communications during deployment
  - Contingency process and notification
- Out of scope
  - Participant deployment approaches for 5MS capability
  - Participant roll-back plans

## 2.2 Principles

The Industry transition and go-live strategy principles apply to the 5-minute and GS soft start go-live. These are:

1. Mandated 5MS and GS commencement dates should be met
2. NEM operations should be uninterrupted during periods of transition and go-live
3. Market system go-lives and 5MS and GS commencement risks should be minimised
4. More certainty for participants' project planning should be introduced
5. Participants should be provided with implementation flexibility where possible
6. Participants and AEMO are responsible for their own transition and go-live planning<sup>5</sup>

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<sup>5</sup> Full descriptions of each principle are set out in the Industry transition and go-live strategy at: <https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Readiness-Workstream/Key-Readiness-Documents>



# 3. 5MS and GS soft start Industry Go-Live Plan

## 3.1 Go-live plan

The Five-Minute Settlement rule will commence at 00:01 on 1 October 2021. The go-live principles are set out below.

1. AEMO will issued a 5MS start notice on 1 September 2021. AEMC will provide confirmation of 1 October commencement date through the Final Determination.
2. AEMO will deploy the remaining required market systems upgrades to become effective from 1 October.
3. Participants will be kept informed of the cutover process through the AEMO Support Hub Bulletin which will be forwarded to all 5MS Working Groups from 5MS mailbox and communications from the 5MS mailbox.
4. At the completion of the Bidding Service upgrade, participants will be able to submit 5-minute profiled bids effective from 00:01 on 1 October and bids submitted in 30-minute format will be rejected.
5. Customer Switching comes into effective from 1 October. Customer Switching changes will be active in MSATS.
6. All interval meter metering data must be provided to AEMO in MTRD format.
7. Participants are responsible for their transitions to enable compliant interactions with the market systems from 1 October, noting the transitional arrangements available.

## 3.2 Communications

Correspondence regarding the go-live will be released through AEMO Support Hub bulletins and the 5MS mailbox.

There are three categories of cutover communications that participants will receive:

- General updates – provide participants with information about the status of the AEMO cutover process. This will be communicated through the 5MS mailbox.
- Support Hub Notices – provides information to the market on cutovers activities that may impact participant processes, e.g. stopping B2M batch handlers. This will be communicated through AEMO's established Market Notices mailing list. All Support Hub Notices will be forwarded by the 5MS mailbox to the 5MS mailing lists.
- Issues – should any issues arise or deviations from the previously communicated processes, participants will be notified through the 5MS mailbox. If the issue or deviation is in relation to a notice previously sent through AEMO's Support Hub Notices, participants will receive a communication through this channel in addition to the 5MS mailbox.

### 3.3 5MS Rule Commencement Schedule

The 5MS rule commences at 00:01 on 1 October 2021 and includes the commencement of the updated Customer Switching changes. The steps for the implementation of AEMO market system changes and associated communications are outlined in Table 2.

**Table 2 5MS Rule Commencement Schedule**

#	AEMO actions	Industry Impacts and actions		Planned Start Time (Market Time, Approximate only)	Communication Channel
		Retail Roles Role	Wholesale Roles		
1	AEMO provides Market Start Notice confirming 1 October 2021 as rule commencement	Participants to ensure individual readiness plans for rule commencement are in place	Participants to ensure individual readiness plans for rule commencement are in place.	Wednesday 1-Sep-21	5MS Mailbox
2	AEMO notifies participants of planned upgrade for MSATS (46.99)	n/a		Wednesday 15-Sep-21	Support Hub Bulletin
3	AEMO performs MSATS 46.99 and associated eMDM release	MSATS and B2M outage during cutover		Thursday 30-Sep-21 19:30	Support Hub Bulletin and 5MS Mailbox
4	AEMO provides status update on MSATS 46.99 deployment			Thursday 30-Sept-21 21:30	5MS Mailbox
5	AEMO communicates completion of MSATS 46.99 release	Processing of Retail transactions resumes.		Thursday 30-Sep-21 23:30	Support Hub Bulletin and 5MS Mailbox

#	AEMO actions	Industry Impacts and actions		Planned Start Time (Market Time, Approximate only)	Communication Channel
		Retail Roles Role	Wholesale Roles		
6	AEMO opens 5MS Support Room. Support Hub phone line remains available.			Thursday 30-Sep-21 23:30	N/A
7	AEMO replication report post release (if required) to reflect new configuration rules			Thursday 30-Sept-21 22:30	5MS Mailbox
8	Customer Switching processing implemented for transactions effective 1 October	All retail roles process CR transactions with changes introduced for Customer Switching (ref 3.4)		Friday 1- Oct-21 00.01	N/A
9	AEMO rejects interval metering Data delivered in MDMT format	Metering Data delivered to AEMO in MTRD Format for periods post 1 Oct All tranche 1 Metering Data delivered to AEMO for settlement in 5-minute granularity		Friday 1-Oct-21 00.01	N/A
10	AEMO confirms Commencement of 5-minute bidding		Participants commence submitting 5-minute profile offers Participants submitting 30-minute offers	Friday 1-Oct-21 00:01	Support hub bulletin and 5MS Mailbox

#	AEMO actions	Industry Impacts and actions		Planned Start Time (Market Time, Approximate only)	Communication Channel
		Retail Roles Role	Wholesale Roles		
			will have those offers rejected		
11	AEMO ceases population of 30-minute bidding tables		Participants to ensure they are subscribed to required 5-minute tables (prior to 1-Oct-21)	1-Oct-21	N/A
12		Participants subscribe to RM UFE Reports or request manually from 1-Oct-21 (post MSATS 46.99 release)		1-Oct-21	
13	AEMO rejects reallocations in 30 minute granularity effective post 1 October		Participants submitting reallocations to ensure they reflect 5 minute requirements	1 Oct 21	
14	AEMO closes 5MS Support Room. Support Hub phone line remains available.			1-Oct-21 03:00	
15	AEMO produces preliminary settlement statements for the “transition week” for settlement week 40 in line with Settlement Calendar	Settlement cases for transition week include 5 days of 30-minute settlement and 2 days of 5-minute settlement		As per Week 40 Settlement Calendar	

#	AEMO actions	Industry Impacts and actions		Planned Start Time (Market Time, Approximate only)	Communication Channel
		Retail Roles Role	Wholesale Roles		
16	AEMO produces first RM UFE reports for distribution	Participants to Subscribe or request required RM UFE reports Participants confirm receipt of reports		In line with settlement calendar	

### 3.4 MSATS transition Processing

As at 1 October 2021, Customer Switching capability will be enabled in MSATS. Participants should be aware that depending on the effective date of CRs for customer transfers validations may be performed both at time of CR submission and at completion. Details of Customer Switching processing can be referenced at <https://aemo.com.au/en/consultations/current-and-closed-consultations/nem-customer-switching>

### 3.5 B2B Metering Data Delivery

No outage is planned for B2B processing at the commencement of Five-Minute Settlement rule.

Five-minute metering data for upgraded meters will be supplied unless otherwise agreed between participant and supplying MDP.

### 3.6 B2M metering Data Delivery

Interval metering data for periods post 1 October will be delivered in MTRD format. Capability to support this transition has been in place since the Retail platform go-live. Metering data for periods prior to 1 October can be delivered in existing MDMT format.

### 3.7 5MS Bidding Service

The 5MS Bidding Service will operate in full 5-minute mode from 00.01 on 1 October. This transition does not require a software upgrade on 30 September and there is not outage on the 5MS Bidding Service.

### 3.8 Contingencies

As noted in Section 1, the 5MS commencement date has been set by AEMC and cannot be changed by any other entity. Unless an alternative date is communicated by the AEMC prior to 1 October, the 5MS rule will commence as scheduled. Therefore, even in the unlikely event of a failure of either of the upgrades for the Retail or EMMS platforms, the Five-Minute Settlement rule will commence.

AEMO notes the contingency responses set out in Sections 3.9.1 and 3.9.2 are in place. In addition, participants should make themselves familiar with the Industry Contingency Plan<sup>6</sup>.

### 3.8.1 Retail

Since its deployment in June the Retail platform (MSATS) has incorporated key capabilities to receive and process metering data at a 5-minute level. This allows metering providers to continue to deliver 5-minute data to AEMO for incorporation in the Settlement process. The 5-minute profiling capability will be deployed prior to the rule commencement allowing the settlement process to be performed at 5-minute level from the commencement date.

Metering Delivery – each MDP has in place a Business-As-Usual (BAU) contingency approach to enable the timely delivery of metering data, these will be implemented if required to ensure the completeness of metering data availability

Essential Meters - It is expected that all essential meters will have been upgraded by 1 October or a suitable contingency established by the relevant MC. This assessment is to be established in line with the issue of the Market Start Notice.

### 3.8.2 EMMS/ Bidding

Capability to allow the submission of 5-minute profile bids is activated via configuration as opposed to software change driven and will be effective from 1 October. All 30-minute bids from this date will be rejected.

Participants should have contingency arrangements in place to manage their ability to submit valid 5-minute bids post 1 October.

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<sup>6</sup> The Industry Contingency Plan is available on the 5MS webpages in the table title 5MS and GS market readiness strategies and plans:  
<https://www.aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement/industry-working-groups-and-readiness/industry-readiness-strategy>

# 4. Participant Support Arrangements

Participants should use AEMO's BAU support channels and raise all issues and incidents with Support Hub. The 5MS mailbox will remain open for general queries relating to the 5MS Program, e.g. working group arrangements.

## 4.1 Support Arrangements for preparing for 1 October 2021

The 5MS Program has arranged additional Q&A sessions for September and will continue to:

- Facilitate twice weekly Retail Q&A calls
- Circulate the Retail Issues Log on a daily basis
- Facilitate daily 5MS Market Trial calls until 17 September, including small sessions as requested
- Manage queries through the 5MS mailbox
- Execute the working group schedule as planned

## 4.2 5MS Support Room

The 5MS Support Room will be available from the close of the MSATS outage (23:30 on 30 September 2021) until 03:00 01 October 2021. It will be available for updates on urgent issues.

The 5MS Support Room will be available through a Teams meeting link that will be provided to the 5MS Working Groups in advance.

All issues and incidents should still be logged through Support Hub to ensure the appropriate chain of ownership.

The 5MS Support Room may be extended if required.

## 4.3 Support Arrangements for October

Support Hub will remain the main point of contact for issues, incidents and queries post 1 October. Q&A sessions will be facilitated by AEMO on weekdays. Invitations will be sent to the 5MS Working Groups. The daily issues log will include relevant issues from the Retail and Wholesale systems.

# Glossary

This document uses many terms that have meanings defined in the National Electricity Rules (NER). The NER meanings are adopted unless otherwise specified.

<b>Term</b>	<b>Definition</b>
5MS	Five-minute settlement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
BAU	Business as Usual
Cutover / Go-live	System implementation event
EMMS	Electricity Market Management Systems
GS	Global settlement
NEM	National electricity market
NER	National electricity rules
RWG	Readiness working group
Transition	Process of shifting from current to future operating state