

5-Minute Settlements and Global Settlements

April 2021

Settlements - Industry Go-live

Important notice

PURPOSE

This document provides information to Participants on the 5MS Settlements Stream cutover approach, including the schedule and communications plan.

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VERSION CONTROL

Version	Release date	Changes
0.1	12/11/2020	Initial draft.
0.2	16/2/2021	Revised in light of new release dates.
0.3	15/3/2021	Final review before distribution
1.0	30/3/2021	Final. - Shut down time moved from 17:00 to 14:00.
1.1	20/4/2021	Removed PVM

Executive summary

AEMO and NEM¹ Participants are currently implementing the 5MS² and GS³ market reforms. The programs are entering the market readiness phase.

The NER⁴ changes for 5MS and GS have amended or introduced new regulatory obligations on certain NEM Participants and AEMO. They require significant updates to market procedures and Participants' systems. AEMO has a key coordination role, through collaboration with its industry working groups, to ensure the Participants are ready for the various system and market milestones.

This paper sets out the 5MS Settlements Stream cutover approach, including the cutover schedule and communications plan. These include changes to the Settlement Reconciliation reports, prudential dashboards, Settlements Direct interfaces, statements and the Data Model.

¹ National Electricity Market

² 5-Minute Settlements

³ Global Settlements

⁴ National Electricity Rules

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1. Introduction

This chapter reviews AEMO's 5MS and GS implementation program. It then outlines the required changes to Settlements-related systems and processes.

1.1 AEMO's 5MS and GS Implementation Program

The AEMC⁵ made the 5MS rule⁶ in November 2017 and AEMO's extensive 5MS implementation program began in early 2018.⁷ GS activities were incorporated into the program when the GS rule⁸ was made in December 2018 because aligning 5MS and GS implementation activities was intended to minimise costs for AEMO and Participants.

On 9 July 2020, the AEMC determined that the commencement of the 5MS rule and GS rule should be delayed, so that they commence on 1 October 2021 and 1 May 2022 respectively.⁹

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 procedures¹⁰
- Systems – designs, develops, tests, and implements changes to AEMO's market systems¹¹
 - Retail – converting changes to metering data
 - Dispatch – covering changes to Dispatch and Bidding
 - Settlements – including changes to Settlements, Billing, Prudentials and Statements.
- Readiness – coordinates, assists and prepares AEMO and Participants for the transition to 5MS and GS.¹²

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

⁵ Australian Energy Market Commission

⁶ *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>

⁷ Details of AEMO's 5MS and GS implementation program: <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>

⁸ *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.

⁹ 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>

¹⁰ Details of the procedures workstream: <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Procedures-Workstream>

¹¹ Details of the systems workstream: <https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Systems-Workstream>

¹² Details of the readiness workstream: <https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Readiness-Workstream>

1.2 5MS Settlements Implementation

While 5MS and GS require key changes to bidding and retail systems and processes, these market reforms also impact on Settlements, Billing and Prudentials.

1.2.1 5MS

The 5MS Rule change comes into effect on 1 October 2021.

- It changes the trading interval at which spot prices in the wholesale electricity market are set, from 30 minutes down to 5 minutes.
- Metering data is read or estimated in 5-minute intervals.

1.2.2 GS

- The current settlement approach¹³ charges energy to the FRMP¹⁴ and deducts metered electricity consumed by end-use customers. This means that the FRMP bears the risks and costs for unaccounted-for energy (UFE).
- The GS Rule change means that the UFE is explicitly calculated and then assigned to all retailers in an area.
- A 'soft start' commences on 1 October 2021, where UFE is calculated and reported but not yet charged (the current process continues).
- From the effective date, 1 May 2022, AEMO must add the allocated UFE to the adjusted gross energy for retailers¹⁵.

1.2.3 Systems go-live

AEMO plans to release changes to Settlements Production systems on 17 May 2021.

However, processing remains in 30-min intervals until the 5MS Rule commencement date.

¹³ 'settlement by difference'

¹⁴ financially responsible market Participant

¹⁵ Settlement-by-difference continues to be used for embedded networks.

2. Plan Framework

2.1 Purpose of the Plan

The Settlements industry go-live plan describes the industry's transition responsibilities and AEMO's cutover plan with respect to the deployment of the Settlements changes.

2.2 Scope of the Plan

- High-level transition and cutover approach
- Outline industry responsibilities and expectations, including Participant Verification Testing
- Outline AEMO's "go/no-go" decision criteria and timeframes
- Detail the industry cutover schedule including Participant impacts and required actions
- Detail the communication and notifications approach during the cutover period
- Describe contingencies that may be implemented and their communication requirements

2.3 Exclusion from the Plan

- Deployment approach for each Participant and their systems.
- Rollback plans for Participants, especially if AEMO decides to roll back its own release.

2.4 Principles

A full description of each principle is 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>.

The following industry transition and go-live strategy principles apply:

1. Mandated 5MS and GS commencement dates must be met.
2. Operation of the NEM must be uninterrupted, especially during periods of transition and go-live, unless strictly necessary and for as short a time as possible.
3. Risks relating to system go-live and Rule commencement must be managed.
4. AEMO must be transparent and explicit in plans affecting Participants' own projects.
5. Flexibility in implementation must be maximised for Participants.
6. Participants and AEMO are each responsible for their own transition and go-live planning.

In addition, the following principles are specific to this plan:

1. AEMO must keep industry informed on any go-live decisions and communicate status updates during the cutover process.
2. Participants must comply with directions from AEMO during the cutover plan.

2.5 Development Approach

This plan is developed in consultation with industry through the 5MS and GS RWG¹⁶ and the CFG¹⁷. Table 1 illustrates AEMO's engagement approach and timeline for developing the plan.

Table 1 Plan development timeline

Milestone	Date
Publish first draft for industry feedback	Monday 15th March 2021
Deadline for industry feedback	Fri 19 March 2021 (2 weeks later) – extended by 1 week
Publish final plan	Thu 23 April 2021

3. Settlement Cutover Plan

3.1 Cutover Approach

The cutover approach aims to minimise impact to Participant operation.

AEMO is moving to a new internal database platform: all data will be migrated before go-live. This is not expected to impact Participants.

On cutover,

- Web pages including Prudential and Forecast Prudential dashboards and Settlements Direct change the look-and-feel; 'Credit Support' pages are re-activated.
- New APIs matching the web pages become available for use by Participants. The use of these is not mandatory but allows more efficient use of AEMO's systems.
- Settlement reconciliation report (SR report) has new UFE columns. However, these are not populated until 1 Oct 2021.
- Data Model changes (v 5.0, still reporting in 30-minute intervals) are implemented with the Dispatch release so no further changes are required for this release.
- New look for invoices & statements. Two items are removed: 'Smelter reductions' and 'Mandatory Restrictions'.

3.2 Go / no-go decision

Based on the outcome of the cutover activities, AEMO will make one of the following decisions:

- Proceed with the cutover - upgraded platform live
- Proceed with cutover, upgraded platform live, but with identified issues

¹⁶ Readiness Working Group

¹⁷ Cutover Focus Group

- Rollback and restore to previous versions

Participants will be informed of the outcome of the cutover in line with the process and timing outlined in cutover communications (section 3.3) and the cutover schedule (section 3.4).

In case of a 'no go' or rollback decision, Participants will be advised of an alternative plan. This will be reviewed in light of other releases and resource requirements.

3.3 Cutover Communications

AEMO will provide updates to the industry regarding the cutover through AEMO Support Hub Bulletins and the 5MS mailing list¹⁸.

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 Bulletins** – provides information to the market on cutover activities that may impact participant processes. This will be communicated through AEMO's established mailing list. All Market 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 Bulletin**, participants will receive a communication through this channel in addition to the 5MS mailbox.

¹⁸ AEMO attempts to send the Bulletin to only one address at each Participant. Please request your email administrator or Helpdesk staff to add your name to the distribution list we send the bulletin and change notices to. If they and your colleagues do not know the email address, please log a request for the email address to the AEMO Support Hub via <http://aemo.com.au/Contact-us> Where possible, please ensure you put in any relevant ORG number or Participant ID.

3.4 Industry Cutover Schedule

3.4.1 'Go' decision

The cutover is scheduled to commence on the Friday before the release date and is expected to conclude on the Sunday.

Table 2 details the cutover schedule, and the associated industry impacts and actions.

Table 2 Cutover Schedule ('Go' decision)

AEMO action	Industry Impact and actions	Planned Start Time	Communication Channel
AEMO prepares internal systems.		Mon 19/4/21 (1 month before go-live)	
AEMO notifies Participants	Participants prepare	Fri 14/05/21 14:00 (Friday before go-live)	Support Hub Bulletin (forwarded by 5MS mailbox)
AEMO stops access to Market Portal	Participants cannot access the Market Portal for the duration of the outage.	Fri 14/05/21 14:00	
AEMO commences cutover activities		Fri 14/05/21 14:00	
AEMO informs participants of Full Market Go-live – including access to the Market Portal.		Sun 16/5/21 17:00 at the latest.	Support Hub Bulletin (forwarded by 5MS mailbox)
<i>In the event of a rollback, please see section 3.4.2</i>			

3.4.2 'No-go' decision

If AEMO decides not to proceed with the release, Participants will be notified. No changes will be effected.

3.4.3 Rollback

Once the cutover has started, and typically during verification, AEMO may decide to roll back any changes and restore the system to its pre-cutover state

Table 3 Settlements Cutover Schedule (Rollback)

AEMO action	Industry Impact and actions	Communication Channel
AEMO informs Participants that rollback is necessary.	Participants may need to initiate their own rollback plan.	Support Hub Bulletin (forwarded by 5MS mailbox)
AEMO informs participants that rollback is complete and systems are restored.		

3.5 Post Go-Live Support

Existing support communication channels will be used after go-live. Participants may log issues via the AEMO Support Hub. Market communications will be used for the notification of any impacts to processing.

The AEMO SMS Program will also organise post-go-live open Q&A sessions as required.

3.6 Contingencies

See the Readiness Contingency Plan in case the cutover fails any verification tests.

Glossary

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

Term	Definition
5MS	Five-minute settlement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
Cutover	System implementation event
GS	Global settlement
Industry testing	Informal, uncoordinated testing by participants in AEMO's IT environments
NEM	National electricity market
NER	National electricity rules
PVM	Participant Verification Monitoring
RWG	Readiness working group
Transition	Process of shifting from current to future operating state