

IESS June 2024

April 2024

IESS June 2024 Go-live Plan

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Important notice

Purpose

This document describes the go-live approach for upgrading AEMO's wholesale and retail systems for the Integrating Energy Storage Systems (IESS) June 2024 release. It also covers the key participant activities required to support these changes.

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Version control

Version	Release date	Changes
#0.1	26/02/2024	Draft for Industry Review
1.0	19/04/2024	Post Industry Review feedback

AEMO acknowledges the Traditional Owners of country throughout Australia and recognises their continuing connection to land, waters, and culture. We pay respect to Elders past and present.

Executive summary

The IESS rule includes amended and new regulatory obligations on certain NEM participants and AEMO. These changes have resulted in the need for significant updates to market procedures and market and participants' systems at various times.

The IESS implementation program has entered its market readiness phase. AEMO and National Electricity Market (NEM) participants are now making the changes required to implement the IESS (Integrating Energy Storage Systems) rule.

AEMO has a key coordination role, through collaboration with industry working groups, to ready industry and itself for the various system and market "go-live" dates.

This document describes the IESS go-live approach and schedule for upgrading the relevant NEM systems for the IESS rule commencement in June 2024.

At a high level, the IESS go-live responsibilities are:

- AEMO to facilitate industry testing and market trial
- AEMO to enable the market software to commence operations in-line with the IESS rule requirements
- Participant to complete their preparations in readiness for the IESS June 2024 release.

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1. Introduction

1.1 Audience

This document provides information to Participants and IT staff that will be impacted by the functional and technical changes being implemented under the IESS June 2024 changes.

1.2 Background

This chapter provides the background for the IESS June 2024 implementation.

On 02 Dec 2021 the Australian Energy Market Commission (AEMC) made the Integrating Energy Storage Systems (IESS) rule. The change seeks to better integrate storage and aggregate systems into the National Electricity Market (NEM).

On 04 May 2023, the AEMC made a further rule (the Implementing IESS rule), which amends the IESS rule.

The IESS project encompasses procedural, IT system and market readiness arrangements required to implement the IESS rule under the following workstreams:

Workstream	Purpose
Procedures	Defines and implements the required changes to market procedures.
<u>Systems</u>	Designs, develops, tests, and implements changes to AEMO's market systems.
Readiness - Retail & Settlements	Coordinates, assists, and prepares AEMO and Participants for the IESS rule change.
Reg, Classification & Bidding	Coordinates, assists, and prepares AEMO and Participants for the IESS rule change.

1.3 AEMO's IESS Program

The IESS rule requires four distinct changes required as described in Table 1 IESS Changes.

Table 1 IESS Changes

Implementation date	Change	Description
Fri 31 Mar 2023	Small Generation Aggregators (SGA) providing FCAS	COMPLETE
		Aggregators of small generating and storage units can now provide ancillary services (if they choose to do so).
Wed 09 Aug 2023	Aggregated Dispatch Conformance (ADC)	COMPLETE
		Aggregate Systems can choose to register for ADC
		 ADC provides an Aggregate System with the flexibility to conform to its dispatch instructions by dispatching energy at the connection point from any combination of its units (with some restrictions), rather than individually on a unit-by-unit basis

Implementation date	Change	Description
		 Includes minor changes for Battery Energy Storage Systems (BESS). AEMO will temporarily be using the ADC mechanism to monitor net dispatch conformance for a BESS across its scheduled generating unit/scheduled load pair, as a Target Aggregate.
Sun 02 Jun 2024	IESS retail and settlement changes	Significant changes to the calculation method to be used for Non-Energy Cost Recovery (NECR):
		 Recovery calculations are to consider the gross (consumption separate from generation) energy amounts of all participants, rather than current approach using net energy (generation – consumption) of specific participant types
		 Major settlements database structure changes are required to enable the new calculations, these changes will flow into the Data Model and affect:
		 Participant reconciliation and reporting activities
		 AEMO data provision
		 Embedded network management changes to ensure that the parent has the appropriate gross energy volumes available for settlement.
Sun 02 Jun 2024 (IRP)	Registration, bidding,	 Introduction of Integrated Resource Provider (IRP) participant type
Mon 03 Jun 2024 (BDU)	and dispatch changes	 Bidirectional unit (BDU) bidding and dispatch, with impacts for BDU participants and bidding system vendors/developers.

This Go Live plan supports the Sun 02 June and Mon 03 June 2024 changes detailed in the following sections.

1.4 IESS Sun 02 June 2024 – Retail and Settlements

The changes to be implemented and supported from Sun 02 June 2024 are outlined in Table 2.

Functionality	Description
Settlement and non- energy cost recovery (NECR) changes	 Significant changes to the calculation method to be used for Non-Energy Cost Recovery (NECR): Recovery calculations are to consider the gross (consumption separate from generation) energy amounts of all participants, rather than current approach using net energy (generation – consumption) of specific participant types. Major settlements database structure changes are required to enable the new calculations, these changes will flow into the Data Model and affect: Participant reconciliation and reporting activities AEMO data provision Embedded network management changes to ensure that the parent has the appropriate gross energy volumes available for settlement.
New/updated National Meter Identifier (NMI) Classification Codes	 Via the <u>Retail Procedures</u>, 3 new codes and amendments to 2 further codes will be implemented under IESS for: Identifying integrated resource systems (IRS) and removing the current use of two NMIs for grid-scale storage facilities Appropriate application of market fees and unaccounted-for-energy (UFE) Incorporating changes relating to the new Small Resource Aggregator category Enabling appropriate compliance monitoring to protect the integrity of market settlements.
Introduction of new participant type: Integrated Resource Provider (IRP)	An Integrated Resource Provider will be able to classify a wide range of units New category to simplify registration, particularly for battery participants who currently need to register as both a customer and a generator Existing 2 DUID participants (generator/customer) transition to IRPs Small Generation Aggregators become IRPs.

Table 2 IESS Sun 02 June 2024 changes

1.5 IESS Mon 03 June 2024 – Bidding & Dispatch

The changes to be implemented and supported from Mon 03 June 2024 are outlined in Table 3.

Table 3 IESS Mon 03 June 2024 changes

Functionality	Description
Introduction of bi-directional units (BDU)	A new unit type for plant (such as a battery) that can act as a generator and a consumer of electricity. There will also be a new approach to bidding whereby a BDU will use a single bid form, rather than the current two (one each for generation and consumption).

1.6 IESS Background Documents

The following IESS related documents or web pages provide background to the IESS project:

- AEMC IESS rule change
- AEMC Implementing IESS rule change
- AEMO IESS High Level Design and Implementation Strawperson
- AEMO IESS Participant Toolbox
- AEMO IT change and release management (including links to EMMS and MSATS technical specifications).

1.7 IESS Related Documents

The following documents provide information related to processes and plans specific to the IESS project.

Table 4 IESS Related Documents

Document	Description
IESS Participant Impact Assessment	The IESS June 2024 Participant Impact Assessment provides the high-level impacts of the IESS rule change.
AEMO IESS June 2024 Readiness Approach	The IESS Readiness Approach is the overarching plan to guide AEMO and NEM participants' IESS readiness activities and operational preparedness, including consideration of industry testing and market trial.
AEMO IESS June 2024 Readiness and Go Live Criteria	The IESS Readiness and Go Live Criteria outlines the industry agreed readiness and Go Live criteria for IESS June 2024.
IESS Integrated Resource Provider Transition Plan	The IRP transition plan provides information to support relevant participants in their transition to the Integrated resource provider registration category. The IESS industry testing and market trial will support participants in their IRP transition preparations.
IESS NMI Classification Codes Transition Plan	The NMI classification code transition plan set out the activities, dependencies, and timeframes for AEMO to transition the existing distribution-connected generators (and generation side of distribution-connected storage) to the DGENRATR NMI Classification Code. The IESS industry testing and market trial will support participants in their NMI classification code transition preparations.
IESS Bidirectional Unit Transition and Cutover Plan	Provides information to support participants in the process to cutover from BESS to BDU. It also details the prerequisites, forward notice and steps required to cutover. The IESS industry testing and market trial will support participants in their BDU cutover preparations.
AEMO IESS Industry Test and Market Trial Strategy	The IESS Industry Test and Market Trial Strategy defines the approach, scope, process and responsibilities and high-level schedule of the industry testing and market trial phase for IESS. The Industry test and market trial plan sets out how the strategy will be achieved.
AEMO IESS Industry Test and Market Trial Plan	The Industry testing and market trial plan sets out the approach and schedule for the Market Trial, which will support Integrating Energy Storage Systems (IESS) implementation.

2. Plan Framework

2.1 Purpose of the Plan

The IESS June 2024 go-live plan defines the industry responsibilities aligned to AEMO's cutover plan with respect to deploying and enabling the IESS changes.

2.2 Scope

This plan focuses on the standing data and system changes with the relevant timing to enable the IESS rule.

2.2.1 In Scope

- · High level industry cutover schedule including Participant impacts and required actions
- NCC updates
- IRP transition for participants required to transition on 2 June 2024
- IRP transition for participants required to transition on 3 June 2024
- AEMO's "go/no-go" decision criteria and timeframes
- Detail the communication and notifications approach during the cutover period
- Contingencies that may be implemented and their communication requirements.

2.2.2 Out of Scope

The transition process for the following areas are not covered by this plan:

- IRP Transition for participants not required to transition on 02 or 03 June 2024
- BDU Transition
- Participant contingency plans.

2.3 Principles

The guiding principles to deploy and enable the IESS June 2024 changes are:

- Mandated IESS rule commencement dates must be met
- Operation of the NEM must be unimpacted during periods of go-live, unless strictly necessary and for as short a time as possible
- Risks relating to system go-live and rule commencement must be proactively managed
- AEMO must be transparent and explicit in plans affecting Participants' projects/timelines
- Participants and AEMO are each responsible for their own transition and go-live planning.



Specific to the cutover duration:

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

3. Go Live Plan

3.1 Go/No Go decision

There will be a Checkpoint decision communicated on 03 May 2024 for Production deployment of AEMO Systems.

Where a Go decision has been made, the IESS June 2024 changes will be deployed to the Production environment as per the schedule in Table 6 IESS Go Live Schedule.

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
- 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 3.2 Communications and Table 6 IESS Go Live Schedule. In case of a 'no go' or rollback decision, Participants will be advised of an alternative plan. This will be reviewed with consideration of other releases and resource requirements.

3.2 Communications

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

AEMO will provide the following forms of updates to participants during the AEMO cutover:

- General updates provide participants with information about the status of the AEMO cutover process. These will be communicated via the NEM Reform mailbox to NEM Reform Implementation Forum (IF) members
- 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 NEM Reform mailbox to the IESS mailing
 lists
- Issues should any issues arise or deviations from the previously communicated processes, participants will be notified through the NEM Reform 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 NEM Reform mailbox.

3.3 IESS High Level Technical and Functional Changes

This section provides a high-level view of the changes required to support the IESS Rule Change.

The Go Live Schedule must be viewed in conjunction with the relevant document to provide the required information and instruction related to individual steps within the Go Live Schedule.

The technical specifications referenced in Table 5 IESS High Level Technical and Functional Changes are currently published. Please refer to <u>AEMO Technical Specification Portal</u> for final versions due 02 April 2024.

ITEM	DESCRIPTION	REFERENCE
EMMS Data Model v5.3	Bidding Data Model table updates to support directionSettlement table changes to support UFEA changes	EMMS Technical Specification - Data Model
	**Participants wanting to receive the new and updated Data Model information in their Data Interchange environments must upgrade to the latest version of the Data Model v5.3.	
Markets Portal	Updates to the Market Info, View offers, Settlements, Offers and submissions web interfaces on the Markets Portal	EMMS Technical Specification June 2024
API	Update the NEM Bidding & Dispatch APIs to cater for changes to support extended JSON format	EMMS Technical Specification June 2024
FTP	Extend the existing capability to support providing additional information required for BDUs	EMMS Technical Specification June 2024
MSATS	MSATS updates include the following features to support IRP, NCC & BDU changes:	MSATS Technical Specification June 2024
	Market Participant Category	
	BDU Classification Types	
	 Change Request configuration change to include new NMI Classification Codes 	
	Minor changes to select MDM reports	
Integrated Resource Provider	 Small Generation Aggregators will become Small Resource Aggregators effective 2 June 2024. 	IESS Integrated Resource Provider Transition Plan
	AEMO will perform the required updates.	
NMI Classification Code	 Additional NMI Classification Codes to distinguish between distribution and transmission connected generators. 	IESS NCC Transition Plan
	AEMO will perform the required updates.	
Bidirectional Unit	 Introduction of Bidirectional Unit (BDU) capability to support a single DUID model for charge and discharge in bidding and dispatch. 	IESS Bidirectional Unit Transition and Cutover Plan

Table 5 IESS High Level Technical and Functional Changes

IESS June 2024 Go Live Plan

3.4 Go Live Schedule

AEMO IESS release activities begin ahead of 02 & 03 June 2024 to enable AEMO to fulfill its obligations and meet the IESS rule commencement dates. These activities will include a retrospective population of data where required.

Please note that Table 6 IESS Go Live Schedule contains the high-level steps only and must be viewed in conjunction with the following documents for detail:

- EMMS Technical Specification June 2024
- EMMS Technical Specification Data Model 5.3 April 2024
- MSATS Technical Specification June 2024.

Please see <u>AEMO Technical Specification Portal</u> for the latest versions of these documents.

For noting:

- The changes being deployed ahead of 02 & 03 June 2024 will be deployed with an effective date to align to the respective rule commencement date.
- The IESS Go Live Schedule is limited to activities required to occur **on or by** 02 & 03 June 2024 to fulfill obligations.
 - \circ BDU Transition and Existing IRS \rightarrow IRP capability will be in place to support participants transitioning from 03 June 2024.

Table 6 IESS Go Live Schedule

Ref ID	AEMO Action	Participant Impact/Action	Planned Start Time	Communication Channel
		Pre-commencement		
1	 Data Model Upgrade Scripts Pre-release of 4 bidding table changes to support the DIRECTION field. AEMO will provide the scripts for participants to back populate the required data to fields: BIDDAYOFFER 	 Upgrades Participant production systems with Data Model 5.3 tables ONLY for the 4 Bidding table changes with Primary key changes. Participants using the Bidding tables can implement these changes before the full Data Model release to production on 10 April 2024 to back populate data. Data will be back populated in AEMO systems 	Tues 27 February 2024 Complete	Email to NEM Reform Implementation Forum members

IESS June 2024 Go Live Plan

Ref ID	AEMO Action	Participant Impact/Action	Planned Start Time	Communication Channel
	BIDOFFERPERIOD BIDDAYOFFER_D BIDPEROFFER_D			
2	EMMS Data Model 5.3AEMO deploys eMMS Data Model upgrade to v5.3	 No Outage Required Participants will not see updated eMMS Data during the outage window. No action required. 	Wed 10 Apr 2024 Complete	Support Hub Notification
3	 EMMS Data Model 5.3 AEMO releases upgrade scripts for Data model 5.3 to implement bidding table changes to support BDU and settlement table changes to support NECR changes 	 Participants can upgrade their systems to eMMS Data Model v5.3 	Wed 10 Apr 2024 Complete	Email to NEM Reform Implementation Forum members
4	AEMO issues reminder of planned MSATS outage	Communication only	Tues 30 Apr 2024	Support Hub Notification
5	 IESS deployment notification AEMO issues notification of planned production deployment of Retail Applications upgrades 	 Communication to make participants aware that AEMO has received internal approval to proceed with IESS Release 	Wed 08 May 2024	Support Hub Notification
6	 MSATS Release AEMO deploys the MSATS release to support IESS changes – Release 51.0x (TBC) 	 AEMO implements components of the Release to production with a future effective date Participants will be unable to access MSATS or the following processes during the deployment: MSATS Browser/Portal B2B/B2M Transactions NMI Discovery RM Reports 	Sun 12 May 2024 10AM – 4PM Market Time	 Email to NEM Reform Implementation Forum members Support Hub Notification
7	 Deployment of NEM Scheduling System Updates AEMO Deploy updates to scheduling applications to support IESS Changes 	No Participant impact	Wed 22 May 2024	Email to Implementation Forum members at completion of deployment
8	 Deployment of Settlement Updates AEMO deploys updates to settlements and prudential market applications to support IESS changes 	No Participant Impact	Sat 18 May 2024	Email to Implementation Forum Members at completion of Deployment
9	 BDU Transition Process AEMO and Participants can commence BDU transition 	Transition BDU participants may commence transition activities in line with BDU Transition Plan and cutover schedule for individual participants	Ongoing from Mid May	As per BDU Transition Plan

IESS June 2024 Go Live Plan

Ref ID	AEMO Action	Participant Impact/Action	Planned Start Time	Communication Channel
	Dates and timeframes for transition activities for individual participants are as agreed in the BDU Transition Plan and Cutover Schedule			
10	 Participant Registration - New participants post June 3 Forms for IRP and BDU registration for participants entering market post June 3 2024 are released 	 Registration process for intending IRP/ BDU participants If new participants wish to start the registration process prior to the forms being published, please contact onboarding@aemo.com.au 	Mid May 2024 (TBC)	 Standard participant Registration process
11	IRP Transition Update – Small Generation Aggregators AEMO will transition SGA participants to the IRP Category with effective date Sun 02 June 2024	 Participants will be notified prior to and post update Please refer to <u>IESS Integrated Resource Provider</u> <u>Transition Plan</u> for additional information 	Thurs 23 May 2024	To be communicated at Implementation ForumEmail to impacted participants
12	IRP Transition Update – New IRS Participants AEMO will transition new IRS participants to the IRP Category with effective date Mon 03 June 2024	Participants will be notified prior to and post update Please refer to <u>IESS Integrated Resource Provider</u> <u>Transition Plan</u> for additional information	Fri 24 May 2024	 To be communicated at Implementation Forum Email to impacted participants
		02 June 2024 commencement		
13	Sun 02 June IESS changes are ACTIVE (Retail/Settlement & NCC / IRP)		Sun 02 June 2024	 Email to NEM Reform Implementation Forum members Support Hub Notification
		03 June 2024 commencement		
14	NCC Transition Update AEMO will update required NCC to DGENRATR – with effective date 02/6/24	Once the NCC has been updated for the required NMIs, a BC01 will be received by participants associated with the NMI Please refer to <u>NCC Transition Plan</u> for additional information	Mon 03 June 2024	 Email to NEM Reform Implementation Forum members Support Hub Notification
15	Mon 03 June IESS changes are ACTIVE (Bidirectional Unit Capability)		Mon 03 June 2024	 Email to NEM Reform Implementation Forum members Support Hub Notification
		Post cutover		
16	First Settlement run post Go Live		14/06/2024	

3.5 Deployment Contingency

The IESS June 2024 release will be comprised of updates to multiple AEMO systems over the weeks leading up to 2 June 2024. This approach will assist AEMO in supporting the IESS changes by the respective rule effective dates.

Where a task/deployment has a participant impact, AEMO will provide communication confirming the successful deployment. Where a participant impacting task must be rescheduled (for example, if a planned deployment is not successful and is rolled out), participants will be notified of both the rollback and the revised date(s) for impacted task/ deployment.

Where an issue arises that impacts the <u>Readiness and Go Live Criteria</u>, participants will be notified and a path forward will be communicated. This may involve consultation and will be assessed if/when required.

4. Participant Support Arrangements

All production issues should be raised via the Support Hub.

AEMO will run Hypercare for the IESS changes for one month from 3 June 2024. There will be heightened SME availability to support participants during this time along with:

- Issue Tracking:
 - Publication of identified Issues Log
 - Q&A Sessions as required
 - Participants are requested to follow BAU process and log issues via the AEMO Support Hub
- Communications:
 - Market communications will be used for the notification of any impacts to processing
 - The AEMO IESS June 2024 Program will organise post-go-live open Q&A sessions as required
 - Q&A session for preliminary and final settlements runs to discuss any issues or queries.

Glossary

Term	Definition		
AEMC	Australian Energy Market Commission		
AEMO	Australian Energy Market Operator		
BDU	Bidirectional Unit		
BESS	Battery Energy Storage System		
Cutover System or process implementation event			
DUID	UID Dispatchable Unit Identifier		
IESS	Integrating Energy Storage Systems rule		
IF	Implementation Forum		
Industry testing	Informal, uncoordinated testing by participants in AEMO's IT environments. Self-testing of functionality such as connectivity, and/or coordinated multi-party testing of functional scenarios.		
IRP	Integrated Resource Provider		
IRS	Integrated Resource System		
ITWG	Industry Testing Working Group		
Market testing	Umbrella term covering industry testing, invitation industry testing and market trials		
Market trials	Formal, industry coordinated test activities between participants' and AEMO's IT environments. Involves coordinated multi-party end-to-end testing of business process scenarios.		
MSATS	Market Settlements And Transfer Solutions		
MSP	Metering Service Provider		
NCC	NMI Classification Code		
NECR	Non-Energy Cost Recovery		
NEM	National Electricity Market		
NEMDE	National Electricity Market Dispatch Engine		
NER	National Electricity Rules		
NMI	National Metering Identifier		
PDSE	Participant Development Support Environment		
SGA	Small Generation Aggregator		
SME	Subject Matter Expert		
Transition	Process of shifting from current to future operating state		
UFEA	Unaccounted For Energy Allocation		