



Fact Sheet

This fact sheet provides background and guidance around the changes to National Electricity Market (NEM) settlements and non-energy cost recovery stemming from the implementation of the Integrating Energy Storage Systems (IESS) rule.

AEMO established the IESS project under the [NEM Reform Program](#) to carry out the necessary procedure and system changes to give effect to the [IESS rule](#) and to support industry readiness for the [IESS changes](#).

The IESS rule comprises four distinct high-level changes (Table 1). This fact sheet is specific to the 02 June 2024 commencement and is intended to assist participants in managing these settlement and non-energy cost recovery (NECR) changes.

Table 1 Summary of changes introduced by the IESS rule

IMPLEMENTATION	CHANGE	DESCRIPTION
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.
09 Aug 2023	Aggregated dispatch conformance (ADC)	Complete. <ul style="list-style-type: none"> 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
02 Jun 2024	IESS retail and settlement changes	Significant changes to the calculation method to be used for Non-Energy Cost Recovery (NECR): <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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.
02 Jun 24 (SGAs become IRPs) 03 Jun 24 (BDU, other IRP)	Registration, bidding and dispatch changes	<ul style="list-style-type: none"> Introduction of Integrated Resource Provider (IRP) participant type Bidirectional unit (BDU) bidding and dispatch, with impacts for BDU participants and bidding system vendors/developers. BDUs bidding will be a single bid form with 10 bids bands each direction (generation/consumption) for energy and regulation FCAS. <p>Note: BDU transition period to 03 Mar 2025 means that while AEMO needs to have systems and processes in place, there is no industry readiness requirement for “day 1” (rule commencement).</p>



WHAT CHANGES WILL I SEE FROM 02 JUNE 2024?

1. CONSIDERABLE CHANGES TO PARTICIPANT DATA MODEL	MORE INFORMATION:
<p>Major AEMO database structure changes were required to:</p> <ul style="list-style-type: none"> • Enable the new non-energy cost recovery calculations (see also item #2 below) • Reflect newly defined energy amounts: <ul style="list-style-type: none"> ○ ACE: Adjusted consumed energy ○ ASOE: Adjusted sent-out energy <p>New key tables have been created and existing tables have required additional fields to be added.</p> <p>These changes flow into the Data Model and affect participant reconciliation and reporting activities, as well as AEMO data provision.</p>	<p>IESS Data Model settlements mapping explainer</p> <p>IESS Rule, clause 3.15.4</p>
<p>AEMO and participants agreed on an IESS settlement transition approach that will allow participants:</p> <ul style="list-style-type: none"> • More time to manage downstream settlement data impacts • To use data from the ‘old’ main settlements tables that would be closely aligned with the ‘new’ IESS settlement information. 	<p>IESS settlement industry transition and Q&A</p> <p>IESS settlement transition update May 2024</p>
<p>Participant data model accommodates the new unit type ‘bidirectional unit (BDU)’. Settlement is performed on a Connection Point/NMI basis so the unit classification type of the DUID has no direct bearing on settlement outcome.</p> <p>Post-IESS, the NMI classification codes (NCC) DIRS or TIRS will identify a NMI that is part of a BDU. These NCC’s will be settled on an individual reads basis, i.e. similarly to the GENERATR NCC, against a Meter_Type of BDU in the new set_energy_transactions table.</p>	<p>IESS BDU energy settlement detailed example</p>
<p>Jurisdictional arrangements/activities (such as renewable energy, energy efficiency and retail pricing schemes) that use NEM settlement data will likely need to adapt.</p>	<p>Participants needing assistance should contact the relevant jurisdictional organisation.</p>



<p>2. DIFFERENT ALLOCATION OF NON-ENERGY COST RECOVERY (NECR)</p>	<p>MORE INFORMATION:</p>
<p>The IESS rule has changes the NECR calculations so that costs are calculated on the share of <u>gross</u> measurements of consumed and sent-out energy of “Cost recovery market participants” (CRMPs). This arrangement better reflects the need for services going forward and provides greater incentives for more efficient behaviour.</p> <p>CRMPs are Generators, Customers and Integrated Resource Providers. CRMPs (IESS Rule, chapter 10).</p> <p>*NECR relates to:</p> <ul style="list-style-type: none"> • Frequency control ancillary services (FCAS) • Non-market ancillary services (NMAAS) • Interventions (Direction/RERT/Suspension) • Administrative price cap/floor compensation. <p>NECR calculations <u>were</u> based on participant category and <u>net</u> consumed or generated energy at the connection point.</p>	<p>IESS settlements change summary</p>
<p>3. SETTLEMENT REPORT (SR) WILL LOOK DIFFERENT</p>	<p>MORE INFORMATION:</p>
<p>While the approach to settling energy is not changing, the SR will look different to:</p> <ul style="list-style-type: none"> • Reflect newly defined energy amounts (IESS Rule, clause 3.15.4): <ul style="list-style-type: none"> ○ ACE: Adjusted consumed energy ○ ASOE: Adjusted sent-out energy • Improve clarity. 	<p>IESS settlements change summary</p> <p>Example settlement report format updated for IESS</p>
<p>4. BROADER ALLOCATION OF UNACCOUNTED FOR ENERGY (UFE)</p>	<p>MORE INFORMATION:</p>
<p>As part of the IESS rule, UFE is allocated to all market connection points in a distribution area based on the gross distribution-connected consumed energy (CE). Previously UFE was only applied to market loads in a distribution area, based on NMI's that were net consuming energy. For example, UFE will now be allocated to distribution-connected generators at times when energy is</p>	<p>IESS amending rule clause 3.15.5</p> <p>IESS settlements change summary</p>



being consumed, such as when the generator is not running and auxiliary load is being supplied by the grid.	
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5. NEW OR AMENDED NMI CLASSIFICATION CODES	MORE INFORMATION:
<p>NMI Classification codes distinguish between the different uses of connection points, and are determined by the Local Network Service Provider (LNSP). The following codes have been added or amended:</p> <ul style="list-style-type: none"> • TIRS: New code to identify transmission-connected IRS and replace existing requirement for two NMIs • DIRS: New code to identify distribution-connected IRS and replace existing requirement for two NMIs • DGENRATR: New code to differentiate between distribution and transmission connected generation, so that UFE can be allocated correctly • GENERATR: Amendment to allocate code to transmission-connected generation only, given new DGENRATR code above • NREG: Amendment to reflect new terminology, IRP Small Resource Aggregator classification of small BDUs in addition to small generating units, and stakeholder feedback 	<p>NMI classification codes transition plan</p>

6. NEW APPROACH TO EMBEDDED NETWORK MANAGEMENT	MORE INFORMATION:
<p>Embedded network management needed to change to ensure that the parent connection point has the appropriate gross energy volumes available for settlement. This resulted in the netting of child connection point reads moving to AEMO's Metering system.</p>	<p>IESS settlements change summary</p>

7. MARKET FEES WILL LOOK DIFFERENT IN THE DATA MODEL TABLES	MORE INFORMATION:
<p>Existing participants transferring to the IRP category will have market fees applied post-IESS according to their pre-IESS registration category.</p> <p>The market fee table structures will be updated and configured, with the impact reflected in the data produced in the SETMARKETFEEES table.</p>	<p>IESS settlements change summary</p> <p>IESS market fees detailed example</p>



8. NECR IMPACT FOR EMBEDDED NETWORK PARENTS	MORE INFORMATION:
<p>Where child connection points within an embedded network have a different TNI and therefore marginal loss factor (MLF/TLF) from their parent, there will be a changed settlement outcome. This generally will occur in the rare cases where a market generator is registered within an embedded network.</p> <ul style="list-style-type: none"> • Under the current settlement behaviour, the generator child reads are netted from the parent by maintaining the connection point ID of the children and so are billed with a different TLF than the parent NMI. • With IESS from June 2024, the netting of children from the parent takes place in AEMO's metering systems, to ensure correct volumes are used in NECR, so settlements will only bill the parents net volume on the parent TNI with a single TLF. 	<p>Participants affected by this scenario have been contacted by AEMO.</p> <p>IESS settlements change summary</p>

Where can I find more information?

AEMC's IESS determination & rule	https://www.aemc.gov.au/rule-changes/integrating-energy-storage-systems-nem
AEMC's Implementing IESS determination & rule	https://www.aemc.gov.au/rule-changes/implementing-integrated-energy-storage-systems
AEMO's IESS participant toolbox	https://aemo.com.au/initiatives/major-programs/integrating-energy-storage-systems-project/integrating-energy-storage-systems-faqs
AEMO's IT change and release management	https://aemo.com.au/energy-systems/market-it-systems/it-change-and-release-management

For any enquiries, please contact AEMO's Information and Support Hub via

- supporthub@aemo.com.au or
- call 1300 236 600

This fact sheet is only a summary of the IESS settlements and NECR arrangements. Participants are responsible for ensuring they understand the relevant provisions of the National Electricity Rules and other applicable instruments, which prevail in the case of any inconsistency.