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IESS Working Group

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Meeting 1 27 APR 2022





AEMC



We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

We pay respect to their Elders past, present and emerging.





#	Approx. Time	Торіс	Presenter/s
1	10:00-10:10	Welcome	Emily Brodie, AEMO
2	10:10-10:20	Context	Peter Carruthers, AEMO
3	10:20-10:25	Working Group purpose and expectations	Emily Brodie, AEMO
4	10:25-10:35	Rule overview	Trent Morrow, AEMO
5	10:35-11:35	AEMO's IESS Project	
5.1		Project overview	Celestino Velasco, AEMO
5.2		Indicative schedule	
5.3		System heatmaps	
5.4		IESS High Level Design	Emily Brodie, AEMO
5.5		Proposed procedure change approach	Gareth Morrah, AEMO
5.6		Proposed Stakeholder engagement approach	Ulrika Lindholm, AEMO
6	11:35-11:45	Forward agenda	
7	11:45-12:00	General questions and close	Emily Brodie, AEMO

Appendix A: Forum and Meeting Expectations and Competition Law Meeting Protocol Appendix B: Procedures to be updated for IESS

Please note that this meeting will be recorded for the purpose of note taking, and not for publication.

2. Context



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ESB Post-2025 Electricity Market Design Program

COAG Energy Council tasked the Energy Security Board to design a long-term, fit for purpose market design for the NEM



AEMO

Four major reform workstreams were put forward, each with a set of initiatives



Workstreams	Objective	This means
Resource Adequacy Mechanisms and Ageing Thermal Generation Strategies	Facilitate the orderly retirement of the ageing thermal fleet and have sufficient replacement generation in place	We have investment in the right mix of resources (generation, storage and demand response) in place prior to anticipated plant closures, and that plant exit does not cause significant price or reliability shocks to consumers through the transition
Essential System Services, Scheduling & Ahead Mechanisms	Availability of resources that provide essential system services to balance the highly variable dynamics of the changing generation mix, without AEMO intervention. AEMO has the right tools to manage the greater complexity and uncertainty to schedule these resources so they are available when they are needed	We have the resources and services when needed to manage the complexity of dispatch and to deliver a secure supply to customers
Integration of DER and Flexible Demand	Enable the integration of DER and value flexible demand so they can provide services to networks, the wholesale market and other consumers	New opportunities for consumers about how they receive and use energy and are rewarded for doing so flexibly
Transmission and Access	The addition of transmission investments to enable the new generation and market arrangements and that new generation and storage locates and operates in ways that use transmission investment efficiently	We have a network to meet future needs, renewable energy zones, and a targeted set of investments that can deliver the energy transition at lower cost



NEM2025 Implementation Roadmap & the Reform Delivery Committee (RDC)

The "**NEM2025 Implementation Roadmap**" is to establish a basis upon which AEMO and stakeholders may navigate the breadth of ESB reforms over the coming few years, de-risking delivery and informing implementation timing

- In design of the NEM2025 Implementation Roadmap ('Roadmap'), the Reform Delivery Committee (RDC) aim to set out a program that:
 - Implements reforms in a timely and efficient manner;
 - Co-ordinates regulatory and IT change; and
 - Provides transparency to stakeholders on the implementation program
- Extensive scope of reforms will require major change to market and participant systems
- Pre-requisite and strategic opportunities will need to be understood and factored in
- Dependencies will be critical for sequencing and efficiency
- Different pathways/options likely to exist
- AEMO's objective is a collaborative approach to identifying and understanding the pathways and implications – as opposed to a consultative approach

Scope of NEM2025 Implementation Roadmap (Version 1)

Pathway	Reform Initiative		
Resource Adequacy Mechanism	Increased MT PASA Information		
Essential System Services	 Fast Frequency Response Mandatory Primary Frequency Response Operating Reserve Market System Strength (Planning)* Structured Procurement & Scheduling Mechanism 		
Integration of DER & Flexible Demand	 Integrating Energy Storage Flexible Trading Arrangements (Model 2) Scheduled Lite Dynamic Operating Envelopes Distribution Local Network Services Turn-up Services DER Platform Registry Services Market & System Operator Integration 		
Transmission & Access	N/A at this time		
Data Strategy	 Data Services EV Charging Standing Data Register Bill Transparency Network Transparency 		

Roadmap release and consultation

- Version 1 of the NEM2025 Implementation Roadmap will be published on the <u>Reform Delivery Committee</u> <u>webpage</u> (27 April release).
- AEMO is holding a stakeholder forum on the NEM2025 Implementation Roadmap and the Regulatory Implementation Roadmap (version 7) on 11 May 2022 from 10.30 am to 12.00 pm AEST. Please register your interest to attend <u>here</u> by 6 May 2022.
- Submissions in response to the Information Paper may be sent to <u>stakeholderrelations@aemo.com.au</u> by 5.00 pm AEST on **20 May 2022**.





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3. IESS WG purpose and expectations

Stakeholders are asked to note the Forum and Meeting Expectations and Competition Law Meeting Protocol attached in Appendix A



4. Rule overview

IESS rule change





IESS Rule Overview



Registration

Integrated Resource Provider (IRP) is a new category for use by participants with storage and hybrid systems

Bidirectional Units for resources that can consume and produce energy

Market Small Generator Aggregators will transfer to IRP with *Small Resource Aggregator* label.

Market Small Generator Aggregators will be able to *provide market ancillary services* Participation and Scheduling

Outlines scheduling obligations for *hybrid systems* (including DC coupled systems)

Scheduling arrangements for **bidirectional units** include:

- single DUID
- 20 bid bands for energy
- 10 bid bands for each FCAS service

Introduces assessment of *dispatch conformance* in aggregate.

* In some dispatch intervals, particular units may be required to conform individually

Settlement

Non energy cost recovery framework updated so that payments apply equally to all Cost Recovery Market Participants, removing existing differences due to registration category

Recovery will be based on a participant's share of gross consumed energy and/or gross sent out energy in an interval across its connection points



5. AEMO's IESS Project



5.1 Project Overview



AEMO's IESS project team



PROJECT MANAGER Celestino Velasco

BUSINESS LEAD Emily Brodie

IT LEAD Deep Juneja

STAKEHOLDER LEAD Ulrika Lindholm PROCEDURE LEAD (ACTING) Gareth Morrah



IESS PROJECT

Workstreams:	CONNECTIONS	REGISTRATION	DISPATCH	SETTLEMENTS	RETAIL
Initial release: 31 Mar 2023	No changes for release #1	Aggregators can provide FCAS Hybrid systems to use aggregated dispatch conformance	Aggregators can provide FCAS Hybrid systems to use aggregated dispatch conformance	No changes expected for release #1	No changes for release #1 (B2M or B2B)
Final release: 03 Jun 2024	Storage, hybrid & coupled connections	Integrated Resource Provider (IRP) registration Bidirectional unit (BDU) classification	BDU bidding & dispatch (energy & FCAS) BDU dispatch conformance Operational planning & forecasting	Settlement & prudentials (including non-energy cost recovery)	Integrated resource provider access to MSATS, eMDM & PAE B2B changes (IEC-led)

PROCEDURE CHANGE

INDUSTRY READINESS, TESTING AND RISK MANAGEMENT

AEMO READINESS, TESTING, RISK AND RELEASE MANAGEMENT

STAKEHOLDER ENGAGEMENT



5.2 Schedule



IESS – Indicative Industry Timeline





Discussion on schedule

- Guidelines used for scheduling:
 - Prioritise scope items for Initial Release
 - Procedure consultation outcomes to feed into system changes
 - Technical spec and plans provided to industry early
 - Final Release to include Market Trial
 - Consider dependencies and overlap with other NEM2025 initiatives
 - Learnings from Five-minute settlement and other recent reform programs
- AEMO is seeking industry feedback on the proposed schedule
 - Timing of planned activities
 - AEMO and stakeholders' resourcing and scheduling, including resourcing over the summer periods



5.3 System Heatmaps



IESS NEM WHOLESALE SYSTEMS: AEMO change heat map





IESS NEM RETAIL SYSTEMS: AEMO change heat map





CATS / MDM processes

Profiling

CATS standing data

Meter data validation

Estimation / substitution

Energy allocation

CR processing

MSATS	browser ,			
reports				

Meter data screens

Reports

SDR

NMID





5.4 IESS High Level Design



IESS HLD overview

https://aemo.com.au/initiatives/submissions/integrating-energy-storage-systems-iess-into-the-nem

- HLD Purpose:
 - Outlines AEMO's system and operation changes
 - Assists stakeholders to start scoping their own IESS obligations
- Thank you to the 7 organisations that provided feedback on a range of matters:
 - Registration
 - Small resource connection points
 - Hybrid systems
 - Consultation
- Feedback summary and AEMO's responses will be published shortly

IESS HLD next steps



TIMING	ACTIVITY
April / May	 AEMO develops "implementation strawperson" to show: Industry impacts i.e. where market systems' interfaces are affected by IESS changes Market data flows under IESS
May / June	 IESS WG to provide feedback on IESS strawperson Discussion at next IESS WG Feedback via <u>iess@aemo.com.au</u>
June	 AEMO expects to publish next iteration of HLD, incorporating: Implementation strawperson Stakeholder feedback where appropriate Updates and corrections

IESS High Level Design







5.5 Procedures





Procedure change scope

- AEMO has identified 72 documents that require IESS changes
 - For transitional rule 11.145.3 (Registration transition for new Integrated Resource System (IRS) Participants): AEMO has made changes to the generator application form and generator application guide to address the transitional rule.
 - 16 require a formal 'rules' consultation
 - 54 'minor or administrative'
- High level of confidence that full list has been identified at this time
- However, during the 2+ year course of the project it is possible that scope of procedure updates could change
 - NER changes or ESB initiatives
 - Program implementation and testing activities
- Propose that AEMO and IESS WG:
 - Monitor for such changes via an project-specific industry risks and issues register (see forward agenda)
 - Make reasonable adjustments to procedure change scope where appropriate via IESS WG discussion (and through other forums if relevant)
- Seeking feedback on completeness of procedure list



Proposed procedure change approach

Type of change	AEMO obligation	Proposed approach		
Standard consultation	NER 8.9 consultation obligations	AEMO must consult according to NER 8.9		
Minor & administrative	For IESS, NER 11.145.9(c) allows AEMO to make minor or administrative amendments to a number of procedures i.e. no obligation to consult for non-substantive change.	 AEMO will publish the amended procedure and may invite feedback from participants. Engagement could be via a related 'rules consultation' There are no rules defined time frames for response.* 		
Information paper	Relates to guides, procedures, Q&A's etc that are published on AEMO's website but do not have a requirement for publication or consultation under the rules.	 AEMO will publish the amended procedure and may invite feedback from participants. Engagement could be via a related 'rules consultation' There are no rules defined time frames for response. 		

*AEMO is monitoring upcoming rule change: *Improving consultation procedures in the Rules*

- **Draft** determination proposes two new consultation processes:
 - Non-material changes: 10 week expedited consultation process
 - Minor and administrative changes: 2 week consultation
- Final determination expected 7 July 2022



Updating procedures: Proposed approach

- AEMO will consult on packages of related topics:
 - Connections and registration
 - Forecasting and planning
 - Operations and dispatch
 - Settlements and prudentials
 - Retail and metering



IESS procedure change impact

Category	Release	New	Standard consultation	Minor or administrative	Information paper	TOTAL
Connections & registration	Initial		1			1
connections & registration	Final	1*				1*
Forecasting & planning	Initial			5		5
Forecasting & planning	Final		1	15		16
Operations & dispatch	Initial				1	1
Operations & dispatch	Final		8	6	1**	14**
Settlements & prudentials	Final		2	5		7
Retail/Metering and B2B	Final		4	23		27
TOTAL		1	16	54	1**	

* Changes may be incorporated into existing procedures

** Potentially two consultations for Dispatch Procedure (one for initial release, one for final release) – to be discussed at May IESS WG



Grouping and scheduling procedure changes

- For efficient procedure change grouping and scheduling, need to consider:
 - Initial or final IESS go-live (Mar-23 or Jun-24)
 - System development dependencies
 - IESS NER requirement
 - Concurrent consultations
 - e.g. *Market Ancillary Services Specification* needs updating for both IESS and Fast Frequency Response in similar timeframes
 - Market operations dependencies e.g. reallocations
 - Procedure development work
 - e.g. B2B updates may have dependencies on B2M updates
 - Special NER consultation obligations
 - Metrology procedures
 - B2B procedures via Information Exchange Committee
 - Emerging NEM2025 initiatives and rule changes

MASS consultation

AEMO

- IESS updates in the Market Ancillary Services Specification (MASS) are minor and administrative:
 - IESS changes are definitions only
 - Ancillary Service Facility
 - Aggregated Ancillary Service Facility
- AEMO will soon be consulting on Fast Frequency Response rule change updates to the MASS. Once that is completed, AEMO will make the minor/administrative IESS changes likely in the first half of 2023.



Updating procedures: Next steps

Activity	Date
IESS WG to provide feedback on proposed procedure change approach including:ScopeGrouping	Wed 11 May
 At next IESS WG, AEMO to: Confirm procedure change approach Discuss indicative schedule for procedure changes 	Wed 25 May
In relation to the dispatch procedures, discuss:Issues for consultationApproach to consultation	Wed 25 May



5.6 Proposed Stakeholder Engagement approach


IESS-WG Focus



Topics

- Industry check on HLD and implementation strawperson
- Procedure changes
- Tech spec changes
- Industry readiness including industry testing/market trials
- Risks and issues

Objectives

- To enable effective consultation between AEMO and stakeholders on matters relating to the IESS implementation
- To provide stakeholders and AEMO with the opportunity to raise and address issues relating to document changes and development required as a result of the IESS rule
- To provide stakeholders with an opportunity to share information and insights that will contribute to achieving IESS objectives



IESS implementation stakeholders



AEMO

•Responsible, Impacted and Interested AEMO staff

NEM **Participants**

•Potential Integrated Resource Providers (IRPs) •Small Generator Aggregators (SGAs) •Demand Response Providers (DRSPs) Market Customers Generators incl scheduled, semi, non •Other Ancillary Service Providers

Industry value chain

Developers and

Investors

companies

OEMs)

 Infrastructure Project Manufacturers (incl •Energy Services •Consultants

- Intending Participants



Industry bodies

- Clean Energy Council Australian Energy Council •Energy Networks Australia
- Energy Efficiency Council



Consumer

•Energy Consumers

groups

Australia

Australia

•Energy Users

Association of



Market bodies

Government

 State and Territory energy departments (NEM jurisdictions)

Engagement and Comms principles

The IESS forms part of the ESB Post-2025 reform portfolio which is designed to enable reliable, affordable and lower emissions electricity in the NEM.

AEMO harness the power of collaboration and cooperation among industry and other stakeholders to accomplish the implementation of this program of initiatives. Accordingly, the following stakeholder engagement and communications principles are proposed for the project:



Stakeholders are actively involved in the process of translating policy and rules into projects, sequencing, and providing advice and feedback to optimise design and delivery.



Program engagement and communications are customer-centric, timely, consistent, reliable and build trust through transparency.



Program engagement and communications are informed, tailored, consider various perspectives, seek to build common understanding and to solve problems collaboratively with stakeholders to help build productive relationships.



A multi-channel approach is used to achieve program engagement and communications' objectives, that leverages and builds on existing channels, forums and governance mechanisms, to reinforce program messages and increase the likelihood that messages are received and understood.



Engagement & Communications approach

Channel	Purpose	Stakeholders	Cadence
IESS WORKING GROUP (IESS-WG)	 Provide co-ordinated view of IESS implementation Enable two-way dialogue between AEMO and industry to identify, address and resolve IESS implementation issues 	Affected and interested stakeholders can nominate one primary member and one alternative member.	2-3 hours Monthly
FOCUS GROUPS	 Deep dive on specific technical issues Provide expertise on specific elements of IESS implementation 	Subject matter experts nominated by IESS- WG members	Half –Full days, As required
RULES CONSULTATION	Formal NEM procedure consultations (NER 8.9)	Impacted industry stakeholders as required	In alignment to project schedule
NON-RULES CONSULTATION	Call for feedback on specific documents such as technical specifications	Impacted industry stakeholders	In alignment to project schedule
Q&A SESSIONS	Provide AEMO SME assistance on specific implementation topics	Any affected and interested stakeholders	1-2 hours, As recommended by AEMO or IESS-WG
EDUCATION SESSIONS	Provide foundational knowledge to stakeholders on key topics relevant to the success of the implementation	Members of the IESS Working Group	1-2 hours, As recommended by AEMO or IESS-WG
1 TO 1 MEETINGS	Provide guidance, where appropriate and feasible,	As requiredParticipant driven	As required
DEDICATED MAILBOX	 Provide coordination point for implementation program Connect stakeholders with the correct AEMO representative to assist with questions or suggestions 	As required	Throughout the program
PRESENTATIONS TO EXISTING AEMO AND INDUSTRY FORUMS & WORKING GROUPS	For coordination purposes and to minimise overlapping engagements for stakeholders. For example Consumer Forum, ERCF etc.	As required	One offs as required
DEDICATED PROJECT WEBSITE	Provide transparent, timely information on program. Linking relevant implementation information for individual reform initiatives. Final versions of documents are published on the website.	Industry and general public	Throughout the project
NEWSLETTER	Provide transparent and timely information on program management and implementation progress	Stakeholders involved in working groups	TBC



7. Forward agenda

Indicative forward plan

APRIL 2022	MAY 2022	JUNE 2022	BEYOND
Initial mthly meeting (today)	Mthly meeting	Mthly meeting	Mthly meeting
Stakeholder survey on impacts and requirements keholder feedback y be sent to the IESS ilbox: S@aemo.com.au	 Publish feedback & responses on initial HLD Stakeholder feedback on project, procedure change approach and engagement approach by 11 May Discussion on IESS strawperson Early engagement regarding non-rules consultation on Power System Dispatch procedure Engagement on minor definitional changes to the MASS 	 HLD update published Power System Dispatch procedure - issues paper likely to be published June Discussion on IESS industry risks and issues register Procedure consultation starts (early June) Educational session – topic TBC* 	 Procedure consultation cont'd Potential stakeholder workshop on IESS dispatch Discussion on approach to updating Technical Specifications



- Notes, actions and feedback from previous WG meeting
- Project update
- Procedures update
- HLD/implementation
 strawperson update
- Forward Plan including upcoming workshops etc (this page)

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8. General questions and close



IESS project contact



iess@aemo.com.au



https://aemo.com.au/initiatives/majorprograms/integrating-energy-storage-systems-project



For more information visit

aemo.com.au

Appendix A: Forum expectations and competition law

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AEMO Competition Law - Meeting Protocol

AEMO is committed to complying with all applicable laws, including the Competition and Consumer Act 2010 (CCA). In any dealings with AEMO regarding proposed reforms or other initiatives, all participants agree to adhere to the CCA at all times and to comply with this Protocol. Participants must arrange for their representatives to be briefed on competition law risks and obligations.

Participants in AEMO discussions must:

- Ensure that discussions are limited to the matters contemplated by the agenda for the discussion
- Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO
- Immediately and clearly raise an objection with AEMO or the Chair of the meeting if a matter is discussed that the participant is concerned may give rise to competition law risks or a breach of this Protocol

Participants in AEMO meetings **must not** discuss or agree on the following topics:

- Which customers they will supply or market to
- The price or other terms at which Participants will supply
- Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid
- Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)
- Refusing to supply a person or company access to any products, services or inputs they require

Under no circumstances must Participants share Competitively Sensitive Information. Competitively Sensitive Information means confidential information relating to a Participant which if disclosed to a competitor could affect its current or future commercial strategies, such as pricing information, customer terms and conditions, supply terms and conditions, sales, marketing or procurement strategies, product development, margins, costs, capacity or production planning.



AEMO Forum and Meeting Expectations

This charter explains expectations regarding participation and behaviour in the Australian Energy Market Operator (AEMO)'s stakeholder forums.

Meeting Expectations

All participants will:

- Respect the diversity of the group.
- Speak one at a time refrain from interrupting others.
- Share the oxygen ensure that all attendees who wish to have an opportunity to speak are afforded a chance to do so.
- Maintain a respectful stance towards all participants.
- Listen to others' points of view and try to understand others' interests.
- Share information openly, promptly, and respectfully.
- If requested to do so, hold questions to the end of each presentation.
- Remain flexible and open-minded, and actively listen and participate in meetings.
- Abide by COVID-Safe workplace guidelines, if attending a meeting on AEMO's premises.

Roles and Responsibilities

Forum stakeholders agree to:

- Be specific and fact-based in their feedback on a specific workstream or emerging issue;
- Review and provide feedback on papers and reports;
- Relay information to their colleagues or constituents after each meeting and gather information/feedback from their colleagues or constituents, as practicable, before each meeting;
- Maintain a focus on solutions or outcomes that benefit all energy consumers.

AEMO agrees to:

- Provide technical expertise in a manner that is considerate of the audience and their level of expertise;
- Assist participants in understanding issues enough to represent their views;
- Provide all participants the opportunity to voice their views.

Appendix B: Procedures to be updated for IESS

SA A

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Initial Release - March 2023



ΤΟΡΙϹ	PROCEDURE	METHOD
Connections & registration	Generator application form and generator application guide	Completed
Forecasting & planning	Australian Wind Energy Forecasting System	Minor and Administrative
	AWEFS Energy Conversion Model	Minor and Administrative
	ASEFS Energy Conversion Model	Minor and Administrative
	Guide to Data Requirements for AWEFS and ASEFS	Minor and Administrative
	NEM Operational Forecasting and Dispatch Handbook for wind and solar generators	Minor and Administrative
Operations & dispatch	Dispatch procedure OP_3705	Information paper



Go-live June 2024: <u>Standard procedure consultations (1/2)</u>

ΤΟΡΙϹ	PROCEDURE
Connections & registration	Classifying a DC-coupled System as a Semi-Scheduled Unit – New or amended procedure
Forecasting & planning	System Strength Impact Assessment Guidelines V1.0
	Forward Looking Loss Factor Calculation Methodology
	Regulation FCAS Contribution Factors Procedure
	Guide to FTP Energy, FCAS, and MNSP Bids and Offers
Operations ? dispatch	Guideline and Template for Preparation of a Releasable User Guide
Operations & dispatch	Inter-network test guidelines V2.0
	Power System Data Communication Standard V2.0
	Power System Model Guidelines V1.0
	Power System Design and Setting Data Sheets V1.1



Go-live June 2024: <u>Standard procedure consultations (2/2)</u>

ΤΟΡΙϹ	PROCEDURE
Settlements & prudentials	NEM Settlements Estimation Policy
	Carbon Dioxide Equivalent Intensity Index Procedures
Retail/metering and B2B	Retail Electricity Market Glossary and Framework
	MSATS Procedure: CATS
	MSATS Procedure: WIGS
	Standing Data for MSATS

Go-live (June 2024) <u>Minor/administrative</u> consultations (1/4)



FORECASTING & PLANNING	
Semi-Scheduled Generation Dispatch Self-Forecast – Assessment Procedure	Electricity demand forecasting methodology information paper
Guide to Intermittent Generation	DSP forecasting methodology
Participant Forecasting FAQ	Energy Adequacy Assessment Projection guidelines
Semi-Scheduled Generator Self-Forecast - Application Form	Reliability forecast guidelines
Semi-Scheduled Generation Dispatch Self-Forecast – Assessment Procedure	Reliability standard implementation guidelines
Connection point forecasting methodology	Generation information guidelines
MT PASA process description	Demand Side Participation Information Guidelines
ESOO & Reliability forecasting methodology	

Go-live (June 2024) <u>Minor/administrative</u> consultations (2/4)



OPERATIONS & DISPATCH

Constraint Formulation Guidelines

Market Ancillary Service Specifications

Market Suspension Compensation Methodology

Spot Market Operations Timetable

Intervention Pricing Methodology.

SO_OP_3707 Procedures for issue of directions and clause 4.8.9 instructions (Intervention, Direction and Clause 4.8.9 Instructions)

Go-live (June 2024) <u>Minor/administrative</u> consultations (3/4)



SETTLEMENTS & PRUDENTIALS

Credit Limit Procedures

Settlements guide to ancillary service payments and recovery

NEM Direction Compensation Recovery

RRO PoLR Cost Procedures

WDR Baseline Eligibility Compliance and Metrics Policy

Go-live (June 2024) <u>Minor/administrative</u> consultations (4/4)

RETAIL/METERING & B2B

Metrology Part A National Electricity Market	Guide to Participant Batcher Software
Metrology Part B Metering Data Validation, Substitution and Estimation Procedure for Metering Types 1–7	Guide to User Rights Management
CATS History Model	Guide to MSATS B2B
Technical Guide to Bulk Data Tool	Validation Module
Guide to MSATS and B2B Terms	MSATS Procedure: MDM
Guide to Enterprise Metering Data Management	NEM RoLR Processes - Part A (MSATS)
Introduction to MSATS	MSATS CATS Hints and Tips and NMI Discovery
Technical Guide to MSATS	NMI Procedure
Guide to MSATS Reports	Service Level Procedure: Metering Provider (MP) Services
Guide to MSATS Web Portal	Service Level Procedures: Embedded Network Manager Services
MSATS Ombudsman Enquiry User Interface Guide	Service Level Procedure: Metering Data Provider (MDP) Services
	NMI Standing Data Schedule



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