

AGENDA

MEETING: 5MS PROGRAM – PROCEDURES WORKING GROUP #2

DATE: MONDAY, 27 AUGUST 2018

TIME: 10:00PM – 1:00PM AEST

LOCATION: MELBOURNE, LEVEL 22, 530 COLLINS STREET, VIC55286605
 SYDNEY, LEVEL 2, 20 BOND STREET, NSW
 BRISBANE, LEVEL 10, 10 EAGLE STREET, QLD
 ADELAIDE, LEVEL 9, 99 GAWLER PLACE, SA

TELECONFERENCE: DIAL: **1800 055 132** MEETING ID: **31696024**

MEMBERS: NOMINATIONS AS LISTED

No.	Agenda Item	Paper	Responsible	Action
Preliminary Matters				
1	Welcome, introductions and apologies		Emily Brodie	Note
2	Minutes and actions from previous meeting	<i>Presentation Minutes from 3 August PWG PWG Terms of Reference Procedures packaging and prioritising document</i>	Emily Brodie	Note
Matters for Noting				
3	Procedures workstream update, including focus group outcomes	<i>Presentation Dispatch Focus Group meeting notes</i>	Emily Brodie	Note
Matters for Discussion				
4	Settlements procedures - Estimations	<i>Presentation High level impact assessments</i>	Canh Diep	Discuss
5	Dispatch procedures – Pricing	<i>Presentation High level impact assessments</i>	Michael Sanders	Discuss

Other Business				
6	General questions		Emily Brodie	Discuss
7	Forward meeting plan	<i>Presentation</i>	Emily Brodie	Note

Next meeting: **13 September 2018**

5MS Program – Procedures Working Group Membership List - 20 Aug 18

Full Name	Organisation
Balwant Singh	Active Stream Pty Limited
Dan Mascarenhas	AGL Energy Limited
Chris Streets	AGL Energy Services
Anders Sangkuhl	Alinta Energy Retail Sales Pty Ltd
Industry Relations Alinta Energy	Alinta Energy Retail Sales Pty Ltd
Kevin Boutchard	Aurora Energy Pty Ltd
Paul Willacy	Aurora Energy Pty Ltd
Wayne Turner	Ausgrid
Justin Betlehem	AusNet Services
Rhianna Findlay	AusNet Services
Dino Ou	Endeavour Energy
Matthew Parker	Endeavour Energy
Andrew Godfrey	Energy Australia Pty Ltd
Georgina Snelling	Energy Australia Pty Ltd
Ingrid Farah	Ergon Energy Corporation Limited
Jane Hutson	Ergon Energy Queensland Pty Ltd
Dannii Upham	Ergon Energy Queensland Pty Ltd
Damien Lynch	Ergon Energy Queensland Pty Ltd
Sharleen Flanagan	ERM Power Limited
Tim Lloyd	Essential Energy
Tony Woolfe	Essential Energy
Jeff Roberts	Evoenergy
Andrew Jumeau	Evoenergy
Divya Kapoor	Flow Power
Prateek Beri	Hydro Tasmania (Hydro-Electric Corporation)
Martin Ralph	Hydro Tasmania (Hydro-Electric Corporation)
Ty Crowhurst	IntelliHUB Pty Ltd
Robert Pane	InterGen Pty Ltd
Mohanraj Kuppusamy	Jemena Limited
Mohan Kuppusamy	Jemena Limited
Rajiv Balasubramanian	Jemena Limited
Jason Pereira	Landis & Gyr Pty Ltd
Stephanie Lommi	Lumo Energy Australia Pty Ltd
Jonathan Briggs	Metering Dynamics
Chantal Wright	Momentum Energy Pty Limited
Dean Lane	Origin Energy Limited
Shaun Cole	Origin Energy Limited
Linda Brackenbury	Plus ES
Greg Szot	Powercor Australia Ltd
Haiden Jones	Powershop Australia Pty Ltd
David Woods	SA Power Networks
Richard Metherell	Secure Meters (Australia) Pty Ltd
Julie Stute	Select Data and Measurement Solutions
Aakash Sembey	Simply Energy

Panos Priftakis	Snowy Hydro Limited
Adam Gritton	Stanwell Corporation Limited
Adam Neilson	Stanwell Corporation Limited
Ricky Brooks	Stanwell Corporation Limited
Oliver Jessup	Stanwell Corporation Limited
Adrian Honey	TasNetworks
Piera Lorenz	Telstra
Marcelle Gannon	Tilt Renewables
Paul Greenwood	Vector Advanced Metering Services (Australia) Pty Ltd
John Chiodo	ZEN Energy



5MS Procedures Working Group #2

Monday, 27 August 2018

AEMO Offices:

Level 9, 99 Gawler Place, Adelaide

Level 10, 10 Eagle Street, Brisbane

Level 22, 530 Collins Street, Melbourne

Level 2, 20 Bond Street, Sydney

DIAL IN: 1800 055 132 MEETING ID: XXXXXXXXXXXX

Agenda

NO	TIME	AGENDA ITEM	RESPONSIBLE
Preliminary Matters			
1	10:00am – 10:10am	Welcome, introduction and apologies	Emily Brodie (AEMO)
2	10:10am – 10:20am	Minutes and actions from previous meeting	Emily Brodie (AEMO)
Matters for Noting			
3	10:10am – 10:50am	Procedures workstream update, including focus group outcomes	Emily Brodie (AEMO)
Matters for Discussion			
4	10:50am – 11:20am	Settlements procedures – Estimations	Canh Diep (AEMO)
	11:20am – 11:40am	Break	
5	11:40am – 12:10pm	Dispatch procedures – Pricing	Michael Sanders (AEMO)
Other business			
6	12:10pm – 12:25pm	General questions	Emily Brodie (AEMO)
7	12:25pm – 12:30pm	Forward meeting plan	Emily Brodie (AEMO)

Minutes and actions from previous meeting

Emily Brodie

Actions arising from 3 Aug. PWG meeting

Item	Topic	Action required	Responsible	By
1.5.1	PWG and Focus Group Approach	Participants to provide AEMO with feedback on the draft PWG Terms or Reference. Email feedback to 5ms@aemo.com.au	PWG members	14/8/2018
1.5.2	PWG and Focus Group Approach	AEMO to finalise the PWG Terms of Referene	Emily Brodie (AEMO)	20/8/2018
1.6.1	Packaging and Prioritising Procedures	Some hyperlinks on the word doc provided were for older versions of the documents. AEMO will check all links and recirculate the word document to the PWG.	Emily Brodie (AEMO)	10/8/2018
1.6.2	Packaging and Prioritising Procedures	Participants to provide AEMO with feedback on the prioritisation of procedures. Email feedback to 5ms@aemo.com.au	PWG members	14/8/2018
1.6.3	Packaging and Prioritising Procedures	AEMO to advise how the PWG will interact with the IEC in relation to B2B Procedures.	Emily Brodie (AEMO)	20/8/2018
1.6.4	Packaging and Prioritising Procedures	AEMO to advise how the PWG and SWG will interact to ensure a coherent approach to procedure and system changes	Emily Brodie (AEMO)	20/8/2018
1.6.5	Packaging and Prioritising Procedures	Allocate some time toward the end of 2019 to include a formal period to review and make any additional changes to procedures.	Emily Brodie (AEMO)	20/8/2018
1.8.1	Metering Procedures	The metering focus group and the SWG are to investigate whether there are data volume delivery constraints because of 5MS or global settlements with the current delivery timeframes. PCF and PWG to be informed of progress.	David Ripper (AEMO)	24/08/2018 Ongoing
1.8.2	Packaging and Prioritising Procedures	AEMO will consider publishing the high-level impact assessments on its website and if so, include a link to each HLIA document on the packaging and prioritising word document.	Emily Brodie (AEMO)	20/8/2018

PWG Terms of Reference

- One response from PWG
- ToR finalised - changes from draft ToR:
 - Clarified PWG context
 - Clarified PWG purpose
 - Expanded coverage of focus groups to include potential joint PWG/SWG focus groups
 - Provided more detail on meeting locations and VC/teleconference

PWG and IEC relationship

- 5MS Rule:

The Information Exchange Committee must make an Information Exchange Committee Recommendation to change the B2B Procedures (B2B Recommendation) to take into account the Amending Rule by 1 July 2019.

- The IEC will independently consider whether changes are required to the B2B procedures.
- AEMO will refer any relevant changes (e.g. any change to the MDFF) to the IEC.
- AEMO expects there will be no change to the B2B procedures as a result of 5MS.
- AEMO will continue to engage with the IEC and the B2B working group on the 5MS program. Upcoming IEC meetings:
 - Tue 11 Sep
 - Fri 30 Nov

PWG and SWG Relationship

- Procedure consultation and subsequent AEMO decisions will drive requirements for system changes
- AEMO system design will align to the 5MS procedures work program
- As procedural consultation continues there is the possibility of change after initial system design
- As system design continues this may also affect procedures
- Procedural items raised in the SWG will be referred to the PWG
- Technical implementation items raised in the PWG will be referred to the SWG
- Joint focus groups may be required between PWG and SWG participants for cross dependencies e.g. transition planning

Procedures review period

- AEMO's view is that there are few dependencies between procedures.
- Risk of further procedure changes more likely to arise as a result of system build or UAT activities (mid-late 2020).
- Propose monitoring need for consequential procedure changes via an item on the industry risk register.

Action arising from PCF meeting on 13 July: Re-Accreditation

Qualification Procedure Metering Providers, Metering Data Providers & Embedded Network Managers

Section 5

Re-accreditation may be necessary for reasons such as:

- Change to the NER,
- Change to accreditation requirements,
- Changes to Participant processes, systems or key personnel, or
- Result of action taken under the Default and Deregistration Procedure.

Participants are encouraged to contact AEMO where there is any uncertainty as to whether a re-accreditation is necessary.

Re-Accreditation

Scenarios

MP or MDP intending to build new system for 5MS or Global Settlements (GS)

- Re-accreditation most likely required for system and new internal process documentation.

MP or MDP intending to change existing systems for 5MS or GS

- Demonstration of changed system capability to support 5MS or GS required (Readiness).
- Demonstration that internal process documentation reflect 5MS or GS capability.
- Review at next routine audit.

Contact AEMO to discuss intended changes to support 5MS or GS.

Procedures workstream update

Emily Brodie

Procedures Workstream

5 MINUTE SETTLEMENT PROCEDURES TRACKING	TIMING					CONTENT
	HLIA	PWG Engagement	Consultation paper	Draft documents	Final documents	Package content
METERING						
1. Metering - Metering Data & Metrology	Jul-18	Jul-18	Sep-18	Nov-18	Jan-19	
2. Metering - MSATS and SLPs	Jul-18	Nov-18	Feb-19	May-19	Jul-19	
3. Metering - Miscellaneous*	Jul-18	Feb-19	Mar 19*	n/a	Jul-19	
SETTLEMENTS						
SRA	Jun-18	Jul-18	n/a	Jul-18	Aug-18	
TNSP	Mar-19	Apr-19	Jun-19	Aug-19	Oct-19	
Estimation	Aug-18	Aug-18	Nov-18	Jan-19	Mar-19	
Reallocations	Dec-18	Mar-19	Apr-19	Jun-19	Aug-19	
Miscellaneous	Oct-18	Oct-18	Dec-18	Mar-19	Jun-19	
Prudentials	Aug-18	Sep-18	Nov-18	Jan-18	Mar-19	
DISPATCH						
1. Dispatch - Bids/Offers*	Jul-18	Jul 18 ongoing	n/a	n/a	Jan-19	
2. Dispatch - Spot market	Sep-18	Oct 18 ongoing	Jan-19	Apr-19	Jul-19	
3. Dispatch - Pricing	Aug-18	Aug 18 ongoing	Aug-18	Dec-18	Jul-19	
4. Dispatch - Specifications*	Jan-19	Feb-19	n/a	n/a	Jun-19	
5. Dispatch - Miscellaneous*	Jan-19	Feb-19	n/a	n/a	Jun-19	
POWER SYSTEM OPS						
1. Operations - Miscellaneous*	TBA	Apr 19 ongoing	n/a	n/a	Jul-19	
	TIMING			CONTENT		
*no rules consultation required	Started and on track			No issues		
	Started late			Issues		
	Overdue			Severe issues		

Focus group outcomes

- Dispatch Focus Group was held Tuesday 14th August
 - Dispatch Focus Group meeting outcomes paper included in PWG meeting pack
 - Dispatch Focus Group meeting outcomes will be discussed today during Dispatch Packages session
- Metering Focus Group was held Wednesday 15th August
 - Metering Focus Group meeting outcomes papers to be distributed
 - Metering Focus Group meeting outcomes – next slide
 - Follow up Metering Focus Group meeting proposed for *Wednesday 5 September*

Metering Focus Group Outcomes (1)

– Melbourne 15 August 2018

- Second focus group proposed: Wednesday 5 September, Sydney
- Metering data delivery timeframe
 - AEMO advised SWG that review of metering data file size increase and communications capacities is high priority – potential impact on metering data delivery timeframes.
- Requirement to differentiate between metering data types
 - MPFG Participants to confirm whether there is a requirement to differentiate between interval metering data types.
- Materiality of 20 second time error for 5MS
 - NER 7.10.6(d) requires MDP to check metering installation clock accuracy each time the metering installation is accessed. Clock accuracy is therefore not related to individual trading intervals. AEMO does not consider this to be an issue.

Metering Focus Group Outcomes (2)

– Melbourne 15 August 2018

- AEMO will accept Wh metering data but will only supply kWh metering data
 - AEMO to develop a convention for resolution of decimals with consideration of rounding of values.
- AEMO to consider accepting B2B transactions including PMD/VMD processes.
 - AEMO considers an “AEMO initiated” RM11 report will produce the same result as PMD/VMD requests. Therefore AEMO will receive MDFF via B2M as proposed.
- AEMO to accept metering data where data streams not registered in MSATS rather than reject the metering data as proposed.
 - AEMO to review its system design
- Standardise the use of RegisterID and DatastreamID
 - MPFG Participants agreed this should be reviewed.
 - Proponent to provide a proposed approach to achieve standardisation.

Approach to updating settlement estimation procedure and guide

Canh Diep

Context – Estimation policy

- The estimation procedure sets out the hierarchy of data to use and the methodology to apply to calculate estimated *net Settlement Amounts* for each *trading interval (TI)* and each *Market Participant* when actual metering data is not available or not meeting the data quality requirements

https://www.aemo.com.au/-/media/Files/Electricity/NEM/Settlements_and_Payments/Settlements/2016/NEMSettlementEstimatesPolicyv11.pdf

- Settlement estimates are used for monitoring *market participants' outstandings* and were intended for use to manage the risks of system or communications failures impacting normal settlement operations.

Approach – Estimation policy (1)

	Options considered	Benefits	Drawbacks	Comments
1	Leave methodology unchanged and continue to perform calculation at 30 minute level	Lower cost compared with other options	Less accurate than other options	Would not reflect the transition to 5MS and likely to have undesirable consequences
2	Leave methodology unchanged but perform calculation at 5 minute level (recommended)	More accurate than option (1)	Some cost	AEMO's preferred option. Reflective of change to 5 minute TI
3	Fundamental change to methodology – developing a new methodology	Potentially more accurate than option (2)	Significant cost to develop methodology and quantify potential benefits	AEMO has not identified sufficient merit in this option but would appreciate any feedback.

Approach – Estimation policy (2)

- We recommend that current estimation methodology be retained and applied to each 5min TI
- We will continue to monitor its performance for 5MS
- Other proposed changes for PWG consideration
 - replace section 5 (Settlements estimation for settlement purposes) with business processes AEMO currently use to manage settlement system and communications risks

Context – Estimation guide

- To provide Market Participants with the required technical details to gain a detailed understanding of the settlement estimation principles and process set out in the Policy

http://www.aemo.com.au/-/media/Files/Electricity/NEM/Settlements_and_Payments/Settlements/2016/Settlements-Estimation-Guide.pdf

- Approach: update 30 minute Trading Interval to 5 minute Trading Interval
- Other proposed changes for PWG consideration:
 - Editorial changes to improve clarity of the document and fill in missing technical details
 - Review the currency of the information in Section 6 - Settlements Direct and apply updates where appropriate

Proposed consultation approach

Estimation policy	Estimation guide	Indicative date
Focus group meets if required	Focus group meets if required	TBD if required
Present to Settlement Managers Working Group	Present to Settlement Managers Working Group	Wednesday, 19 September 2018
AEMO publish first stage notice, draft policy and draft consultation paper		Monday, 26 November 2018
PWG first stage notice submissions due		Monday, 21 January 2019
AEMO publish second stage notice, updated draft policy, draft report and non-confidential submissions	AEMO publish draft guide for comment	Tuesday, 19 February 2019
PWG second stage notice submissions due		Tuesday, 5 March 2019
AEMO publish final stage notice, final policy, final report and non-confidential submissions	AEMO publish final guide	Thursday, 4 April 2019

Discussion

- PWG feedback on:
 - AEMO's preferred approach to estimation
 - high level impact assessment for the policy and guide
 - consultation approach e.g. whether a focus group is required
- Other comments

Dispatch procedures – Pricing

Michael Sanders

Bids / offers package

Dispatch Focus Group

– Sydney 14 August 2018

Major Directions:

1. Participants should submit “full-sized” bids to AEMO – sparse bidding would be limited to the web interface
2. There should be no splitting of the REBIDEXPLANATION field
3. 5-minute pre-dispatch forecast horizon should be extended & sensitivities added
4. ST PASA should use the 5-minute bid with the lowest availability in each half hour
5. There should be a transitional period between 30-minute & five-minute bidding but the details need further work

Pricing package

High-level impact assessments

- HLIAAs are included in meeting pack

1. Intervention Pricing Methodology

(used for directions or RERT)

consultation

2. Operation of the intervention price provisions in the NEM

3. Estimated Pricing Methodology

(used for market suspension)

consultation

4. Guide to the Market Suspension Pricing Schedule

5. Operation of the administered price provisions in the NEM

(straightforward calculation & terminology changes)

General questions

Emily Brodie

Forward meeting plan

Emily Brodie

Upcoming meetings

- Procedures working group meetings for 2018:
 - Thursday 13 September
 - Thursday 11 October
 - Friday 16 November
 - Thursday 13 December
- Procedures focus groups:
 - Metering - Wednesday 5 September, Sydney
- Next Program Consultative Forum
 - Monday 3 September
- Next Executive Forum
 - Monday 10 September
- 5MS Meetings and Forum Dates:
<http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>

TERMS OF REFERENCE

Procedures Working Group (5MS-PWG)

AEMO is seeking input from industry stakeholders to develop AEMO Procedure changes to implement the Five Minute Settlement (5MS) and Global Settlement (GS) programs.

The AEMO Procedures work stream is responsible for development and consultation on the procedures for the 5MS and GS Rule changes. The Procedure amendments include various metrology, retail and wholesale procedures. There are approximately 70 affected procedures in total, around 20 of which must follow the formal, two-stage 'rules consultation' process.

Purpose

The Five-Minute Settlement Procedures Working Group (5MS-PWG) provides a forum for AEMO to engage with industry stakeholders during the procedure development process.

Scope

The following activities are in-scope:

-) Contribution to the development of procedure amendments relating to:
 - o Dispatch
 - o Metering
 - o Settlements and Prudentials

Given the broad nature of the scope, AEMO proposes that specific sub-groups or focus groups be formed to contribute to each of the areas above. Joint focus groups between PWG and Systems Working Group members may also be formed to manage areas of cross-dependency e.g. transition planning.

Representation

-) The 5MS-PWG is an open forum for all industry stakeholders.
-) Interested parties wishing to attend and participate on behalf of their organisation(s) must register their attendance with AEMO.
-) In the interests of facilitating targeted, technical discussions on defined project deliverables, AEMO requests that one 'active' participant attend from each organisation. Multiple representatives from an organisation may be included on email distribution lists for information purposes. Where required, AEMO may limit the number of participants for each meeting.
-) AEMO expects attendees to have detailed knowledge and expertise of the relevant sections of the NER, NEM procedures and be subject matter experts with authority to consider matters on behalf of the organisation(s) that they represent.
-) AEMO expects attendees to have a thorough understanding of the 5MS program, be well versed in five-minute settlement and global settlement rule changes, and be prepared to participate in discussion.

Governance

The 5MS-PWG is a project-specific forum that will be led by AEMO.

Meetings

AEMO will provide video-conference facilities for the AEMO offices listed below. A small number of tele-conference lines may also be made available for members where they cannot attend an AEMO office location.

Meeting Location - AEMO offices:

-) Melbourne – Level 22, 530 Collins Street, Melbourne VIC 3000
-) Sydney - Level 2, 20 Bond Street, Sydney, NSW 2000
-) Brisbane - Level 10, 10 Eagle Street, Brisbane, QLD 4000
-) Adelaide - Level 9, 99 Gawler Place, Adelaide, SA 5000

Meeting Frequency: As per the industry calendar. Additional meetings may be called by AEMO from time to time to address specific issues.

Administration

AEMO will prepare and distribute all meeting correspondence via email.

AEMO will endeavour to provide interested stakeholders with:

-) A draft agenda and relevant meeting papers prior to the meeting.
-) A meeting outcomes paper five business days after the meeting.

AEMO will provide Chair, secretariat services and subject matter expert(s) for each meeting.

Resourcing

Any expenses incurred as a result of attending meetings or activities associated with meetings are at the expense of the representative's employer.

For more information or for other enquiries, please email the 5MS inbox: 5MS@aemo.com.au.

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	NEM Settlement Estimates Policy		
Rule Consultation Req.	Yes	Priority	High
Prepared by	Canh Diep	Business Owner	Market Management – Settlements & Prudentials
Consultation Group	PWG	Consultation Package	Settlements Estimation
Link	https://www.aemo.com.au/-/media/Files/Electricity/NEM/Settlements_and_Payments/Settlements/2016/NEMSettlementEstimatesPolicyv11.pdf		

Description of Document	<p>) This policy sets out the hierarchy of data to use and the methodology to apply to calculate estimated net <i>Settlement Amounts</i> for each <i>Market Participant</i> and for each trading interval when actual metering data is not available or not meeting the prescribed data quality requirements.</p> <p>) Settlement estimates are used for:</p> <p>Z Settlement purpose in the events that AEMO cannot issue final statements to <i>Market Participants</i> due to failures of metering data processing, communications or settlement processing systems or other equipment. A manual process for procuring the required input data and performing settlement calculations is to be developed and triggered during these incidents. See Section 5 of the Policy.</p> <p>Z <i>Market Participant</i> prudential monitoring purpose. See Section 6 of the Policy.</p>		
Precedent Procedures / External Document	NA	Dependent Procedures / External Document	Settlement Estimation Guide

<p>Summary of Changes – Five Minute Settlements</p>	<ul style="list-style-type: none">) All references to 30-minute or half-hour trading intervals will be updated to five-minute trading intervals.) Replace Section 5 with AEMO existing processes for managing IT system outages and/or incidents due to communications failures impacting normal settlement operations.) Minor editorial changes including but not limited to the use of terms consistent with the definitions in the NER. 		
<p>Summary of Potential Changes – Global Settlements</p>	<p>No changes have been identified.</p> <p>Settlements will continue to monitor the Rule change process and update the impact assessment when required.</p>		
<p>External Stakeholder Impacted</p>	<p>Yes</p> <p>Market Generators</p> <p>Market Customers</p>	<p>AEMO Business Units Impacted</p>	<p>Market Management – Settlements & Prudentials</p>
<p>Issues for Stakeholder Consultation</p>	<p>AEMO proposes to consult industry participants on the following:</p> <ul style="list-style-type: none">) To remove Section 5 of the Policy and replace it with AEMO existing processes for managing the risks of system, database and communications failures impacting NEM settlements normal operations.) For prudential monitoring purposes, <ul style="list-style-type: none"> Z To propose that the current 30MS estimation methodology be retained and applied to 5-minute granular data including 5-minute regional reference prices and energy data – AEMO preferred option. Z To outline an alternative option that AEMO had considered but discounted where settlement estimates will be calculated at 30-minute intervals. This requires that the relevant input data (five-minute regional reference prices and energy data) be re-processed and aggregated to 30-minute trading intervals. Z To present estimation performance statistics to demonstrate the goodness-of-fit of the existing methodology currently applied to 30-minute trading intervals. 		
<p>System Impact</p>	<p>Yes</p>		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Settlement Estimation Guide		
Rule Consultation Req.	No	Priority	Low
Prepared by	Canh Diep	Business Owner	Market Management – Settlements & Prudentials
Consultation Group	PWG	Consultation Package	Settlement Estimation
Link	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Settlements_and_Payments/Settlements/2016/Settlements-Estimation-Guide.pdf		

Description of Document	<p>This guide is prepared to provide <i>Market Participants</i> with sufficient technical details to gain a detailed understanding of the settlement estimation principles and process set out in the NEM Settlement Estimates Policy (the Policy).</p> <p>Settlement estimates are used for estimating <i>Market Participants' outstandings</i> on days when actual metering data is not available or not meeting the prescribed metering data quality requirements.</p>		
Precedent Procedures / External Document	NEM Settlement Estimation	Dependent Procedures / External Document	NA
Summary of Changes – Five Minute Settlements	<ul style="list-style-type: none">) All references to 30-minute or half-hour trading intervals will be updated to five-minute trading intervals.) Re-arrange the information in the document to improve clarity and information flow.) Remove repetitions or redundant information where appropriate.) Review and update Section 5 (Estimations hierarchy) with details consistent with the Policy and/or the IT Requirements Description document.) Review the currency of the information in Section 6 - Settlements Direct - and update where required. 		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Intervention Pricing Methodology		
Rule Consultation Req.	Yes	Priority	Medium
Prepared by	Michael Sanders	Business Owner	EMM
Consultation Group	Dispatch	Consultation Package	Dispatch – Pricing
Link	http://www.aemo.com.au/-/media/Files/PDF/Intervention-Pricing-Methodology-October-2014.pdf		

Description of Document	Specifies how AEMO will set prices when AEMO intervenes in the market by issuing directions or activating Reliability and Emergency Reserve Trader (RERT) contracts.		
Precedent Procedures / External Document	N/A	Dependent Procedures / External Document	Operation of the Intervention Pricing Provisions in the NEM
Summary of Changes – Five Minute Settlements	<p>AEMO is currently consulting on the Intervention Pricing Methodology independent of five-minute settlement. Any changes to the Intervention Pricing Methodology will be consistent with the planned shift to five-minute settlement.</p> <p>Consultation details are available at http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Intervention-Pricing-Methodology-Consultation?Convenor=AEMO%20NEM.</p> <p>The probable end date of the consultation is October 2018.</p>		
Summary of Potential Changes – Global Settlements	N/A		
External Stakeholder Impacted	No	AEMO Business Units Impacted	EMM, EMMS
Issues for Stakeholder Consultation	<p>The consultation proposes changing the existing Intervention Pricing Methodology to:</p> <ol style="list-style-type: none"> 1. Use telemetered generator outputs and interconnector flows to calculate the RHS of feedback constraints 2. Identify generators that have tripped 3. Identify generators whose energy output is trapped by an FCAS trapezium 		

	4. Use telemetered outputs for generators with zero ramp rates
System Impact	Yes

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Operation of the Intervention Price Provisions in the NEM		
Rule Consultation Req.	No	Priority	Medium
Prepared by	Michael Sanders	Business Owner	EMM
Consultation Group	Dispatch	Consultation Package	Dispatch – Pricing
Link	http://www.aemo.com.au/-/media/Files/PDF/0150-0118-pdf.pdf		

Description of Document	Provides an overview of how intervention pricing works.		
Precedent Procedures / External Document	Intervention Pricing Methodology	Dependent Procedures / External Document	N/A
Summary of Changes – Five Minute Settlements	<p>AEMO is currently consulting on the Intervention Pricing Methodology independent of five-minute settlement. The probable end date of the consultation is October 2018.</p> <p>It is only after the consultation has finished that the Operation of the Intervention Price Provisions in the NEM can be updated to reflect any changes to the Intervention Pricing Methodology, along with any changes to reflect the shift to five-minute settlement.</p>		
Summary of Potential Changes – Global Settlements	N/A		
External Stakeholder Impacted	No	AEMO Business Units Impacted	EMM, EMMS
Issues for Stakeholder Consultation	None at this stage.		
System Impact	No		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Estimated Price Methodology		
Rule Consultation Req.	Yes	Priority	Medium
Prepared by	Michael Sanders	Business Owner	EMM
Consultation Group	Dispatch	Consultation Package	Dispatch – Pricing
Link	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Data/MMS/2017/Estimated-Price-Methodology-Suspension-NER-3-14-5.pdf		

Description of Document	Specifies how AEMO will set prices during a market suspension if it is not possible to use central dispatch.		
Precedent Procedures / External Document	N/A	Dependent Procedures / External Document	Guide to the Market Suspension Pricing Schedule
Summary of Changes – Five Minute Settlements	<p>AEMO is currently consulting on the Estimated Price Methodology (market suspension pricing schedules) independent of five-minute settlement. Any changes to the Estimated Price Methodology will be consistent with the planned shift to five-minute settlement.</p> <p>Consultation details are available at http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Market-Suspension-Pricing-Consultation?Convenor=AEMO%20NEM.</p> <p>The probable end date of the consultation is October 2018.</p>		
Summary of Potential Changes – Global Settlements	N/A		
External Stakeholder Impacted	No	AEMO Business Units Impacted	EMM, EMMS
Issues for Stakeholder Consultation	The consultation is exploring whether the averaging horizon, averaging resolution, day treatment, outlier treatment and publication frequency of the current Estimated Price Methodology should be changed.		
System Impact	Yes		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Guide to the Market Suspension Pricing Schedule		
Rule Consultation Req.	No	Priority	Medium
Prepared by	Michael Sanders	Business Owner	EMM
Consultation Group	Dispatch	Consultation Package	Dispatch – Pricing
Link	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Data/MMS/2017/Guide-to-Market-Suspension-Pricing-Schedule.pdf .		

Description of Document	Describes how Market Suspension Pricing Schedules are calculated and how to interpret the Market Suspension Pricing Schedules that are published.		
Precedent Procedures / External Document	Estimated Price Methodology	Dependent Procedures / External Document	N/A
Summary of Changes – Five Minute Settlements	<p>AEMO is currently consulting on the Estimated Price Methodology (Market Suspension Pricing Schedules) independent of five-minute settlement. The probable end date of the consultation is October 2018.</p> <p>It is only after the consultation has finished that the Guide to the Market Suspension Pricing Schedule can be updated to reflect any changes to the calculation of the Market Suspension Pricing Schedules, along with any changes to reflect the shift to five-minute settlement.</p>		
Summary of Potential Changes – Global Settlements	N/A		
External Stakeholder Impacted	No	AEMO Business Units Impacted	EMM, EMMS
Issues for Stakeholder Consultation	None at this stage.		
System Impact	No		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Operation of the Administered Price Provisions in the NEM		
Rule Consultation Req.	No	Priority	Medium
Prepared by	Michael Sanders	Business Owner	EMM
Consultation Group	Dispatch	Consultation Package	Dispatch – Pricing
Link	http://www.aemo.com.au/-/media/Files/PDF/0150-0118-pdf.pdf		

Description of Document	Provides an overview of how administered pricing works.		
Precedent Procedures / External Document	NER	Dependent Procedures / External Document	N/A
Summary of Changes – Five Minute Settlements	<ul style="list-style-type: none">) Changes to calculation of the energy trigger to reflect the five-minute settlement rule changes. (The FCAS trigger is already based on five-minute prices.)) Terminology changes to reflect the shift from dispatch prices → spot prices, dispatch interval → trading interval, trading interval → 30-minute period, spot price → 30-minute price 		
Summary of Potential Changes – Global Settlements	N/A		
External Stakeholder Impacted	No	AEMO Business Units Impacted	EMM, EMMS
Issues for Stakeholder Consultation	None		
System Impact	Yes		