

5MS Procedures Working Group #9

Friday, 12 April 2019

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

Agenda

NO	TIME	AGENDA ITEM	RESPONSIBLE
Preliminary matters			
1	10:00am – 10:10am	Welcome, introduction and apologies	Emily Brodie (AEMO)
2	10:10am – 10:25am	Minutes and actions from previous meeting	Emily Brodie (AEMO)
Matters for noting			
3	10:25am – 10:40am	Procedures workstream update	Emily Brodie, Blaine Miner, Austin Tan (AEMO)
Matters for discussion			
4	10:40am – 10:50am	Settlements focus group debrief	Austin Tan (AEMO)
5	10:50am – 11:00am	Metering procedures update: Co-consultation	Blaine Miner (AEMO)
6	11:00am – 11:30am	Approach to Power Systems Operations procedure updates	Sujeewa Rajapakse (AEMO)
Other business			
7	11:30am – 11:40am	Forward meeting plan and general questions	Emily Brodie (AEMO)

Minutes and actions from previous meeting

Emily Brodie

Responses to PWG actions (1)

	Topic	Action	Response
1.8.1	Metering Procedures	<p>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.</p> <p>PCF and PWG to be informed of progress.</p> <p>Under discussion and will inform PCF and PWG of developments.</p>	<p>Discussed at MFG, ongoing</p> <p>AEMO has performed some initial analysis which has confirmed that file sizes up to 10MB can be accommodated by AEMO systems. However, issues have been identified with the MSATS Browser in instances where files contains a large number of transactions, Windows Explorer/Chrome issue. Feedback has been provided to the MFG membership to focus their analysis, not only on size, but also the combination of file size and transaction volumes.</p>
7.12.1	Dispatch procedures	<p>AEMO to share marked-up copies of the Dispatch Pricing Package with the PWG for comment.</p>	<p>Ongoing. Expected in May/June.</p>
7.12.1	Dispatch procedures	<p>AEMO to share marked-up copies of the Dispatch Miscellaneous Package with the PWG for comment.</p>	<p>Ongoing. Expected in May/June.</p>

Responses to PWG actions (2)

	Topic	Action	Response
8.7.1	5MS rule change	AEMO to advise PWG on outcome of non-market unmetered loads rule clarification	The AEMC has clarified their policy position that non-market unmetered loads will remain non-contestable, as stated on p. 93 of the global settlement final determination.
8.8.1	5MS Readiness	PWG to provide feedback on considerations for winding down the PWG as procedure development for 5MS and GS is completed in the coming months.	No feedback received. AEMO is considering the appropriateness of the Webinar format for future PWGs.

Approach to transitioning 5MS procedures workstream

- Stage 1: **active engagement** through PWG on managing 5MS procedure changes (July 2018 to August 2019)
- Stage 2: **transitioning to BAU** through structured and supported engagement on procedural issues that arise from 5MS/GS implementation e.g. during industry testing and market trials
- Stage 3: **BAU** – AEMO teams run procedure changes

	Timeframe	Approach
Stage 1	May, June 2019	<ul style="list-style-type: none"> • PWG meetings are scheduled – content will be metering focussed, reporting back on actions, reporting back on focus groups • Webex only?
	July, August 2019	<ul style="list-style-type: none"> • PWG meetings not scheduled • Would run on via webex on an ad hoc basis if required • PWG will be adjourned. Any outstanding actions will be closed off via email or, if appropriated, transferred to the PCF, SWG or RWG
Stage 2	from August 2019 to 2021	<ul style="list-style-type: none"> • 5MS procedure issues arising from program (e.g. PCF, SWG, RWG, mailbox) are recorded in the procedures actions log • Procedures action log is maintained and coordinated through the 5MS program • 5MS procedure changes are managed by those AEMO teams responsible for the relevant procedures • Stakeholder engagement will include discussion/consultation through 5MS forums where appropriate
Stage 3	2021 onwards	<ul style="list-style-type: none"> • BAU - procedure changes are managed through those AEMO teams responsible for the relevant procedures

Procedures workstream update

Emily Brodie

Procedures workstream status

	Pre-consultation		Consultation			
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	Jan-19	Mar-19	
2. Metering - MSATS and SLPs	Jul-18	Dec-18 & Mar-19	Apr-19	Jun-19	Aug-19	
3. Metering - Miscellaneous*	Jul-18	Feb-19	n/a	Jun-19	Jul-19	
B2B Procedures - B2B file size	n/a	Feb-19	n/a	n/a	n/a	
SETTLEMENTS						
SRA	Jun-18	Jul-18	n/a	Jul-18	Aug-18	
SRA round #2	Jun-18	Feb-19	Mar-19	Jun-19	Aug-19	
TNSP	Feb-19	Feb-19	n/a	Apr-19	Jun-19	
Estimation	Aug-18	Aug-18	Nov-18	Feb-19	Apr-19	
Reallocations	Dec-18	Dec-18	n/a	Dec-18	Feb-19	
Miscellaneous	Oct-18	Oct-18	Dec-18	Mar-19	May-19	
Prudentials	Aug-18	Sep-18	Apr-19	Jun-19	Aug-19	
DISPATCH						
2. Dispatch - Spot market	Sep-18	Oct 18 ongoing	Jan-19	Jun-19	Aug-19	
3. Dispatch - Pricing - Rules consultation	Aug-18	Aug 18 ongoing	Aug-18	Sep-18	Nov-18	
3. Dispatch - Pricing - For comment*	Aug-18	Aug 18 ongoing	n/a	May-19	Jun-19	
4. Dispatch - Miscellaneous*	Jan-19	Feb-19	n/a	May-19	Jun-19	
POWER SYSTEM OPS						
1. Operations - Miscellaneous*	TBA	Apr 19 ongoing	n/a	n/a	Jul-19	

TIMING
Started and on track
Started late
Overdue

CONTENT
No issues
Issues
Severe issues

Procedures workstream meetings

- Next PWG scheduled for Tuesday 14th May:
 - Metering package #2 – discussion of material issues
- Focus groups:
 - Past**
 - Settlements focus group – Wednesday 20th March, Melbourne
 - Metering focus group – Friday 29th March, WebEx
 - Future**
 - Expect to hold further metering focus group meetings in the coming months as we work through metering procedures package #2
 - Reconciliation support workshop – TBA, May 2019, likely Melbourne

Consultations - metering

5MS Metering package 1 (Completed)

- Final report published 22 March 2019
- <http://aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---Metering-Procedure-Changes-Package-1>

5MS Metering package 2

- First stage consultation will be published 26 April 2019
- First stage submissions due on 31 May 2019
- This consultation will be a co-consultation taking into consideration 5MS and Global Settlement items as well as a number of Issues and Change Forms (ICFs)

Consultations - settlements

5MS Settlements package – Reallocations (Completed)

- Final notice and procedures published 28 February 2019
- <https://www.aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---Reallocation-procedures>

5MS Settlements package – Estimates (Completed)

- Final report and procedures published on 4 April 2019
- <http://aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---NEM-Settlement-Estimates-Policy>

5MS Settlements package – Revisions

- Draft Report & Notice of second stage consultation published 22 March 2019
- Second stage submissions due 8 April 2019
- <http://aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---NEM-Settlement-Revisions-Policy>

5MS Settlements package – Auction Participation Agreement

- Consultation commenced on 22 March 2019, first stage submissions due 27 May 2019
- Final Report and procedures scheduled for publication on 5 August 2019
- <http://aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---Auction-Participation-Agreement>

Consultations - settlements

5MS Settlements package – TNSP Negative Settlements Residue Procedure

- Consultation commenced on 1 April 2019, submissions due 3 June 2019 and final procedures will be published 14 June 2019
- Not a Rules consultation document
- Proposed changes are administrative. Consultation will be single round and targeted at TNSPs.
- <http://aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---NEM-TNSP-Negative-Settlements-Residue-Procedure>

5MS Settlements package – Prudentials - Credit Limits Procedure

- Consultation commenced on 12 April 2019, first stage submissions due 23 May 2019
- Proposed changes include 5MS amendments that are administrative in nature, and amendments to season definitions moving the month of April under the winter season (effectively removing the shoulder 1 Maximum Credit Limit (MCL) review).

Update: 5MS implementation rule change request

- Rule change request was submitted to the AEMC on 15 March 2019 and is now available at: <https://www.aemc.gov.au/rule-changes/5-minute-settlement-and-global-settlement-implementation>
- Six areas of change:
 1. Determining marginal loss factors (MLFs) at 30-minute or shorter intervals
 2. Accommodating fast-start plant in pre-dispatch
 3. Process for amending the spot market operations timetable
 4. Correction to list of AEMO procedures for 5MS
 5. Timing for AEMO to publish unaccounted for energy (UFE) data
 6. Clarification around assigning non-market unmetered loads to a transmission node identifier TNI or VTN.
- AEMO considers the proposed changes to be non-controversial - seeking 'expedited' rule change process.
- AEMO has identified further aspects of the GS Rule that may need amending to facilitate implementation. Once analysis complete, will advise PCF/PWG on preferred approach to any further changes.

Settlements focus group debrief

Austin Tan

Settlements Focus Group: Wednesday 20 March, Melbourne

- Held on Wednesday 20 March in Melbourne
- Session covered both Settlements in the 5MS context and also Global Settlements
- 23 attendees representing mainly retailers
- Meeting notes and actions distributed to focus group, PWG and SWG on Friday 29 March

Topics Discussed at the Settlements Focus Group

Topics Discussed

5MS Settlements

- Settlement Procedures Update
- Overview of 5MS Metering and Dispatch – Settlement considerations
- Reallocations
- 5MS Settlements Transition Approach
- AEMO Settlement Interfaces
- 5MS Readiness Approach
- Reconciliation Support

Global Settlements

- Global Settlement overview
- UFE Calculation and Application
- UFE Verification Reporting
- UFE Trends Reporting
 - PWG to provide feedback on what content would be most useful to participants in the UFE Trends Report

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Transitional billing arrangements	<p>AEMO to produce SR Report and PDF Tax Invoice and per current process. Data tables in Data Interchange can be utilised to identify 5 and 30 minute data.</p> <p>AEMO will provide a mapping document between invoices and data interchange to assist participants in the reconciliation process.</p>	<p>Some participants expressed a preference for separate reports during the billing week when the 5MS transition occurs on 1 July 2021.</p> <p>AEMO noted it was not cost effective to provide two separate SR reports during the transition week. It was also noted that 5 minute and 30 minute data will be available in Data Interchange.</p> <p>Participants agreed that a mapping document between data interchange and invoices will assist with reconciliation activities</p>	n/a	AEMO to provide mapping document between invoices and data interchange to the System's working Group	<p>AEMO to produce SR Report and PDF Tax Invoice and per current process. Publish 5 minute and 30 minute data in Data Interchange.</p> <p>AEMO to provide mapping document to assist reconciliation activities</p>

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Approach to support reallocations after 5MS	<p>Reallocations interface to be capable of processing 5-minute reallocations 6 months prior to July 2021.</p> <p>5-minute reallocations interface to be available in pre-production by mid 2020 for market participant testing.</p> <p>Market participants to be restricted from inputting 30-minutes reallocations for any time periods beyond 1 July 2021.</p>	<p>Participants had a preference for the reallocations system to be capable of processing 5 minute reallocations 6 months prior to July 2021, with pre-production available mid-July 2020.</p> <p>Agreement that there is minimal value in supporting 30 minute reallocations past July 2021 if sufficient time is given to participants to enter 5 minute reallocation contracts before July 2021.</p>	n/a	n/a	AEMO is working towards having the reallocations production interface being available to market participants at least 6 months prior to the implementation of 5MS.

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Updates to the Reallocations user interface	<p>A range of new additional system functionalities were suggested based on participant feedback. These include:</p> <ul style="list-style-type: none"> • APIs • Regional calendar option • Fill functionality • New business alerts • Single list of all reallocations • Reverse/Cancel feature • Copy/paste functionality 	<p>Participants suggested that a notifications feature would be of value. Additional thought required as to which format will suit best (Email/Push notifications)</p> <p>Discussion regarding additional functionality to report on net reallocations</p>	<p>Participants to continue providing further suggestions through the SWG to improve current reallocations user interface and functionality</p>	<p>AEMO will consult with participants as necessary on the implementation of these new features</p>	<p>APIs will be made available for participants to develop own reallocation interfaces</p> <p>Procedural changes gives AEMO the option of adding in regional calendars for reallocations. AEMO is still exploring the best implementation approach</p> <p>Fill functionality will be implemented with 5MS</p> <p>New business alerts currently under consideration.</p>

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Data interchange	<p>5-minute settlement DI reports will use the same table names and structures as existing 30-minute feeds, with the definition of "PeriodId" changing from a 30-minute period (1 to 48) to a 5-minute period (1 to 288).</p> <p>Indicator will be added for 'interval length' to specify what the length of interval is with each settlement run</p>	<p>Participants agreed that 5 minute data feed is preferred after 1 July 2021, a 30 minute legacy feed is not required</p> <p>Some participants also expressed that there could be value in retaining data in the DI archive for more than 6 months</p>	Finalise which reports will be retained in the DI archive for longer than 6 months	Participants to provide further feedback on which reports in the DI archive should be retained for longer than 6 months	<p>5-minute settlement DI reports will use the same table names and structures as existing 30-minute feeds</p> <p>AEMO is considering retaining PDF Tax Invoices / RCTIs, PDF Adjustment Notes / RC Adjustments Notes and SR Reports for longer than 6 months</p>

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
MDMF file transition	n/a	A participant queried if there was a planned date to cease support for MDMF files.	n/a	n/a	<p>AEMO clarified that interval metering data will have to be in MDFF data from 30 June 2021.</p> <p>Currently there is no sunset date yet for MDMF accumulation metering data.</p>

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Granularity of UFE allocation	Calculation of UFE will be done in AEMO settlement systems at a TNI level instead of a NMI level. However this calculation will align with NMI level allocation as defined in the Rules.	<p>AEMO's current system design will calculate UFEA at TNI level granularity. The final GS rule implies that UFEA will have to be calculated for each NMI (i.e. 10 million) for every trading interval (288 per day).</p> <p>Assuming the intent of the AEMC is to allocate to each market customer based on its share of energy in the local area, mathematically the settlement outcome will be identical if the calculation is done at a TNI or NMI level given that UFEA will be aggregated to local area.</p> <p>Participants at the SFG have indicated that they are largely comfortable with the approach of TNI level calculation, but the view was that AEMO should discuss the implementation approach with the AEMC.</p>	n/a	n/a	AEMO has discussed this item with the AEMC. Agreed that AEMO's current approach of performing settlements at the TNI level is appropriate.

Metering procedures update: Co-consultation

Blaine Miner

Metering Procedures Update Co-consultation

- The 5MS program and AEMO's Market Change team are about to co-consult on a number of matters which affect various Metering procedures, including:
 - Introduction of the 5MS Rule
 - Introduction of the GS Rule
 - Changes to the delivery of metering data to AEMO
 - ~~Changes associated with the MSATS Standing Data Review~~
 - Changes (ICFs) associated with the Electricity Retail Consultative Forum (ERCF) and Electricity Retail Metrology Consultative Forum (ERMCF) and Metering rule changes
- Co-consulting to mitigate potential stakeholder resourcing impacts
- Affected procedures will need to consider multiple substantive commencement dates.

Metering Procedures Update Co-consultation

- AEMO will be publishing 2-3 separate issues papers as part of this co-consultation
 - One relating to 5MS program considerations
 - One relating to MSATS Standing Data Review considerations
 - One relating to the ERCF's and ERMCF's ICF considerations and the Metering rule changes (e.g. Metering Installation Timeframes)
- Each issues paper will have a corresponding participant response template
- Where a procedure is impacted by multiple substantive commencement dates.
 - AEMO will provide a 'change marked' and 'clean' version for each specific commencement date
 - For example, should a procedure require changes with an effective date of 1 July 2021 and 6 Feb 2022:
 - **Version 1** of the procedure would detail the changes associated with the first effective date i.e. 1 July 2021 (a change marked and clean version of this procedure would be published)
 - **The 'clean' version of Version 1** would then form the basis of changes associated with the next effective date i.e. 6 Feb 2022 (a change marked and clean version would also be published)
 - In total, 4 documents would be included in the consultation for this particular procedure, 2 documents associated with 1 July 2021 (1 change marked and 1 clean) and 2 documents associated to 6 Feb 2022 (1 change marked and 1 clean)

Metering Procedures Update Co-consultation

- Potential Substantive Commencement Dates:

Change Reason	Indicative date
ICFs, Metering rule changes and MSATS Standing Data	20 May 2020
5MS Transitional Items	Nov/Dec 2020
5MS & GS (UFE Publication)	1 July 2021
GS Commencement	6 Feb 2022

- Indicative timing of the consultation:

Deliverable	Indicative date
Issues Paper published	26 April 2019
Submissions due on Issues Paper	31 May 2019
Draft Report published	2 July 2019
Submissions due on Draft Report	16 July 2019
Final Report published	29 August 2019

Approach to Power System Operations 5MS procedure updates

Sujeewa Rajapakse

Operational Procedures

NER 4.10 : The *power system operating procedures* are:

- (1) any instructions which may be issued by *AEMO* from time to time covering *market* operations and relating to the operation of the *power system*;
- (2) any guidelines issued from time to time by *AEMO* in relation to *power system security*;
- (3) *regional specific power system operating procedures*
- (4) the load shedding procedures and EFCS settings schedules; and
- (5) any other procedures, instructions or guidelines which *AEMO* nominates to be and advises to *Registered Participants* as being *power system operating procedures* from time to time.

Published Operational Procedures - Operations

SO_OP_2000	Glossary
SO_OP_3703	Short Term Reserve Management
SO_OP_3708	Non Market Ancillary Services
SO_OP_3710	Load Forecasting
SO_OP_3713	Mandatory Restrictions
SO_OP_3715	Power System Security Guidelines
SO_OP_3717	Procedure for the Dispatch and Activation of Reserve Contracts
SO_OP_3718	Outage Assessment
SO_OP_3719	Procedure for Submitting Recall Information of Scheduled Generator Outages

These procedures are available at:

<http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Power-system-operation/Power-system-operating-procedures>

Published Operational Procedures - Dispatch

The following procedures come under 5MS Dispatch work-stream. They are not addressed under operational procedures:

SO_OP_3704 Pre-dispatch

SO_OP_3705 Dispatch

SO_OP_3706 Failure of Market or Market Systems

SO_OP_3707 Intervention Direction and Clause 4-8-9 Instructions

Published documents

- There are 27 published documents that require changes due to 5MS
- Most documents require terminology changes
 - Dispatch Interval → Trading Interval
 - Trading Interval → 30-minute period

Timeline for operational procedure changes

NER 11.103.2 Amendments to procedures require following procedures to be reviewed/amended by 1 December 2019

.....

(4) the methodology for determining dispatch prices and ancillary services prices in the event of intervention by AEMO in accordance with clause 3.9.3;

.....

(9) the methodology relating to dispatch pricing for unscheduled reserve contracts in accordance with clause 3.20.4;

(10) the procedures relating to the exercise of the RERT in accordance with clause 3.20.7;

.....

Extent of changes to operational procedure and documents

Category	Type of document	NER Consultation Required ?	Extent of the change
Category 1	Operating Procedure	Yes	Beyond terminology changes
Category 2	Operating Procedure	Yes	Terminology changes only
Category 3	AEMO <i>internal</i> procedure	No	Few procedures require changes beyond terminology
Category 4	Published AEMO document	Yes	Beyond terminology changes
Category 5	Published AEMO document	No	Terminology changes only

Timeline for operational procedure changes

Category 1: Consulted procedures require changes

Category 2: Published procedures require changes

Category 3: AEMO internal procedures

Category 4: Consulted documents require changes

Category 5: Published documents require changes

1 Dec 2019
NER 11.103.2

Jan 2020

Jan 2021

Summary of changes to operational procedures and published documents

Category 1:

- One procedure only
- Must be updated by 1 December 2019 (5MS Rule)
- Requires a NER consultation
 - SO_OP_3717 Procedure for the Dispatch and Activation of Reserve Contracts

Category 2:

- Other Operational procedures require terminology changes
- Requires NER consultation for 5MS administrative changes

Category 3 :

- There are 24 AEMO internal procedures require terminology changes
- Internal only, no external engagement.

Summary of changes to operational procedures and published documents

Category 4:

- Following published documents require NER consultation before amending
 - ➔ Methodology for calculating Forward-looking Transmission Loss Factors
 - ➔ Market ancillary service specification (Terminology change)
 - ➔ Regional Benefit Ancillary Services Procedure (Terminology change)
 - ➔ Causer Pays Procedure (Terminology change)
 - ➔ Procedure for the Exercise of Reliability and Emergency Reserve Trader RERT (Terminology change)
 - ➔ Solar Energy Conversion Model (Terminology change)
 - ➔ Wind Energy Conversion Model (Terminology change)
 - ➔ Reserve Level Declaration Guidelines (Terminology change)

Category 5:

- Remaining 19 published documents will be progressively amended
- No NER consultation
- Will share mark-ups for comments

Approach to procedure and document changes

- The NER consultations will be conducted in conjunction with the already identified consultations for other business requirements
- Most of the procedure changes will be incorporated to regular reviews of the procedures
- Amendments to published documents will be progressively managed by AEMO
- High-level impact assessments will be progressively uploaded to the 5MS website. PWG will be notified as this occurs.

General questions

Emily Brodie

Forward meeting plan

Emily Brodie

Upcoming meetings

- Procedures Working Group meetings:
 - Tuesday 14 May 2019
 - Tuesday 11 June 2019
- Procedures Focus Groups:
 - Metering Focus Group - TBC
- Next Systems Working group
 - Monday 15 April 2019
 - Monday 20 May 2019
- Next Program Consultative Forum
 - Friday 10 May 2019
- Next Executive Forum
 - TBA: targeting May
- 5MS Meetings and Forum Dates:
<http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>