

AGENDA

MEETING: 5MS PROGRAM – PROCEDURES WORKING GROUP #5

DATE: THURSDAY, 13 DECEMBER 2018

TIME: 10:00AM – 1:00PM (MELB TIME)

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

No.	Agenda Item	Paper	Responsible	Action
Preliminary Matters				
1	Welcome, introductions, apologies		Emily Brodie	Note
2	Minutes and actions from previous meeting	<i>Presentation</i> <i>19 Nov PWG notes</i>	Emily Brodie	Note
Matters for Noting				
3	Procedures workstream update	<i>Presentation</i>	Emily Brodie	Note
Matters for Discussion				
4	Debrief on dispatch focus group	<i>Presentation</i>	Pierre Fromager	Discuss
5	Debrief on settlements focus group	<i>Presentation</i>	Austin Tan	Discuss
6	Global settlement final rule	<i>Presentation</i>	Emily Brodie	Discuss
7	Reallocations procedure package	<i>Presentation</i>	Rebecca Malmur	Discuss
8	Metering procedures package 2	<i>Presentation</i>	Blaine Miner	Discuss
Other Business				
9	Forward meeting plan and general questions	<i>Presentation</i>	Emily Brodie	Discuss

5MS Procedures Working Group #6

Thursday, 13 December 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

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	10:20am – 10:30am	Procedures workstream update	Emily Brodie (AEMO)
Matters for Discussion			
4	10:30am – 10:45am	Debrief on dispatch focus group	Pierre Fromager (AEMO)
5	10:45am - 11:00am	Debrief on settlements focus group	Austin Tan(AEMO)
6	11:00am – 11:10am	Global settlement final rule	Emily Brodie (AEMO)
	11:10am – 11:20am	BREAK	
7	11:20am – 11:45am	Reallocations procedure package	Rebecca Malmur (AEMO)
8	11:45am – 12:25pm	Metering package 2 – Introduction	Blaine Miner (AEMO)
Other business			
9	12:25pm – 12:40pm	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
1.6.2	Packaging and Prioritising Procedures	AEMO to discuss with PWG whether there is a need to adjust the timing of the reallocation procedure package	AEMO is still considering timing, we will release timing in December
1.8.8	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.	Ongoing Under discussion with industry through metering focus group and SEG. PCF and PWG of developments.
3.3.1	5MS Drafting Amendments	PWG to provide input on the potential 5MS drafting amendments around a bidding data soft cutover, and other areas of the 5MS rule.	Action still open, accepting input until end of 2018
4.1.1	Transitional Arrangements	AEMO to update PWG on interactions between dispatch and metering transitional arrangements	AEMO will communicate its high level transition plan across metering, settlements and dispatch at the December PCF, PWG and SWG meetings (see slide 6)

Responses to PWG actions (2)

	Topic	Action	Response
5.3.1	Metering Procedures	AEMO to check whether there are any dependencies between the RM reports that have been identified for retirement the NMI Standing Data project.	5MS program checked with NMI standing data program. No dependencies were identified.
5.6.1	DER Program	AEMO to update PWG on any possible impacts of the DER program to the 5MS program	Ongoing. The 5MS program has established relationships with other key AEMO initiatives, such as DER and the NMI Standing Data project, so that consultation can be coordinated. Additionally, the DER program manager has provided an overview of the DER program at the 5MS Program Consultative Forum.

5MS Transition (as planned at Dec 2018)

5MS INDICATIVE TRANSITION	2019		2020										2021										2022															
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun						
Dispatch																																						
STATUS: Transition plan well developed																																						
Sandbox																																						
Pre-production																																						
Production (Transition: 5 min and 30 min bids)																																						
Production (5 min bids only)																																						
Metering																																						
STATUS: Transition plan being developed																																						
Sandbox																																						
Pre-production																																						
Production (Transition: 5 min and 30 min data)																																						
Support for MDFF																																						
Global settlement																																						
UFE publication																																						
GS start																																						
Settlements																																						
STATUS: Transition plan in early stages of development																																						
Sandbox (to be confirmed)																																						
Pre-production																																						
Production																																						
Reallocations (30 min)																																						
Reallocations (5 min - start date to be confirmed)																																						
Global settlement																																						
UFE publication																																						
GS start																																						

Procedures workstream update

Emily Brodie

Procedures workstream status

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	Nov-18/Dec-18	Apr-19	Jun-19	Aug-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	
SRA round #2	Jun-18	Feb-19	Mar-19	Jun-19	Aug-19	
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	TBC	TBC	
DISPATCH						
1. Dispatch - Bids/Offers*	Jul-18	Jul 18 ongoing	n/a	Feb-19	Mar-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
Started and on track
Started late
Overdue

CONTENT
No issues
Issues
Severe issues

Procedures workstream meetings

- Next PWG scheduled for Thursday 14th February:
 - Dispatch – Specifications
 - Dispatch – Miscellaneous
 - Metering – Miscellaneous
 - Global settlement – approach to procedure and guide development
- Focus groups:
 - Settlements focus group – early 2019, TBC
 - Dispatch focus group – likely February, TBC

Consultations

AEMO: 5MS Metering package 1

- First stage of consultation on the proposed amendments to various metering procedures to support the implementation of 5MS
- <http://aemo.com.au/Stakeholder-Consultation>
- First stage submissions due 28 December 2018

• Final report will be published 22 March 2019

AEMO: 5MS Settlements package – Estimates

- First stage submissions due 21 January 2019
- Final report will be published 4 April 2019

AEMO: 5MS Settlements package - Revisions

- Consultation commences 14 December 2018, submissions due 22 February 2019

5MS Consultation landing web page – under development

Actions log

	Action numb	Status	Source	Date	Topic	Stage/phase	AEMO Proposal	Discussion	Outstanding Issues	Responsible party	Next Steps	Outcome	Target Completion Date
	Use meeting action number Prefix with M, D or S	OPEN/CLOSED	PCF/EF/PWG/SWG/FG/STAKEHOLDER	DATE		Pre-consultation, Stage 1 etc	Proposal or approach	Insert link to relevant docs rather than repeat full discussion					
Program level	PWG411	Open	PWG	11/10/2018	AEMO's transition plan				AEMO will communicate its high-level transition plan across metering, settlements and dispatch at the December PCF, PWG and SWG meetings	AEMO			13/12/2018
Metering	M0001	OPEN	MFG	12/11/2018	Transition to 5-minute meter data				Participants to provide additional information regarding issues associated to transitioning to MDFF for Basic meter reads	Participants			4/12/2018
Dispatch	D0001	OPEN	Dispatch Focus Group	22/10/2018	5-minute pre-dispatch extension	Industry consultation	The current 1 hour, 5-mn Pre-dispatch schedule could be extended but needs to continue to be published every 5 minutes	Dispatch Focus Group meeting notes, 22 October 2018 http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Procedures-Workstream/Procedures-Working-Group	AEMO to investigate P5 period-by-period options. AEMO to investigate removing the prohibition on using FSIP in pre-dispatch calculations through a rules amendment. AEMO to investigate inclusion of FSIP and daily energy constraints in 5-minute pre-dispatch calculation.	AEMO	Actions to completed by AEMO and results shared with PWG/SWG/Dispatch Focus Group		TBC
Settlements	S0001	Open	SFG	26/11/2018	Revisions Procedures	Industry consultation			Participants to provide feedback on consultation timelines for the NEM Settlement Revisions Policy consultation	Participants			13/12/2018

- **Background:** stakeholders requested a simpler way to keep across the myriad of issues and actions coming out of the 5MS program
- **Purpose:** one-stop shop for 5MS actions across the procedures and systems workstreams
- **Implementation:** maintained by AEMO on the 5MS website
- **Feedback** welcome via 5ms@aemo.com.au

Debrief on dispatch focus group

27 Nov 2018

Pierre Fromager

Topics discussed at the workshop

- Break-up rebid explanation field into two or four fields.
- Bidding interfaces
- Improvements to Web UI
 - Compressed view
 - Targeted updates: fields and ranges
 - Extract and upload to and from CSV
 - Show LF adjusted prices.
 - Running totals
 - Multiple-offer submissions
 - Multi-participant listings
- API Interface

Rebid Explanation - Outcomes

AEMO Proposal	Discussion
<p>Split the single REBIDEXPLANATION field into four fields:</p> <ul style="list-style-type: none"> • two mandatory fields in line with NER requirements • two optional fields in line with AER guidelines 	<ul style="list-style-type: none"> • AEMO understands that industry preference is to maintain the status quo. • AEMO believes that the REBIDEXPLANATION field currently performs too many functions and the status quo is not appropriate. • Preferred approach provides flexibility and incremental cost is considered small when implemented as part of 5MS.

Outstanding issues	Outcomes	Next Steps
Transition from old format.	Acceptance that systems are changing anyway and this represents small extra cost.	AEMO internal review and design Draft Technical Specifications

Bidding interfaces - Outcomes

AEMO Proposal	Discussion
Proposed bidding interfaces include: <ul style="list-style-type: none">• API using JSON format• Web UI with improved functionality• Web file submission (JSON format)• FTP (JSON format)	Why is FTP still supported? AEMO perceived this to be necessary to support the transition path to APIs. Other FTP interfaces are still in operation.

Outstanding issues	Outcomes	Next Steps
None	<ul style="list-style-type: none">• No strong objections from participants.• Strong support for use of JSON format.	AEMO internal review and design Draft Technical Specifications

Improvements to Web UI - Outcomes

AEMO Proposal	Discussion	
<p>Improvements include:</p> <ul style="list-style-type: none"> • Compressed view • Targeted updates: fields and ranges • Extract and upload to and from CSV • Show LF adjusted prices. • Running totals • Multiple-offer submissions • Multi-participant listings • Common list functionality • Graphs (especially FCAS trapezium) 	<ul style="list-style-type: none"> • Page loading can be slow • No support for submission of CSV (JSON exclusive) – discussed conversion from CSV to JSON. • Requested <ul style="list-style-type: none"> • submission identification such as a reference field • use of wild-cards in reference and explanation fields • context-sensitive help • Multi-offer submissions • Multi-participant ID view • Suggestions: enter value for a 'window', default availability to remainder, copy/paste from MS Excel, shade TIs in the past. • Support for graphs • No support for offer comparisons 	
Outstanding issues	Outcomes	Next Steps
<ul style="list-style-type: none"> • AEMO needs to consider effort in developing these. • Compromise between extent of functionality and frequency of use. 	<p>Strong support for these improvements.</p>	<p>AEMO internal review and design Draft Technical Specifications</p>

Web user interface

Compressed Offer View

Local Time: 24/11/2018 00:35
 Participant: Some Participant NEM Time: 23/11/2018 23:35
 DUID GenEast1 Service Type Energy Version 1 Rebid period
 Trading Day 23/11/18
 Daily energy constraint 21,000 MW

	1	2	3	4	5	6	7	8	9	10
Prices	-230.20	-1.23	14.28	18.29	25.22	79.69	82.13	122.46	662.19	4,218.22

TI	Period	Max. Avail.	PASA Avail	Fixed Load	ROC Up	ROC Down	Avail										MR Cap
							1	2	3	4	5	6	7	8	9	10	
1	04:05	500	500		3	5	300	190	0	0	100	0	0	30	0	50	
103	12:35	500	500		3	5	300	20	0	170	100	0	0	30	0	50	
241	00:05	600	600		3	5	300	20	0	170	100	0	0	30	0	50	

Edit Offer

Local Time: 24/11/2018 00:35
 Participant: Some Participant NEM Time: 23/11/2018 23:35
 DUID GenEast1 Rebid period
 Service Type Energy
 Trading Day 23/11/18
 Version 3

Period # From To
 Max. Avail.

API interface - Outcomes

AEMO Proposal	Discussion
New bidding APIs via AEMO's e-Hub	<ul style="list-style-type: none"> • Further automated rebidding is planned by some participants. • No support for partial or targeted offer updates. • Requested roadmap for migration of other AEMO services to APIs. • Consider combining viewSubmission and viewResponse APIs • Consider new API technologies like GraphQL

Outstanding issues	Outcomes	Next Steps
Confirming of compression support	<ul style="list-style-type: none"> • Strong support for APIs. 	AEMO review and design Draft Technical Specifications

API interface

- Provision of new bidding APIs via AEMO's e-Hub
- The Web user interface will use the APIs and participant may change their systems to use the same APIs directly
- This interface will offer additional functions such as returning lists of offers, details of these offers and details of submissions.
- Its advantages over FTP (the current process) are
 - it will be synchronous returning a response that completes the transaction
 - it will be faster because there is no time lost in polling directories
 - the interface request and response are clearly defined and easier to develop and test against

Debrief on settlements focus group

Austin Tan

Settlements Focus Group: Monday 26 November, Melbourne

- Good engagement and contributions
- 21 attendees representing mainly retailers
- Meeting notes and actions distributed to focus group, PWG and SWG on Thursday 6 December
- Next focus group will be held as required, likely in Q1 2019
- Topics discussed include:

Topics Discussed at the Settlements Focus Group

- Overview of settlement implications of 5MS
- Update on consultation approach:
 - Settlement Revisions – First stage consultation will commence 14 December 2018 and will end 21 January 2019
 - Settlement Estimations – First stage consultation underway and will end 21 January 2019
 - Credit Limit Procedure – Delayed to commence after consultation of the reallocations procedure
- Changes to the Reallocations procedure
- Transition to 5MS
- AEMO Settlement Interfaces
 - Data interchange
 - APIs
 - Publication of UFE

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Transitional billing arrangements	Currently under development	<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 is evaluating the cost/benefits of building a system solution to support a one-off transitional arrangement. Further investigation required if having separate invoices/reports will be Rules compliant.</p>	Participants to provide feedback on billing and reporting transitional arrangements during the billing week when the 5MS transition occurs on 1 July 2021	Feedback from participants due 16 January 2019	Pending

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>	AEMO investigating workplan to confirm commitment to delivery timeframe	AEMO to consider the optimal timeline for allowing for input of 5 minute reallocations. To report back at next Settlement Focus Group.	Pending

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Updates to the Reallocations user interface	New interface will support 288 input fields to accommodate more trading intervals as a result of 5MS. Features such as copy/paste and fill functions are in plan to ease user access	Participants suggested that a notifications feature would be of value. Additional thought required as to which format will suit best (Email/Push notifications) Discussion regarding additional functionality to report on net reallocations	Participants to provide further suggestions to improve current reallocations user interface and functionality, including preferences for file uploading	Feedback from participants due 16 January 2019	Pending

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
Data interchange	<p>AEMO is proposing that 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>AEMO proposed providing a 30 minute legacy feed to ease transition</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>	<p>Participants to provide feedback on AEMO's approach of retaining the same table names and structures, and what types of data should be retained in the DI archive for more than 6 months</p>	<p>Feedback from participants due 16 January 2019</p>	Pending

Topic Outcomes

Topic	AEMO Proposal	Discussion	Outstanding Issues	Next Steps	Outcome
API Services	The proposed approach for 5MS is to always provide an accompanying API where a significant change to a web application occurs in the EMMS Markets Portal. Other API's will be considered on a case-by-case basis for functions that are considered high-value to the industry	<p>AEMO noted that Settlement Web applications likely to be affected by 5MS are Reallocations and the Prudentials dashboard</p> <p>Settlements Direct and NMAS offers are also under active consideration</p>	Participants to provide feedback on what other functions would benefit from API services	Feedback from participants due 16 January 2019	Pending

Global Settlement – final rule and determination

Emily Brodie

Global settlement implementation timeline

1 December 2019

AEMO procedures updated for both 5MS and GS

1 July 2021

5MS begins
AEMO starts publishing UFE data ('soft start')

6 February 2022

GS begins

1 March 2022

AEMO's first annual report on UFE trends

New *procedure* required
[NER 3.15.5(d) and 11.112.5]

New *annual report*
[NER 3.15.5B] and new
reporting guidelines
[NER 3.15.5B(d) and 11.112.6]

Comparison of AEMO's proposal and the draft and final rules (1)

ISSUE	AEMO PROPOSED RULE	DRAFT RULE	FINAL RULE
Implementation timeframes	Broadly align implementation with that of five minute settlement.	<p>Implement the rule on the same timeframes as five minute settlement, including procedure and guideline changes (1 Dec 2019) and the commencement date (1 Jul 2021).</p> <p>Add a compulsory soft start for global settlements, starting twelve months prior to commencement (1 Jul 2020).</p>	<p>Align AEMO procedural and guideline changes with those of five minute settlement.</p> <p>Commence the global settlement soft start at the same time as five minute settlement commencement (1 Jul 2021). Mandatory information provision for the two changes aligned.</p> <p>Financial start of global settlement approximately 7 months after soft start (6 Feb 2022)</p>
Who and how to allocate UFE	All market customers (i.e. retailers) in proportion to their share of the loss- adjusted consumption within the area.	No change	No change
At what level should UFE be allocated?	UFE to be allocated at the transmission connection point level.	UFE to be allocated at the local area (i.e. DNSP network) level.	No change

Comparison of AEMO's proposal and the draft and final rules (2)

ISSUE	AEMO PROPOSED RULE	DRAFT RULE	FINAL RULE
Treatment of VTNs	Remove the ability for network businesses to assign customers to VTNs. A range of options proposed to facilitate their removal.	VTNs are retained for settlement purposes and there is no change to the VTN policy arrangements.	No change
Information requirements	N/A. With the allocation of UFE at the TNI, no additional requirements were proposed.	Require mapping of NMIs to TNI to allow for reporting of UFE at the TNI level. AEMO also required to conduct technical studies if requested when UFE exceeded a threshold within a TNI.	Removal of the requirement in the draft rule for NMIs to be mapped to TNIs and technical studies to be undertaken where UFE exceeds an AEMO defined threshold. AEMO to introduce a UFE reporting and analysis framework. To be developed through consultation with industry.
Unmetered loads	AEMO proposed two options for the treatment of unmetered loads under global settlement which would avoid all retailers being incorrectly charged for this energy.	The energy associated with off-market (i.e. non-type 7) unmetered loads is to be explicitly included in AEMO's settlement processes. AEMO is to include in its metrology procedures guidance on how this should occur.	Minor changes from draft rule. As a result of the information requirements changes (described in the row above), NMIs will not be required to be allocated to TNIs within VTNs. More flexibility is also provided to AEMO

Reallocations procedure package

Pedro Riveros-Gutierrez

Reallocations related documents

Key procedures to be updated

- Reallocation Procedure: Energy and Dollar Offset Reallocations (EDOR)
- Reallocation Procedure: Swap and Option Offset Reallocations (SOOR)

Other external documents

- EMMS Reallocations User Interface Guide - to be updated upon system completion
- EDOR and SOOR letters of agreement - no updates necessary

Reallocations procedures

- The reallocation procedures (EDOR & SOOR) are made in accordance with clause 3.15.11A of the NER.
- EDOR - sets out how energy and dollar reallocation requests are to be created and recorded for reallocation transactions.
- SOOR - sets out how reallocation requests are to be created and recorded for swap, cap or floor offsets reallocation transactions.
- Both the EDOR and SOOR refer to half-hourly energy profiles and half-hourly regional reference prices as well as 48 time periods.

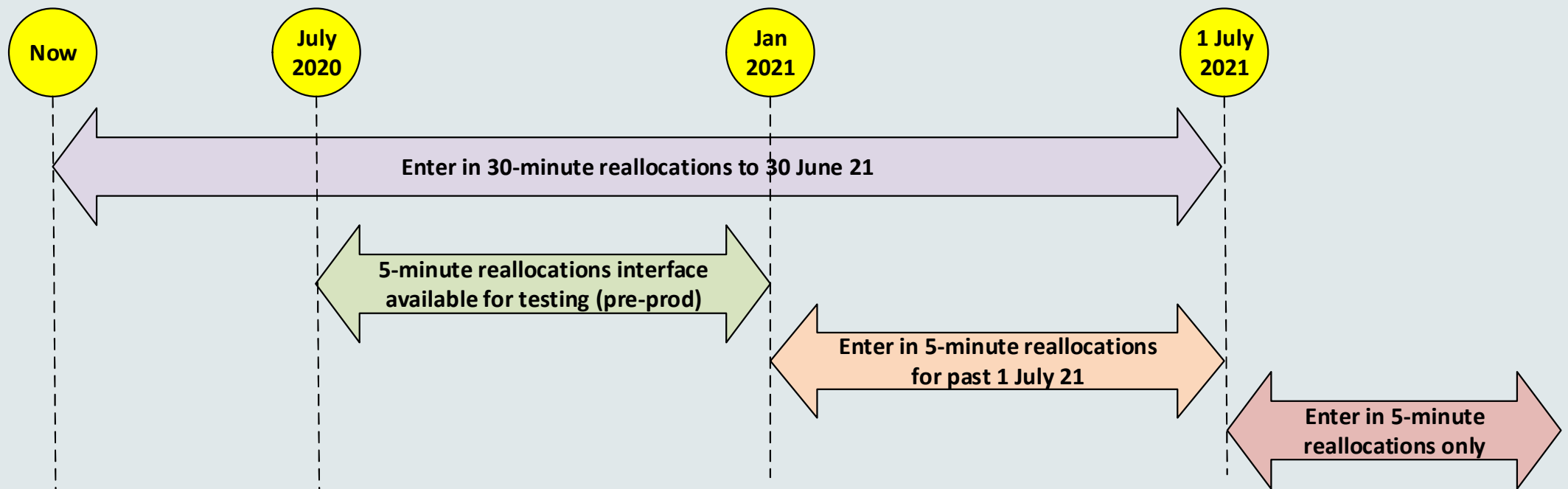
Approach – Reallocations and 5MS

	Options considered	Benefits	Drawbacks	Comments
1	Move to 5-minute reallocations from July 2021, with no 30-minute reallocations beyond this point.	<ul style="list-style-type: none"> Methodology (and formulas) involving reallocations will remain unchanged. Aligns reallocations/prudentials data architecture with 5MS data architecture – simple, clear and future ready. In terms of systems changes – simplest/most cost effective option. 	<ul style="list-style-type: none"> Reallocations changes need to be fast-tracked to allow participants enough time to test the system and input 5-minute reallocations before 1 July 2021. Market participants will have to make changes to the way they currently do reallocations. 	<ul style="list-style-type: none"> The simplest, most robust option, reflective of 5MS. <u>Recommended</u>
2	Retain 30-minute reallocations past 1 July 2021.	<ul style="list-style-type: none"> Market participants would not have to make any changes to the way they enter in reallocations. No front-end system changes required. 	<ul style="list-style-type: none"> As reallocation transaction are defined at a trading interval level, all 30-minute reallocations would have to be converted to 5-minute reallocations post July 2021. The conversion process would introduce a new level of system complexity, especially for SOOR. Mismatch between 30-minute reallocations and how market participants are likely to contract for reallocations in a market settling at 5-minute resolution. 	<ul style="list-style-type: none"> Would not reflect the transition to 5MS, likely have undesirable consequences and be more complicated and costly from a systems implementation perspective. <u>Not recommended</u>
3	Continue to allow 30-minute reallocations to be entered into the system past July 2021, alongside 5-minute reallocations.	<ul style="list-style-type: none"> Would give market participants the option of entering in 30-minute reallocations beyond 1 July 2021. 	<ul style="list-style-type: none"> As reallocation transaction are defined to happen at a trading interval level, all 30-minute reallocations would need to be converted to 5-minute reallocations post July 2021. System significantly more complicated as would need to be able to run with both 30-minute and 5-minute reallocations. Higher system costs to implement and maintain. 	<ul style="list-style-type: none"> Would not reflect the transition to 5MS, likely to have undesirable consequences and be more complicated and costly from a systems perspective. <u>Not recommended</u>

Proposed changes to procedures (EDOR & SOOR) – preferred approach

- Update all references to half-hourly energy profile and half-hourly regional reference price to trading interval energy profile and trading interval regional reference price.
- Update all references to 48 periods to 288 periods.
- Update trading interval time “end date” from 23:30 to 23:55.
- Update section on methods available for reallocation data submission.
- No changes required to the “reallocation amount” calculation for reallocation transactions as the current procedure (and hence the system) already has this calculation is performed at the trading interval level (from 1 Jul 2021 trading interval is defined to be at 5-minutes resolution).
- Addition of a brief description of transition arrangements for entering in 5-minute reallocations prior to 1 July 2021 and the phasing out of 30-minute reallocations.

5 Minute reallocations – indicative timetable of transition arrangements



Summary - what changes will market participants see for reallocations pre/post 5MS?

1. Reallocations interface to be capable of processing 5-minute reallocations 6 months prior to July 2021.
2. 5-minute reallocations interface to be available in pre-production by mid 2020 for market participant testing.
3. Market participants to be restricted from inputting 30-minutes reallocations for any time periods beyond 1 July 2021.
4. Additional systems functionality (regional calendars, reporting function, notifications, copy/paste/fill functionality and API data transfer all being considered) - these changes are not strictly related to the 5MS project and will be assessed and implemented based on merit.

Timing for EDOR and SOOR consultation

- Consultation for both reallocation procedures will be done together.
- AEMO may make minor or administrative amendments to the EDOR/SOOR without having to go through the full Rules consultation process (NER clause 3.3.8 (h)).
- Legal advice - 5MS changes can be made to the EDOR/SOOR without the full Rules consultation process - as the changes are consequential to the 5MS rule change and do not involve a change in methodology.
- We still want to consult on the changes with market participant – would MPs prefer to undergo the two stage full process or be satisfied with a single round?
- Example of shortened consultation outline
 - Publish an issue paper with marked up version of the EDOR/SOOR.
 - Give MPs adequate time (i.e. 20 business days) to provide comment.
 - Publish final report with final EDOR/SOOR version.

PWG feedback - Reallocations

- AEMO's preferred approach to updating the EDOR and SOOR
- High level impact assessments
- Consultation approach - i.e. shortened or full
- Other comments

Metering package 2

Blaine Miner

Metering package 2 documents

- Procedures included:
 - MSATS Procedures:
 - Metering Data Management (MDM) Procedures
 - MDM File Format and Load Process
 - National Metering Identifier
 - CATS Procedures Principles and Obligations
 - Procedures for the Management of WIGS NMIS
 - Metrology Procedure Part A
 - Metrology Procedure Part B
 - MDFF Specification NEM12 and NEM13
 - Exemption Procedure - Metering Provider Data Storage Requirements
 - Service Level Procedure: Metering Data Provider Services
 - Service Level Procedure: Metering Provider Services
 - Retail Electricity Market Glossary and Framework

*Consulting on in both package 1 (5MS updates) and package 2 (Global settlement updates)

HLIA for Metering Package 2

Procedure	Description	Rule	HLIA
Metering Data Management (MDM) Procedures	The MDM Procedure details the management of metering data within MSATS, including profiles and meter read conversions.	5MS	Changes to Profiling methodologies, underlying calculations and processes to support: 15/30min interval meter data, NSLPs and CLPs Changes to RM reports as required e.g. references to 288 instead of 48 trading intervals
		Global Settlements	Remove references as required concerning: Local Retailer, 1 st Tier and 2 nd Tier Changes to settlement load aggregation process Changes to RM reports as required
MDM File Format and Load Process	Specifies the Meter Data Management (MDM) Format to be used by MDPs for the provision of metering data to AEMO.	5MS	Update references to 288 trading intervals or 5-minute data as required. Include process to upload MDFF metering data files for delivery to AEMO.
	Also details the process for uploading the MDM files and the validations that occur when a file is submitted.	Global Settlements	No changes identified at this stage

HLIA for Metering Package 2

Procedure	Description	Rule	HLIA
Metrology Procedure Part A	The metrology procedure provides information on the application of metering installations to connection points, and sets out	5MS	<p>Include Data Storage assumption procedure</p> <p>New definition of a Trading Interval and interval energy data (covered in Package 1)</p> <p>Revise reversion provisions (covered in Package 1)</p>
	provisions for metering installations and metering data services.	Global Settlements	<p>Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier</p> <p>Changes to support the inclusion of unmetered off-market loads</p>
Metrology Procedure Part B	<p>Procedures for:</p> <ul style="list-style-type: none"> - Validation, substitution and estimation - Conversion of accumulation meter data - Calculation of metering data for unmetered market loads 	5MS	<p>Update to the conversion of accumulated metering data: Sample meters and controlled loads (covered in Package 1)</p> <p>Update Profile Preparation Service to 5-minute trading intervals (covered in Package 1)</p> <p>Unmetered load (type 7 metering installations) – metering data calculation (covered in Package 1)</p>
	- Requirements regarding sample meters for controlled loads	Global Settlements	Addition of processes for off-market unmetered loads

HLIA for Metering Package 2

Procedure	Description	Rule	HLIA
National Metering Identifier Procedure	The NMI Procedure - Sets out the structure for NMIs to be used in the NEM	5MS	Include provisions to support MDFF metering data file delivery to AEMO
	- Describes the Process under which NMIs are allocated - Details data streams for each category of metering installation	Global Settlements	NMI allocation and requirements for off-market unmetered loads
Retail Electricity Market Glossary and Framework	Contains a dictionary of terms used within the various Procedures and supporting	5MS	Changes to Glossary (section 5) to ensure ongoing alignment with associated Procedures (covered in Package 1)
	documentation, and how they fit together.	Global Settlements	Changes to Glossary (section 5) to ensure ongoing alignment with associated Procedures Inclusion of the process description for unmetered off market loads

HLIA for Metering Package 2

Procedure	Description	Rule	HLIA
Service Level Procedure: Metering Data Provider Services	Details the obligations, technical requirements, measurement processes and performance requirements to be met by MDPs in the	5MS	Remove meter churn scenario – type 6 replaced with new type 6 Include provisions to support MDFF metering data delivery to AEMO
	provision of metering data services for all metering installations types and the maintenance of a metering data services database	Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier Update required regarding cross boundary/border supply points between distribution networks or Local Retailer regions Review data stream activation requirements for type 6 meters that were tier 1
Service Level Procedure: Metering Provider Services	Details the obligations and processes to be met by MPs who are accredited and registered by AEMO to	5MS	No changes identified at this stage
	provide metering provision services in the NEM.	Global Settlements	No changes identified at this stage

HLIA for Metering Package 2

Procedure	Description	Rule	HLIA
CATS Procedures Principles and Obligations	Specifies the change request process to update MSATS.	5MS	No changes identified at this stage
	Documents how Participants must select the most applicable Transaction Type Code or Change Request Code for their proposed transaction.	Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier
Procedures for the Management of WIGS NMIS	Specifies the change request process to update MSATS.	5MS	No changes identified at this stage
	Documents how Participants must select the most applicable Transaction Type Code or Change Request Code for their proposed transaction.	Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier

HLIA for Metering Package 2

Procedure	Description	Rule	HLIA
Exemption Procedure - Metering Provider Data Storage Requirements	New document detailing the exemption procedure relating to data storage requirements (include in Metrology Procedure Part A)	5MS	New Procedure required
		Global Settlements	No changes identified at this stage
MDFF Specification NEM12 and NEM13	Specifies the MDFF for interval metering data (NEM12 File) and accumulated metering data (NEM13 File) The MDFF is used by Metering Data Providers for the provision of metering data to Service Providers and Registered Participants	5MS	Include 5-minute metering data example (covered in Package 1) Define 5-minute start and end times (covered in Package 1) Add 5-minute as a permitted interval data length (covered in Package 1) Include AEMO as recipient of MDFF
		Global Settlements	No changes identified at this stage

Action Responses (MFG Nov 12)

Action	Responsible	AEMO Response	Participant Response
Participants to provide additional information regarding issues associated to transitioning to MDFF for Basic meter reads	Participants	N/A	4 responses - Generally opposed to any changes to type 6 MDM data file delivery. Proposal seen as having no benefit to the market and will only impose costs on DNSPs. Current processes have been 'developed over many years and are now robust and reliable.'
Participants to provide disadvantages and advantages on having a 'soft start'	Participants	N/A	4 responses - Participants generally not in favour of a soft start due to additional system and process complexities being introduced e.g. bilateral agreements and system controls would be required to support scenarios where FRMP A wants as metered but FRMP B wants 30-minute aggregated
AEMO and participants to consider what scenarios would lead to the decommissioning of MDMF e.g. what level of interval meter penetration would need to occur	AEMO & Participants	AEMO is of the view that it is more efficient for MDPs and AEMO to only use one delivery mechanism (B2B processes). However, AEMO is cognisant that some market participants may incur costs in supporting this objective. AEMO is therefore seeking input from MDPs in how best to achieve this outcome.	No scenarios provided to date
Participants to provide additional feedback regarding what triggers should be established to consider alternative profiling methodologies for non-controlled meters post commencement date	Participants	N/A	No triggers have been received to date.

Action Responses (MFG Nov 12)

Action	Responsible	AEMO Response	Participant Response
Participants to provide details regarding off-market unmetered loads	Participants	N/A	Limited information has been received
AEMO to consider alternative option of using the MDFF to determine Net reads.	AEMO	AEMO is currently assessing the viability of an alternative system solution which aims to efficiently receive and load MDFF content into MSATS, while maintaining Settlements integrity. Once this assessment has been completed, AEMO will seek feedback from the Metering Focus Group.	N/A
Participants to raise any issues in retiring the specified RM reports	Participants	N/A	5 responses - No issues have been received to date
AEMO to consider how and where 'non-B2B' error codes would be published	AEMO	AEMO believes that these 'non-B2B' error codes would be published in the MDM File Format and Load Procedure.	N/A
AEMO to provide clarification regarding how the 5MS program and other projects are keeping in sync	AEMO	The 5MS program has established relationships with other key AEMO initiatives, such as DER and the NMI Standing Data project, so that consultation can be coordinated. Additionally, the DER program manager has provided an overview of the DER program at the 5MS Program Consultative Forum.	N/A

Metering Package 2 Consultation

Consultation	Indicative Date
PWG meeting – discuss high level impact assessments	December 2018
Consultation paper	April 2019
Draft procedures and determination	June 2019
Final procedures and determination	August 2019

Forward meeting plan

Emily Brodie

Upcoming meetings

- Procedures working group meetings:
 - Thursday, 14 February 2019
 - Tuesday, 12 March 2019
- Procedures focus groups:
 - Settlements focus group – early 2019, TBC
 - Dispatch focus group – likely February, TBC
- Next Program Consultative Forum
 - Friday 8th February 2019
- Next Executive Forum
 - Tuesday 12th February 2019
- 5MS Meetings and Forum Dates:
<http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>

General questions

Emily Brodie

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Reallocation Procedure Energy and Dollar Offset Reallocations (EDOR)		
Rule Consultation Req.	Optional	Priority	High
Prepared by	Rebecca Malmur	Business Owner	Prudentials
Consultation Group	PWG	Consultation Package	Prudentials
Link	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Settlements_and_Payments/Prudentials/2016/Reallocation-Procedure-EDOR-FINAL.pdf		

Description of Document	The reallocation procedure for energy and dollar offset reallocations (EDOR) is made in accordance with clause 3.15.11A of the National Electricity Rules (NER). It sets out how energy and dollar reallocation requests are to be created and recorded for reallocation transactions.		
Precedent Procedures / External Document	Credit Limit Procedures https://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/Electricity_Consultations/2018/CLP2/Credit-Limit-Procedures-v4-FINAL.pdf	Dependent Procedures / External Document	EMMS Reallocations User Interface Guide http://www.aemo.com.au/-/media/Files/PDF/0500-0024-pdf.pdf
Summary of Changes – Five Minute Settlements	<ul style="list-style-type: none">) Update all references to half-hourly energy profile and half-hourly regional reference price to <u>trading interval</u> energy profile and <u>trading interval</u> regional reference price.) Update all references to 48 periods to 288 periods.) Update trading interval time “end date” from 23:30 to 23:55.) Update section on methods available for reallocation data submission.) Addition of a brief description of transition arrangements for entering in 5-minute reallocations prior to 1 July 2021 and the phasing out of 30-minute reallocations. 		
Summary of Potential Changes – Global Settlements	No impact.		

External Stakeholder Impacted	Market participants	AEMO Business Units Impacted	Prudentials
Issues for Stakeholder Consultation	<ul style="list-style-type: none">) Transition arrangements for moving from 30-minute reallocations to 5-minute reallocations.) Timeline for 5-minute interface availability prior to 1 July 2021, for market participant use and for testing purposes.) Timeline and process around restrictions on entering 30-minute reallocations past 1 July 2021.) Reallocations switchover implications for billing post 1 July 2021.) Reallocations file upload/transfer preferences.) Improvements to reallocations user interface and functionality, including region specific calendars, copy/paste/fill functionality, notifications and additional reports (these improvements are not strictly related to the 5MS project and will be assessed and implemented based on merit). 		
System Impact	<p>Current assumptions around the scope of system changes:</p> <ul style="list-style-type: none">) Reallocation Service web interface redesigned to cater for 288 trading intervals.) Implementation of an API interface, allowing participants to develop software capability to interact with the Reallocation Service.) Early (at least 6 months prior to 1 July 2021) delivery of 5-minute reallocation systems (Web/API) to participants to enable transition to 5-minute reallocations.) System restriction implemented to prevent data entry for reallocations at the 30-minute resolution beyond 1 Jul 2021.) No changes required to the “reallocation amount” calculation for Energy Offset or Dollar Offset reallocation transactions as the current procedure (and hence the system) already has this calculation is performed at the trading interval level (from 1 Jul 2021 trading interval is defined to be at 5-minute resolution).) Additional system improvements outside of the 5MS project, including region specific calendars, copy/paste/fill functionality, notifications and additional reports will also be considered. 		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Reallocation Procedure: Swap and Option Offset Reallocations (SOOR)		
Rule Consultation Req.	Optional	Priority	High
Prepared by	Rebecca Malmur	Business Owner	Prudentials
Consultation Group	PWG	Consultation Package	Prudentials
Link	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Settlements_and_Payments/Prudentials/2016/Reallocation-Procedure-SOOR-FINAL.pdf		

Description of Document	The reallocation procedure for swap and option offset reallocations (SOOR) is made in accordance with clause 3.15.11A of the National Electricity Rules (NER). It sets out how reallocation requests are to be created and recorded for swap, cap or floor offsets reallocation transactions.		
Precedent Procedures / External Document	Credit Limit Procedures https://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/Electricity_Consultations/2018/CLP2/Credit-Limit-Procedures-v4-FINAL.pdf	Dependent Procedures / External Document	EMMS Reallocations User Interface Guide http://www.aemo.com.au/-/media/Files/PDF/0500-0024-pdf.pdf
Summary of Changes – Five Minute Settlements	<ul style="list-style-type: none">) Update all references to half-hourly energy profile and half-hourly regional reference price to <u>trading interval</u> energy profile and <u>trading interval</u> regional reference price.) Update all references to 48 periods to 288 periods.) Update trading interval time “end date” from 23:30 to 23:55.) Update section on methods available for reallocation data submission.) Addition of a brief description of transition arrangements for entering in 5-minute reallocations prior to 1 July 2021 and the phasing out of 30-minute reallocations. 		
Summary of Potential Changes – Global Settlements	No Impact		

External Stakeholder Impacted	Market participants	AEMO Business Units Impacted	Prudentials
Issues for Stakeholder Consultation	<ul style="list-style-type: none">) Transition arrangements for moving from 30-minute reallocations to 5-minute reallocations.) Timeline for 5-minute interface availability prior to 1 July 2021, for market participant use and for testing purposes.) Timeline and process around restrictions on entering 30-minute reallocations past 1 July 2021.) Reallocations switchover implications for billing post 1 July 2021.) Reallocations file upload/transfer preferences.) Improvements to reallocations user interface and functionality, including region specific calendars, copy/paste/fill functionality, notifications and additional reports (these improvements are not strictly related to the 5MS project and will be assessed and implemented based on merit). 		
System Impact	<p>Current assumptions around the scope of system changes:</p> <ul style="list-style-type: none">) Reallocation Service web interface redesigned to cater for 288 trading intervals.) Implementation of an API interface, allowing participants to develop software capability to interact with the Reallocation Service.) Early (at least 6 months prior to 1 July 2021) delivery of 5-minute reallocation systems (Web/API) to participants to enable transition to 5-minute reallocations.) System restriction implemented to prevent data entry for reallocations at the 30-minute resolution beyond 1 Jul 2021.) No changes required to the “reallocation amount” calculation swap, cap or floor offset reallocation transactions as the current procedure (and hence the system) already has this calculation is performed at the trading interval level (from 1 Jul 2021 trading interval is defined to be at 5-minute resolution).) Additional system improvements outside of the 5MS project, including region specific calendars, copy/paste/fill functionality, notifications and additional reports will also be considered. 		

5MS Procedures Working Group (PWG) Meeting Notes

MEETING: 5
 DATE: Monday 19 November 2018
 TIME: 10:00 AM - 1:00 PM
 LOCATION: AEMO Offices Melbourne, Sydney, Brisbane, Adelaide and Video/Teleconference

Attendees:

Attendee	Organisation	
Shaun Cole	Origin Energy	Melbourne
Justin Betlehem	AusNet Services	Melbourne
Georgina Snelling	Energy Australia	Melbourne
Rajib Balasubramanian	Jemena	Melbourne
Mark Riley	AGL	Melbourne
Chantal Wright	Momentum	Melbourne
David Ripper	AEMO	Melbourne
Jason Pereira	Landis & Gyr Pty Ltd	Sydney
Emily Brodie	AEMO	Sydney
Austin Tan	AEMO	Sydney
Adam Gritton	Stanwell Corporation Limited	Brisbane
Yenyen Relingo	Energy Queensland	Brisbane
Carolyn Hope	Energy Queensland	Brisbane
Sharleen Flanagan	ERM Power Limited	Brisbane
Blaine Miner	AEMO	Brisbane
Adrian Honey	TasNetworks	Dial in
Martin Ralph	Hydro Tasmania (Hydro-Electric Corporation)	Dial in
David Woods	SA Power Networks	Dial in
Piera Lorenz	Telstra	Dial in
Divya Kapoor	Flow Power	Dial in
Chris Streets	AGL Energy Services	Dial in
Paul Greenwood	Vector Advanced Metering Services	Dial in
Jeff Roberts	Evoenergy	Dial in
Tim Lloyd	Essential Energy	Dial in
Anders Sangkuhl	Alinta Energy Retail Sales	Dial in
Ingrid Farah	Ergon Energy	Dial in
Jonathan Briggs	Metering Dynamics	Dial in

1.0 WELCOME, INTRODUCTION and APOLOGIES – Emily Brodie (AEMO) – Slide 1 to 2

Attendees were welcomed to the fifth Procedures Working Group meeting.

AEMO acknowledges that its video conferencing facilities are currently being upgraded and apologises for sound quality issues.

MINUTES & ACTIONS FROM PREVIOUS MEETING – Emily Brodie (AEMO) – Slide 3 to 6

The Procedures Working Group confirmed the minutes of PWG meeting number four held on 11 October 2018.

The actions from meeting four have been reviewed and updated (see list below).

2.0 PROCEDURES WORKSTREAM UPDATE, INCLUDING FOCUS GROUP UPDATES

– Emily Brodie (AEMO) – Slide 7 to 11

The procedures workstream is tracking well with a few 5MS related consultations commencing or underway. Consultation on Settlements Estimations will commence 26 November, with consultation for Settlement Revisions to commence 14 December. Consultation for Metering Package 1 is currently underway, with first stage submissions due 28 December, and the final rule expected on 22 March 2019.

Consultation on the Credit Limit Procedure (CLP) has been delayed to early 2019. This is because AEMO has identified that the reallocation procedures will likely have an impact on the CLP.

The Settlement Focus Group and Dispatch Focus Group is reconvening on 26 November and 27 November in Melbourne.

AEMO noted that the meeting invites for the Settlements Focus group has been extended to others that were not on the nominations list. AEMO reiterated that the number of attendees is limited to facilitate productive discussion.

3.0 DEBRIEF ON METERING FOCUS GROUP – David Ripper (AEMO) – Slide 12 to 19

The second Joint Metering/Systems Focus Group was held on 12 November. Topics discussed at the workshop are as below:

-) AEMO's program for transitioning to 5-minute meter data
-) Profiling methods for converting 15 and 30-minute reads to 5-minute resolution for non-controlled loads and controlled sample meters
-) Alignment to B2B processes for register level meter data and non-energy meter data
-) File size and communications capability
-) Potential removal of various RM reports

More information on the discussion and outcomes are available in the PWG 5 Meeting Pack. This will be made available at: <http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Procedures-Workstream/Procedures-Working-Group>

A question was raised concerning the treatment of solar under the proposed profiling methodology for non-controlled meters. AEMO responded that the impact of solar would be picked up in the net meter reads supplied to AEMO from MDPs.

A question was raised concerning the proposed 1 July 2022 end date for interval meter reads being provided to AEMO via MDMF. AEMO responded that AEMO was allowing a 12-month transition from the Rule commencement date, to have all interval meter reads being delivered via MDFF. This date was discussed in the Metering Focus Group workshop on the 12 Nov 2018 and no concerns were raised by MDPs in attendance.

A suggestion was made to check with the NMI Standing Data project to see if there were any implications on the RM reports being identified for retirement.

ACTION 5.3.1: AEMO to check whether there are any dependencies between the RM reports that have been identified for retirement the NMI Standing Data project.

4.0 METERING PACKAGE 2 INTRODUCTION – David Ripper (AEMO) Slide 20 to 22

AEMO provided an overview of the procedures expected to be covered in Package 2. The package will consider any requirements coming out of the Global Settlements Final Rule, to be released on 6 December, and the 5MS Rule. Package 2 is expected to be released for first stage consultation in April 2019.

AEMO will present high level impact assessments on this package in January 2019. The Consultation paper will be released in April 2019, with the final procedure and determination due to August 2019.

5.0 DEBRIEF ON DISPATCH FOCUS GROUP – Emily Brodie (AEMO) – Slide 23 to 31

The second dispatch focus group had a good turnout and was a productive session. Topics that were discussed include:

-) Extending and expanding 5-minute pre-dispatch
-) Use of 5-minute data in 30-minute processes
-) Transition to 5-minute bidding. AEMO will start to accept 5-minute bids 3 months before 5MS go live
-) Participants plans to transition
-) Dispatch instruction timing
-) “Zero” fixed load

AEMO acknowledges that there has been interest from participants to align the electricity trading day with gas trading day. If this change were to occur, it would be out of the scope of 5MS and would require a rule change. Participants would need to present a case for change and engage with AEMO.

A question was raised concerning default bids. AEMO clarified that any default bids submitted in 30 minute format before commencement of 5MS will be converted to 5 minutes in accordance with a 5MS transitional rule [NER 11.103.07].

6.0 GENERAL QUESTIONS – Emily Brodie (AEMO) – Slide 34

One Participant noted that there might be opportunities to coordinate 5MS forums with other AEMO industry events. AEMO will continue to monitor for any future opportunities to synchronise 5MS forums with other events when possible.

It was noted that the Distributed Energy Resources (DER) program is ramping up and would potentially cross-over with the 5MS program. A presentation on the DER program is planned for the next Program Consultative Forum (PCF). AEMO will update the PWG on possible impacts to 5MS as relevant.

ACTION 5.6.1: AEMO to update PWG on any possible impacts of the DER program to the 5MS program

7.0 FORWARD MEETING PLAN – Emily Brodie (AEMO) – Slide 32 to 33

Attendees were thanked for their attendance and advised of future PWG meetings for 2018:

-) Thursday, 13 December 2018
-) Monday, 21 January 2019

Procedures focus groups:

-) Settlements focus group – Monday 26th November, Melbourne
-) Dispatch focus group – Tuesday 27th November, Melbourne

Next Program Consultative Forum

-) Tuesday 4 December

Next Executive Forum

-) Tuesday 12 February 2019

Further information on the 5MS program, and a calendar of all meeting and forum dates can be found via the following link: <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>.

Item	Topic	Action required	Responsible	By
PWG 2				
1.6.2	Packaging and Prioritising Procedures	<p>Participants to provide AEMO with feedback on the prioritisation of procedures. Email feedback to 5ms@aemo.com.au</p> <p>No feedback received, assume packaging is suitable. At this stage not planning to alter proposed timing.</p> <p>Ricky Brooks, Stanwell – reallocations package occurring late Q1 Q2 and parties may be entering into reallocation contracts.</p> <p>ACTION: PWG members to provide information to AEMO about the suitability of reallocation procedure package timing.</p> <p>ACTION: AEMO is still considering timing, to be finalised in December after the Settlements Focus Group.</p> <p>ACTION: Prudentials date on Draft Document to be amended for correct year</p>	<p>PWG members</p> <p>PWG members</p> <p>AEMO</p> <p>AEMO</p>	<p>14/8/2018</p> <p>COMPLETE</p> <p>December PWG meeting</p> <p>COMPLETE</p>
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>David Ripper (AEMO)</p> <p>ONGOING</p>	<p>24/08/2018</p> <p>Ongoing</p>

Item	Topic	Action required	Responsible	By
PWG 3				
3.3.1	5MS Drafting Amendments	The PCF is seeking input from the PWG on the potential 5MS drafting amendments around a bidding data soft cutover, and other areas of the 5MS rule.	PWG members ONGOING	31/12/2018
3.4.1	Prudentials Procedures	PWG to provide feedback on whether a reduced consultation for the CLP procedure would be appropriate	PWG members	COMPLETE
3.4.2	Prudentials Procedures	PWG to provide feedback on proposed options to update the CLP procedures	PWG members	COMPLETE
3.5.1	General Questions	Investigate the risks and benefits associated with the alignment of the electricity trading day with either the gas trading day or the calendar day. Report back to the Dispatch Focus Group and PWG.	Gary Eisner (AEMO)	COMPLETE
Item	Topic	Action required	Responsible	By
PWG 4				
4.1.1	Transitional Arrangements	AEMO will communicate its high-level transition plan across metering, settlements and dispatch at the December PCF, PWG and SWG meetings	AEMO	December PWG meeting
4.2.1	PWG scheduling	AEMO to confirm new date of PWG 5	AEMO	COMPLETE
4.3.1	Settlements Procedures - Miscellaneous	PWG to provide feedback on proposed changes to the Settlement Guide to Ancillary Services Payment and Recovery, and AEMO's proposed consultation approach.	PWG	COMPLETE

4.3.2	Settlements Procedures - Miscellaneous	PWG to provide feedback on proposed changes to settlement guides and overview documents, and AEMO's proposed consultation approach.	PWG	COMPLETE
4.3.3	Transitional Arrangements	AEMO to advise PWG on existing forums that could be used for discussions relating to transitional arrangements for settlements.	AEMO	COMPLETE
4.3.4	Transitional Arrangements	PWG to provide feedback if a separate focus group to discuss settlements transitional arrangements will be beneficial and what suitable timing would be.	PWG	COMPLETE
4.3.5	Settlements Procedures - Miscellaneous	PWG to provide feedback on proposed changes to the NEM Settlements Revision Policy, and AEMO's proposed consultation approach.	PWG	COMPLETE
4.4.1	Dispatch Procedures – Spot Market procedures	PWG to provide feedback on proposed changes to the dispatch package of spot market procedures, and AEMO's proposed consultation approach.	PWG	COMPLETE
4.6.1	Settlements Procedures - Miscellaneous	PWG to provide feedback from participants if a Settlements Working Group will be required to discuss potential 5MS and Global Settlement issues.	PWG	COMPLETE
4.5.1	Metering Procedures	Local Retailers and Distributors to provide information about off-market un-metered loads.	PWG	4/12/2018
PWG 5				
5.3.1	Metering Procedures	AEMO to check whether there are any dependencies between the RM reports that have been identified for retirement the NMI Standing Data project.	AEMO	13/12/2018
5.6.1	DER Program	AEMO to update PWG on any possible impacts of the DER program to the 5MS program	AEMO	Ongoing

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Meter Data File Format Specification NEM12 & NEM13		
Rule Consultation Req.	No	Priority	High
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	MDFF Specification		

Description of Document	<p>Specifies the MDFF for interval metering data (NEM12 File) and accumulated metering data (NEM13 File)</p> <p>The MDFF is used by Metering Data Providers for the provision of metering data to Service Providers and Registered Participants</p>		
Precedent Procedures / External Documents	SLP - MDP	Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	<p>Include 5-minute metering data example</p> <p>Define 5-minute start and end times</p> <p>Add 5-minute as a permitted interval data length</p>		
Summary of Potential Changes – Global Settlements	No changes identified at this stage		
External Stakeholder Impacted	Yes – MDP, Service Providers and Registered Participants	AEMO Business Units Impacted	
Issues for Stakeholder Consultation	Include AEMO as recipient of MDFF		
System Impact	Yes		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	MDM File Format and Load Process		
Rule Consultation Req.	No	Priority	Medium
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	MDM File Format and Load Process		

Description of Document	Specifies the Meter Data Management (MDM) Format to be used by MDPs for the provision of metering data to AEMO. Also details the process for uploading the MDM files and the validations that occur when a file is submitted.		
Precedent Procedures / External Documents	MSATS MDM Procedure MDFF Specification	Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	Update references to 288 trading intervals or 5-minute data as required. Include process to upload MDFF metering data files for delivery to AEMO.		
Summary of Potential Changes – Global Settlements	No changes identified at this stage		
External Stakeholder Impacted	Yes – MDPs	AEMO Business Units Impacted	
Issues for Stakeholder Consultation	New MDM database – How will MDPs load/access the data, can it still be accessed via MSATS if MDM database is held externally. Remove requirement for netted datastreams to AEMO, and any references to N datastream.		
System Impact	Yes		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Metrology Procedure: Part A National Electricity Market		
Rule Consultation Req.	Yes	Priority	High
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	1
Link	Metrology Procedure: Part A National Electricity Market		

Description of Document	<p>The metrology procedure applies to AEMO, registered participants, metering providers, and metering data providers, in relation to connection points in the NEM that may be classified as a first-tier load, second-tier load, market load, or intending load.</p> <p>The metrology procedure provides information on the application of metering installations to connection points, and sets out provisions for metering installations and metering data services.</p> <p>Part A includes:</p> <ul style="list-style-type: none">) Requirements for the provision, installation and maintenance of metering installations) The obligations of MCs, FRMPs, LNPS, MPs, MDPs and ENM) Responsibilities for metering data services) Minimum services specification procedures) Meter churn procedures) Network devices procedures) Emergency priority procedures 		
Precedent Procedures / External Documents	Service Level Procedures	Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	<p>Section 3.7 – Potential noting of Data Storage assumptions</p> <p>Section 3.9 – Amend section based on new definition of a TI and interval energy data</p> <p>Section 7 – Reversion of Metering Installations types needs to be updated (removal of ability to replace a device that is capable of producing interval energy data and is already installed in a metering installation with a device that only procedures accumulated energy data)</p> <p>Section 12.8.2 – Requirements for CLP</p> <p>Include meter data storage exemption procedure – Legal to confirm that this procedure can be included within Metrology Proc: Part A.</p>		

Summary of Potential Changes – Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier Changes to support the inclusion of unmetered off-market loads		
External Stakeholder Impacted	Jurisdictions, Metering Data Providers, Metering Providers	AEMO Business Units Impacted	
Issues for Stakeholder Consultation			
System Impact	Yes		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Metrology Procedure: Part B: Metering Data Validation, Substitution and Estimation		
Rule Consultation Req.	Yes	Priority	High
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	Metrology Procedure: Part B		

Description of Document	<p>The metrology procedure applies to AEMO, registered participants, metering providers, and metering data providers, in relation to connection points in the NEM that may be classified as a first-tier load, second-tier load, market load, or intending load.</p> <p>Part B includes procedures for:</p> <ul style="list-style-type: none">) The validation and substitution of metering data) The estimation of metering data) The method by which accumulated metering data is converted by AEMO into trading interval metering data) Method by which calculated metering data is produced for unmetered market loads) Requirements regarding sample meters for controlled loads 		
Precedent Procedures / External Documents	Metrology Procedure: Part A	Dependent Procedures / External Documents	MDM Procedure
Summary of Changes – Five Minute Settlements	<p>Update to the conversion of accumulated metering data: Sample meters and controlled loads</p> <p>Update Profile Preparation Service to 5-minute trading intervals</p> <p>Unmetered load (type 7 metering installations) – metering data calculation</p>		
Summary of Potential Changes – Global Settlements	Addition of processes for off-market unmetered loads		
External Stakeholder Impacted	Jurisdictions, Metering data providers	AEMO Business Units Impacted	
Issues for Stakeholder Consultation	Update to the conversion of accumulated metering data: Sample meters and controlled loads		

	Update Profile Preparation Service to 5-minute trading intervals
	Unmetered off market load (GS)
System Impact	Yes

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	MSATS CATS Procedure		
Rule Consultation Req.	No	Priority	Medium
Prepared by	Craig Shelley	Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link			

Description of Document	<p>Specifies the change request process to update MSATS.</p> <p>Procedure documents how Participants must select the most applicable Transaction Type Code or Change Request Code for their proposed transaction.</p>		
Precedent Procedures / External Documents		Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	No changes identified at this stage		
Summary of Potential Changes – Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier		
External Stakeholder Impacted	N/A	AEMO Business Units Impacted	
Issues for Stakeholder Consultation			
System Impact	No		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	MSATS CATS Procedure WIGS		
Rule Consultation Req.	No	Priority	Medium
Prepared by	Craig Shelley	Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link			

Description of Document	<p>Specifies the change request process to update MSATS for WIGS.</p> <p>Procedure documents how Participants must select the most applicable Transaction Type Code or Change Request Code for their proposed transaction.</p>		
Precedent Procedures / External Documents		Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	No changes identified at this stage		
Summary of Potential Changes – Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier		
External Stakeholder Impacted	N/A	AEMO Business Units Impacted	
Issues for Stakeholder Consultation			
System Impact	No		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	MSATS Procedure: MDM Procedure		
Rule Consultation Req.	Yes	Priority	High
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	MSATS Procedure: MDM Procedure		

Description of Document	<p>The MDM Procedure details the management of metering data within MSATS in order to facilitate:</p> <ul style="list-style-type: none">) The implementation of the metrology procedure into AEMO's operational procedures) Efficient processes for: <ul style="list-style-type: none"> Z Transfer of data for market purposes Z Calculation and management of profiles Z Conversion of meter readings for settlements Z Reconciliation of participant data 		
Precedent Procedures / External Documents	Metrology Procedure	Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	<p>Changes to Profiling methodologies, underlying calculations and processes to support: 15/30min interval meter data, NSLPs and CLPs</p> <p>Changes to RM reports as required e.g. references to 288 instead of 48 trading intervals</p>		
Summary of Potential Changes – Global Settlements	<p>Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier</p> <p>Changes to settlement load aggregation process</p> <p>Changes to RM reports as required</p>		
External Stakeholder Impacted	Yes - MDP	AEMO Business Units Impacted	Settlements
Issues for Stakeholder Consultation	Change of MDP obligation to submit MDMT		

System Impact	Yes
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Five Minute Settlements Project: High-Level Impact Assessment

Document Title	MSATS Procedure: NMI Procedure		
Rule Consultation Req.	Yes	Priority	High
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	Note – needs to be moved from POC page to Metering page http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Power-of-Choice---AEMO-Procedure-Changes-Package-2		

Description of Document	The NMI Procedure) Sets out the structure for NMIs to be used in the NEM) Describes the Process under which NMIs are allocated) Details Datastreams for each category of metering installation		
Precedent Procedures / External Documents		Dependent Procedures / External Documents	Standing Data for MSATS
Summary of Changes – Five Minute Settlements	Include provisions to support MDFF metering data file delivery to AEMO		
Summary of Potential Changes – Global Settlements	NMI allocation and requirements for off-market unmetered loads		
External Stakeholder Impacted	Yes	AEMO Business Units Impacted	
Issues for Stakeholder Consultation	Data delivery to AEMO (currently always provided as net energy flow to MSATS) Energy direction flows – net energy Remove net energy requirements if AEMO receives MDFF for settlements.		
System Impact	Yes		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Retail Electricity Market Glossary and Framework		
Rule Consultation Req.	Yes	Priority	High
Prepared by	Kerry Galloway	Business Owner	Metering
Consultation Group	Metering	Consultation Package	All
Link	Retail Electricity Market Glossary and Framework		

Description of Document	Forms part of each of the Retail Electricity Market Procedures. Contains a dictionary of terms used with the Procedures and a description of each Procedure and supporting documentation, and how they fit together.		
Precedent Procedures / External Documents	All Retail Electricity Market Procedures	Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	Changes to Glossary (section 5) to ensure ongoing alignment with associated Procedures		
Summary of Potential Changes – Global Settlements	Changes to Glossary (section 5) to ensure ongoing alignment with associated Procedures Inclusion of the process description for unmetered off market loads		
External Stakeholder Impacted	No – changes made in precedent procedures	AEMO Business Units Impacted	No – changes made in precedent procedures
Issues for Stakeholder Consultation	None – changes made in precedent procedures		

System Impact	No – changes made in precedent procedures
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Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Service Level Procedure – Metering Data Provision Services		
Rule Consultation Req.	Yes	Priority	High
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	SLP - MDP		

Description of Document	The SLP – MDP details the obligations, technical requirements, measurement processes and performance requirements to be met by MDPs in the provision of metering data services for all metering installations types and the maintenance of a metering data services database		
Precedent Procedures / External Documents	Metrology Procedure Part B MSATS, MDM and NMI Procedures	Dependent Procedures / External Documents	MDFP Specification
Summary of Changes – Five Minute Settlements	Remove meter churn scenario – type 6 replaced with new type 6 Include provisions to support MDFP metering data delivery to AEMO		
Summary of Potential Changes – Global Settlements	Remove references as required concerning: Local Retailer, 1st Tier and 2nd Tier Update required regarding cross boundary/border supply points between distribution networks or Local Retailer regions Review data stream activation requirements for type 6 meters that were tier 1		
External Stakeholder Impacted	Yes	AEMO Business Units Impacted	Settlements Prudentials
Issues for Stakeholder Consultation	Metering Data Processing Requirements – current requirement to aggregate into 30-minute interval net Datastream prior to delivery to AEMO Method of Delivery of Data – current requirement for MDM data file		
System Impact	Yes		

Five Minute Settlements Project: High-Level Impact Assessment

Document Title	Service Level Procedure - Metering Provider Services		
Rule Consultation Req.	Yes	Priority	Medium
Prepared by		Business Owner	Metering
Consultation Group	Metering	Consultation Package	
Link	SLP - MP		

Description of Document	Details the obligations and processes to be met by MPs who are accredited and registered by AEMO to provide metering provision services in the NEM.		
Precedent Procedures / External Documents	Met A	Dependent Procedures / External Documents	
Summary of Changes – Five Minute Settlements	No changes identified at this stage		
Summary of Potential Changes – Global Settlements	No changes identified at this stage		
External Stakeholder Impacted	No	AEMO Business Units Impacted	No
Issues for Stakeholder Consultation	No		
System Impact	No		