

# Five-Minute Settlement Program: Executive Forum 5

## AEMO 5MS Program Team

FRIDAY 24 MAY 2019

AEMO OFFICES:

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LEVEL 2, 20 BOND STREET, SYDNEY

DIAL IN: 02 9037 0069 ACCESS CODE: 576 121 668 MEETING PASSWORD: 74399262

**PLEASE NOTE THIS MEETING WILL BE RECORDED FOR THE PURPOSE OF PREPARING MINUTES**

# Agenda

NO	TIME	AGENDA ITEM	RESPONSIBLE
<b>Preliminary Matters</b>			
1	10:00am – 10:05am	Welcome, introduction and apologies	Peter Geers (AEMO)
2	10:05am – 10:10am	Minutes and actions from previous meeting	Peter Geers (AEMO)
<b>Matters for Noting</b>			
3	10:10am – 10:30am	Program update <ul style="list-style-type: none"><li>• 5MS program status</li><li>• Industry risks &amp; issues</li></ul>	Graeme Windley (AEMO)
<b>Matters for Discussion</b>			
4	10:30am – 10:40am	Readiness Planning	Peter Carruthers/Greg Minney (AEMO)
5	10:40am – 10.50am	5MS cost recovery update	Peter Carruthers/Chris Muffett (AEMO)
<b>Other Business</b>			
6	10:50am – 11:00am	General questions	Peter Geers (AEMO)
7	11:00am	Forward meeting plan	Peter Geers (AEMO)

# Minutes and actions from previous meeting

Peter Geers

# Previous meetings

- Last meeting held 20 February 2019
- Meeting pack and notes from meetings are published at:  
<http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Program-Management/Executive-Forum>

# Actions

ITEM	TOPIC	ACTION	RESPONSIBLE	STATUS
<b>Exec Forum 2</b>				
2.5.1	Technology Approach - Costs	AEMO to aim to deliver 5MS Program as cheaply and effectively as possible. Action: W. Borovac to contact <a href="mailto:5ms@aemo.com.au">5ms@aemo.com.au</a> to arrange time to discuss	Wally Borovac Peter Geers	Completed
<b>Exec Forum 4</b>				
4.4.1	5MS implementation approach and cost recovery	AEMO to engage with the industry on areas of potential improvement and future need for the retail and metering systems.	Peter Carruthers/Chris Muffett	Refer to following slide - completed
4.4.2	5MS implementation approach and cost recovery	AEMO to provide further information including timing of consultation on 5MS cost recovery.	Peter Carruthers/Chris Muffett	Will be covered in Agenda Item 5 - completed
4.4.3	5MS implementation approach and cost recovery	AEMO to engage with the AEMC on the revised cost of the implementation program, the potential implications from other reforms underway, and AEMC representation at the Executive Forum.	Peter Carruthers/Chris Muffett	Completed
4.5.1	General questions	AEMO to engage with Red/Lumo with regards to the metering workstream and consultation.	Chris Muffett	Completed

# Potential improvements to retail/metering systems

- February 2019 Executive Forum recap:
  - AEMO is implementing a new Metering Data Management (MDM) and Profile and Energy Allocation (PAE) system, to support the 5MS and GS going forward
  - Members suggested that AEMO collect and consider potential improvements to retail metering systems (e.g. MSATS)
- AEMO is aware of a number of system improvements outstanding from Power of Choice, which are being considered
- The Electricity Retail Consultative Forum (ERCF) has recently been reconvened (March 2019), and provides an opportunity for potential improvements to retail/metering processes to be raised
  - A process of Industry Change Form (ICF) is used to capture potential improvements
- In parallel with Metering Package #2 in the procedure workstream, AEMO is “co-consulting” on several ICFs

# Program change request management

- At PCF on 10 May AEMO walked through the change request process that is in place for 5MS:
  - The objective of this process is to ensure that all potential changes to scope, cost and delivery timeframes are managed
  - Change requests with significant impact will be considered by AEMO's 5MS Steering Committee
- Where change requests are raised by participants or have participant impact, the PCF will be kept informed, and consulted where appropriate

# Program update

Graeme Windley



# 5MS Milestone Management Framework

- AEMO is proposing a Milestone Management Framework to:
  - Provide visibility over the 5MS program schedule and progress
  - Provide committed dates for key artefacts critical to participants
  - Provide a framework for managing in a controlled way any changes to dates
- Key elements of the framework
  - Defined milestones with committed dates
  - Reporting process
  - Change management and impact assessment
- Milestones
  - Level 1 milestones: key milestones that apply to the overall Program
  - Level 2 milestones: milestones by workstream that show key dates relevant for participants
  - Milestones will have an identifier, explicit dates and a description
  - Defined in Microsoft Project, available for sharing with participants
- Reporting process
  - Red, Amber, Green shown for each milestone, updated for presenting at each PCF
  - Where not Green, reason and remedial actions will be defined
- Change process
  - Milestone dates may not be achieved or may need to be moved, for a variety of reasons
  - Project will undertake impact analysis on proposed changes to L1 or L2 milestones
  - Participant views sought with response times as follows: 5 business days for urgent/low impact changes, 10 business days for major changes

# Program Update

- Overall
  - Level 1 and Level 2 Milestones baselined, available for reporting today
  - Level 3 milestones with industry impact also distributed
- Procedures Workstream
  - Overall Green, a couple of documents delayed but no overall impact
  - Currently three consultations out for review
- Metering Workstream
  - AEMO Internal – Some elements of the technical design likely to extend by 2 weeks to continue analysis that optimises performance, usability and cost. No impact to subsequent milestones. Will be reviewed with PCF.
  - Delay in delivery of MSATS technical spec and File Format & Load process documentation, as a result of Procedures Metering Package 2 delay. Scope of Metering Level 2 milestones adjusted accordingly.
  - B2M via API design work has commenced; B2M via eHub technical guide will be released in May to participants
- Dispatch Workstream
  - AEMO Internal - Internal work on track. System Testing has begun for developed work packages
  - EMMS technical specification out for review
- Settlements Workstream
  - AEMO Internal - Internal work on track. System Testing has begun for developed work packages
- Readiness Workstream
  - Greg Minney has joined the 5MS Program as Readiness Manager – welcome Greg!
  - Market Trial content presentation to PCF to be delayed to June PCF

# Level 1 Milestones - Status Report

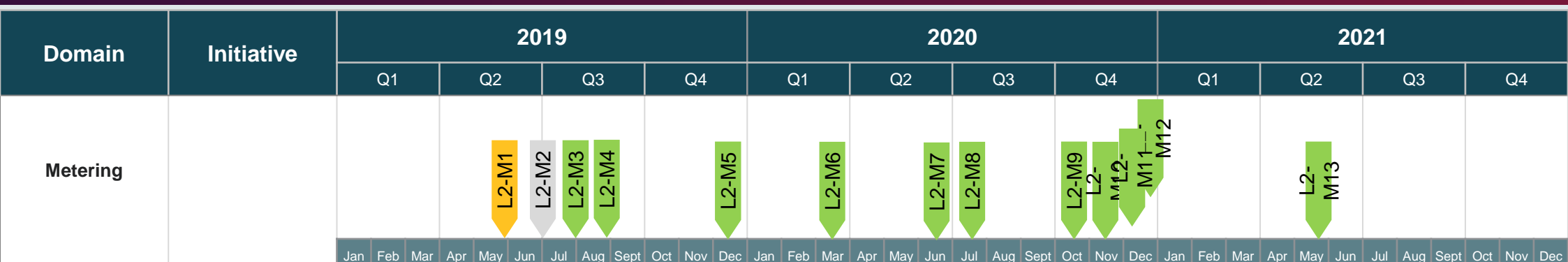
Domain	Initiative	2019				2020				2021															
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4												
Program			L1-1	L1-11	L1-2		L1-12	L1-3	L1-7		L1-13		L1-14	L1-8		L1-9	L1-10	L1-4							
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

## Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L1-1	5MS Drafting Amendments submitted to AEMC	20-Mar-2019	15-Mar-2019	Completed, however recent Procedure work has uncovered additional changes which are required. A further milestone will be defined for the additional changes.
L1-11	All AEMO workstream development commenced	23-May-2019	23-May-2019	Completed
L1-2	IEC Approves B2B Procedures	01-Jul-2019	01-Jul-2019	Completed
L1-12	5MS Staging environment live	01-Dec-2019	01-Dec-2019	
L1-3	AEMO publishes NEM Procedures	01-Dec-2019	01-Dec-2019	
L1-7	Market Readiness Strategy Published by AEMO	20-Jan-2020	20-Jan-2020	
L1-13	AEMO Internal Development Completed	30-Jun-2020	30-Jun-2020	
L1-14	Market Participants Readiness for Market Trials	30-Nov-2020	[30-Nov-2020]	
L1-8	Participant Market Trials commence	01-Dec-2020	[01-Dec-2020]	
L1-9	Participant Market Trials conclude	31-May-2021	[31-May-2021]	
L1-10	Metering Accreditation Complete	31-May-2021	[31-May-2021]	
L1-4	5MS & UFE Market Go Live	01-Jul-2021	01-Jul-2021	

-  Milestone complete
-  Milestone on track
-  Milestone at risk
-  Milestone not achieved
-  Critical Dependency

# Level 2 Milestones – Metering

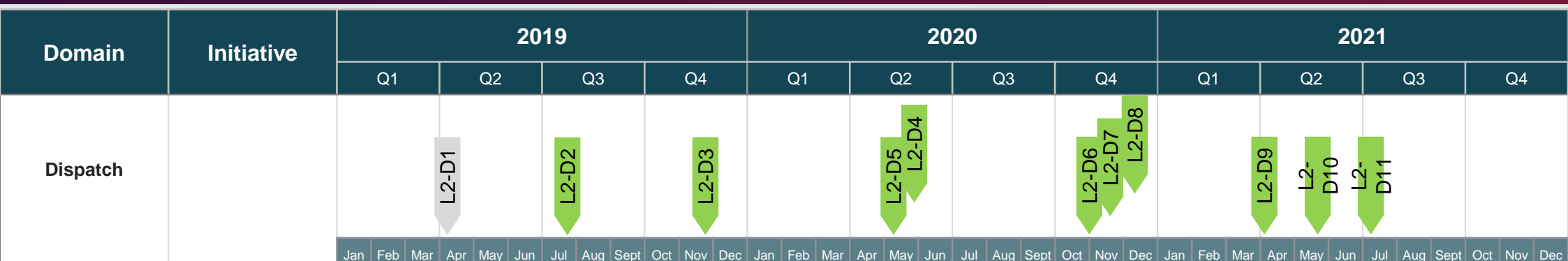


## Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L2-M1	AEMO internal Metering solution – Solution Design complete (internal)	31-May-2019	31-May-2019	Date at risk, some elements of technical analysis continuing in relation to performance, usability and cost. No impact to subsequent milestones.
L2-M2	Final Technical Specifications for Package 1 published by AEMO	30-Jun-2019	30-Apr-2019	Complete. Note two key tech specs moved to align with package 2 Procedures (discussed with SWG 20 May 2019).
L2-M3	Final Technical Specifications for Packages 2 published by AEMO	31-Jul-2019	31-Jul-2019	
L2-M4	Final Technical Specifications for Package 3 published by AEMO	31-Aug-2019	31-Aug-2019	
L2-M5	Software Drop for Packages 1 & 2 in 5MS Staging Environment	01-Dec-2019	01-Dec-2019	
L2-M6	Agreement on requirements for Accreditation & Market Trial	31-Mar-2020	[31-Mar-2020]	
L2-M7	AEMO internal Metering solution – Build complete (internal)	30-Jun-2020	30-Jun-2020	
L2-M8	Software Drop for Package 3 in 5MS Staging Environment	31-Jul-2020	31-Jul-2020	
L2-M9	AEMO internal Metering solution – Go Live complete (internal)	31-Oct-2020	[31-Oct-2020]	
L2-M10	New MDFF format accepted by AEMO	01-Nov-2020	[01-Nov-2020]	
L2-	Market Trial preparation completed by participants	30-Nov-2020	[30-Nov-2020]	

-  Milestone complete
-  Milestone on track
-  Milestone at risk
-  Milestone not achieved
-  Critical Dependency

# Level 2 Milestones - Dispatch



## Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L2-D1	Final Technical Specifications for Package 1 published by AEMO	2-Apr-2019	2-Apr-2019	Completed
L2-D2	Final Technical Specifications for Package 2 published by AEMO	31-Jul-2019	31-Jul-2019	
L2-D3	Software Drop for Packages 1,2 & 3 in 5MS Staging Environment	29-Nov-2019	29-Nov-2019	
L2-D5	Software Drop for Package 4 in 5MS Staging Environment	15-May-2020	15-May-2020	
L2-D4	Development completed (internal)	31-May-2020	31-May-2020	
L2-D6	UAT completed (internal)	30-Nov-2020	30-Nov-2020	
L2-D7	Market Trial preparation completed	30-Nov 2020	[30-Nov 2020]	
L2-D8	Market Trial preparation completed	30-Nov 2020	[30-Nov 2020]	
L2-D9	5-min Bidding Phased Go Live Begins	01-Apr-2021	[01-Apr-2021]	
L2-D10	Market Trial conclude	31-May-2021	[31-May-2021]	
L2-D11	30-min Bidding no longer accepted by AEMO	01-Jul-2021	01-Jul-2021	

-  Milestone complete
-  Milestone on track
-  Milestone at risk
-  Milestone not achieved
-  Critical Dependency

# Level 2 Milestones – Settlements

Domain	Initiative	2019												2020												2021																												
		Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4																			
Settlements		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec					
											L2-S1	L2-S2	L2-S3	L2-S4	L2-S8	L2-S6	L2-S12	L2-S7	L2-S5					L2-S9	L2-S10	L2-S11																												

- Milestone complete
- Milestone on track
- Milestone at risk
- Milestone not achieved
- Critical Dependency

## Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L2-S1	Final Technical Specifications for Package 1 published by AEMO	15-Oct-19	15-Oct-19	
L2-S2	Software Drop for Package 1	01-Nov-19	01-Nov-19	
L2-S3	Final Technical Specifications for Package 2 published by AEMO	15-Dec-19	15-Dec-19	
L2-S4	Final Technical Specifications for Package 3 published by AEMO	31-Jan-20	31-Jan-20	
L2-S8	Market Trials for reallocations	13-Mar-20	[13-Mar-20]	
L2-S6	Software Drop for Package 2 in 5MS Staging Environment	16-Mar-20	16-Mar-20	
L2-S12	Reallocations Go Live	01-Apr-20	[01-Apr-20]	
L2-S7	Software Drop for Package 3 in 5MS Staging Environment	15-May-20	15-May-20	
L2-S5	Development completed (internal)	31-May-20	31-May-20	
L2-S9	UAT completed (internal)	16-Oct-20	16-Oct-20	
L2-S10	Market Trial preparation completed by participants	30-Nov-20	[30-Nov-20]	
L2-S11	Market Trial preparation completed by AEMO	30-Nov-20	[30-Nov-20]	
L2-S13	Market Trials conclude	31-May-21	[31-May-21]	

# Industry Risks & Issues Register

Graeme Windley

# Industry Risks & Issues Register - Update

- Risks & issues were reviewed by the PCF 10 May - no new risks identified.
- Two new issues added:
  - 5MS/GS implementation rule change could trigger consequential procedure changes.
  - Consequential impacts from B2B interactions.
- Risk/issue register is published on 5MS PCF page:  
<https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Program-Management/Program-Consultative-Forum>



# Readiness Planning

Peter Carruthers

# Work Stream Establishment

- Scope of Readiness includes :
  - Market Readiness Strategy and Plan
  - Readiness Reporting
  - Industry And Market Testing
  - Transition and Cutover planning and conduct
  - Metering Accreditation
- Industry Readiness Working Group
  - TOR for consultation with PCF
  - Market Testing Working group to address Market and Industry testing plans
  - Focus Groups to address specific activities (e.g Detailed Cutover Planning)

# 5MS/GS Readiness



# Draft Timelines

Item	Engagement Commences	Draft Paper Released	Final Paper Released
Market Readiness Strategy	June 19	30 August 19	29 Nov 19
Industry Test Strategy	June 19	30 August 19	31 Oct 19
Transition & Go-Live Strategy	July 19	30 Sept 19	31 Jan 20
Market Trial Strategy	August 19	29 Nov 19	28 Feb 20
Metering Service Provider Accreditation Plan	August 19	29 Nov 19	31 Mar 20
Industry Readiness Reporting Plan	Sept 19	29 Nov 19	31 Jan 20

NOTE: Deliverable Dates are currently draft/proposed dates

# 5MS cost recovery update

Peter Carruthers

# AEMO Costs – Cost Recovery

- February 2019 Executive Forum Re-Cap
  - Total Cost of Ownership for AEMO 5MS implementation and operation (capex and opex over 10 years) \$121m
  - Recovery via the current fee structure equates to ~\$1.10/NMI per annum, with the bulk recovered via the 'FRC fee'
  - Indicated that other options were being considered, including utilising the 'Declared NEM Project' mechanism
- Declared NEM Project mechanism for recovery of 5MS costs
  - Enables a bespoke approach to cost recovery which may be more appropriate than utilising existing mechanisms
  - Requires a consultation process, which provides a formal opportunity for participants to have their views tabled and considered
- 2 Stage consultation process required under the Rules
  - Stage 1: The Project meets the criteria to be classified as a 'declared NEM Project' (sect 2.11).
  - Stage 2: The Participant fees, including the structure, start date and duration of recovery
- Stage 1 Consultation: Declared NEM Project – Classification
  - Must be a major reform, major change to AEMO role or major upgrade of IT systems
- Stage 2 Consultation – Declared NEM Project – Fee Approach
  - Must consider 5 key principles: simplicity, recovery of capex and opex, reflect the beneficiary, not unreasonably discriminate, ancillary service providers treatment
- Proposed timeline
  - Commence Stage 1 consultation in June/July 2019
  - 9 – 12 month process expected based on the requirement for two formal consultation processes

# Forward meeting plan

Peter Geers

# Upcoming meetings

- Next Executive Forum:
  - Thursday 15 August
- Next Program Consultative Forum:
  - Friday 7 June
- Next Procedure Working Group:
  - Tuesday 11 June
- Next Systems Working Group:
  - Monday 17 June



# Meeting calendar

Meetings and forum dates:

<http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>



Forums/Working Groups
Executive (EF)
Program Consult. (PCF)
Procedures (PWG)
Systems (SWG)
Readiness (RWG)

Focus Groups
Dispatch
Metering
Settlements
Reconciliation
Other
Information Sessions

National Public Holiday
State Public Holiday

# Further information

- AEMO 5MS Program contacts:
  - Sonja Nigmann, 5MS & GS Senior Program Manager
  - Peter Carruthers, 5MS & GS Business Advocate
  - Graeme Windley, 5MS Program Manager
  - Chris Muffett, 5MS Business Lead
  - Emily Brodie, 5MS Procedure Lead
  - Malcolm Borschman, 5MS Systems Lead
  - Greg Minney, 5MS Readiness Lead
- Contact details:
  - 5MS email: [5ms@aemo.com.au](mailto:5ms@aemo.com.au)
  - 5MS webpage: <http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>

