



5MS & GS Program Consultative Forum #15

Thursday 3 October

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

Agenda

No	Time (AEST)	Agenda item	Presenter
Preliminary matters			
1	10:00 – 10:05	Welcome, introduction and apologies	Peter Carruthers
2	10:05 – 10:10	Meeting notes and actions	Peter Carruthers
Matters for noting			
3	10:10 – 10:20	Program update	Sonja Nigmann
4	10:20 – 10:25	Systems Workstream update	Graeme Windley
5	10:25 – 10:30	Readiness Workstream update	Greg Minney
6	10:30 – 10:35	Procedures Workstream wrap-up	Emily Brodie
7	10:35 – 10:45	Change Request update	Graeme Windley
Matters for discussion			
8	10:45 – 10:55	Draft Market Readiness Strategy – feedback	Emily Brodie
9	10:55 – 11:10	Round 2 – Interim Readiness Reporting update	Greg Minney
10	11:10 – 11:40	Industry Risks & Issues Register – Quarterly Review	Sonja Nigmann
Break 11:40 – 11:50am			
10	11:50 – 12:20	Industry Risks & Issues Register – Quarterly Review	Sonja Nigmann
11	12:20 – 12:35	Staging Environment	Graeme Windley
12	12:35 – 12:45	Cost Consultation – Draft report update	Peter Carruthers
13	12:45 – 12:50	Vendor Engagement Session - update	Graeme Windley
Other business			
14	12:50 – 12:55	Forward meeting plan	Peter Carruthers
15	12:55 – 1:00	General questions	Peter Carruthers

Welcome, introductions and apologies

Peter Carruthers

Minutes and actions

Peter Carruthers

Actions

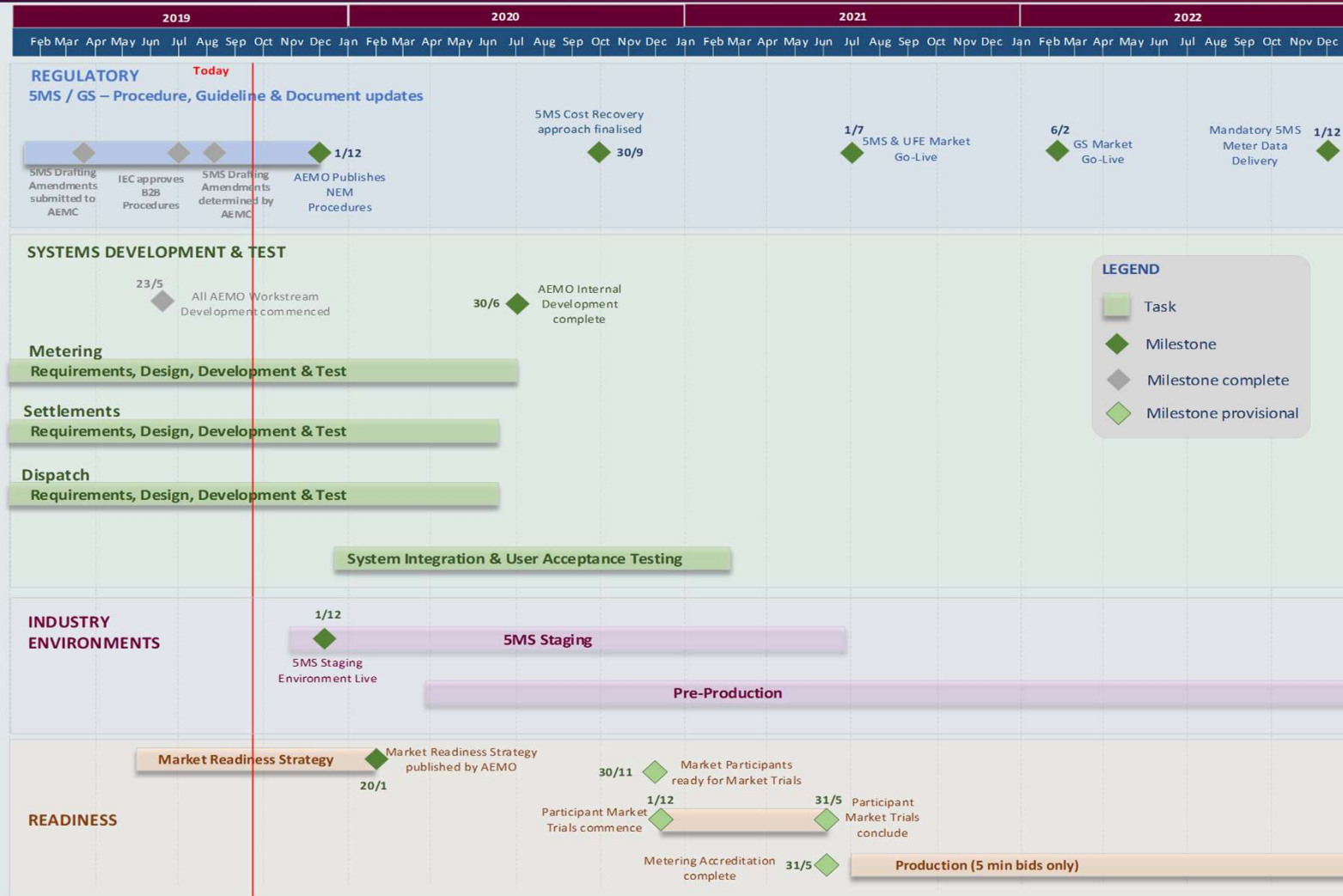
Item	Topic	Action required	Responsible	Status
14.3.1	Industry Risks and Issues Register	AEMO to review the Industry Risks and Issues Register and the cost efficiency of AEMO's approach to Program delivery, both in relation to AEMO and Industry.	AEMO	Closed New risk raised.
14.10.1	Vendor Engagement	PCF Members to provide AEMO with a list of all relevant vendors to ensure that they are able to be included in the October 2019 vendor information session.	PCF Members	Ongoing For discussion at agenda item 14.
14.11.1	Industry Engagement Structure	PCF Participants to provide views and comments on the future of AEMO's engagement.	PCF Members	Ongoing Seeking feedback by mid-October.
13.3.2	Industry Risks and Issues Register	PCF Members are requested to advise AEMO of vendors they are dependent on, on a confidential basis, and any raise concerns on the state of vendor readiness.	PCF Members	Closed Included in Interim Readiness Reporting Questionnaire.
13.3.3	Industry Risks and Issues Register	AEMO to assess the list of vendors and vendor readiness provided by industry participants, with the aim of identifying vendors that the overall SMS Program is particularly dependent upon and any systemic readiness concerns. AEMO to develop mitigation recommendations accordingly. AEMO to survey and work proactively with vendors to provide additional information to mitigate risk.	AEMO	Closed Included in Interim Readiness Reporting Questionnaire. AEMO hosting a Vendor briefing session in October to provide targeted information to Vendors.

Program Update

Sonja Nigmann

5MS & GS Program Timeline

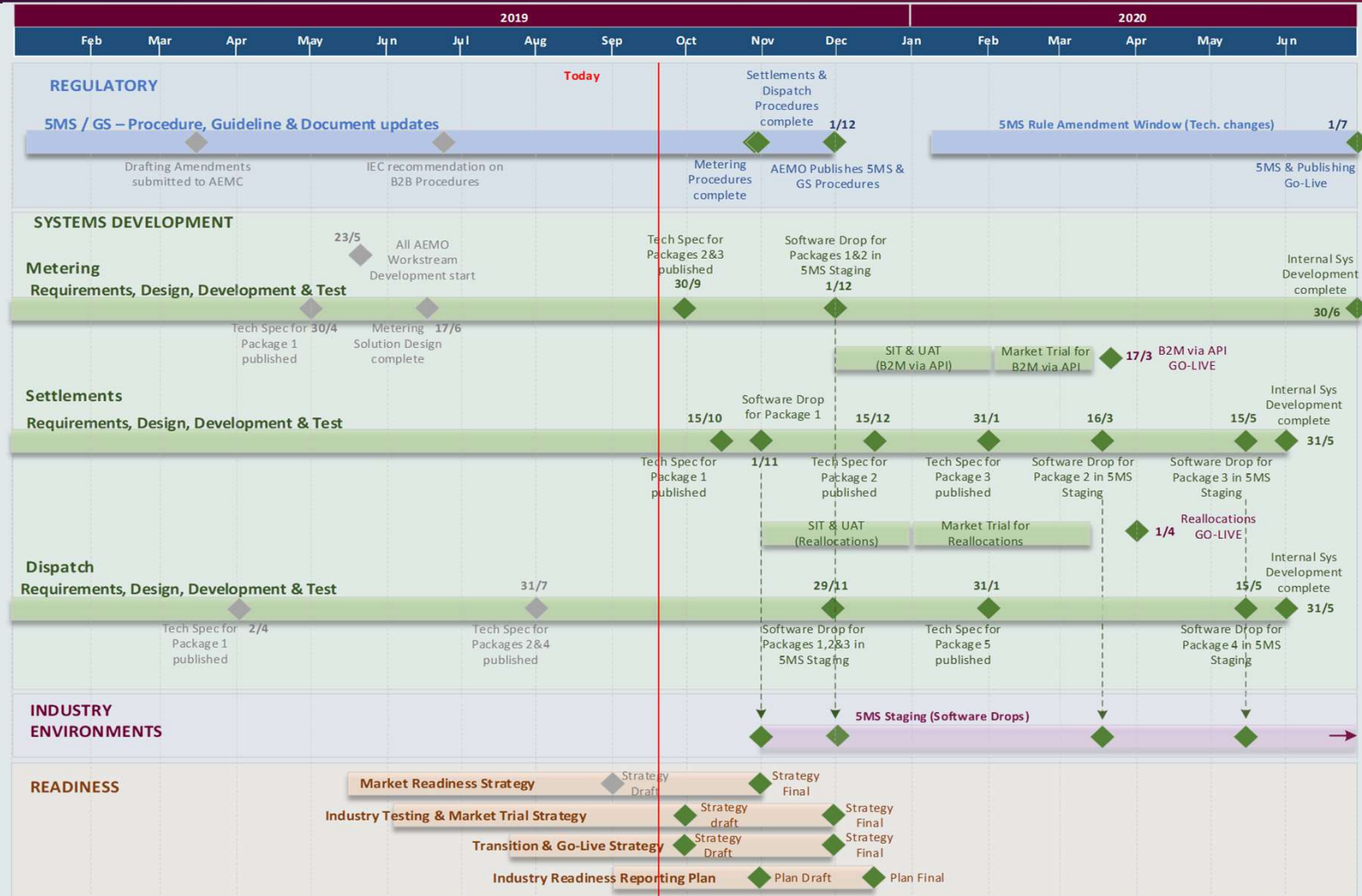
Current as at 30-09-2019



5MS Program Timeline (to July '20)

Level 1 and External Level 2 Milestones

Current as at 30-09-2019



Level 1 Milestones - Status Report

Current as at 30-09-2019

Domain	Initiative	2019								2020								2021																	
		Q1			Q2			Q3		Q4		Q1			Q2			Q3		Q4		Q1			Q2		Q3		Q4						
Program		L1-1			L1-11			L1-2 L1-15		L1-12 L1-3 L1-7		L1-13			L1-16		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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct

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 identified additional changes required. A further milestone will be defined.
L1-11	All AEMO workstream development commenced	23-May-2019	23-May-2019	Complete
L1-2	IEC Approves B2B Procedures	01-Jul-2019	01-Jul-2019	Complete
L1-15	5MS Drafting Amendments determined by AEMC	31-Aug-2019	08-Aug-2019	Complete
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]	
L1-16	5MS cost recovery approach communicated	30-Sep-2020	30-Sep-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	
L1-5	GS Market go live	06-Feb-2022	06-Feb-2022	
L1-6	Mandatory 5MS meter data delivery	01-Dec-2022	01-Dec-2022	

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

Level 2 Milestones Exceptions

Current as at 30-09-2019

- No Level 2 milestone exceptions in the previous period

Program update and current activities

Current as at 30-09-2019



AEMO program

- Delivery – overall green
- Participant interest increasing in the program – and increasing engagement via the mailbox. Program is taking action to reduce wait times, with new resources allocated to managing incoming inquiries.



Procedures

- Workstream on track to deliver nearly all work by end October
- Overall workstream will complete ahead of December deadline
- Regular PWG meetings have ceased.



Systems

- Development and system testing progressing for Retail Metering, Settlements and Dispatch
- Program on track to deliver Reallocations, Dispatch and Meter Data Load deployments into SMS Staging environment in Q4
- Metering Tech Spec delivery to complete 30-Sep-19
- Vendor Session set for 16-Oct-19



Readiness

- Draft Market Readiness Strategy consultation completed
- Draft Transition and Go-Live strategy and draft Industry Testing and Market Trial strategy to be released 30-Sep-19
- Interim Readiness Report highlighted many participants engaged, demonstrated good level of Program initiation, few programs fully set up

Systems Workstream update

Graeme Windley

Level 2 Milestones – Metering

Current as at 30-09-2019

Domain	Initiative	2019												2020												2021											
		Q1			Q2			Q3			L2-M4	Q4			Q1			Q2			Q3			L2-M12	Q4			Q1			Q2			Q3			Q4
Metering																																					
		<div>L2-M2</div> <div>L2-M1</div> <div>L2-M3</div> <div>L2-M5</div>												<div>L2-M6</div> <div>L2-M7</div> <div>L2-M8</div> <div>L2-M9</div> <div>L2-M10</div> <div>L2-M11</div>												<div>L2-M13</div>											
		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

Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L2-M1	AEMO internal metering solution – solution design complete (internal)	31-May-2019	17-Jun-2019	Complete
L2-M2	Final technical specifications for Package 1 published by AEMO	30-Jun-2019	30-Apr-2019	Complete
L2-M3	Final technical specifications for Package 2 published by AEMO	30-Sep-2019	30-Sep-2019	Complete
L2-M4	Final technical specifications for Package 3 published by AEMO	30-Sep-2019	30-Sep-2019	Complete
L2-M5	Software drop for Packages 1 & 2 in 5MS Staging Environment	01-Dec-2019	01-Dec-2019	On Track
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-M11	Market Trial preparation completed by participants	30-Nov-2020	[30-Nov-2020]	
L2-M12	Market Trial preparation completed by AEMO	30-Nov-2020	[30-Nov-2020]	
L2-M13	Market Trials conclude	31-May-2021	[31-May-2021]	

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

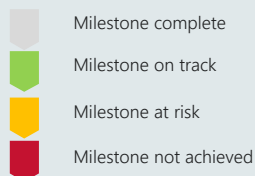
Level 2 Milestones - Dispatch

Current as at 30-09-2019

Domain	Initiative	2019				2020				2021															
		Q1		Q2		Q3		Q4		Q1		Q2		Q3		Q4									
Dispatch				L2-D1		L2-D2 L2-D12		L2-D3		L2-D13		L2-D5 L2-D4				L2-D6 L2-D7 L2-D8		L2-D9		L2-D10		L2-D11			
		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
L2-D1	Final technical specifications for Package 1 published by AEMO	2-Apr-2019	2-Apr-2019	Complete
L2-D2	Final technical specifications for Package 2 published by AEMO	31-Jul-2019	31-Jul-2019	Complete
L2-D12	Final technical specifications for Package 4 published by AEMO	31-Jul-2019	31-Jul-2019	Complete
L2-D3	Software drop for Packages 1,2 & 3 in 5MS Staging Environment	29-Nov-2019	29-Nov-2019	On Track
L2-D13	Final technical specifications for Package 5 published by AEMO	31-Jan-2020	31-Jan-2020*	
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 by participants	30-Nov 2020	[30-Nov 2020]	
L2-D8	Market Trial preparation completed by AEMO	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 concludes	31-May-2021	[31-May-2021]	
L2-D11	30-min bidding no longer accepted by AEMO	01-Jul-2021	01-Jul-2021	







Level 2 Milestones – Settlements

Current as at 30-09-2019

Domain	Initiative	2019				2020				2021													
		Q1		Q2		Q3		Q4		Q1		Q2		Q3		Q4							
Settlements								L2-S1 L2-S2	L2-S3	L2-S4	L2-S8 L2-S6	L2-S12	L2-S7 L2-S5			L2-S10 L2-S9 L2-S11			L2-S13				
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct

Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L2-S1	Final technical specifications for Package 1 published by AEMO	15-Oct-2019	15-Oct-2019	On Track
L2-S2	Software drop for Package 1	01-Nov-2019	01-Nov-2019	On Track
L2-S3	Final technical specifications for Package 2 published by AEMO	15-Dec-2019	15-Dec-2019	On Track
L2-S4	Final technical specifications for Package 3 published by AEMO	31-Jan-2020	31-Jan-2020	
L2-S8	Market Trials for reallocations	13-Mar-2020	[13-Mar-2020]	
L2-S6	Software drop for Package 2 in 5MS Staging Environment	16-Mar-2020	16-Mar-2020	
L2-S12	Reallocations go Live	01-Apr-2020	[01-Apr-2020]	
L2-S7	Software drop for Package 3 in 5MS Staging Environment	15-May-2020	15-May-2020	
L2-S5	Development completed (internal)	31-May-2020	31-May-2020	
L2-S9	UAT completed (internal)	30-Nov-2020	30-Nov-2020	
L2-S10	Market Trial preparation completed by participants	30-Nov-2020	[30-Nov-2020]	
L2-S11	Market Trial preparation completed by AEMO	30-Nov-2020	[30-Nov-2020]	
L2-S13	Market Trials conclude	31-May-2021	[31-May-2021]	

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

Systems Workstream - Metering

Current as at 30-09-2019

5 MINUTE SETTLEMENT SYSTEMS TRACKING	TIMING									
	Internal HLIA	Focus/Group	SWG Engagement	External HLIA	Draft Tech Spec	Final Tech Spec	User Guides	SMS Staging	Preprod	Production
METERING										
PACKAGE 1 - Metering Data & Metrology										
MDFF • MDFF Specification NEM12 NEM13 v20	Aug-18	Oct-18	Oct-18	Nov-18	Jan-19	Apr-19	-	1 Dec 19	Sep-20	Nov-20
PACKAGE 2 - MSATS & SLPs										
Transition • MSATS Release Schedule & Technical Specification	Aug-18	Sep-18	Aug-18	Nov-18	31-May-19	30-Sep-19	-	-	-	-
Meter Data - MDFF and MDMF • MDM File Format and Load Process (User Guide) • MSATS Release Schedule & Technical Specification	Aug-18	Oct-18	Sep-18	Nov-18	31-May-19	30-Sep-19	-	1 Dec 19	Sep-20	Nov-20
PACKAGE 3 - Miscellaneous										
B2M via API • MSATS Release Schedule & Technical Specification	Oct-18	-	Apr-19	9-May-19	31-May-19	30-Sep-19	31-Oct-19	N/A	17-Feb-20	17-Mar-20
MSATS Browser (LVI) changes • MSATS Release Schedule & Technical Specification	Aug-18	-	May-19	9-May-19	28-Jun-19	30-Sep-19	31-Jul-20	31-Jul-20	Sep-20	Nov-20
MSATS Report changes • MSATS Procedures MDM Procedure • MDM File Format and Load Process (User Guide) • MSATS Release Schedule & Technical Specification General Process & Document Clean-up	Oct-18	-	Apr-19	Apr-19	28-Jun-19	30-Sep-19	-	31-Jul-20	Sep-20	Nov-20

Date aligned with
Staging environment
deployment

Systems Workstream – Dispatch and Operations

Current as at 30-09-2019

5 MINUTE SETTLEMENT SYSTEMS TRACKING	TIMING									
	Internal HLIA	Focus/Group	SWG Engagement	External HLIA	Draft Tech Spec	Final Tech Spec	User Guides	SMS Staging	Preprod	Production
DISPATCH and OPERATIONS										
PACKAGE 1 - Bidding FTP and API										
Transition	Aug-18	Oct-18	Aug-18	Nov-18	Dec-18	2-Apr-19	31-Oct-19	29-Nov-19	Nov-20	Mar-21
Bidding Data Model	Aug-18	-	Sep-18	Mar-19	Dec-18	2-Apr-19	31-Oct-19	29-Nov-19	Nov-20	Mar-21
Bidding Format	Aug-18	-	Sep-18	Nov-18	Dec-18	2-Apr-19	31-Oct-19	29-Nov-19	Nov-20	Mar-21
PACKAGE 2 - Bidding Web UI										
Bidding Web UI and APIs	Aug-18	Nov-18	Dec-18	Jan-19	Mar-19	31-Jul-19	31-Oct-19	29-Nov-19	Nov-20	Mar-21
PACKAGE 3 - Dispatch, Pre-dispatch and PASA										
Dispatch	Aug-18	-	Oct-18	Nov-18	Oct-18	2-Apr-19	-	29-Nov-19	Nov-20	Mar-21
Predispatch P30/7DAY	Aug-18	-	Oct-18	Nov-18	Oct-18	2-Apr-19	-	29-Nov-19	Nov-20	Mar-21
Predispatch P5	Nov-18	Oct-18	Nov-18	TBC	TBC	TBC	-	TBC	Nov-20	May-21
ST and PD PASA	Aug-18	-	Oct-18	Nov-18	Oct-18	2-Apr-19	31-Oct-19	29-Nov-19	Nov-20	Mar-21
PACKAGE 4 - Pricing and Miscellaneous										
Trading Price / Price Revision	Aug-18	-	Feb-19	Nov-18	Mar-19	31-Jul-19	-	15-May-20	Nov-20	May-21
Administered Pricing and CPT	Aug-18	-	Feb-19	Dec-18	Mar-19	31-Jul-19	-	15-May-20	Nov-20	May-21
Suspension Pricing	Sep-18	-	Feb-19	Dec-18	Mar-19	31-Jul-19	-	15-May-20	Nov-20	May-21
Negative Residue Management	Sep-18	-	Feb-19	Dec-18	Jun-19	31-Jul-19	-	15-May-20	Nov-20	May-21
RERT	Oct-18	-	-	-	-	-	-	-	-	-
PACKAGE 5 - Full Data Model										
Full Data Model	Sep-18	Ongoing	Ongoing	Apr-19	Ongoing	31-Jan-20	16 Mar 20	29-Nov-19	Nov-20	May-21

Systems Workstream - Settlements

Current as at 30-09-2019

5 MINUTE SETTLEMENT SYSTEMS TRACKING	TIMING									
	Internal HLIA	Focus/Group	SWG Engagement	External HLIA	Draft Tech Spec	Final Tech Spec	User Guides	SMS Staging	Preprod	Production
SETTLEMENTS										
PACKAGE 1 - Reallocations										
Reallocations	Dec-18	Nov-18	Dec-18	Mar-19	31-Jul-19	15 Oct 19	1-Nov-19	1-Nov-19	1-Mar-20	1-Apr-20
PACKAGE 2 - Settlements and Billing										
Settlements	Oct-18	Nov-18	Dec-18	Mar-19	30-Aug-19	20 Dec 19	-	16 Mar 20	Nov-20	May-21
Billing	Oct-18	Nov-18	Dec-18	Mar-19	30-Aug-19	20 Dec 19	-	16 Mar 20	Nov-20	May-21
PACKAGE 3 - Prudentials and Estimation										
Prudentials	Sep-18	Nov-18	Dec-18	Mar-19	31-Oct-19	31 Jan 20	15 May 20	15 May 20	Nov-20	May-21
Estimation	Oct-18	Nov-18	Dec-18	Mar-19	31-Oct-19	31 Jan 20	-	15 May 20	Nov-20	May-21
Full Data Model	Refer DISPATCH									

Date of Month
included

Update from SWG

- Reallocation web screens were well received by Participants with good feedback of the look and feel.
- Settlements and Billing Tech Spec run through was well received with a high level of engagement.
- 2 x Feedback requests:
 - RM reports CR was discussed at the SWG – please provide more information re Participant Business Benefit for Continuation of 30-minute RM and Settlement reports.
 - Provide AEMO feedback on which RM reports are most critical, for us to consider when we drop these into the 5MS Staging environment (noting constraints within our internal delivery).

Readiness Workstream update

Greg Minney

Level 2 Milestones – Readiness

Current as at 30-09-2019

Domain	Initiative	2019												2020												2021											
		Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4		
Settlements																																					
		<div><div>L2-RE01</div><div>L2-RE02</div><div>L2-RE04</div><div>L2-RE12</div><div>L2-RE07</div><div>L2-RE09</div><div>L2-RE13</div><div>L2-RE14</div><div>L2-RE11</div></div>												<div><div>L2-RE06</div><div>L2-RE08</div><div>L2-RE03</div><div>L2-RE05</div><div>L2-RE10</div></div>																							
		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

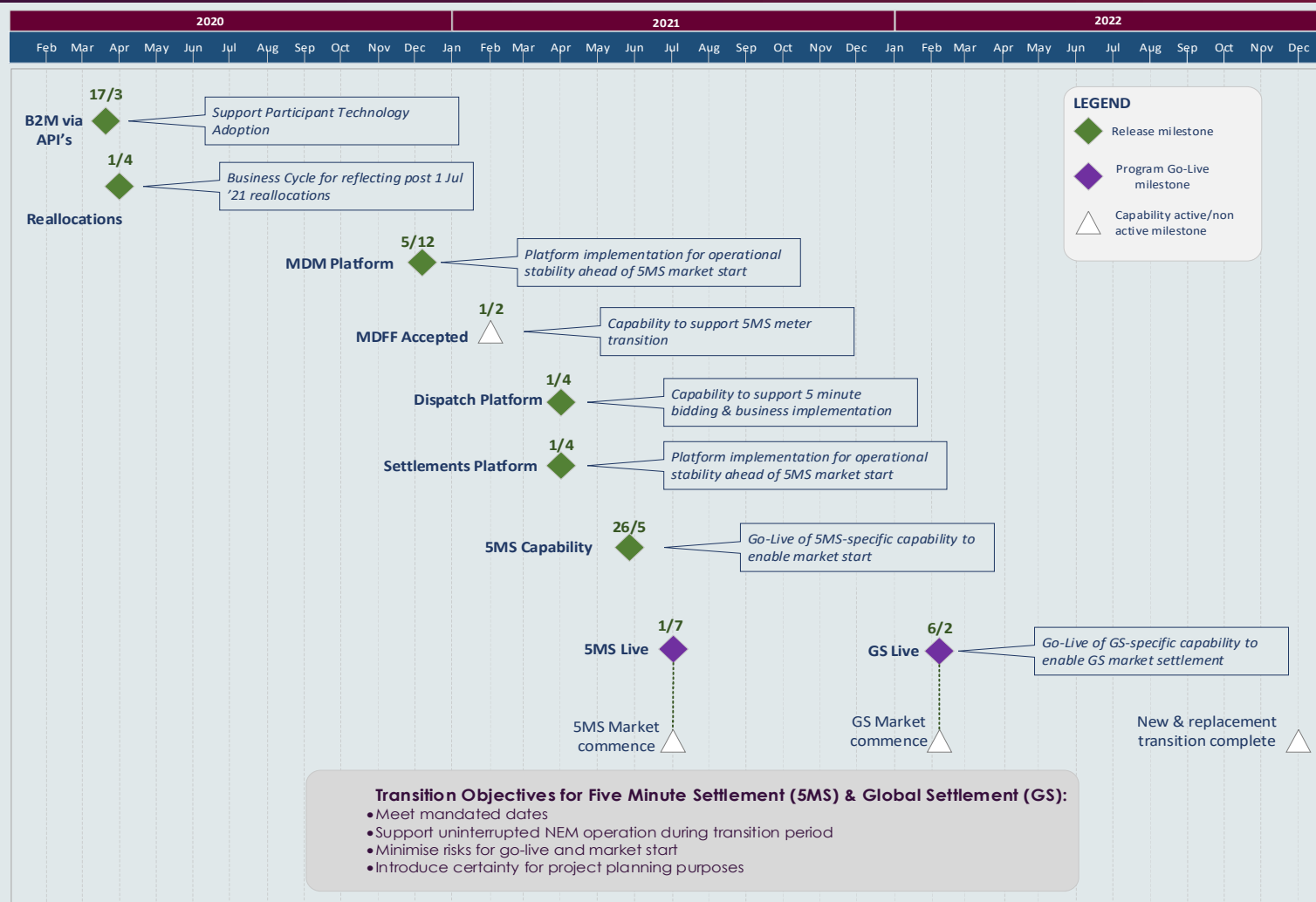
Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L2-RE01	Industry Working Group Established	15-Jul-2019	15-Jul-2019	Complete
L2-RE02	Market Readiness Strategy Industry Draft	30-Aug-2019	30-Aug-2019	Complete
L2-RE03	Market Readiness Strategy Finalised	29-Nov-2019	30-Oct-2019	On track
L2-RE04	Industry Test Strategy Industry Draft Released	30-Sep-2019	30-Sep-2019	On track
L2-RE05	Industry Test Strategy Finalised	29-Nov-2019	29-Nov-2019	
L2-RE06	Transition and Go Live Strategy Industry Draft Released	30-Sep-2019	30-Sep-2019	On track
L2-RE07	Transition and Go Live Strategy Finalised	29-Nov-2019	29-Nov-2019	
L2-RE08	Market Trial Strategy Industry Draft	30-Sep-2019	30-Sep-2019	On track
L2-RE09	Market Trial Strategy Finalised	29-Nov-2020	29-Nov-2019	
L2-RE10	Metering Service Provider Accreditation Update Plan Industry Draft	29-Nov-2019	29-Nov-2019	
L2-RE11	Metering Service Provider Accreditation Plan Finalised	13-Mar-2020	13-Mar-2020	
L2-RE12	Industry Readiness Reporting Plan Industry Draft	31-Oct-2019	31-Oct-2019	
L2-RE13	Industry Readiness Reporting Plan Finalised	13-Dec-2019	13-Dec-2019	
L2-RE14	5MS / GS Industry Readiness Reporting Implemented	28-Feb-2020	28-Feb-2020	

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

Staged Transition – System Implementations

Draft as at 30-09-2019



Workstream Update

Market Readiness Strategy

- 9 responses to consultation request received
- Summary of responses as separate agenda item
- AEMO to consider feedback and issue final deliverable

Interim Readiness Survey #2

- Response summary as separate agenda item

Draft transition and Go Live Strategy, Draft Industry Test and Market Trial Strategy issued for consultation

- Responses due 28 Oct
- Will continue with RWG/TFG input in parallel

RWG #4

- Contingency Management within staged transition approach
 - Component / system go-live readiness
 - Cutover Rollback and cutover planning
 - Participant optionality

Workstream Update

Transition Focus Group #2

- Conducted Monday 23rd
- Focus on Metering Transition for 5MS and GS
- Transition timeframes and impacts to be addressed in transition approaches
 - Transitional periods for procedure implementation
 - Capability availability as precursor to transitional activity
 - B2B delivery of 5 minute data
 - NMI Configuration updates and establishment
- Next session to consider participant responses and approach principles

Procedures Workstream update

Emily Brodie

Procedures workstream status

Current as at 30-09-2019

	Pre-consultation		Consultation			
5 MINUTE SETTLEMENT PROCEDURES TRACKING			TIMING			CONTENT
	HLIA	PWG Engagement	Consultation paper	Draft documents	Final documents	Package content
METERING						
1. Metering - Metering Data & Metrology	Jul-18	Jul-18	Sep-18	Jan-19	Mar-19	
2. Metering - MSATS and SLPs	Jul-18	Dec-18 & Mar-19	Apr-19	Aug-19	Oct-19	
3. Metering - Miscellaneous*	Jul-18	Feb-19	n/a	Jun-19	Oct-19	
B2B Procedures - B2B file size	n/a	Feb-19	n/a	n/a	n/a	n/a
SETTLEMENTS						
SRA	Jun-18	Jul-18	n/a	Jul-18	Aug-18	
SRA round #2	Jun-18	Feb-19	Mar-19	Jun-19	Aug-19	
TNSP	Feb-19	Feb-19	n/a	Apr-19	Jun-19	
Estimation	Aug-18	Aug-18	Nov-18	Feb-19	Apr-19	
Reallocations	Dec-18	Dec-18	n/a	Dec-18	Feb-19	
Miscellaneous	Oct-18	Oct-18	Dec-18	Mar-19	May-19	
Prudentials	Aug-18	Sep-18	Apr-19	Jun-19	Aug-19	
DISPATCH						
2. Dispatch - Spot market - Rules consultation	Sep-18	Oct 18 ongoing	Jan-19	Jun-19	Aug-19	
2. Dispatch - Spot market - For comment*	Sep-18	Oct 18 ongoing	n/a	Jul-19	Oct-19	
3. Dispatch - Pricing - Rules consultation	Aug-18	Aug 18 ongoing	Aug-18	Sep-18	Nov-18	
3. Dispatch - Pricing - For comment*	Aug-18	Aug 18 ongoing	n/a	May-19	Jul-19	
4. Dispatch - Miscellaneous*, release 1	Jan-19	Feb-19	n/a	May-19	Jul-19	
4. Dispatch - Miscellaneous*, release 2	Jan-19	Feb-19	n/a	May-19	Oct-19	
POWER SYSTEM OPS						
1. Operations	TBA	Apr 19 ongoing	Aug-19	Oct-19	Nov-19	

TIMING

Started and on track

Started late

Overdue

Complete

CONTENT

No issues

Issues

Severe issues

Complete

Refresher: PWG Terms of Reference

Purpose

The PWG provides a forum for AEMO to engage with industry stakeholders during the procedure development process.



Scope

Contribution to the development of procedure amendments relating to:

- Dispatch
- Metering
- Settlements and Prudentials



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



PWG output

Since 3 August 2018:	
Rules consultations	11
Procedures changed*	51 [#]
PWG meetings	14
Metering focus group workshops	7
Dispatch focus group workshops	5
Settlements focus group workshops	2
Reconciliation support workshop	1

*Approximately 70 procedures were assessed and some did not need changing.

[#]This figure also includes the procedures that are still under consultation.

Residual 5MS/GS procedures work

PWG **email update** for:

- Metering: MP#2 and MP#3 completion in October
- Dispatch: Miscellaneous package completion in October

Progressive **email updates and consultation reminders** for:

- Power system operations: RERT rule consultation completed in November
- No remaining PWG actions to manage or transfer to another forum

Transitioning 5MS/GS procedures workstream (updated from April PWG)

	Timeframe	Approach
Stage 1	Jul 18 to Sep 19	PWG meetings scheduled: Content mainly metering focussed, as well as reporting back on actions and providing focus groups debriefs
Stage 2	Sep 19 to Jun 21	<p>PWG is adjourned</p> <p>Residual procedures work</p> <ul style="list-style-type: none"> • Remaining consultations managed via email through 5ms@aemo.com.au • Any outstanding actions closed off via email or, if appropriate, transferred to PCF, SWG or RWG <p>New procedures changes</p> <ul style="list-style-type: none"> • New 5MS- or GS-related procedure changes can be proposed through 5MS program e.g. PCF, RWG, SWG or 5ms@aemo.com.au • New procedure changes coordinated through action log that is maintained and coordinated through 5MS program • Procedure changes administered by AEMO team/s responsible for the relevant procedure/s • Stakeholder engagement will include discussion through 5MS forums or consultation via 5MS mailbox as appropriate e.g. PWG or specific focus group could meet ad hoc if required <p>Procedures risks and issues</p> <ul style="list-style-type: none"> • 5MS or GS procedure issues or risks raised through the 5MS program managed by PCF through <i>Industry Risk and Issue Register</i>
Stage 3	Jul 2021 onwards	BAU - procedure changes administered by AEMO team/s responsible for the relevant procedure/s

Change Request update

Chris Muffett

Change Requests under consideration (1)

CR#	Title	Objective	Status
CR04	Pre-Dispatch	Enhancements to 5-minute Pre-dispatch, to provide improved market information in response to 5MS and the changing generation mix	<ul style="list-style-type: none"> Change to use FSIP has been accepted, and is being incorporated into work program. Further consideration of price sensitivities is progressing, with focus on evaluating impact to business cycle.
CR18	Additional reconciliation data in RM reports	Reconciliation workshop #1: Consider provision of additional data to improve participant reconciliation of metering and settlement data	<ul style="list-style-type: none"> Change request has been approved, and is being incorporated into work program.
CR19	Continuation of 30-minute RM and settlement reports	Reconciliation workshop #2: Consider continued delivery of reports in simulated 30-minute format to reduce transition impact to participant reconciliation	<ul style="list-style-type: none"> Change request impact has been assessed, and feedback on potential benefit being sought through SWG.

Change Requests under consideration (2)

CR#	Title	Objective	Status
CR26	Defer Mandatory Restrictions	Change to work program to defer activities relating to Mandatory Restrictions in light of review outcomes	<ul style="list-style-type: none"> Mandatory restrictions work deferred until clarity obtained on AEMC process.
NEW (proposed)			
TBA	30-minute trading information	Publish trading data at 30-minute level (region summary, interconnector flow, scheduled units). AEMO will publish 30 minute price information as part of 5MS Program.	<ul style="list-style-type: none"> Seek feedback from the SWG on what data is requested, and how the aggregation to 30-minute should be done (average, sum, price-weighted etc), and benefits of AEMO development.

Draft market readiness strategy – feedback

Emily Brodie

Draft market readiness strategy – overall responses

Observations:

- Feedback received from 10 stakeholders
- Strategy requires further explanation of how market readiness components are dealt with in the various strategies and plans. Particularly for:
 - contingency planning and governance
 - readiness reporting and risks
 - MSP accreditation updates

Draft market readiness strategy – detailed responses

Chapter		Key feedback
2	Context	<p>Clarification required on:</p> <ul style="list-style-type: none"> • difference between UFE 'soft start' and GS start • UFE reconciliation reporting vs UFE trends reporting
3	Framework	<ul style="list-style-type: none"> • Four respondents noted that the system changes listed were AEMO-centric and that participants' system changes need to be reflected in this section • Clarification of role of NCULs
4	Strategy	<p>Two additional principles suggested:</p> <ul style="list-style-type: none"> • a principle that supports the last part of the market readiness objective, which is "...while facilitating the uninterrupted and reliable operation of the NEM" • <i>Participants will work towards finding transition solutions to achieving objectives by the due dates even if not mandated by the rules.</i> <p>Five clarifications suggested around how the market readiness components are described</p>
5	Implementation	<p>Several suggestions for:</p> <ul style="list-style-type: none"> • clarification in the text • additional information/clarification of the timeline • clarification of the RWG's role

Next steps

- Final market readiness strategy will be published by 15 November 2019, taking stakeholder feedback into consideration.

Round 2 – Interim Readiness Reporting update

Greg Minney

Interim Readiness Reporting - Context

- Participants' request via PCF for AEMO to investigate an approach to Interim Readiness Reporting ahead of full Market Readiness Reporting to establish general level of participant preparedness (baseline).
- Interim Readiness Reporting focuses on the level of establishment of implementation projects. Subsequently, Readiness Reporting will focus on the progress of these delivery projects.
- AEMO will collate information and ensure that participant information remains anonymous and reported only at an aggregated level
- Reports will be provided to RWG, PCF and also published on AEMO's website.
- Full readiness reporting is planned to commence February 2020.

Round 2 observations

- Response rate represents 66% of RWG aligned participants
- Response to vendor aspects
 - Response provided 15 vendors with 2 or more sites, 30+ single site vendors
 - 53% of respondents highly dependent on vendor delivery, with 83% very or reasonably confident in vendor delivery
- As measure of project establishment 51% of respondents are managing their progress against a project schedule with status management,
- Draft report distributed Monday 23rd September

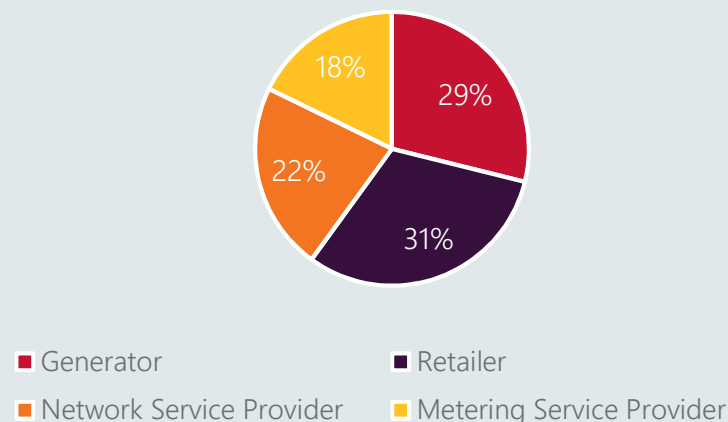
RWG Feedback

- Provide indication of total participants versus respondents in analysis alongside analysis of responses for greater insight into trends
- Include greater visibility to participant comments along with identified follow up actions
- Focus on creating actionable outputs from reporting (both interim and full readiness reporting)

Interim readiness reporting - Round #2

- A total of 29 unique organisations responded to the second survey, representing a response rate of 66%. Some organisations responded with multiple submissions to represent different participant types.
- There were five new respondents in the second survey. Nine respondents in the first survey did not respond in the second survey.
- MSPs and NSPs were asked to provide more detail on their respective participant types (e.g. MSPs to nominate as MC, MDP, MP) in this survey. However there was little differentiation in the provided survey responses among the more detailed participant category types. Hence, survey results are presented in aggregate at the MSP and NSP level for simplicity.

Figure (i): Interim Readiness Reporting – Participant respondent type (%)



Observations:

- There was a slight decrease in response rate between the first and second survey, with nine organisations (mainly retailers) that responded to the first survey not responding again in the second survey.
- Responses were received from an even mix of participant types, with generators, retailers, NSPs and MSPs each representing approximately a quarter of total responses.
- Based on the response rate and mix of respondents, the survey responses represents a reasonable cross-section of the industry

Key findings (1)

- The key findings from the previous survey remain consistent in this survey, with this round of survey results reflecting a general level of progress since July.
- Risks raised in the survey are consistent with the identified risks in previous survey.
- MSPs have made notable progress between the two surveys, and made the most progress among all participant types.
- Most participants have commenced activities to establish 5MS & GS programs, however few have well established programs.
 - Strong management awareness of 5MS / GS requirements, with understanding of GS requirements increasing over time
 - Almost all respondents are in the early stages of developing project plans and mobilising resources
 - All respondents have commenced considering funding for their respective programs. However only a handful have fully considered funding.
- 5MS programs are further advanced relative to GS.
 - Almost all participants have at least a small degree of overlap between their GS and 5MS IT program; half of respondents have fully integrated programs; and retailers are least likely to have combined programs

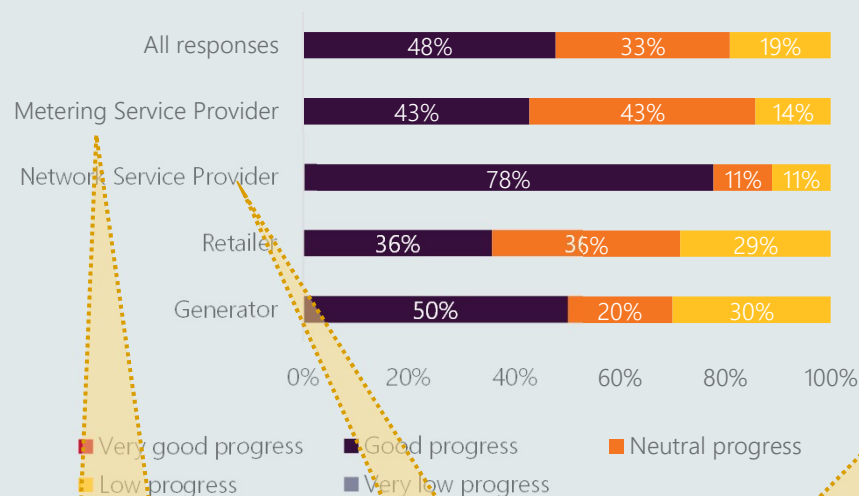
Key findings (2)

- Most respondents have commenced engagement with vendors, this however this engagement is in its early stages. The most frequently listed vendors were Energy One, Oracle, Itron and Brave Energy.
- A proportion of generators are responding that GS is not relevant to their organisation, however more than half are still responding to GS questions.
 - *What do participants see as the impacts of GS to generators?*
- Majority of respondents intend to participate in industry testing and market trials for 5MS, with half of respondents feeling that they will be very prepared.
- Less than half of respondents intend to participate in testing for GS settlement and UFE publication. A similar proportion have not decided if they will participate in GS settlement and UFE publication testing.
 - *What are some contributing factors in the decision to participate in GS and UFE testing?*
- Majority of respondents have commenced impact assessments on market procedures, commercial operations and agreements, internal business processes and standing data/meter transition. There has been the most progress in performing impact assessments for standing data/meter transition, and the least progress in assessing impacts to commercial operations and agreements.

Guide to Interpreting graphs in this report (1)

1 This graph presents the **spread of responses** for this question, from the most current survey.

Figure (ii): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:



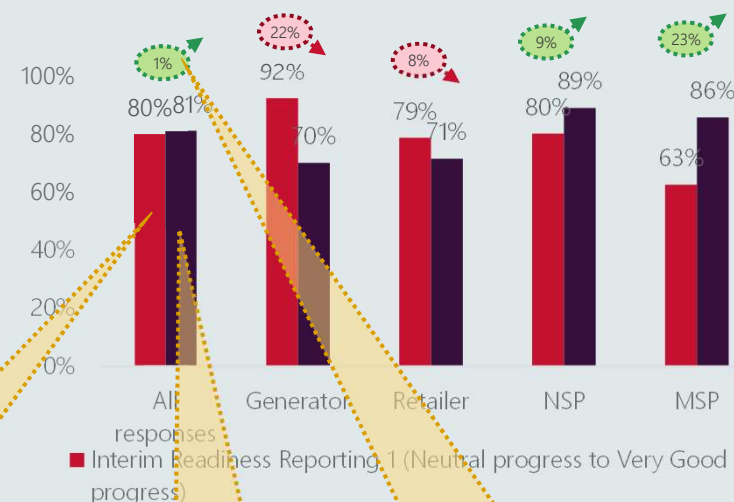
2 This bar shows the consolidated responses of all participant types

3 This bar shows the consolidated responses of all Metering Service Providers

5 The red column shows the proportion of respondents that responded with a Neutral or above response for this question, in the **first** survey

4 This graph presents the **trend or progression** of responses for this question by comparing results of this survey with previous surveys.

Figure (iii): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:



6 The purple column shows the proportion of respondents that responded with a Neutral or above response for this question, in the **second** survey

7 This number represents the change in proportion of respondents that responded with a Neutral or above response between surveys. A positive number indicates progress.

Less positive/progressive response example			Neutral response example			More positive/progressive response example		
1. Very low progress	2. Low progress	3. Neutral progress	4. Good progress	5. Very good progress				
1. Not at all familiar	2. Not so familiar	3. Somewhat familiar	4. Very familiar	5. Extremely familiar				
1. Not at all	2. To a limited extent	3. Somewhat considered	4. Reasonably considered	5. Fully considered				

Overall program status – 5MS

Figure (iv): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:

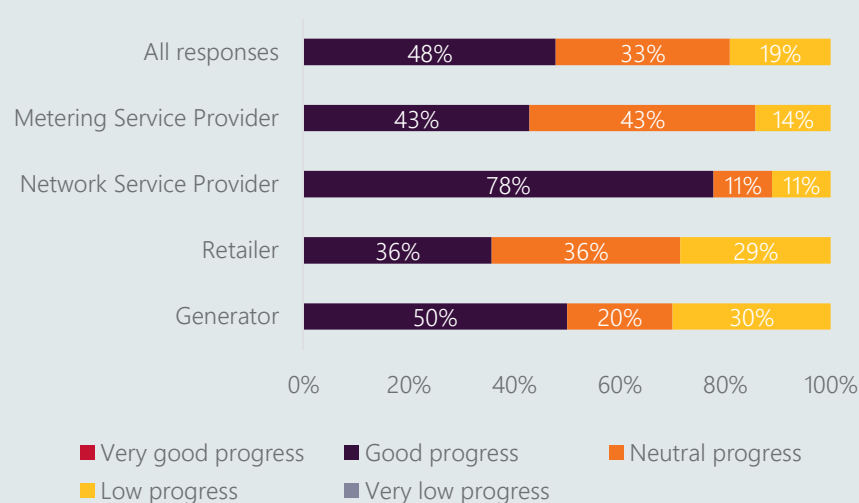
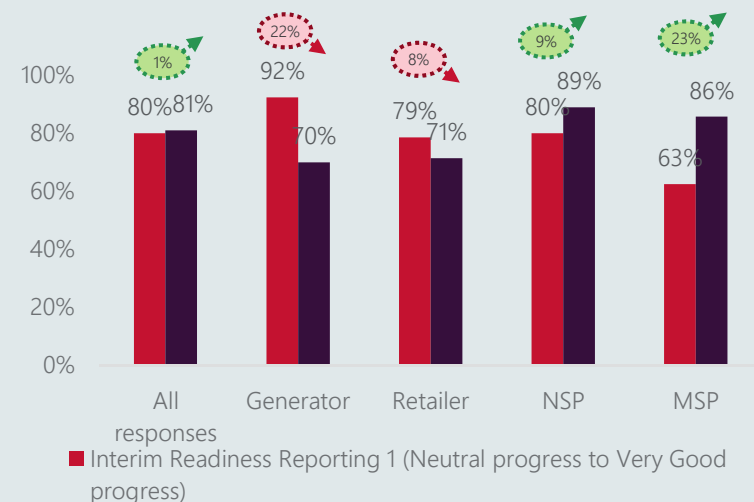


Figure (v): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:



Observations:

- The proportion of respondents with Neutral to Good progress on their 5MS program increased by 1% to 81%
- MSPs made the most progress on their 5MS programs between the two surveys, with the proportion responding with Neutral to Good progress increasing by 23% to 86%
- The proportion of Generators and Retailers with Neutral to Good progress on 5MS dropped by 22% and 8%

Overall program status – GS

Figure (vi): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for GS:

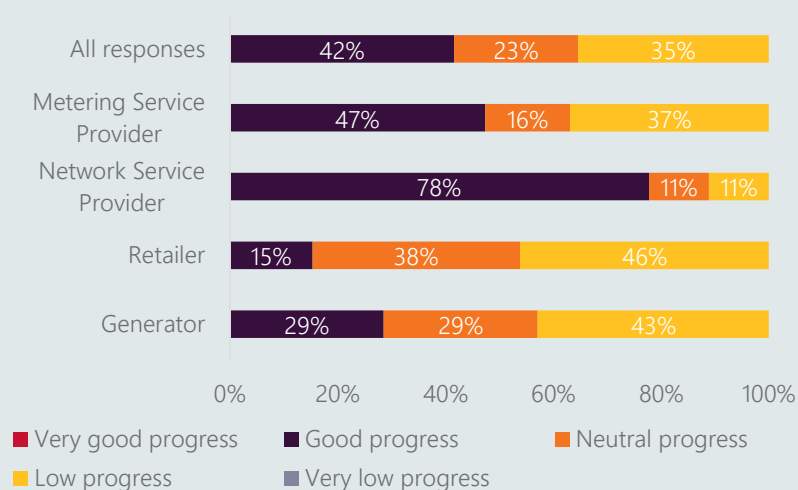
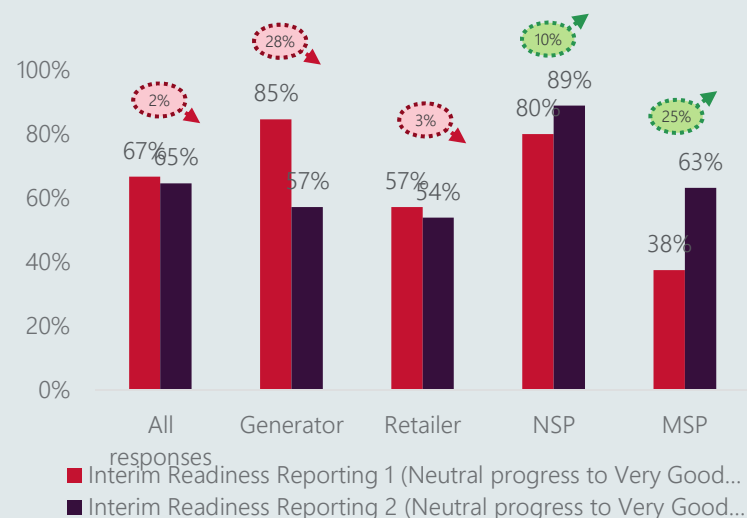


Figure (vii): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for GS:



Observations:

- The proportion of respondents with Neutral to Good progress on their GS program decreased increased by 2% to 65%
- MSPs made the most progress on their GS programs between the two surveys, with the proportion responding with Neutral to Good progress increasing by 23% to 63%
- The proportion of Generators and Retailers with Neutral to Good progress on GS dropped by 28% and 3%

Interim readiness reporting – Key Dates

Below are the survey dates for interim readiness reporting. Note that that survey dates for round 3 of interim reporting has been revised.

Table 1: Interim Readiness Reporting – Survey dates

Interim reporting	Survey released	Responses due	Results distributed	Discuss at RWG meeting
Round #1	Thu, 18 Jul	Wed, 31 Jul	Tue, 6 Aug	Tue, 6 Aug / Tue, 27 Aug
Round #2	Mon, 2 Sep	Fri, 13 Sep	Mon, 23 Sep	Tue, 24 Sep
Round #3	Mon, 4 Nov	Wed, 20 Nov (prev. 15 Nov)	Tue, 3 Dec (prev. 26 Nov)	Tue, 10 Dec (prev. 28 Nov)

New dates for round #3 of Interim Readiness Reporting align with PCF and RWG December meeting dates.

Industry Risks & Issues Register – Quarterly Review

Proposed Risks and Issues

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
* R14 *	Expectations and interpretation of transitional activities to implement metering procedure requirements may result in some participants being unable to effectively deliver business functions				<ul style="list-style-type: none"> Identification of MDP, Retailer and DB planned capability and implementation timeframe Establishment of potential for staged release of NMI Classification Establishment of potential for B2B aggregation processes to be provided 			
* R15 *	Resource and timing constraints for AEMO and MSP participants may result in delays to accreditation updates in timeframe required for transition activity				<ul style="list-style-type: none"> Establishment of accreditation update plan on basis of planned participant upgrades and timings Validation of accreditation update approaches and resourcing requirements based on participant plans 			

- Based on RWG Risk and Issues discussion, recommended to be reviewed by PCF for inclusion in the Industry Register.
- If PCF agree to include, RWG to develop the risk rating, actions/mitigations, etc.

Proposed Risks and Issues

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
* R16 *	Potential for a number of Metering and/or Retail participants to go-live on 1 July 2021, sending 5MS compliant flows for the first time on that day, may result in an increase of the potential of multiple failures across B2M and B2B networks.				<ul style="list-style-type: none"> Understand planned go live dates for all MDPs and Retailers Develop detailed plans surrounding timing of flows for the first time. Develop contingency strategies surrounding how to handle interactions that don't successfully complete. 			
* R17 *	Inefficient implementation of 5MS/GS rule change resulting in increased overall industry cost (i.e. greater cost impact to customers)				<ul style="list-style-type: none"> Implementation amendments rule change used to address several inefficient elements of the 5MS and GS rule. Consultation on procedures and technical design to allow inefficient elements to be identified early in implementation. AEMO has sought participant input on opportunities to reduce industry impact through focus groups and dedicated Reconciliation Support Workshop. Several opportunities have been identified, which have been explored through change request process Participants to advise of any further opportunities to reduce industry impact, which AEMO can consider through change request process. 			

Issues

ID	DESCRIPTION	TREND	RISK RATING	CURRENT ACTIONS / APPROACH
I05	No visibility of the financial impact of 5MS on participant fees, results in participants questioning any changes to fees	↔		<ul style="list-style-type: none"> AEMO has commenced consultation for 5MS and GS as a declared NEM project, under a two stage consultation process. The second stage of the process will address the actual fee structure for recovery of the costs of the project including the Registered Participants that will be charged the fees.
I06	Transition programs to support the conversion of meters is not yet finalised, results in participants inability to plan for industry testing	↔		<ul style="list-style-type: none"> This matter has been moved to the Readiness Workstream. Initial conversations were held at the Transition Focus Group 30 August 2019. AEMO is seeking views from MDPs and MPs regarding the activities and levels of activities that may required to support the retail metering transition.
I07	Level of support required for GS financial implementation from 06-Feb-2022 is not yet defined, results in participants inability to plan for go-live	↔		<ul style="list-style-type: none"> This matter has been moved to the Readiness Workstream. AEMO will develop a proposal to align market trials with go live date in the cut-over strategy 30 September.

Critical Risks

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
R02	Participants may have inadequate systems to operate within new market conditions at rules effective date, resulting in failure to be ready for go-live.	Likely	Major	Critical	<ul style="list-style-type: none"> AEMO and Industry have commenced Readiness Workstream activities in consultation with via the Readiness Working Group (RWG). Industry Interim Readiness Reporting (IRR) commenced, ahead of finalisation of the Industry Readiness Reporting Plan. AEMO identified critical participant categories i.e. metering businesses. Technical Specification documentation delivered at milestones to prevent impact on participant program delivery Provision of targeted information sessions to support participant understanding of systems and transition requirements 	Possible	Major	Significant
R06	Significant regulatory changes across the energy sector will stretch resources allocated to market change programs, resulting in potential impacts to participants' resourcing and program delivery.	Likely	Major	Critical	<ul style="list-style-type: none"> Engage broadly internally and externally to understand other industry priorities. Participants and AEMO to perform SMS risk assessment when responding to proposed regulatory changes Participants and AEMO to advocate to the regulatory change authority if risk to SMS is material PCF to escalate to the Executive Forum where industry-wide risks from a proposed regulatory initiative include timeline slippage for SMS AEMO to internally align where other program procedure and system impacts overlap 1 on 1 meetings to discuss this risk Consider how other forums (e.g. NEMWCF) can be utilised to address risk 	Possible	Major	Significant

Significant Risks

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
R01	Small participants are not adequately engaged due to their resource limitations, resulting in small participants not having the ability or the information to execute their programs.	Likely	Moderate	Significant	<ul style="list-style-type: none"> AEMO developed small participant engagement plan Review small participant groups for critical engagement areas AEMO to continue to provide general information sessions and specific small participant briefing opportunities PCF members to make recommendations on how AEMO can enable greater participation from resource constrained stakeholders, particularly small participants 	Possible	Minor	Medium
R03 a	Procedure consultations may be overlooked or under-resourced by participants if they occur during the summer period, resulting in an inability to participate and provide informed feedback	Likely	Moderate	Significant	<ul style="list-style-type: none"> Transparent schedule for Procedures consultation activities 	Unlikely	Minor	Low
R03 b	User Acceptance Testing (UAT) consultations may be overlooked or under-resourced by participants if they occur during the summer period, resulting in an inability to participate in and complete testing activities ahead of go-live	Likely	Moderate	Significant	<ul style="list-style-type: none"> Current controls in industry testing don't require summer testing. AEMO working with participants through the forums and working groups to ensure that the schedule is reasonable and understood with adequate advanced notice for consultation and testing requirements. Participants providing feedback on AEMO's program timeline and readiness proposals. 	Possible	Moderate	Significant
R04	AEMO systems for bids/offers and meter data all going live at once on 1 July 2021, results in a failure of go live.	Rare	Extreme	Significant	<ul style="list-style-type: none"> Staged approach to procedure implementation in preparation for Rule go-live. Systems Staging Environment available from Nov-2019. AEMO to begin distributing information on the readiness workstream from Mar-May 2019, with a more detailed view of industry testing and the cutover for the June 2019 PCF. 	Rare	Moderate	Medium

Significant Risks and Issues

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
R07	Financial markets may not be ready for changes to financial instruments and products, resulting in AFMA and ASX inability to provide financial instruments and products/contracts	Possible	Major	Significant	<ul style="list-style-type: none"> AEMO to engage with AFMA, ASX and other trading platforms, and update PCF on interactions as required. EF engagement / briefing with AFMA on risks and issues 	Unlikely	Major	Medium
R08	Further procedure changes arising from program activity, results in impact to AEMO and participants program implementation and failure to be ready at go-live	Likely	Moderate	Significant	<ul style="list-style-type: none"> PWG will remain as a forum to address any Procedures issues as they arrive; remain in abeyance until such time AEMO to consider including option of further round of procedure change prior to 5MS go live RWG and SWG to identify possible issues and amend as soon as possible. AEMO to manage the scope of the procedural change / likelihood 	Likely	Minor	Medium
R09	Future rule changes could affect the implementation of 5MS, resulting in impacts to industry program implementation timelines	Possible	Major	Significant	<ul style="list-style-type: none"> AEMC must complete thorough assessments as part of any rules change proposals, seek advice from industry and AEMO. Exec Forum to continue to monitor 	Possible	Major	Significant
R10	Milestones may not be met due to required time for participant vendor/s contract negotiation after 5MS technical specifications to be released, resulting in participants inability to be ready at go-live	Possible	Major	Significant	<ul style="list-style-type: none"> Build sufficient time into program delivery by AEMO AEMO engaged with participants to identify issues through Readiness Reporting and participants provided updates to the PCF regarding vendor performance AEMO to provide participants with clarifications regarding technical specification status - ie. likely change from draft to final AEMO hold/maintain a collated list of vendors, with participants asked to supply vendor details AEMO to hold Vendor Information sessions 	Unlikely	Minor	Low

Significant Risks and Issues

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
R11	AEMO may not be ready to deliver the full extent of the 5MS deliverables by Go Live, results in failure of Go Live for 5MS and GS Program	Possible	Major	Significant	<ul style="list-style-type: none"> AEMO implemented milestone management and reporting framework in February 2019 Milestone change process in place June-2019 Procedures and systems work stream deliverables on-track 	Unlikely	Major	Significant

Medium Risks

ID	DESCRIPTION	LIKELIHOOD	CONSEQUENCE	RISK RATING	CURRENT ACTIONS / APPROACH	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK RATING
R05	Rule drafting that results in unintended operational implementation impacts or inefficiencies, requiring further rule change amendments, resulting in an impact to program delivery.	Possible	Minor	Medium	<ul style="list-style-type: none"> AEMO to engage with participants to identify issues Engage with the AEMC to rectify as inconsistencies identified 	Unlikely	Minor	Low
R12	Unexpected impacts to B2B procedures following consultation on market procedures, resulting in requirements for changes that may impact system design	Unlikely	Moderate	Medium	<ul style="list-style-type: none"> IEC and B2BWG to review all B2B procedures following the completion of the of the 5MS procedures work (early 2020) 	Unlikely	Moderate	Medium
R13	5MS/GS implementation amendments rule may result in unforeseen procedure changes, resulting in delays to system delivery.	Unlikely	Moderate	Medium	<ul style="list-style-type: none"> AEMO and AEMC both ran consultation processes with industry on the proposed changes prior to AEMC making the rule change 	Unlikely	Moderate	Medium

Staging Environment

Graeme Windley

5MS Staging Environment

What is the Purpose of the 5MS Staging Environment?

- Assist participants building and testing their 5MS-related system changes.
- Provide test environment for participants' 5MS system testing:
 - enable participants to test their interfaces with AEMO, and
 - assist their development by being able to access early versions of screens, reports etc.
- Supports AEMO in assessing product quality before it is released into pre-PROD & Market Trials.

What Functions will be Available in Staging?

- Releases of various functions are scheduled from November 2019 to July 2020.
- Relevant RM reports:
 - Will be provided in 5MS format throughout Q2 & Q3 2020.
 - Participants can request, via the 5MS Mailbox, reports that they would like to receive as early as possible. AEMO will consider what is feasible with respect to internal development constraints.

5MS Staging Environment

Expectation Setting:

- Staging is *not*
 - A Market Trial environment. There will be no co-ordination of Settlement Runs, Testing, Market Simulations, 7Day Pre-Dispatch, etc.
 - The Market Trial approach and timing will be communicated with the Readiness approach.
 - An end-to-End environment i.e. meter data information submitted won't be reflected in a Settlement Run.
 - A place to deploy functions that are not impacted by 5MS.
- Performance is not guaranteed.
- Defects can be raised, will be triaged and fixes scheduled into AEMO's 5MS development work. There are no SLAs for updating software in Staging.
- Input data (i.e. SCADA, demand forecasts) is likely to be static.

Access & Support

- Participants arrange access to Staging by contacting AEMO Support Hub (5MS resolver group has been established in Service Now).
- We encourage Participants to log defects via the AEMO Support Hub process too.

5MS Staging Environment - Dispatch

2019			2020						
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	↑						↑		

DROP ONE – 29 November 2019*

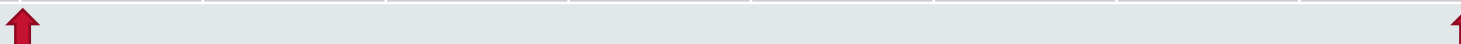
- Submit 5-Min Bids, via new web interface, API and/or FTP.
- Bidding Data Model changes as per technical specifications released July 2019
- Participants can receive Dispatch, 5-minute Pre-Dispatch & 30-minute Pre-Dispatch data.

DROP TWO – 15 May 2020*

- Trading data model changes
- Administered pricing events
- NEM Display

5MS Staging Environment - Metering

2019			2020						
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul



DROP ONE – 1 December 2019*

- Allow MDPs to confirm the connectivity of their test environments with the AEMO 5MS Staging Environment.
- Allow MDPs to confirm that MTRD CSV MDFF created by their systems for Market Settlements are able to pass new AEMO validations (30 min and 5 min).
- Allow MDPs to validate FTP hokey pokey protocol for MTRD exchange with the NEMMCO participant ID.

DROP TWO – 31 July 2020* (note some content will be delivered earlier)

- Meter Data Ingestion of MTRD (NEM13) and MDMT
- Support for API Meter Data Ingestion
- MSATS Browser screens
- B2M CATS, NMID, and MDM transactions and B2B message exchange supported
- RM Reports

5MS Staging Environment – Settlement

2019			2020						
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
									

DROP ONE – 1 November 2019*

- Reallocations: available at both 30 and 5-min intervals; new Web UI; Calendar selection; Alerts

DROP TWO – 31 January 2020*

- Completed Data Model: New UFE tables, additional UFE columns.

DROP THREE – 16 March 2020* (note tracking ahead of schedule)

- Settlements & Billing, including 5-min & Global Settlements. New invoice templates. Decommission of Mandatory Restrictions in NEM Settlements.
- Content includes Prudentials & Settlement Estimation.

Cost Consultation – Draft report update

Peter Carruthers

Consultation Timeline

Process Stage	Indicative Date
5MS Program Consultation Forum Presentation	<i>8 August 2019</i>
Closing date for submissions in response to this Notice and Consultation Paper	<i>27 August 2019</i>
Publication of Draft Report and Determination	<i>24 September 2019</i>
Closing date for submissions in response to the Draft Report	<i>9 October 2019</i>
Publication of Final Report and Determination	<i>20 November 2019</i>

Vendor Engagement Session - update

Graeme Windley

5MS Vendor Session – 16 October 2019

Agenda

- Program Introduction; Staging Environment Detail (as presented here); Timeline with Key Dates.

Dispatch (Shalindra Kulasuriya)

- Bidding
 - Submission and Format – API, FTP and Web UI
- Trading Data
 - Data Models
- Pricing
 - Administered pricing – CPT, RSP, Market Notices
 - Market suspension pricing
 - Negative Residues management

Retail (Simon Tu)

- Meter Data Notification
 - MDFF (NEM12 & NEM13) – how AEMO will accept MDFF
 - MDMF Interval metering data sunset
- MDM (RM) Report Changes
 - Multiple payloads to support 48, 96, 288 readings
 - New reports
- Global Settlements
 - UFE calculation – Tier 1 and Non-Contestable Unmetered Loads
 - New NMI Standing Data
- MSATS Browser Changes
- Introduction of B2M via API

Settlements (Pierre Fromager)

- Reallocations Web UI
 - Including upload/download of CSV files
- Reallocations Alerts & APIs
- Settlements Statements
 - Invoicing format
 - Layout changes
- Reconciliation Reports
 - Inclusion of UFE data

General Questions

Peter Carruthers

Forward meeting plan

Peter Carruthers

Forward Agenda

November Agenda

- Staging Environment – update
- Declared NEM Project – 5MS Program update; Draft Report submissions
- Vendor Engagement Session – update
- Global Settlements update
- Engagement Structure/Approach – update
- Industry Readiness Reporting Plan
- 5MS contingency planning

December Agenda

- Staging Environment – update
- Interim Readiness Reporting Round #3
- Transition and Go-Live Strategy – submissions and final paper update
- Industry Test and Market Trial Strategy – submissions and final paper update
- Metering Service Provider Accreditation Plan – update

Upcoming meetings

Meetings and forum dates

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

SEPTEMBER

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

OCTOBER

Su	Mo	Tu	We	Th	Fr	Sa
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

NOVEMBER

Su	Mo	Tu	We	Th	Fr	Sa
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Focus Groups
Dispatch
Metering
Settlements
Reconciliation
Transition
Other
Information Sessions

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

National Public Holiday
State Public Holiday



Appendix 1

Milestone Descriptions

Level One Milestones – Description

Current as at 20-09-2019

Key Milestones (Program)

ID	Milestone	Description	Target Date	Expected Date	Status
L1-1	5MS Drafting Amendments submitted to AEMC	Issues with current drafting collated and submitted back to the AEMC by AEMO.	20-Mar-2019	15-Mar-2019	Complete
L1-2	IEC Approves B2B Procedures	The IEC must have consulted and recommended to AEMO any changes to the B2B procedures.	01-Jul-2019	01-Jul-2019	Complete
L1-3	AEMO publishes NEM Procedures	The approved 5MS and GS changes to NEM Procedures are completed and published on the AEMO website.	01-Dec-2019	01-Dec-2019	Mandated
L1-4	5MS & UFE Market go Live	Industry settles electricity at five-minute intervals. UFE reported to market.	01-Jul-2021	01-Jul-2021	Mandated
L1-5	GS Market go live	NEM Market Settlements operation commences using Global Settlements.	06-Feb-2022	06-Feb-2022	Mandated
L1-6	Mandatory 5MS meter data delivery	Five-minute reads are mandatory from all new and replacement meters.	01-Dec-2022	01-Dec-2022	Mandated
L1-7	Market Readiness Strategy published by AEMO	A completed Market Readiness strategy is published on the AEMO website.	20-Jan-2020	20-Jan-2020	Firm
L1-8	Participant Market Trials commence	Initial 5MS Market Trial commences.	01-Dec-2020	[01-Dec-2020]	Provisional
L1-9	Participant Market Trials conclude	Final Market Trial completes.	31-May-2021	[31-May-2021]	Provisional
L1-10	Metering accreditation complete	MPs and MDPs who are delivering 5-min data for 1 July 2021 have been accredited as part of the market readiness process.	31-May-2021	[31-May-2021]	Provisional
L1-11	All AEMO workstream development commenced	All internal workstreams will have commenced development to deliver the 5MS and GS solutions.	23-May-2019	23-May-2019	Complete
L1-12	5MS Staging Environment live	The 5MS Staging environment is available to Participants, who can interact with deployed 5MS and GS code.	01-Dec-2019	01-Dec-2019	Provisional
L1-13	AEMO internal development completed	All AEMO internal system development completed.	30-Jun-2020	30-Jun-2020	Provisional
L1-14	Market participants readiness for Market Trials	All Market Participants are ready for the commencement of 5MS Market Trials.	30-Nov-2020	[30-Nov-2020]	Provisional
L1-15	5MS Drafting Amendments determined by AEMC	AEMC publish final determination and rule on 5MS & GS implementation	31-Aug-2019	08-Aug-2019	Complete
L1-16	5MS cost recovery approach communicated	AEMO is to have finalised and published the cost recovery approach for the 5MS & GS rule changes.	30-Sep-2020	30-Sep-2020	Provisional

Level Two Milestones – Metering (External)

Current as at 20-09-2019

Key Milestones (Program)						
ID	Milestone	Description	Target Date	Expected Date	Status	Comments
L2-M1	AEMO internal metering solution – solution design complete (internal)	Solution Design phase for new AEMO Meter Data Management (MDM) and Profiling Allocation Engine (PAE) complete.	31-May-2019	17-Jun-2019	Complete	
L2-M2	Final technical specifications for Package 1 published by AEMO	Technical Specification for changes to MDFF NEM12 NEM13 as a result of 5MS and GS available to Participants.	30-Jun-2019	30-Apr-2019	Complete	
L2-M3	Final technical specifications for Package 2 published by AEMO	Technical Specification for changes to Transition, Meter Data Load – MDFF as a result of 5MS and GS available to Participants.	30-Sep-2019	30-Sep-2019	On Track	
L2-M4	Final technical specifications for Package 3 published by AEMO	Technical Specification for introduction of B2M via API as well as changes to the MSATS Browser (LVI) and MSATS Report changes as a result of 5MS and GS available to Participants.	30-Sep-2019	30-Sep-2019	On Track	Alignment with Metering Package 2
L2-M5	Software drop for Packages 1 & 2 in 5MS Staging Environment	Software deployed into the 5MS Staging environment for Meter Data Load – MDFF available for Participant testing.	01-Dec-2019	01-Dec-2019	On Track	
L2-M6	Agreement on requirements for accreditation & Market Trial	Program agreement of the Accreditation requirements and process, and on market testing requirements and process.	31-Mar-2020	[31-Mar-2020]		Aligned with the MSP Accreditation Plan document
L2-M7	AEMO internal metering solution – build complete (internal)	Build phase for new AEMO Meter Data Management (MDM) and Profiling Allocation Engine (PAE) complete	30-Jun-2020	30-Jun-2020	On Track	
L2-M8	Software drop for Package 3 in 5MS Staging Environment	Software deployed into the 5MS Staging environment for B2M via API, MSATS Browser (LVI) and MSATS Report enhancements and available for Participant testing.	31-Jul-2020	31-Jul-2020	On Track	
L2-M9	AEMO internal metering solution – go live complete (internal)	Go Live date for new AEMO Meter Data Management (MDM) and Profiling Allocation Engine (PAE) complete	31-Oct-2020	[31-Oct-2020]	On Track	
L2-M10	New MDFF format accepted by AEMO	AEMO deploys MDFF capable software to PROD, and all Market Participants can begin submitting files in the new MDFF format.	01-Nov-2020	[01-Nov-2020]		Dependent upon readiness strategy
L2-M11	Market Trial preparation completed by participants	All Market Participants who are required to submit five-minute meter reads are ready for market trials	30-Nov-2020	[30-Nov-2020]		Content and timing of Market Trials TBD
L2-M12	Market Trial preparation completed by AEMO	AEMO has deployed all relevant software to the 5MS pre-Production environment and is ready to deliver the agreed Market Trial scenarios	30-Nov-2020	[30-Nov-2020]		Content and timing of Market Trials TBD
L2-M13	Market Trials conclude	All relevant Market Participants have completed Market Trials to submit five-minute read data.	31-May-2021	[31-May-2021]		Content and timing of Market Trials TBD

Level Two Milestones – Dispatch (External)

Current as at 20-09-2019

Key Milestones (Program)						
ID	Milestone	Description	Target Date	Expected Date	Status	Comments
L2-D1	Final technical specifications for Package 1 published by AEMO	Technical Specification for changes to Dispatch, Pre-dispatch P30/7DAY, ST PASA, Bidding Data Model and Bidding Format as a result of 5MS and GS available to Participants.	2-Apr-2019	2-Apr-2019	Complete	
L2-D2	Final technical specifications for Package 2 published by AEMO	Technical Specification for changes to the Bidding Web UI and APIs as a result of 5MS and GS available to Participants.	31-Jul-2019	31-Jul-2019	Complete	
L2-D3	Software drop for Packages 1,2 & 3 in 5MS Staging Environment	Software deployed into the 5MS Staging environment for Dispatch, Predispatch P30/7DAY, ST PASA, Bidding Data Model and Bidding Format, Bidding Web UI and APIs and Predispatch P5.	29-Nov-2019	29-Nov-2019	[Firm]	
L2-D4	Development completed (internal)	Software deployed into the 5MS Staging environment for RERT, Trading Price / Price Revision, Administrated Pricing and CPT, Suspension Pricing, Negative Residue Management, data model for Dispatch	31-May-2020	31-May-2020	[Firm]	
L2-D5	Software drop for Package 4 in 5MS Staging Environment	All AEMO internal development work has completed for the Dispatch stream	15-May-2020	15-May-2020	[Firm]	
L2-D6	UAT completed (internal)	All AEMO internal UAT has completed for the Dispatch stream	30-Nov-2020	30-Nov-2020	[Firm]	
L2-D7	Market Trial preparation completed by participants	All Market Participants who are required to submit 5MS bids and offers are ready for market trials	30-Nov-2020	[30-Nov-2020]	Provisional	Content and timing of Market Trials TBD
L2-D8	Market Trial preparation completed by AEMO	AEMO has software deployed to pre-production environment and is ready to deliver the agreed Market Trail scenarios	30-Nov-2020	[30-Nov-2020]	Provisional	Content and timing of Market Trials TBD
L2-D9	5-min bidding phased go live begins	Participants can begin submitting 5-min bids to the market	01-Apr-2021	[01-Apr-2021]	Provisional	
L2-D10	Market Trial concludes	Market Trial scenarios related to dispatch have been completed	31-May-2021	[31-May-2021]	Provisional	Content and timing of Market Trials TBD
L2-D11	30-min bidding no longer accepted by AEMO	All Wholesale Market Participants now submitting five-minute bids and offers to AEMO	01-Jul-2021	01-Jul-2021	Mandatory	
L2-D12	Final technical specifications for Package 4 published by AEMO	Technical Specification for changes to Pricing (and Miscellaneous) as a result of 5MS and GS available to Participants.	31-Jul-2019	31-Jul-2019	Complete	
L2-D13	Final technical specifications for Package 5 published by AEMO	Technical Specification for changes to the full data model as a result of 5MS and GS available to Participants.	31-Jan-2020	31-Jan-2020*	[Firm]	

Level Two Milestones – Settlements (External)

Current as at 20-09-2019

Key Milestones (Program)						
ID	Milestone	Description	Target Date	Expected Date	Status	Comments
L2-S1	Final technical specifications for Package 1 published by AEMO	Technical Specification for changes to Reallocation as a result of 5MS and GS available to Participants.	15-Oct-2019	15-Oct-2019	On Track	
L2-S2	Software drop for Package 1	Software deployed into the 5MS Staging environment for Reallocations.	01-Nov-2019	01-Nov-2019	On Track	
L2-S3	Final technical specifications for Package 2 published by AEMO	Technical Specification for changes to Settlements and Billing as a result of 5MS and GS available to Participants.	15-Dec-2019	15-Dec-2019	On Track	
L2-S4	Final technical specifications for Package 3 published by AEMO	Technical Specification for changes to Prudentials as a result of 5MS and GS available to Participants.	31-Jan-2020	31-Jan-2020	On Track	
L2-S8	Market Trials for reallocations	All AEMO internal development work has completed for Settlements stream	13-Mar-2020	[13-Mar-2020]	Firm	
L2-S6	Software drop for Package 2 in 5MS Staging Environment	Software deployed into the 5MS Staging environment for Settlements and Billing.	16-Mar-2020	16-Mar-2020	Firm	
L2-S12	Reallocations go Live	Software deployed into the 5MS Staging environment for Estimations and Prudentials.	01-Apr-2020	[01-Apr-2020]	Firm	
L2-S7	Software drop for Package 3 in 5MS Staging Environment	Required Market Participants have completed industry testing for the upgraded reallocations web portal.	15-May-2020	15-May-2020	Provisional	Content of Market Trials TBD
L2-S5	Development completed (internal)	All AEMO internal UAT has completed for Settlements stream	31-May-2020	31-May-2020	Firm	
L2-S9	UAT completed (internal)	All Market Participants who will receive Wholesale settlement invoicing are ready for market trials.	30-Nov-2020	30-Nov-2020	Provisional	
L2-S10	Market Trial preparation completed by participants	AEMO has deployed all relevant software to the 5MS pre-Production environment and is ready to deliver the agreed Market Trial scenarios.	30-Nov-2020	[30-Nov-2020]	Provisional	Content and timing of Market Trials TBD
L2-S11	Market Trial preparation completed by AEMO	AEMO has deployed reallocation software to the PROD environment and 5-minute reallocation requests are enabled.	30-Nov-2020	[30-Nov-2020]	Provisional	Content and timing of Market Trials TBD
L2-S13	Market Trials conclude	All relevant Market Participants have passed the Market Trial for Settlements	31-May-2021	[31-May-2021]	Provisional	Content and timing of Market Trials TBD