Agenda

No	Time (AEST)	Agenda item	Presenter
Preliminary matters			
1	10:00 – 10:05	Welcome, introduction and apologies	Peter Carruthers
2	10:05 – 10:15	Meeting notes and actions	Peter Carruthers
3	10:15 – 10:25	Industry Risks and Issues Register – updates	Sonja Nigmann
Matters for noting			
4	10:25 – 10:40	Program update	Sonja Nigmann
5	10:40 – 10:50	Systems Workstream update	Graeme Windley
6	10:50 - 11:00	Readiness Workstream update	Greg Minney
7	11:00 – 11:05	Procedures Workstream update	Emily Brodie
Break 11:05 – 11:15			
Matters for discussion			
8	11:15 – 11:25	Change Request update	Chris Muffett
9	11:25 – 11:35	Market Readiness Strategy update	Greg Minney
10	11:35 – 11:55	Vendor Engagement	Graeme Windley
11	11:55 – 12:05	Industry Engagement Structure review	Monica Morona
Other business			
12	12:05 – 12:15	Forward meeting plan	Peter Carruthers
13	12:15 – 12:25	General questions	Peter Carruthers

Welcome, introductions and apologies

Peter Carruthers

Minutes and actions

Peter Carruthers

Actions (1)

Item	Topic	Action required	Responsible	Status
12.4.1	Systems Workstream update	AEMO to review staging milestones with "TBC" dates and confirm if these have been made firm.	AEMO	Closed TBC dates addressed where possible. Further TBC dates updated as confirmed.
13.3.1	Industry Risks and Issues Register	AEMO to provide the aggregated list of Vendor's to PCF Members.	AEMO	Complete
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	Ongoing 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 5MS 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	Ongoing Awaiting feedback from Industry. For discussion in agenda item.

Actions (2)

Item	Topic	Action required	Responsible	Status
13.3.4	Industry Risks and Issues Register	AEMO to update Industry Risks & Issues Register I05 to I07.	AEMO	Complete Issues updated. Addressed in Industry Risks and Issues Update
13.4.1	Program Update	AEMO to update the Industry Risks and Issues Register to ensure that potential Rule Amendments arising throughout testing and implementation are adequately outlined.	AEMO	Complete R08 updated. Addressed in Industry Risks and Issues Update
13.5.1	Systems Workstream Update	AEMO to review dates of Full Data Model Technical Specifications and User Guide and confirm timeframes/dates for release of User Guide.	AEMO	Complete Addressed in workstream update
13.12.1	Transition Principles and Industry Testing Approach	AEMO to include draft transition dates in the Microsoft Project file and ensure that all dates are aligned and following a logical sequence.	AEMO	In Progress AEMO will include transition dates in the MPP file as they are confirmed via the Transition Strategy

Industry Risks and Issues Register – updates

Sonja Nigmann

Industry Risks & Issues – updates

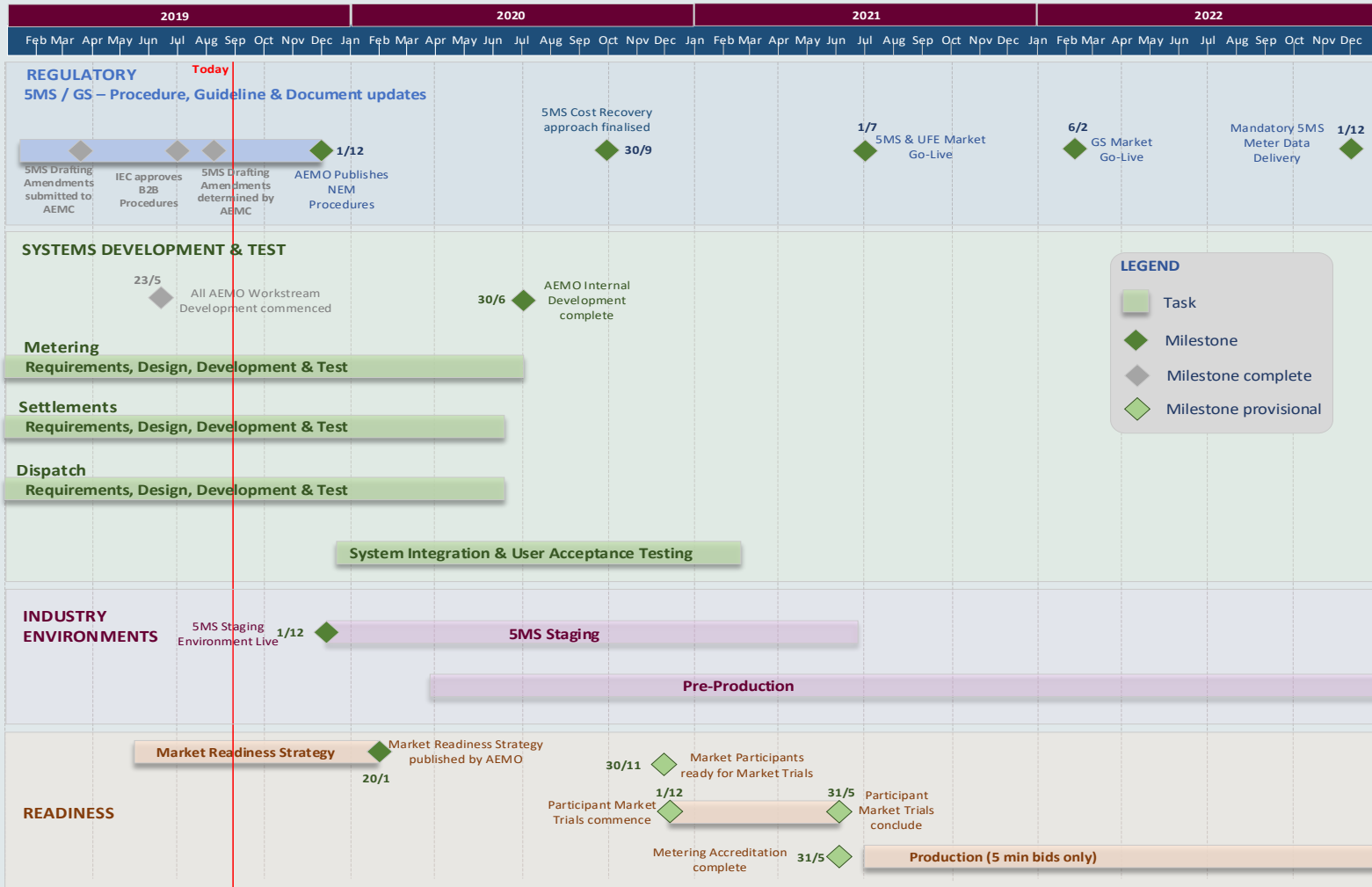| ID	TITLE	LIKELIHOOD	CONSE-QUENCE	RISK RATING	CURRENT ACTIONS / APPROACH
R08	Procedure changes arising from program implementation and testing activities	Medium	Medium	Medium	• AEMO to manage in accordance with the process outlined in Procedures transition update at PCF #11 • AEMO to provide continual updates via 5MS forums (inc. PWG via email) if/when this scenario arises
I05	Lack of visibility of 5MS implementation costs				• AEMO has commenced consultation for 5MS and GS are 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	Industry requiring support for metering transition activities throughout 2022				• 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	Support for Global Settlement go live				• 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.

Program Update

Sonja Nigmann

5MS & GS Program Timeline

REGULATORY

5MS / GS – Procedure, Guideline & Document updates

Today

- 5MS Drafting Amendments submitted to AEMC
- IEC approves B2B Procedures
- 5MS Drafting Amendments determined by AEMC
- AEMO Publishes NEM Procedures — 1/12
- 5MS Cost Recovery approach finalised — 30/9
- 1/7 5MS & UFE Market Go-Live
- 6/2 GS Market Go-Live
- Mandatory 5MS Meter Data Delivery — 1/12

SYSTEMS DEVELOPMENT & TEST

- 23/5 All AEMO Workstream Development commenced
- 30/6 AEMO Internal Development complete

Metering
Requirements, Design, Development & Test

Settlements
Requirements, Design, Development & Test

Dispatch
Requirements, Design, Development & Test

System Integration & User Acceptance Testing

LEGEND

Task
Milestone
Milestone complete
Milestone provisional

INDUSTRY ENVIRONMENTS

- 5MS Staging Environment Live — 1/12
- 5MS Staging
- Pre-Production

READINESS

- Market Readiness Strategy
- Market Readiness Strategy published by AEMO — 20/1
- 30/11 Market Participants ready for Market Trials
- 1/12 Participant Market Trials commence
- 31/5 Participant Market Trials conclude
- Metering Accreditation complete — 31/5
- Production (5 min bids only)

2019 | 2020 | 2021 | 2022

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 Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

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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 L1-15 L1-16	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 Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

Milestone complete

Milestone on track

Milestone at risk

Milestone not achieved

Key Milestones (Program)

ID	Milestone	Target Date	Expected Date	Status
L1-1	5MS Drafting Amendments submitted to AEMC	20-Mar-2019	15-Mar-2019	Complete
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	

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Level 2 Milestones Exceptions

ID	Milestone	Planned Date	Expected/ Actual Date	%	Comments
L2-RE04	Industry Test Strategy Industry Draft Released	30-Aug-19	30-Sep-19	60%	Highlighted at PCF #13. Combined with Market Test Strategy and aligned with Transition Strategy Draft. To be discussed in Readiness Update.

Program update and current activities
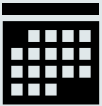
AEMO program delivery – overall green

- Cost recovery first stage consultation closed. Two submissions received from industry.

- Initiative underway to update/publish 5MS dates [monthly] as a package to help consistency and alignment

Procedures

- Workstream on track to deliver nearly all work by end October

- Overall workstream will complete ahead of December deadline

- Regular PWG meetings will cease from September

Systems

- Development and system testing progressing for Settlements and Dispatch

- Initial Metering solution build progressing

- Prepping of 5MS Staging environment before Q4 Reallocations, Dispatch and Meter Data Load initial deployments

- Ongoing Metering and Settlements Tech Spec delivery (Dispatch completed)

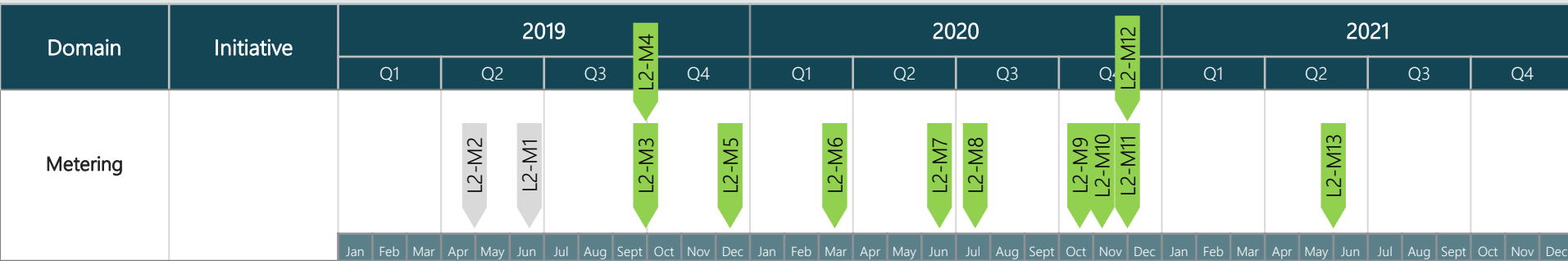- Tracking to milestone delivery dates

Readiness

- Draft Market Readiness Strategy released for consultation

- Transition and Go-Live strategy under development

- Industry Testing and Market Trial strategy under development

- First Interim Readiness Report has been released to Industry; second round reporting to commence 2 September

Systems Workstream update

Graeme Windley

Level 2 Milestones – Metering

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

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
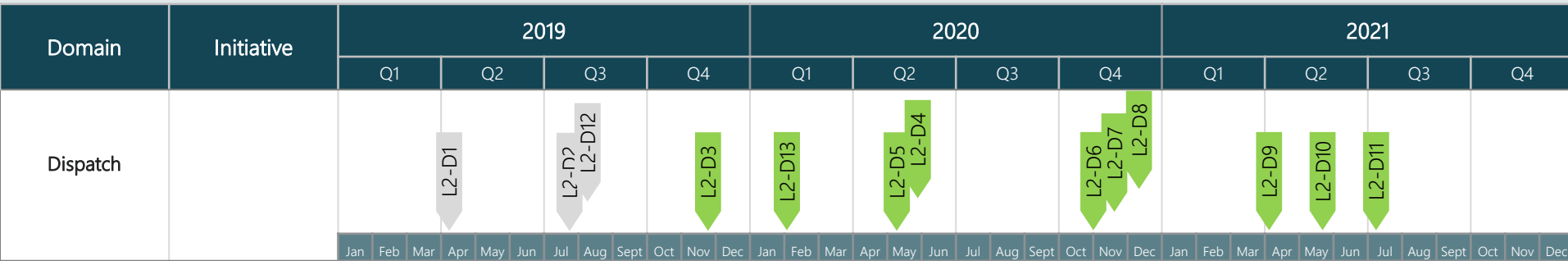
Milestone complete
Milestone on track
Milestone at risk
Milestone not achieved

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	On Track
L2-M4	Final technical specifications for Package 3 published by AEMO	30-Sep-2019	30-Sep-2019	On Track
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-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]	

Level 2 Milestones - Dispatch

Domain	Initiative	2019				2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Dispatch

Milestones shown on timeline: 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

Months: Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec (2019) Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec (2020) Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec (2021)

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

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
L2D12	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	

* Data available in Tech Specs now and in 5MS Staging from 29-Nov-2019

Level 2 Milestones – Settlements

Domain	Initiative	2019				2020				2021			
		Q1	Q2	Q3	Q4	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 Nov Dec | Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

Legend:
- Milestone complete
- Milestone on track
- Milestone at risk
- Milestone not achieved
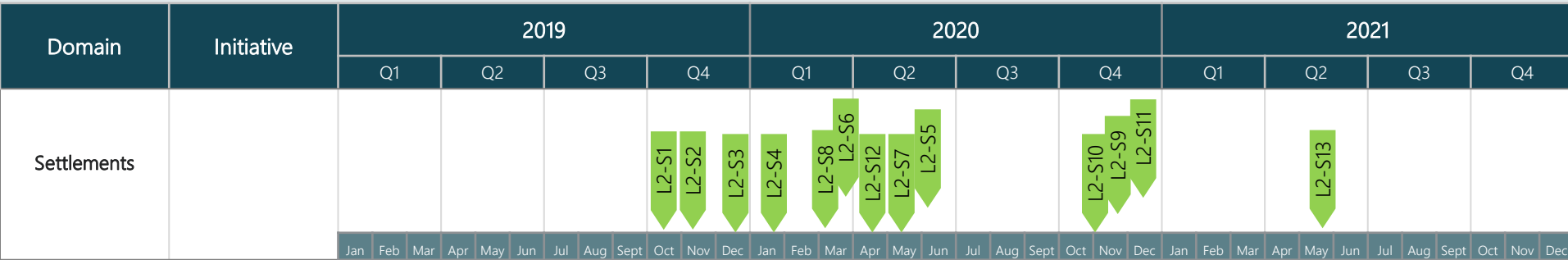
Key Milestones (Program)

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	
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]	

Systems Workstream - Metering

5 MINUTE SETTLEMENT SYSTEMS TRACKING	TIMING									
	Internal HLIA	Focus/Group	SWG Engagement	External HLIA	Draft Tech Spec	Final Tech Spec	User Guides	5MS 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	Feb 20 TBC	Mar 20 TBC
MSATS Browser (LVI) changes • MSATS Release Schedule & Technical Specification	Aug-18	-	May-19	9-May-19	28-Jun-19	30-Sep-19	TBC	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 pushed out (internal Tech Spec prioritisation; SWG informed)

Staging deployment not feasible for B2M via API

Alignment with L2-M3; No content changes to MSATS LVI from Draft Tech Spec to Final

Systems Workstream – Dispatch and Operations

5 MINUTE SETTLEMENT SYSTEMS TRACKING	TIMING									
	Internal HLIA	Focus/Group	SWG Engagement	External HLIA	Draft Tech Spec	Final Tech Spec	User Guides	5MS 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

Alignment with Staging deployment

Systems Workstream - Settlements

Current as at 30-08-2019

5 MINUTE SETTLEMENT SYSTEMS TRACKING	TIMING									
	Internal HLIA	Focus/Group	SWG Engagement	External HLIA	Draft Tech Spec	Final Tech Spec	User Guides	5MS 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	Mar-20	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									

Alignment with Staging deployment

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Readiness Workstream update

Greg Minney

Level 2 Milestones – Readiness

Domain	Initiative	2019				2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Settlements				L2-RE01 L2-RE02 L2-RE04 L2-RE06 L2-RE08 L2-RE05 L2-RFO3 L2-RE12 L2-RE09 L2-RE10		L2-RE07 L2-RE14 L2-RE11 L2-RE13							

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

Milestone complete
Milestone on track
Milestone at risk
Milestone not achieved
Provisional milestone TBC
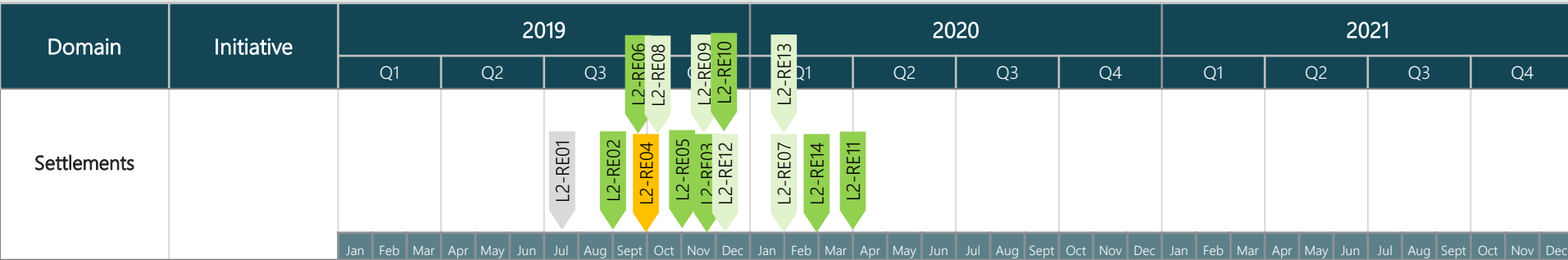
Key Milestones (Program)

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	
L2-RE03	Market Readiness Strategy Finalised	29-Nov-2019	29-Nov-2019	
L2-RE04	Industry Test Strategy Industry Draft Released	30-Aug-2019	30-Sep-2019	
L2-RE05	Industry Test Strategy Finalised	31-Oct-2019	31-Oct-2019	
L2-RE06	Transition and Go Live Strategy Industry Draft Released	30-Sep-2019	30-Sep-2019	
L2-RE07	Transition and Go Live Strategy Finalised	30-Jan-2020	30-Jan-2020	
L2-RE08	Market Trial Strategy Industry Draft	29-Nov-2019	29-Nov-2019	
L2-RE09	Market Trial Strategy Finalised	28-Feb-2020	28-Feb-2020	
L2-RE10	Metering Service Provider Accreditation Update Plan Industry Draft	29-Nov-2019	29-Nov-2019	
L2-RE11	Metering Service Provider Accreditation Plan Finalised	31-Mar-2020	31-Mar-2020	
L2-RE12	Industry Readiness Reporting Plan Industry Draft	29-Nov-2019	29-Nov-2019	
L2-RE13	Industry Readiness Reporting Plan Finalised	31-Jan-2020	31-Jan-2020	
L2-RE14	5MS / GS Industry Readiness Reporting Implemented	28-Feb-2020	28-Feb-2020	

Staged Transition – system implementations

2020 | **2021** | **2022**

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 Jul Aug Sep Oct Nov Dec

B2M via API's — 17/3 — Support Participant Technology Adoption

Reallocations — 1/4 — Business Cycle for reflecting post 1 Jul '21 reallocations

MDM Platform — 5/12 — Platform implementation for operational stability ahead of 5MS market start

MDFF Accepted — 1/2 — Capability to support 5MS meter transition

Dispatch Platform — 1/4 — Capability to support 5 minute bidding & business implementation

Settlements Platform — 1/4 — Platform implementation for operational stability ahead of 5MS market start

5MS Live — 1/7 — Go-Live of 5MS-specific capability to enable market start

GS Live — 6/2 — Go-Live of GS-specific capability to enable GS market settlement

5MS Market commence

GS Market commence

New & replacement transition complete

LEGEND

◆ Release milestone

◆ Program Go-Live milestone

△ Capability active/non active milestone

Transition Objectives for Five Minute Settlement (5MS) & Global Settlement (GS):
- Meet mandated dates
- Support uninterrupted NEM operation during transition period
- Minimise risks for go-live and market start
- Introduce certainty for project planning purposes

Readiness papers - timelines

Item	RWG engagement	Draft paper	Consultation	Comments due	Final paper	Previously advised final paper date
Market readiness strategy	Jun-19	30-Aug	3 weeks	20-Sep	30-Oct	29-Nov
Industry test and market trial strategy	Jul-19	30-Sep	4 weeks	28-Oct	29-Nov	31-Oct / 28-Feb
Transition and go-live strategy	Jul-19	30-Sep	4 weeks	28-Oct	29-Nov	31-Jan
Industry readiness reporting plan	Sep-19	31-Oct	3 weeks	21-Nov	13-Dec	31-Jan
Metering service provider accreditation update plan	Oct-19	30-Nov	over summer	31-Jan-20	13-Mar-20	31-Mar

The "final paper" dates are under consideration as level 2 program milestones
Dates changes have been reviewed with RWG, no issues raised
Realignment allows consideration of Transition and Testing approaches in parallel and reduces number of deliverables to be agreed.

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Workstream Update

RWG #3 held 27th August
- Review of interim readiness reporting and participants risks
- Staging Environment Arrangements
- Approach to metering Transition

Draft Market Readiness Strategy to be distributed for consultation
- Comments Due 20th September

Interim Readiness Reporting Survey #2
- Distribute 2nd September
- Responses due 13th September

Transition Focus Group held 30th August
- Transition Approach
- Industry and Market Trial approach
- Metering Transition

Procedures Workstream update

Emily Brodie

Procedures workstream status

5 MINUTE SETTLEMENT PROCEDURES TRACKING	Pre-consultation		Consultation			CONTENT
			TIMING			
	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	Sep-19	🟩
3. Metering - Miscellaneous*	Jul-18	Feb-19	n/a	Jun-19	Aug-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

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Procedures consultation update

Metering

- Metering package #2 consultation closed Monday, 2 September
- Metering package #3 open for *comment* until Friday 20 September

Settlements

- All settlements packages completed according to plan

Dispatch

- Spot market package open for *comment* until Friday 20 September

Power system operations

- SO_OP_3717 Dispatch and Activation of Reserve Contracts first stage *submissions* due Thursday 26 September. Terminology changes only.
- Mandatory Restrictions Offers – on hold as AEMC has asked AEMO to submit a rule change to remove MR from the rules.

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	Change to use FSIP has been accepted, and is being incorporated into work program. Further consideration of price sensitivities and daily energy constraints progressing, with feedback to be provided shortly

Change Requests under consideration (2)

CR#	Title	Objective	Status
CR18	Additional reconciliation data in RM reports	**Reconciliation workshop #1:** Consider provision of additional data to improve participant reconciliation of metering and settlement data	Currently assessing impact, and will shortly be seeking input from Participants on expected benefits
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	
CR20	Provision of raw profiled data	**Reconciliation workshop #3:** Consider provision of raw profiled data to participants to improve reconciliation processes	Currently being reviewed by architecture, as potentially could be delivered as part of future Digital Strategy initiatives
CR21	Delivery of retail standing data through data interchange	**Reconciliation workshop #4:** Consider provision of retail standing data via DI to improve efficiency/quality of synchronising data	

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Change Requests under consideration (3)

CR#	Title	Objective	Status
CR26	Defer Mandatory Restrictions	Change to work program to defer activities relating to Mandatory Restrictions in light of review outcomes	Change initiated following AEMC review being finalised, and recommendation for AEMO to propose a rule change to remove Mandatory Restrictions

Market Readiness Strategy update

Greg Minney

Market Readiness Strategy

- Draft Market Readiness Strategy distributed for consultation
- Comments due 20th Sept

- Market Readiness Strategy Scope:
  Overarching document which provides the overall strategy for how market readiness activities will support the industry's change to 5MS and GS, and how market readiness will be planned and realised.

Market Readiness Supporting Documentation

Industry transition and go live strategy
- Sets out the high level approach and principles associated with transition and cutover activities, including industry co-ordination and target go live dates

Industry transition and cutover plans
- Sets out the detailed elements associated to the transition and cutover activities.

Industry testing and market trial strategy
- Sets out the high level approach and principles associated with testing and trial activities in line with the transition approach

Industry test/market trial plans
- Each plan will set out the detailed activities, conditions, and data requirements associated with each test phase, with completion and defect reporting as appropriate.

Industry readiness reporting plan
- Details the readiness reporting requirements that will enable regular assessments of AEMO's and industry's 5MS and GS readiness, including recommended contingency options.

Vendor Engagement

Graeme Windley

Vendors – risks and issues

Interim Readiness Reporting and subsequent discussions at the Exec Forum and PCF highlighted Vendor Readiness as a concern:

1. Vendor lack of understanding / engagement with 5MS and GS requirements;

2. Vendor capacity to deliver across the market to the timeframes; and

3. Perceived challenges to engaging contractors without final technical specifications.

- At PCF #13 AEMO requested details from Participants regarding vendors and risks/concerns.

Industry Responses regarding Vendors

- Responses from 6 industry participants received – thank you

- Two participants have 1 vendor in common. Other vendors identified were associated with only one participant

- General theme of no readiness concerns at this stage with vendor readiness from 5 of the 6 responses
  - Concern from one participant about the capacity of a small vendor to service multiple participants simultaneously for testing, integration

- One participant has selected a vendor that does work across multiple participants, noted this may create efficiencies

- Conclusions:
  - Limited common vendors identified to date (from the responses)
  - No specific issues at this stage
  - Note limited sample size and early stage

- Separately, AEMO approached by an industry vendor
  - 5MS readiness well underway

Approach (1)

- Market participants manage the relationship with Vendors
  - AEMO focus to support industry / market participants
  - Not seeking to "pick up" the relationship or engagement with Vendors
- Seeking guidance for matters that AEMO can assist/support market participants with in building Vendor understanding and capacity
  - Tech spec updates
  - Staging environment commencing
  - Other artefacts and timing

Approach (2)

- Previous AEMO Vendor briefing – November 2018

- Additional views through the PCF regarding Vendor briefing
  - General Update
  - Staging Environment Briefing
  - Specific Vendor "type" briefings

- Include additional questions in Interim Readiness Reporting to gauge scale of issues

- Next Vendor briefing intending to be held following release of all final tech specs and ahead of the Staging Environment – mid-October

Industry Engagement Structure

Monica Morona

Engagement objectives

Objectives

- Two-way discussion as a key focus
- Provide forums for AEMO and industry stakeholders to engage in detailed discussions on specific matters or issues.
- Enable risks and issues to be identified by Industry and included in Program implementation and readiness considerations.
- To match the industry challenges with the right expertise at the right time
- To optimise working group and focus group resourcing

Background

- To date the 5MS/GS program has run focus groups on metering, dispatch and settlement.
- These have predominantly dealt with specific functional issues.

Approach to managing engagement

- Seek feedback from industry to confirm focus areas e.g. testing and transition.
- Use focus groups to undertake cross-program discussions, coordination and "problem solving" for program implementation.
  - Groups will need to be adaptive.
- Structure meeting agendas to ensure discussion topics are grouped in a way that is targeted to specific participant types
  - Minimise 'downtime' in focus group meetings and enable attendees to manage their diaries and travel.
- Unknown areas will emerge that will also require focus groups, need to be flexible and responsive
  - e.g. settlement reconciliation workshop
- What does this mean for existing focus groups?
  - Review current working group and focus group set-up
  - Options to improve effectiveness – ie. shift from current workstream based approach to issues based.
  - Incorporating working group feedback.
- AEMO will be seeking industry feedback / suggestions for:
  - Working Group and Focus Group structure
  - Key topic areas for focus and information
  - Methods of engagement

General Questions

Peter Carruthers

Forward meeting plan

Peter Carruthers

Forward Agenda

October Agenda

- Round 2 readiness reporting
- Declared NEM Project – 5MS Program; publication of Draft Report
- Procedures wrap-up
- Feedback – Market Readiness Strategy Draft
- Engagement Structure/Approach update
- Global Settlements update

November Agenda

- Staging Environment
- Declared NEM Project – 5MS Program update; Draft Report submissions

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

Legend
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

Current as at 30-08-2019

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Appendix 1

Milestone Descriptions

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Level One Milestones – Description

#ID	Milestone		Description	Original Target Date	Status
L1-1	5MS Drafting Amendments submitted to AEMC	Regulatory	Issues with current drafting collated and submitted back to the AEMC by AEMO.	20-Mar-2019	Complete
L1-2	IEC Approves B2B Procedures	Regulatory	The IEC must have consulted and recommended to AEMO any changes to the B2B procedures.	01-Jul-2019	Complete
L1-3	AEMO publishes NEM Procedures	Regulatory	The approved 5MS and GS changes to NEM Procedures are completed and published on the AEMO website.	01-Dec-2019	Mandated
L1-4	5MS & UFE Market Go Live	Regulatory	Industry settles electricity at five-minute intervals. UFE reported to market.	01-Jul-2021	Mandated
L1-15	5MS Drafting Amendments determined by AEMC	Regulatory	AEMC publish final determination and rule on 5MS & GS implementation	31-Aug-2019	Provisional
L1-16	5MS Cost Recovery approach finalised	Regulatory	AEMO is to have finalised and published the cost recovery approach for the 5MS & GS rule changes.	30-Sep-2020	Provisional
L1-5	GS Market Go Live	Regulatory	NEM Market Settlements operation commences using Global Settlements.	06-Feb-2022	Mandated
L1-6	Mandatory 5MS Meter Data Delivery	Regulatory	Five-minute reads are mandatory from all new and replacement meters.	01-Dec-2022	Mandated

#ID	Milestone		Description	Original Target Date	Status
L1-7	Market Readiness Strategy Published by AEMO	Readiness	A completed Market Readiness strategy is published on the AEMO website.	20-Jan-2020	Firm
L1-14	Market Participants Readiness for Market Trials	Readiness	All Market Participants are ready for the commencement of 5MS Market Trials.	30-Nov-2020	Provisional
L1-8	Participant Market Trials commence	Readiness	Initial 5MS Market Trial commences.	01-Dec-2020	Provisional
L1-9	Participant Market Trials conclude	Readiness	Final Market Trial completes.	31-May-2021	Provisional
L1-10	Metering Accreditation Complete	Readiness	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	Provisional
L1-11	All AEMO workstream development commenced	System Delivery	All internal workstreams will have commenced development to deliver the 5MS and GS solutions.	23-May-2019	Complete
L1-12	5MS Staging environment live	System Delivery	The 5MS Staging environment is available to Participants, who can interact with deployed 5MS and GS code.	01-Dec-2019	Provisional
L1-13	AEMO Internal Development Completed	Systems Delivery	All AEMO internal system development completed.	30-Jun-2020	Provisional

Level Two Milestones – Metering (External)

#ID	Level	Workstream	Milestone	Description	Date	Status
L2-M1	2	Retail	*AEMO internal Metering solution – Solution Design complete (internal)*	Solution Design phase for new AEMO Meter Data Management (MDM) and Profiling Allocation Engine (PAE) complete.	17-Jun-2019	Complete
L2-M2	2	Retail	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-Apr-2019	Complete
L2-M3	2	Retail	Final Technical Specifications for Packages 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	[Firm]
L2-M4	2	Retail	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	[Firm]
L2-M5	2	Retail	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	[Firm]
L2-M6	2	Retail	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	Provisional
L2-M7	2	Retail	*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	[Firm]
L2-M8	2	Retail	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	[Firm]
L2-M9	2	Retail	*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	Provisional
L2-M10	2	Retail	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	Provisional
L2-M11	2	Retail	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	Provisional
L2-M12	2	Retail	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	Provisional
L2-M13	2	Retail	Market Trials conclude	All relevant Market Participants have completed Market Trials to submit five-minute read data.	31-May-2021	Provisional

Level Two Milestones – Dispatch (External)

#ID	Level	Workstream	Milestone	Description	Date	Status
L2-D1	2	Dispatch	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	Firm
L2-D2	2	Dispatch	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	Firm
L2-D12	2	Dispatch	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	Firm
L2-D3	2	Dispatch	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	Firm
L2-D13	2	Dispatch	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	Firm
L2-D5	2	Dispatch	Software Drop for Package 4 in 5MS Staging Environment	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	15-May-2020	Firm
L2-D4	2	Dispatch	*Development completed (internal)*	All AEMO internal development work has completed for the Dispatch stream	31-May-2020	Firm
L2-D6	2	Dispatch	*UAT completed (internal)*	All AEMO internal UAT has completed for the Dispatch stream	30-Nov-2020	Firm
L2-D7	2	Dispatch	Market Trial preparation completed	All market participants who are required to submit 5MS bids and offers are ready for market trials	30-Nov 2020	Provisional
L2-D8	2	Dispatch	Market Trial preparation completed	AEMO has software deployed to pre-production environment and is ready to deliver the agreed Market Trail scenarios	30-Nov 2020	Provisional
L2-D9	2	Dispatch	5-min Bidding Phased Go Live Begins	Participants can begin submitting 5-min bids to the market	01-Apr-2021	Provisional
L2-D10	2	Dispatch	Market Trial conclude	Market Trial scenarios related to dispatch have been completed	31-May-2021	Provisional
L2-D11	2	Dispatch	30-min Bidding no longer accepted by AEMO	All Wholesale market Participants now submitting five-minute bids and offers to AEMO	01-Jul-2021	Mandatory

Level Two Milestones – Settlements (External)

#ID	Level	Workstream	Milestone	Description	Date	Status
L2-S1	2	Settlements	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	Firm
L2-S2	2	Settlements	Software Drop for Package 1	Software deployed into the 5MS Staging environment for Reallocations.	01-Nov-2019	Firm
L2-S3	2	Settlements	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	Firm
L2-S4	2	Settlements	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	Firm
L2-S5	2	Settlements	*Development completed (internal)*	All AEMO internal development work has completed for Settlements stream	31-May-2020	Firm
L2-S6	2	Settlements	Software Drop for Package 2 in 5MS Staging Environment	Software deployed into the 5MS Staging environment for Settlements and Billing.	16-Mar-2020	Firm
L2-S7	2	Settlements	Software Drop for Package 3 in 5MS Staging Environment	Software deployed into the 5MS Staging environment for Estimations and Prudentials.	15-May-2020	Firm
L2-S8	2	Settlements	Industry Testing for Reallocations	Required market participants have completed industry testing for the upgraded reallocations web portal.	13-Mar-2020	Provisional
L2-S9	2	Settlements	*UAT completed (internal)*	All AEMO internal UAT has completed for Settlements stream	30-Nov-2020	Firm
L2-S10	2	Settlements	Market Trial preparation completed by participants	All market participants who will receive Wholesale settlement invoicing are ready for market trials.	30-Nov 2020	Provisional
L2-S11	2	Settlements	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	Provisional
L2-S12	2	Settlements	Reallocations Go Live	AEMO has deployed reallocation software to the PROD environment and 5-minute reallocation requests are enabled.	01-Apr-2020	Provisional
L2-S13	2	Settlements	Market Trials conclude	All relevant Market Participants have passed the Market Trial for Settlements	31-May-2021	Provisional