5MS & GS Systems Working Group #23

17 June 2020

AEMO Competition Law Meeting Protocol

AEMO is committed to complying with all applicable laws, including the Competition and Consumer Act 2010 (CCA). In any dealings with AEMO regarding proposed reforms or other initiatives, all participants agree to adhere to the CCA at all times and to comply with this Protocol. Participants must arrange for their representatives to be briefed on competition law risks and obligations.

Participants in AEMO discussions **must**:

1. Ensure that discussions are limited to the matters contemplated by the agenda for the discussion

2. Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO

3. Immediately and clearly raise an objection with AEMO or the Chair of the meeting if a matter is discussed that the participant is concerned may give rise to competition law risks or a breach of this Protocol

Participants in AEMO meetings **must not** discuss or agree on the following topics:

1. Which customers they will supply or market to

2. The price or other terms at which Participants will supply

3. Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid

4. Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)

5. Refusing to supply a person or company access to any products, services or inputs they require

Under no circumstances must Participants share Competitively Sensitive Information. Competitively Sensitive Information means confidential information relating to a Participant which if disclosed to a competitor could affect its current or future commercial strategies, such as pricing information, customer terms and conditions, supply terms and conditions, sales, marketing or procurement strategies, product development, margins, costs, capacity or production planning.

Agenda

No	Time (AEST)	Agenda item	Presenter
1	10:00 – 10:05	Welcome, introduction and apologies	Graeme Windley
2	10:05 – 10:15	Actions update	Anne-Marie McCague
3	10:15 – 10:25	Program update	Graeme Windley
4	10:25 – 10:45	Capability of Pre-Production through Transition	Simon Tu / Pierre Fromager
5	10:45 – 10:50	Industry Testing Working Group update	Tui Grant
6	10:50 – 10:55	Readiness Working Group update	Greg Minney
7	10:55 – 11:00	Procedures update	Simon Tu
8	11:00 – 11:15	5MS Stakeholder Engagement Update	Anne-Marie McCague
9	11:15 – 11:20	Forward meeting plan	Graeme Windley
Stream Updates			
10	11:20 – 11:25	Dispatch stream update	Ian Devaney
11	11:25 – 11:30	Settlements stream update	Mark Hillaby
12	11:30 – 11:35	Retail stream update (incl. monthly aseXML schema update)	Jim Agelopoulos
13	11:35 – 11:40	Retail Staging Deployment	Simon Tu / Jim Agelopoulos
14	11:40 – 11:50	B2M MTRD .ac1 and .ack Schema versions	Simon Tu
15	11:50 – 12:00	B2M MTRD and B2B Stop Files	Simon Tu

Actions Update

Anne-Marie McCague

Open actions

Item	Action required	Responsible	Action update	By
22.5.1	AEMO to update slides 16, 18 and 20 in line Day-1 requirements and resend the SWG #22 pack.	Participants	Complete.	29/05/2020
22.5.2	AEMO to update slide 17 with to note that migration to r39 of ase XML Schema is necessary to accept the NMID response where there is a TNI2 value.	AEMO	Complete	17/06/2020
22.5.3	Participants to confirm if they have automated feeds from the new formats introduced as part of the AEMO Settlements systems deployment (reference slide 19 of the SWG #22 meeting pack).	AEMO	Confirm anything further at meeting. Received responses. Action can be closed.	5/06/2020
22.11.1	AEMO to communicate the additional changes to columns in the dispatch data model by 22 May 2020.	AEMO	Completed – email circulated 22 May	22/05/2020

Program update

Graeme Windley

Program update and current activities

AEMO program

- Overall Green, MDM Go-Live and associated milestones have been re-baselined, re-planning activity is now complete.

- The Program is now entering a critical few months of delivery, with a large number of build items to be delivered across all workstreams

- Severe weather event has impacted the TCS Kolkata teams in addition to COVID-19.

Systems

- Staging environment has been updated with the 3rd Settlements drop and 2nd Dispatch drop on 15 May.

- Replanning for Retail is complete. The program is on track to deliver to the two upcoming Staging deployment dates.

- r39 Schema discussion held with market participants, understanding of n-1 requirement conveyed to participants.
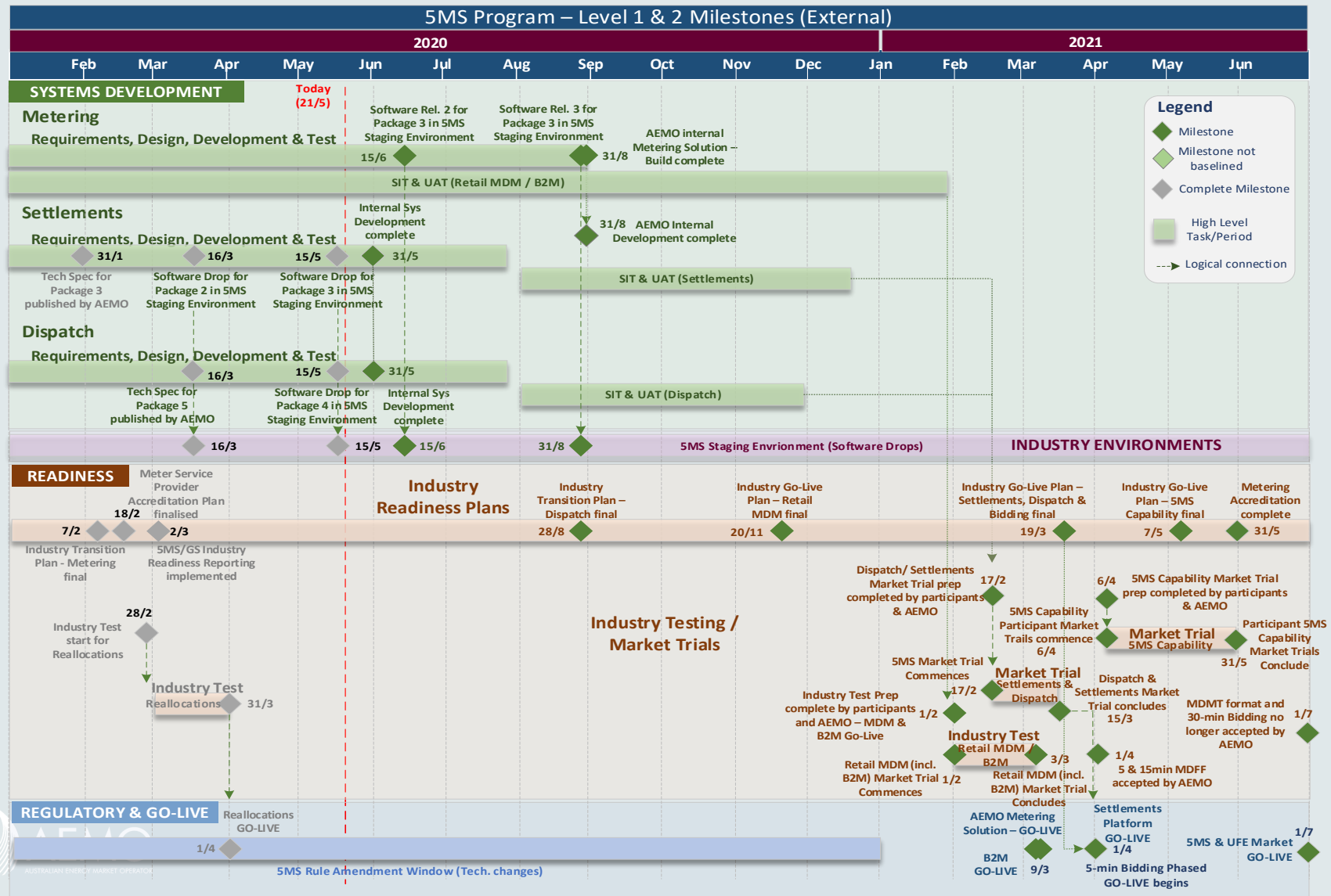
Readiness

- Deferral scenario, incorporating MDM milestone shifts discussed with TFG, RWG and ITWG,

- Readiness Report # 2 results published. Round 2 has seen increase in response rate from participants. Follow up with participants who have indicated program issues to understand remediation requirements

5MS Program Timeline (Jan '20 to Jul '21) Level 1 and External Level 2 Milestones

Current as at 21-05-2020

Reminder: Milestones that have changed as a result of change to MDM Go-Live

ID	Milestone	Previous Date	New Date	Owner
L1-M6	AEMO Internal Systems Development – Build Complete	30-Jun-2020	31-Aug-2020	AEMO
L1-19	AEMO Metering Solution Go-Live	07-Dec-20	09-Mar-21	AEMO
L2-M7	AEMO internal metering solution – build complete (internal)	30-Jun-2020	31-Aug-2020	AEMO
L2-M8	Software Release 3 for Package 3 in 5MS Staging Environment	31-Jul-2020	31-Aug-2020	AEMO
L2-M11	Market Trial preparation completed by participants for MDM and B2M Go-Live	22-Oct-2020	01-Feb-2021	Participants
L2-M12	Market Trial preparation completed by AEMO for MDM and B2M Go-Live	22-Oct-2020	01-Feb-2021	AEMO
L2-RE29	Retail MDM (incl. B2M) Market Trial Commences	22-Oct-2020	01-Feb-2021	AEMO
L2-RE30	Retail MDM (incl. B2M) Market Trial Concludes	19-Nov-2020	03-Mar-2021	AEMO
L2-M24	B2M Go-Live	17-Mar-2020	09-Mar-2021	AEMO
L2-M10	5 min and 15 min MDFF accepted by AEMO	01-Feb-2021	01-Apr-2021	AEMO

Proposed Changes to Settlements and Bidding Go-Live

- At PCF#21 AEMO proposed bringing the Settlements and Bidding Go-Lives forward.

Rationale

- This was proposed as a risk mitigation measure for the following risks:
  - The risk of three significant cutovers all in a similar time
  - The solution going first (Retail) carries the most technology risk
- Both solutions are tracking on schedule for deployment into pre-production in November 2020. If the software is ready to be deployed and all entry criteria to deployment is met, AEMO should look to deliver the changes and close down program streams.

- AEMO sought feedback from the PCF and RWG on the proposed changes (next slide)

Next Steps

- AEMO has reviewed all feedback and has continued discussions internally to consider the impact on the AEMO business

- There have been a number of risks identified with bringing the solutions forward e.g. proximity to other scheduled AEMO activities and resourcing constraints

- Therefore, **AEMO is not proposing to change the date** for the Settlements and Bidding Go-Live milestones. They will remain, as scheduled, on **01-Apr-21**

- However, AEMO is proposing to add the risk of having three major go-lives in close proximity to the Industry Risks and Issues Register

Summary of Feedback Received

#	Question	Summary Response
1	Does the proposal to bring forward the implementation of the 5MS settlements platform to mid-February 2021 impact your 5MS program?	All six participants responded, "no impact". Additional comments include: 1) *A change to the implementation date avoids multiple concurrent go lives, which is a good idea, and* 2) *A request for a longer testing period.*
2	What other changes to the proposed deployment timeframe would assist in mitigating any impacts?	Three responded "no impact" and a further three indicated: 1) *It would be helpful if all APIs were made available as soon as possible,* 2) *The extended testing window was suitable, and* 3) *A delay in bilateral testing affects planning for testing resources.*
3	Does the proposal to bring forward the implementation of the 5MS bidding platform to November impact your 5MS program?	Three responded "no impact" and one indicated the proposed testing timeframes *were not* suitable as work on their delivery is on hold, pending the rule change deferral decision. A further two comments agree with the proposal: 1) *No issue with bringing it forward, and* 2) *It's desirable to have the environment available in Nov 2020 for testing purposes.* Several additional questions and suggestions were made about the approach for AEMO to consider and respond to.
4	What other changes to the proposed deployment timeframe would assist in mitigating any impacts?	Three responded with no impact or anything further to add. An additional three suggested AEMO: 1) *Seeks more details of specific industry testing scope, participation and approach, and* 2) *Defer the implementation slightly and reduce the dispatch transition period by one month.*
5	Would deferring AEMO's acceptance of 5-minute MDFF files to 1 April 2021 impact your 5MS program?	Five responded, "no impact" and one commented they will be reviewing the full testing lifecycle, including what AEMO has included.
6	Does the changed order of systems deployment impact your program?	Five responded, "no impact", but two noted that settlements and dispatch deployment risks could impact MDM deployment. One did not enter a response to this question.
7	Does the proposed testing approach provide enough opportunity for proving participant's 5MS systems and processes?	Three responded that the testing approach is adequate and two expressed the following concerns: 1) *About not having B2B in staging impacting bilateral testing* 2) *If AEMO doesn't run a market trial before the Dispatch Platform is implemented, there won't be enough opportunities for regression testing and identifying issues prior to go live.*

Pre-Prod & Environment Questions

Numerous

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Capability of Pre-Production Before 5MS Industry Go Live

Can AEMO open up B2B testing before the pre-Prod date of 01/02/21?

Is AEMO considering having two pre-production environments? One for 30 min. One for 5 min?

How does AEMO intend to manage BAU operations in the pre-production environment? How will AEMO test regular updates to EMMS and CMS releases?

- NEM12 can be used for 5-min testing now.

- The BAU Pre-Prod environment will remain as the environment for BAU operations. As per current process, AEMO will continue to push Production-ready software into Pre-Prod a minimum of four weeks in advance of the Production deployment.

- AEMO is considering various options surrounding upgrading the capability in Staging to support MDM participant testing, 5-min support during the transition and other upcoming industry initiatives like WDR.

Capability of Pre-Production Before 5MS Industry Go Live

Does AEMO intend to maintain the current milestones and deliver all 5-min capability into the pre-production environment on 1 July 2021?

- The pre-Prod dates of deployment are as per the schedule, and yes 5-min functionality is to be in pre-Prod **by** 1 July 2021. However this may be pushed back in the instance of the 12-month deferral rule change in which options will be discussed with participants (i.e. it may be desirable for the pre-Prod environment to remain in the Transition state for a longer period).

Capability of Pre-Production Before 5MS Industry Go Live

If the rule change request to defer 5-min settlements by 12 months is approved, how is AEMO intending to handle pre-production environment in terms of BAU?

- <u>Dispatch:</u> The Bidding Service has been built to accept bids as 5-min bids but runs a check during transition until 5MS rule commencement. Participants will need to be mindful that during the transition phase when submitting 5-min bids they need to emulate a 30-min bid. Staging is currently available for 5-min bidding, and only 5-min bidding. Optionality within the transition period will be the subject of a Dispatch Focus Group on 29 June 2020.

- <u>Settlements:</u> The Engine will be capable of both 30-min and 5-min Settlements and will be so from the Pre-Prod deployment in Q1 2021. However the data will only be as per the most recent Production refresh, therefore only 30-min invoicing will be produced. AEMO is investigating increasing capability and capacity of the Staging environment to better support 5-min invoicing and reconciliation throughout the transitional period, and will develop these further after the AEMC has made their decision on the 5MS Go Live 12-month Deferral Rule Change.

- <u>Retail:</u> AEMO will Release all 5MS and GS functionality into Pre-Prod however some functionality will not be made available to participants until a later time (e.g. UFE Reports will only be enabled with 5MS Go Live). Participants will be granted the required authorization to UFE reports in Pre Production for testing at a later time to be advised. There will also be 2-3 items related to CR Processing and NMI Standing Data changes (e.g. New CR rejection logic for CNDS Suffix and Type) that will only be available in Pre-Prod one month prior to 5MS and GS Production Go-Live dates respectively. Participants will be exposed to all this functionality in the 5MS Staging environment from September 2020.

Management of Settlements with Pre-Production and Production

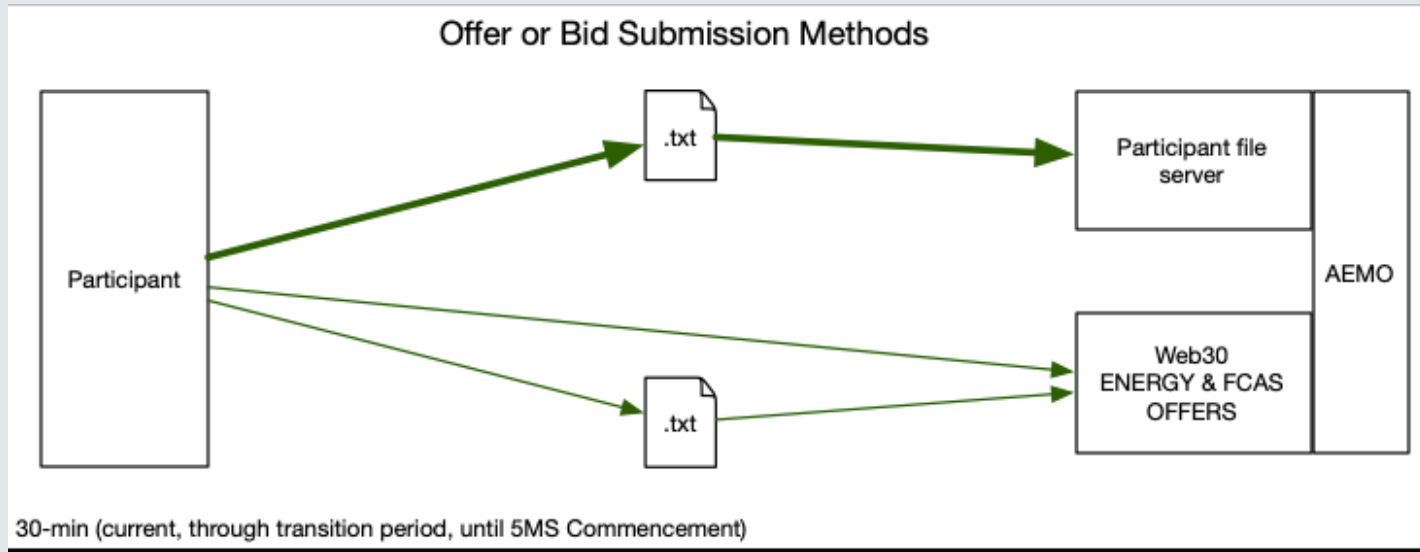| Settlement Pre-Production functionality	Release to Pre-Prod	Notes
30-Minute Settlement	Yes	Available for Settlement periods up until 5MS Commencement Date
5-Minute Settlement	No (at deployment)	Likely to lack the data required to complete any effective 5-min processing. A date is required (to be defined by the Readiness workstream) to switch the engine from 30-min to producing 5-min outputs, before the Market Go Live.
UFE non financial	Yes	Report available at point of deployment, however data quality may be an issue for validating accuracy of results
UFE included in Settlement	No	

Settlement Production functionality	1/04/2020	01/07/2021	06/02/2022
30-Minute Settlement	Yes	No	No
5-Minute Settlement	No	Yes	Yes
UFE non financial	No	Yes	Yes
UFE included in Settlement	No	No	Yes

Capability of Pre-Production Before 5MS Industry Go Live

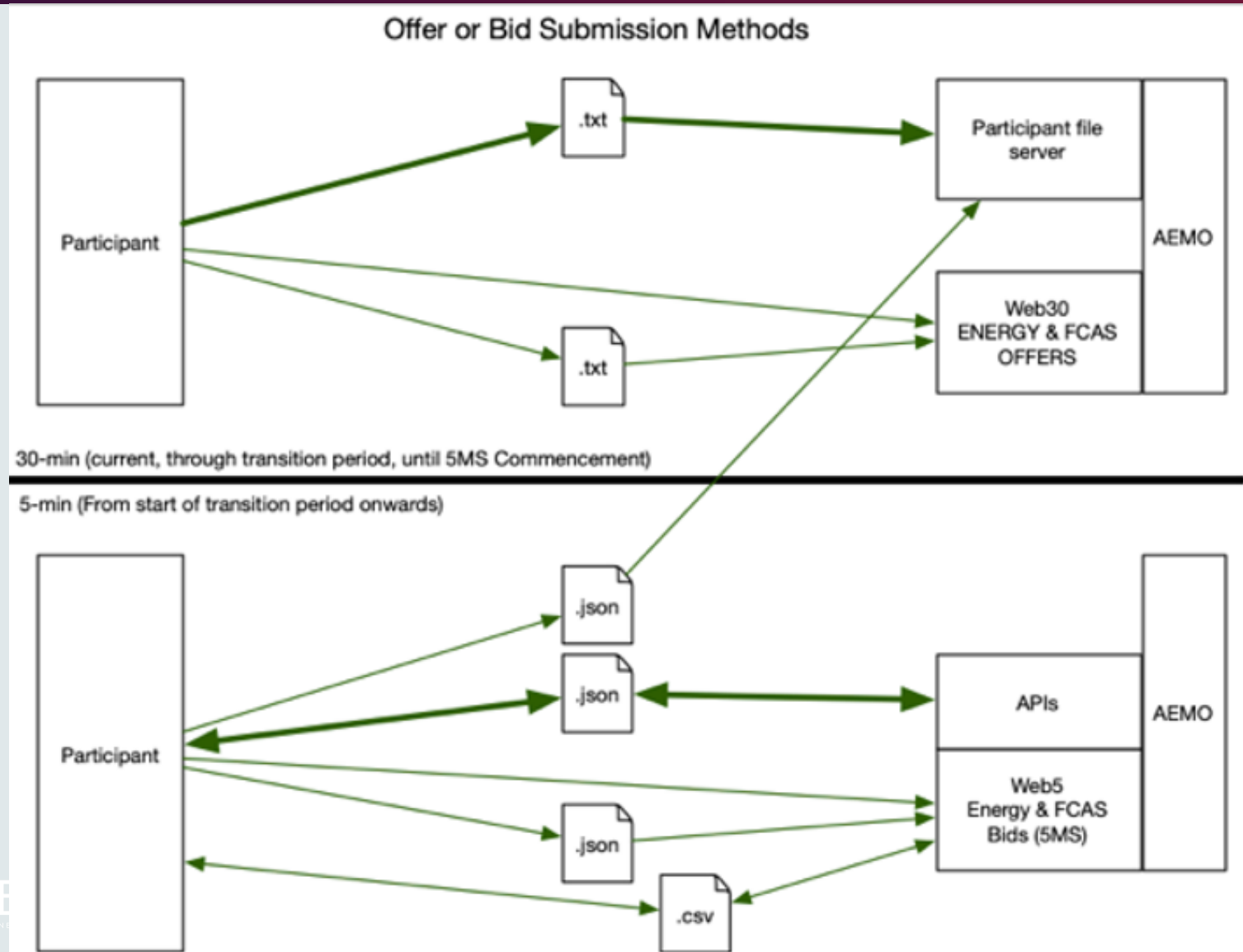*Does AEMO have different bidding platforms – one for 30 min, one for 5 min?*

- Yes, there are effectively two bidding platforms, one 30-min and one 5-min, during transition.

- In Staging, Participants can only submit 5-min bids. 30-min bids can still be submitted in Pre-Prod <u>after</u> the transition deployment via the normal service.

- Note the Dispatch engine, already at 5-min, will remain so throughout. Pricing output will be at 30-min intervals throughout the transition, until the 5MS Market Go Live.

Dispatch Submission Methods – Pre-5MS

Offer or Bid Submission Methods

Participant → .txt → Participant file server

Participant → .txt → Web30 ENERGY & FCAS OFFERS

AEMO

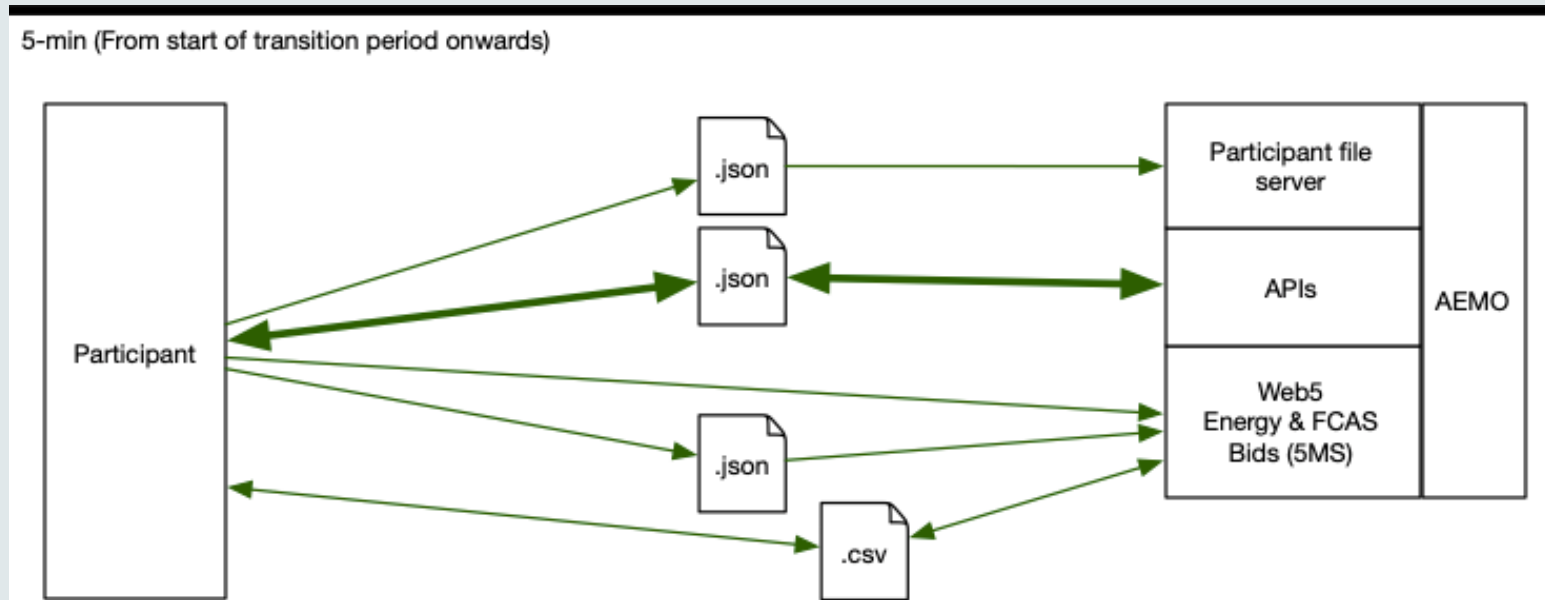30-min (current, through transition period, until 5MS Commencement)

- Participants submit text files via FTP (dropping a file in the Participant file server)
- In emergencies, they can submit these via the web (30-min)
- Smaller participants can use the web (30-min) to submit single bids.

Dispatch Submission Methods - Transition

Dispatch Submission Methods – 5MS

- On commencement day, 30-min functionality stops accepting 30-min bids.
- Only the 5-min functionality remains.

5-min (From start of transition period onwards)

Summary

	Current	5MS
Bidding	FTP (text file, 30-min, multiple bids) Web UI (30-min, single bid) Web file (text file, 30-min, multiple bids)	FTP (JSON file, 5-min, multiple bids) Web UI (5-min, single bid), Web file (JSON file, 5-min, multiple bids) APIs (JSON file, 5-min, multiple bids), APIs – retrieve bid data 30-min bidding (Web and FTP) is 'turned off' - participants cannot submit 30-min bids. Participants must use 5-min bidding using at least one method: Web UI, Web File, FTP or APIs. (5-min data appears in new 5-min data model tables.)
Dispatch	Read 30-min bids Publish 5-min dispatch price and 30-min spot price	Read 5-min bids The dispatch price becomes the spot price
5-min PD	Read 30-min bids	Read 5-min bids Use FSIP and price sensitivities
Pre-dispatch	Read 30-min bids	Use last 5-min bid in each 30-min period
ST PASA	Read 30-min bids	Use 5-min bid with minimum value in a 30-min period
Rolling sum price	Energy: Use last 7 days of 30-min values. FCAS: Use 7 days of 5-min values.	Energy and FCAS: Use last 7 days of 5-min values.

Industry Testing Working Group update

Tui Grant

Approaches for testing

- Assumes current timeframes:
  - MDM release 9-Mar-21
  - Dispatch and settlements releases 1 Apr 21
  - 5MS commencement 1 Jul 21
  - GS commencement 6 Feb 22
- Industry Testing and Market Trials Strategy: Updated in line with MDM deferral
- Feedback sought on the recommended testing approach for platform deployments
- Participants requested to nominate requirements for the proposed test approach to ensure industry testing can confidently be conducted

Next Steps:

- Consolidate feedback when received
- Confirm the preparation timeframes (based on feedback)
- Confirm refresh dates for each release

Proposed market testing approach

Proposed go-live/ commencement	Current test approach	Proposed test approach	Proposed timeframe	Examples of data/environment state
Dispatch and Bidding 01-Apr-21	Market trials: Both 5-min and 30-min functionality	Industry testing: 5-min functionality only	29-Nov-20 to 1-Apr-21 (~18 weeks)	• Participants will be able to access, test and develop against the new 5MS transitional functionality for half the period before transitioning to end state.
Settlements 01-Apr-21	Market trials: Both 5-min and 30-min functionality	Industry testing: 30-min only	17-Feb-21 to 15 Mar-21 (~4 weeks)	• AEMO will generate a full suite of invoices for 30 minute data • Updated Prudential data will also be made available to allow participants to fully test their solutions fully integrated including reallocations.
MDM Platform 09-Mar-21	Market trials: Both 5-min and 30-min functionality	Invitation industry Testing: 30-min only	1-Feb-21 to 3 Mar-21 (~4 weeks)	• Co-ordinated testing with MDP's to validate MTRD and MDMT transactions. • Available for all other participants to verify reports, API's and schema testing.
5MS Commencement 01-Jul-21	Market trials: 5-min capability across all streams	Market trials: 5-min capability across all streams	6-Apr-21 to 31-May -21 (~8 weeks)	• Co-ordinated testing of bidding, dispatch, settlements and metering with all participants who want to take part • Consistent with current planned scope and timing of 5MS capability market trial
GS Commencement 06-Feb-22	Market trials: GS with financial settlement	Market trials: GS with financial settlement	1-Oct-21 to 15-Nov-21 (~6 weeks)	• Co-ordinated testing of settlements and metering with all participants who want to take part • Scope and timing as for the current approach • Proposed timeframe

Readiness Working Group update

Greg Minney

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Workstream engagement

RWG #12 to be conducted 10th June
- Participant testing scope and Preparation
  - Outline of updated Industry Test and Market Trials strategy to reflect:
    - MDM deployment timeframes
    - Industry feedback on the proposed test approach and participant requirements
    - Confirmation of testing timeframes for each release
    - Confirm preparation Timeframes
    - Confirm refresh dates for each release
- Stakeholder Engagement Update
  - Verbal summary of RWG feedback received to date to be provided to SWG
- AEMC Rule Change – Progress Update
- Planning for Dispatch Focus group – Bidding business transition

Industry Readiness Reporting

- Participant follow ups based on analysis of readiness results:
  - Where program funding not established, programs at risk
  - Progress on MTP indicates potential delay

- Readiness reporting changes based on participant feedback:
  - Inclusion of MTP, rating guidelines with survey
  - Update to results presentation

- Readiness reporting to be updated to reflect rule deferral decision
  - If decision is no change to date – issue survey on 10th July with current scope
  - If decision is that rule commencement dates are changed:
    - Initial survey to establish participant intentions
    - Reset readiness reporting cadence based on delay decision

5MS/GS Procedures update

Simon Tu

5MS/GS-related procedure change log

Procedure issue	Status
MDFF file size and transaction limit in file	Initial feedback to first and second stage B2B procedures consultation showed majority support for: • MDFF file size 10MB • MDFF 1,000 transaction limit in file • non-contestable unmetered loads – use of existing B2B transactions for this family of NMIs Third round of consultation has closed for other matters, however above matters are confirmed. Final report due mid-July.
Proposed procedural change to MDFF quality flag (N flag)	AEMO submitted an ICF for ERCF consideration at March meeting. AEMO to compiled a 'change information pack', presented at the 15 May ERCF. ERCF and AEMO decided to take to consultation. Consultation commences early August, anticipated to be concluded early December.
Proposal for RWD[?]	Part of MSATS Standing Data Review. Draft determination was published Thu 14 May 20. Submissions period closes Fri 5 June.
Removal of end user details from inventory table	Consultation commences early August, anticipated to be concluded early December.
TNI 2 for cross-boundary meters	Part of MSATS Standing Data Review. Draft determination was published Thu 14 May 20. Submissions period closed Fri 5 June.
Obligation for MC to provide updated or substitution data in the cases of theft or fraud	Original ICF lodged by AGL. Relates to UFE calculation. Discussed at ERCF May meeting. On hold pending compliance discussions.
Removal of register ID = suffix requirement	ICF lodged by AusNet discussed at ERCF May meeting. Survey underway to scope materiality.
NCONUML objections to CR 2000/2001	ICF lodged by Origin. ICF review by ERCF inconclusive, AEMO reviewed and concluded that ICF will not proceed as very low materiality.

Metering procedures update

Electricity Retail Consultative Forum - next meeting Thu 18 June 20

- https://aemo.com.au/Stakeholder-Consultation/Industry-forums-and-working-groups/Retail-meetings/Electricity-Retail-Consultative-Forum

B2B Working Group – recent meeting Fri 5 June 20

- https://aemo.com.au/Stakeholder-Consultation/Industry-forums-and-working-groups/Retail-meetings/B2B-Working-Group

5MS Stakeholder Engagement Update

Anne-Marie McCague

Response rate to Q1 2020 Stakeholder Engagement Survey

Working Group	Q4 2019	Q1 2020
PCF	9	21
RWG	10	21
SWG	6	19
ITWG	N/A	12

Summary of SWG feedback

Question	Response	Summary comment
Accessibility of information	Mixed response, majority positive	Timelines can be difficult to follow timelines Tech specs updates difficult to follow and understand Can be conflicting information with other forums
Consistency of information	Mixed response, majority positive	Decisions at one meeting do not flow through AEMO internal teams Inconsistency with dates
Two-way discussions	Positive response	Satisfied that issues can be resolved off-line if not during the meeting
Timeframes	Mixed response	Confusion over contents of releases Ambiguity over what participants should do versus must do Some ambiguity caused by changes
Reusability of packs	Majority responded positively	Sometimes needs more context
Transparency	Majority responded positively	Clarifications on who is invited to the SWG
Actions	Majority responded positively with a number of neutral responses	timeliness of packs and minutes needs improvement
Frequency of meetings	Majority responded positively	No additional comments
5MS Stakeholder Engagement Framework	Majority responded positively	Noted that AEMO has done a good job to engage participants

Next Steps

- All feedback from all working groups has been reviewed and discussed.

- Key areas for improvement across all working groups:
  - Timelines – consistency and clarity
  - Timeliness of packs and minutes
    - Currently we publish the minutes once they have been approved by the Working Group which means that they do not appear on the website for at least a month after the meeting or in the case of the Executive Forum, 3 months.
    - PCF agreed to publish the minutes as draft on the web when we circulate to the Working Group / Forum
    - Each member still has the opportunity to seek to amend and we can republish with any agreed changes
  - Packs will be circulated as .ppt and published as pdfs
  - Alignment of information across working groups
    - As the AEMO systems deployment progresses, AEMO and participants are becoming more focused on readiness activities. AEMO is undertaking a review of the working group structure to identify a more streamlined approach to disseminating information for this phase of the program and facilitating focused discussions with the appropriate experts on the call.
    - This approach will also aim to provide an improvement in the consistency and clarity of the timelines and to reduce duplication.

Proposals

- AEMO considers that taking an end-to-end systems / readiness view at working groups will better inform and equip participants with their readiness as well as streamline information and reduce duplication.

- Proposal: RWG be expanded to include SWG members and agenda adjusted to provide a more integrated end-to-end view. SWG would be retained and used as a focus group for specialist technical discussion on an ad-hoc basis.

- For each Go-Live discussions will include:
  - Update on AEMO systems developments (until complete)
  - Update on AEMO preparation for deployment into pre-prod
  - AEMO and Participant preparation for market testing in pre-prod
  - AEMO and Participant preparation for go-live

- Proposal: Use SWG timeslot to allow 2 week gap between PCF and RWG for better flow of information.

SWG Terms of Reference

Purpose

- A forum for AEMO to inform and consult with industry stakeholders *during AEMO's IT system development* to support 5MS and GS implementation.

Scope

- Contribution to the identification of risks and issues from a systems perspective.

- AEMO's systems development that impacts industry stakeholders for:
  - Bids and Offers
  - Settlements and Prudentials
  - Metering
  - Other areas impacted by the introduction of 5MS as required

Current context

- The *AEMO Internal Systems Development – Build Complete* and the final drop into the 5MS Staging Environment are *on track for completion by 31-Aug-20* meaning that the purpose and scope of the SWG is near completion

- Post 31-Aug-20, AEMO systems workstream will turn its attention to preparing systems deployment into the pre-production environment where it will be available for participant testing.

Will anything else change?

- PCF to remain on a monthly basis with same scope
- Focus Groups will still be used as needed e.g. to discuss specific technical topics or readiness issues
- Transition Focus Group to remain for the duration of the current plan
- ITWG timetable to be aligned with updated Industry Testing and Market Trial Strategy
- Q&A Sessions continue on a monthly basis
- Q&A sessions for the two remaining drops into the 5MS Staging Environment to be organised

Benefits of Change

✓ Reduces the demand on participant attendance at 5MS Working Groups

✓ Reduces duplication

✓ Aligns the systems and readiness timelines to enable clearer communication

✓ Better facilitates end-to-end discussions with AEMO subject matter experts

Next steps

- Presented to RWG on 10 June
- Receive feedback from RWG and SWG **by Fri 26 June**
- If agreeable, present to PCF with a view of implementing change for August

Tell us what you think: 5MS@aemo.com.au

Forward meeting plan

Graeme Windley

Forward Meeting Agenda

SWG #24 Agenda – TBC

- SWG #24 likely to be postponed:
  - Request came from the PCF to delay the July PCF until after the AEMC final determination of the 12-month deferral process.
  - AEMO will host a combined PCF / RWG meeting in the week which the SWG is scheduled.
  - SWG participants are welcome to join this forum.
  - Any technical topics that can't wait will be handled by targeted focus groups – please advise if anything significant is outstanding.

Dispatch Focus Group – Monday 29 June

- What, if any, impacts should be considered if the proposed 5MS delay occurs and the bidding transition period is extended from 3 months (1 April 2021 – 30 June 2021) to potentially 15 months (1 April 2021 – 30 June 2022)
- The draft Bidding transition plan (BTP). The BTP:
  - Will provide coordinated guidance on the 5MS bidding transition.
  - Outlines the expected responsibilities, activities and timeframes for completing elements of the bidding transition.

To add items to the agenda, please contact us at 5MS@aemo.com.au

Upcoming meetings

https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement

Current as 11 June 2020

![AEMO logo] AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

JUNE

Su	Mo	Tu	We	Th	Fr	Sa
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	1	2	3	4
5	6	7	8	9	10	11

JULY

Su	Mo	Tu	We	Th	Fr	Sa
28	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	3	4	5	6	7	8

AUGUST

Su	Mo	Tu	We	Th	Fr	Sa
26	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	31	1	2	3	4	5

Forums/Working Groups

- Executive (EF)
- Program Consult. (PCF)
- Procedures (PWG)
- Systems (SWG)
- Readiness (RWG)
- Industry Testing (ITWG)

Focus Groups

- Dispatch
- Metering
- Settlements
- Transition
- Reconciliation
- Contingency
- Industry Testing

Other

- Information sessions
- Q&A session
- National Public Holiday
- State Public Holiday*

*Relevant state has been marked in a comment. WA, NT, TAS, ACT holidays have not

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Dispatch stream update

Ian Devaney

![AEMO - Australian Energy Market Operator logo]

Systems Workstream – Dispatch & Operations

Current as at 15-05-2020

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	29-Nov-20	1-Apr-21
Bidding Data Model	Aug-18	-	Sep-18	Mar-19	Dec-18	2-Apr-19	31-Oct-19	29-Nov-19	29-Nov-20	1-Apr-21
Bidding Format	Aug-18	-	Sep-18	Nov-18	Dec-18	2-Apr-19	31-Oct-19	29-Nov-19	29-Nov-20	1-Apr-21
PACKAGE 2 - Bidding Web UI										
Bidding Web UI and APIs	Aug-18	Nov-18	Dec-18	Jan-19	Mar-19	31-Jul-19	16-Dec-19	29-Nov-19	29-Nov-20	1-Apr-21
PACKAGE 3 - Dispatch, Pre-dispatch and PASA										
Dispatch	Aug-18	-	Oct-18	Nov-18	Oct-18	2-Apr-19	-	29-Nov-19	29-Nov-20	1-Apr-21
Predispatch P30/7DAY	Aug-18	-	Oct-18	Nov-18	Oct-18	2-Apr-19	-	29-Nov-19	29-Nov-20	1-Apr-21
Predispatch P5	Nov-18	Oct-18	Nov-18	TBC	TBC	TBC	-	TBC	29-Nov-20	1-Apr-21
ST and PD PASA	Aug-18	-	Oct-18	Nov-18	Oct-18	2-Apr-19	31-Oct-19	29-Nov-19	29-Nov-20	1-Apr-21
PACKAGE 4 - Pricing and Miscellaneous										
Trading Price / Price Revision	Aug-18	-	Feb-19	Nov-18	Mar-19	31-Jul-19	-	15-May-20	29-Nov-20	1-Apr-21
Administered Pricing and CPT	Aug-18	-	Feb-19	Dec-18	Mar-19	31-Jul-19	-	15-May-20	29-Nov-20	1-Apr-21
Suspension Pricing	Sep-18	-	Feb-19	Dec-18	Mar-19	31-Jul-19	-	15-May-20	29-Nov-20	1-Apr-21
Negative Residue Management	Sep-18	-	Feb-19	Dec-18	Jun-19	31-Jul-19	-	15-May-20	29-Nov-20	1-Apr-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	29-Nov-20	1-Apr-21

Level 2 Milestones - Dispatch

Current as at 15-05-2020

Domain	Initiative	2019				2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Dispatch		L2-D1		L2-D2 / L2-D12	L2-D3	L2-D13	L2-D5 / L2-D4						

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-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	Complete
L2-D13	Final technical specifications for Package 5 published by AEMO	31-Jan-2020	16-Mar-2020	Complete
L2-D5	Software drop for Package 4 in 5MS Staging Environment	15-May-2020	15-May-2020	Complete
L2-D4	Development completed (internal)*	31-May-2020	31-May-2020	Complete

Gzip and Deflate compression has been fully tested and is now available in Staging.

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

10/07/2020   44

Settlements stream update

Mark Hillaby

Systems Workstream - Settlements

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	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	15-Feb-21	1-Apr-21
Billing	Oct-18	Nov-18	Dec-18	Mar-19	30-Aug-19	20 Dec 19	-	16 Mar 20	15-Feb-21	1-Apr-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	15-Feb-21	1-Apr-21
Estimation	Oct-18	Nov-18	Dec-18	Mar-19	31-Oct-19	31 Jan 20	-	15 May 20	15-Feb-21	1-Apr-21
Full Data Model	Refer DISPATCH									

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-S6	L2-S7 L2-S5						

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-S1	Final technical specifications for Package 1 published by AEMO	15-Oct-2019	15-Oct-2019	Complete
L2-S2	Software drop for Package 1	01-Nov-2019	01-Nov-2019	Complete
L2-S3	Final technical specifications for Package 2 published by AEMO	15-Dec-2019	16-Dec-2019	Complete
L2-S4	Final technical specifications for Package 3 published by AEMO	31-Jan-2020	31-Jan-2020	Complete
L2-S6	Software drop for Package 2 in 5MS Staging Environment	16-Mar-2020	16-Mar-2020	Complete
L2-S7	Software drop for Package 3 in 5MS Staging Environment	15-May-2020	15-May-2020	In Progress
L2-S5	Development completed (internal)	31-May-2020	31-May-2020	On track

Retail stream update

Jim Agelopoulos

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	01-Feb-21	09-Mar-21
PACKAGE 2 - MSATS & SLPs										
Transition • MSATS 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 Technical Specification	Aug-18	Oct-18	Sep-18	Nov-18	31-May-19	30-Sep-19	-	1-Dec-19	01-Feb-21	09-Mar-21
PACKAGE 3 – Miscellaneous										
B2M via API • MSATS Technical Specification	Oct-18	-	Apr-19	9-May-19	31-May-19	30-Sep-19	01-Jun-20 (Draft) 31-Jul-20 (Final)	N/A	01-Feb-21	09-Mar-21
MSATS Browser (LVI) changes • MSATS Technical Specification	Aug-18	-	May-19	9-May-19	28-Jun-19	30-Sep-19	01-Jun-20 (Draft) 31-Jul-20 (Final)	15-Jun-20	01-Feb-21	09-Mar-21
MSATS Report changes • MSATS Procedures MDM Procedure • MDM File Format and Load Process (User Guide) • MSATS Technical Specification General Process & Document Clean-up	Oct-18	-	Apr-19	Apr-19	28-Jun-19	30-Sep-19	-	31-Aug-20	01-Feb-21	09-Mar-21

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-M4 L2-M3 L2-M5		L2-M6	L2-M8 L2-M7					

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	Complete
L2-M4	Final technical specifications for Package 3 published by AEMO	30-Sep-2019	30-Sep-2019	Complete
L2-M5	Software Release 1 for Packages 1 & 2 in 5MS Staging Environment	01-Dec-2019	01-Dec-2019	Complete
L2-M6	Software Release 2 for Package 3 in 5MS Staging Environment	15-Jun-2020	15-Jun-2020	On Track
L2-M7	AEMO internal metering solution – build complete (internal)	31-Aug-2020	31-Aug-2020	
L2-M8	Software Release 3 for Package 3 in 5MS Staging Environment	31-Aug-2020	31-Aug-2020	

Retail Staging Release Drop 2 June 2020

Jim Agelopoulos

Retail – Functionality in Staging Release 2 15 June 2020

Objectives

- Allow all Participants to confirm connectivity of their test environments with the AEMO 5MS Staging Environment.

- Allow MDPs to confirm that MTRD CSV MDFF created by their systems for NEM Settlements and TUOS billing are able to pass new AEMO validations for NEM13 and NEM12 (30 min, 15 min and 5 min).

- Allow MDPs to confirm that MDMT CSV MDMF created by their systems for NEM Settlements are able to pass AEMO validations for Basic, Interval and Profile meters.

- Allow MDPs to validate FTP or API message exchange with the NEMMCO participant ID for MTRD and MDMT MeterDataNotifications.

- Allow Participants to confirm AEMO ingested meter reads

Retail – Functionality in Staging Release 2

Scope of functionality

Supported Functions	Staging Release 1		Staging Release 2	
	MTRD	**MDMT**	**MTRD**	**MDMT**
Meter Types	NEM12	No	NEM12 and NEM13	Interval, Profile and Consumption
FTP Message Exchange	Yes	No	Yes	Yes
API Push Message Exchange	No	No	Yes	Yes
API Pull Message Exchange	No	No	No	No
View AEMO Ingested Meter Reads	No	No	MSATS Browser > Metering Data screen	MSATS Browser > Metering Data screen
Support for Transaction Bundling	No	No	Yes	Yes
aseXML schema support	Current only	No	Current and Superseeded	Current and Superseeded

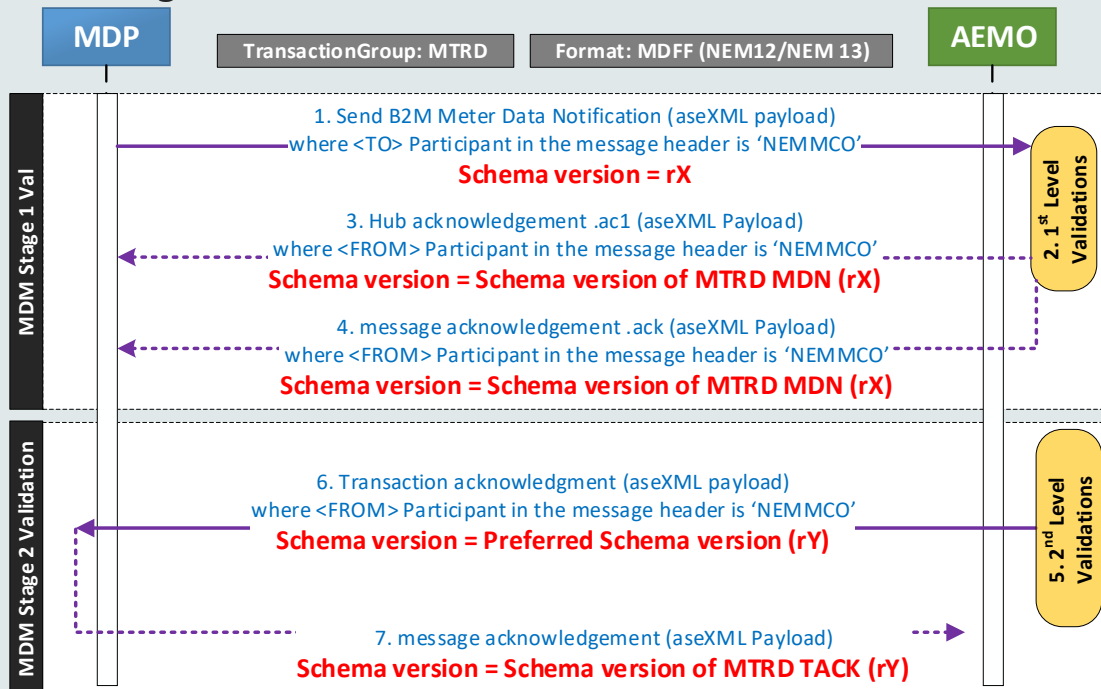# B2M MTRD .ac1 and .ack Schema versions

Simon Tu

B2M MTRD .ac1 and .ack Schema versions

For B2B MTRDs:

- AEMO must send to the initiating participant a positive Acknowledgement in the initiating participant's preferred schema version.

- AEMO must send to the initiating participant a Hub Acknowledgement or Negative Acknowledgement in the same version of the schema as the received Message.

For B2M MTRDs:

- AEMO shall send to the initiating participant Hub Acknowledgements, Negative Acknowledgement, and Positive Acknowledgement in the same version of the schema as the received Message.

B2M MTRD and B2B Stop Files

Simon Tu

B2M MTRD Inbox/Outbox processes

Inbox:

- AEMO shall always accept B2M MTRD messages for the NEMMCO participant regardless of the number of unacknowledged in a participant's outbox.

Outbox:

- For MTRD messages, there are now 2 Outbox locations where a MTRD can be placed:
  - o B2B outbox file share containing:
    - B2M MTRD messages delivered to it via MDM
    - B2B MTRD messages delivered to it via SMP
  - o B2B Hub Queue containing:
    - B2M MTRD messages delivered to it via MDM
    - B2B MTRD messages delivered to it via SMP
- For B2M MTRD Files delivered by AEMO to a participant's outbox file share:
  - Where the number of B2M MTRD messages delivered to the participant's outbox file share is below 100, AEMO delivers B2M MTRD responses (transaction acknowledgments).
  - Where the number of B2M MTRD messages delivered to the participant's outbox file share is equal to the 100, AEMO will stop delivering messages.

B2M MTRD and B2B Stopfiles

It is proposed that the count of B2M MTRD messages:

- In the Outbound file share will not contribute to B2B stopfile count
- In the Outbound Queue will not contribute to the B2B stopfile count

Considerations:

- AEMO wishes to ensure that stopping a Participant due to an issue with their B2B systems should not stop them being able to receive messages for their B2M MDM system and vice versa.
- Clear distinction between B2M MTRD and B2B MTRD for the purpose of stopfiles.
- Where a B2B stopfile is placed, when an FTP participants is clearing out their B2B outbox, they need to understand that the B2M MTRD files they find there don't contribute to their stopfile count.
- The delivery behaviour of B2M MTRD files to the participants outbox file share may be a source of confusion as the EMDM will continue to deliver while the participant is stopped. For example, if a stopped participant starts acknowledging B2M MTRDs from their outbox file share, where B2M MTRDs remain undelivered in the MDM Outbound Queue, the MDM will continue topping up the outbox file share with new files.