

5MS & GS Readiness Working Group #3

Tuesday 27th August, 2019

AEMO Offices:

Level 9, 99 Gawler Place, Adelaide Level 10, 10 Eagle Street, Brisbane Level 22, 530 Collins Street, Melbourne Level 2, 20 Bond Street, Sydney

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

Agenda

NO	TIME	AGENDA ITEM	RESPONSIBLE
Prelim	ninary matters		
1	10:00am – 10:15am	Welcome, introduction and apologies	Greg Minney (AEMO)
2	10:15am – 10:30am	Notes, actions and feedback from previous meeting	Emily Brodie (AEMO)
Matte	rs for noting		
3	10:30am – 10:40am	 Workstream update: Market readiness documents – status and timing Transition focus group 	Emily Brodie (AEMO)
Matte	rs for discussion		
	10:40am – 11:00am	Staging environment support	Tui Grant (AEMO)
4	11:00am – 11:30am	 Interim readiness reporting: Round #1 progress report Risks and issues arising from round #1 	Austin Tan (AEMO)Emily Brodie (AEMO)
		BREAK 11:30am – 11:40am	
5	11:40am – 12:00pm	5MS/GS metering transition	Greg Minney (AEMO)
6	12:00pm – 12:10pm	Managing focus groups	Monica Morona (AEMO)
Other business			
7	12:10pm – 12:15pm	Forward meeting plan	Greg Minney (AEMO)
8	12:15pm – 12:30pm	General questions	Greg Minney (AEMO)



Notes, actions and feedback from previous meeting

Emily Brodie

	Topic	Action	Response
2.4.1	Transition timeline	AEMO to align dates and labelling of MDFF format data transition on staged transition timeline.	 Labelling will be updated to reflect when: AEMO is capable of supporting MDFF MSPs can commence delivery to AEMO
2.4.2	Transition timeline	AEMO to reflect UFE publication milestone of 1 July 2021 on staged transition timeline.	UFE publication will be reflected as a component of 5MS commencement milestone.



	Topic	Action	Response
2.4.3	Transition strategy	RWG members to provide feedback on the presented transition approach at RWG 2 in-line with participant's own implementation programs.	 The first company is aligning its own timelines with the proposed approach and sees no issues with it. The second enquired whether AEMO would consider implementation of their MDM system changes outside the December-March period, to minimise risk to the market during peak summer months, if any issues are found with AEMO's platform. To be discussed at the Transition Focus Group. The third and fourth supported the staged approach and early development of staging environment.



	Topic	Action	Response
2.5.1	UFE publication	AEMO to confirm if and when the draft report on UFE publication will be made available to participants.	AEMO settlements team are responsible for producing the <i>UFE reconciliation report guidelines</i> before 1 July 2021. All details on AEMO's approach can be found in the 5MS Settlements Focus Group slide pack (March 2019, slides 53-56): https://aemo.com.au/-/media/Files/Electricity/NEM/5MS/Procedures-Workstream/Focus-Groups/2019/5MS-Settlements-Focus-Group-220-Mar-19-Notes.pdf
2.7.1	Readiness deliverables	RWG to provide feedback on approach to merge Industry Test and Market Trial Strategy deliverables.	Four responses, three of which did not object to merging the strategies, subject to confirmation of the date the strategy will be delivered. This will be discussed in the Workstream Update. The third suggested a separate strategy for global settlement.



	Topic	Action	Response
2.7.2	Readiness deliverables	RWG to provide feedback on approach to delay engagement on the Accreditation Update approach from August to October.	Three responses. None objected to the delay, noting that it is more suitable to wait for the outcomes of metering procedures package #2.
2.8.1	RWG content	RWG to provide feedback on proposed content and suggest content for future RWGs.	Three responses, including issues relating to the metering transition. These have been passed to the Transition Focus Group to consider. There was a suggestion for more readily available RWG key information such as FAQs.
2.8.2	Readiness deliverables	AEMO to consolidate and discuss readiness workstream deliverables with the RWG, including the draft and final dates for each deliverable.	To be discussed at this meeting in the Workstream Update.

	Topic	Action	Response
2.9.1	P.1 Vendor RWG to provide feedback on areas that AEMO could consider further vendor engagements, including		Three responses:First had no feedback at this time.
		approach, areas of significance and timing.	 Second noted vendor engagement responsibility of businesses, AEMO to provide clarity on technical issues
			Third made following points:
			 Vendors need engagement when tech specs are completed and when considering testing timeframes
			 Key considerations for vendors are: (a) data storage (MDM and at meter); (b) additional communications load; and (c) impact of telco changes such as 3G shutdown/5G rollout at same time as 5MS
			AEMO will build these points into vendor engagement work.
2.9.2	Readiness risks	RWG to provide feedback on the proposed approach to managing readiness issues and risks.	Three responses. First had no feedback at this time, second had no objections to the approach, third supported managing risks through PCF register.

Workstream update

Emily Brodie



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.



Transition focus group

- First meeting Friday, 30 August, Melbourne
- Forum for AEMO and industry stakeholders to engage in detail on transitional matters related to 5MS and GS implementation
- Contributes to 5MS/GS readiness workstream, reports to RWG
- RWG will receive meeting pack, meeting notes and a debrief at September meeting

Key agenda items for August meeting:

- Morning:
 - overall 5MS/GS transition
 - strategy for industry testing/market trials
- Afternoon:
 - 5MS/GS <u>metering</u> transition



Staging environment support

Tui Grant



Staging environment - background

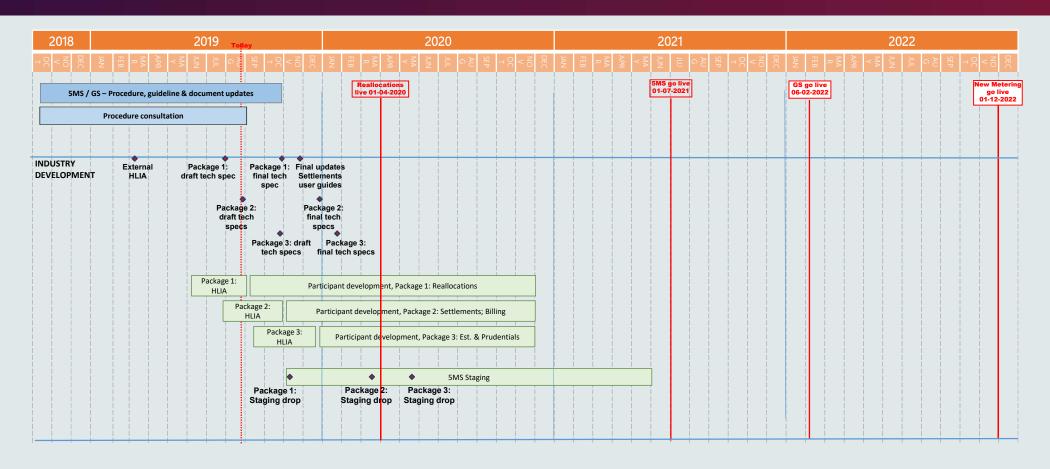
- The 5MS staging environment is being provided in response to participants' requests for early testing access to those AEMO systems being updated for 5MS and GS.
- The proposed release schedule and contents of the releases for the 5MS Staging environment has been communicated to Systems Working Group on several occasions.
- Moving forward the RWG will be used as the main communication channel for this environment. Data refreshes, planned outages etc will be discussed and planned in this forum before being communicated to other working groups.



5MS Staging environment

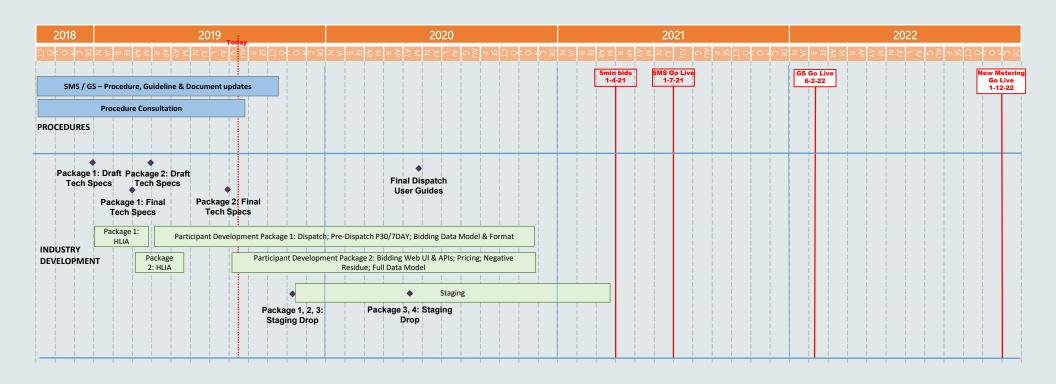
- The new 5MS Staging environment will be available to participants from the 1st November 2019.
- Any participant requiring support can contact or email the AEMO support hub who will raise a ticket for the 5MS Program to investigate and resolve.
 - The Program will endeavour to acknowledge tickets raised within 24 hours (or the end of the next business day) and perform a high level triage on the issue
 - Once the issue is resolved, the ticket will be closed and the participant notified
 - If the issue is identified as a defect, the participant will be notified of the defect ID and the ticket will be closed.*
- Changes will be deployed into this environment:
 - as per the dates communicated to participants in the SWG and RWG, and
 - be limited to the scope defined and communicated in the SWG and RWG in the lead-up to each release.
- Formal notifications will be sent after each deployment confirming scope.
- * Defects identified by participants will be addressed in-line with the internal testing program and released in-line with scheduled updates and changes.

Indicative staging environment software drops 5MS Participant timeline – Settlements



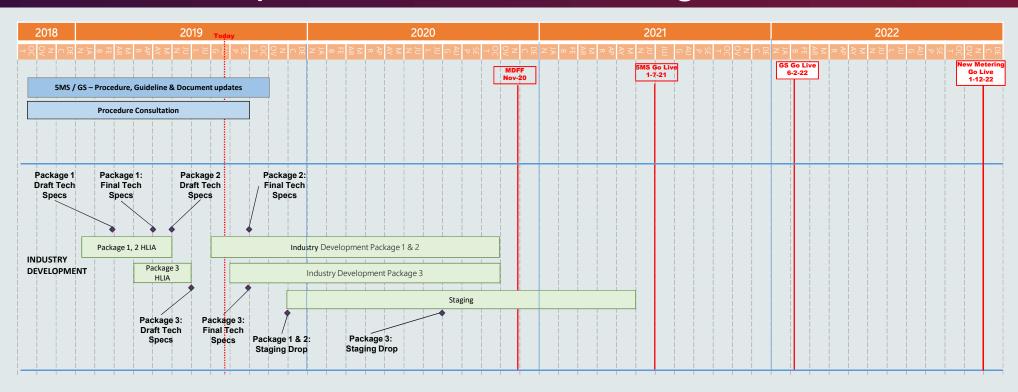


Indicative staging environment software drops 5MS Participant timeline - Dispatch





Indicative staging environment software drops 5MS Participant timeline – Metering





Interim readiness reporting

Austin Tan and Emily Brodie



Interim Readiness Reporting - Background

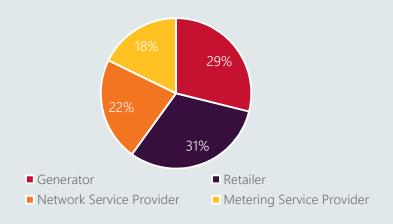
- The first round of Interim Readiness Reporting commenced on 18 July 2019. AEMO presented the survey results to the RWG, PCF and Executive Forum.
- Final report of survey findings will be emailed to RWG and published on website.
- Interim Readiness Reporting focuses on the level of establishment of implementation projects. Subsequently, readiness reporting will focus on the delivery progress of these projects. Full readiness reporting is planned to commence February 2020.
- AEMO invites the RWG to comment by <u>Friday 30 August</u> on:
 - Content of survey findings
 - Reporting approach and format of survey findings
 - Suggestions for future interim readiness reporting surveys



Interim Readiness Reporting 1

- On 18 July 2019, the first Interim Readiness Reporting survey was sent out to the 44 organisation in the RWG
- A total of 34 organisations responded with 45 submissions, representing a response rate of 77%. Some organisations responded with multiple submissions to represent different participant types.
- Two organisations responded after the survey deadline, and one organisation did not respond through the survey link.
 These responses are included in this analysis, although they were not included in briefings to the RWG, PCF and Executive
 Forum that were held in the week beginning Monday 5 August 2019.

Figure 1: Interim Readiness Reporting – Participant respondent type (%)



Observations:

- 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

Considerations

• Enable participants to provide more detail on participant type to allow more targeted analysis (e.g. MSPs to respond as MP, MC or MDP as appropriate)

Key Findings – Overall (1)

- While there is strong management awareness of 5MS / GS requirements and participants have commenced activities to establish 5MS & GS programs, few have well established programs.
 - Almost all respondents are in the early stages of developing project plans and are commencing activities to establish a project team.
 - 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.
- In general, Metering Services Providers' programs are the least progressed. Relative to other participant categories, this could be a result of:
 - metering procedures package 2 still being under consultation
 - the scope and complexity of the required changes
- Availability of internal resources and complexity of upgrading systems are the most common participant concerns

Key Findings – Overall (2)

- Participants highlighted the dependency of their program development on AEMO artefacts and delivery timing.

 A few participants noted some uncertainty in scope as Metering Package 2 is still under consultation.
- Participants outlined that it is too early in program to know if they will be ready/prepared for industry testing and market trials and the scope and timing of this testing is a risk being flagged.
 - There was some confusion on whether intention of question was on willingness or readiness status to participate in industry testing and market trials.
- Most respondents have commenced engagement with vendors, however this engagement is not well advanced
- Majority of respondents have commenced impact assessments on market procedures, commercial operations and agreements, internal business processes and standing data/meter transition. Market procedures is the most progressed category, with almost half of respondents already reasonably considering procedure impacts.



Considerations for next survey

- Suggestions for future interim readiness reporting surveys:
 - Enable participants to provide more detail on participant type e.g. MSPs can nominate as MP, MC or MDPs)
 - Include a 'not relevant' response option on all GS-related questions in next survey
 - Reword the question around an organisation's confidence that it will be ready to participate in industry testing and market trials
- Any other suggestions?
 - RWG to email any further feedback to <u>5MS@aemo.com.au</u> by Friday 30 August.



Risk management

- New readiness risks and issues identified by the RWG, its subsidiary focus groups or through reporting will be escalated to the PCF for inclusion in and management through the overall *Industry Risks and Issues Register*. This is so there is a single, coordinated register.
- The *Industry Risks and Issues Register* can be found at: https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Program-Management/Program-Consultative-Forum
- In managing risks and issues, the PCF may assign actions to the RWG or its focus groups to carry out. These will be considered by the RWG on a regular basis.
- The following slides set out the risks raised through round #1 of interim readiness reporting, and how these align with the existing risks captured on the *Industry Risks and Issues Register*.



Key Risks

Risk	5MS Industry Risk Register ID	Comments
 Internal resourcing and systems Availability and capacity of internal resources Complexity of upgrading systems Ability to secure resources to complete program implementation 	R01 - There is a risk that small participants are not adequately engaged in the work streams due to resource limitations R02 - Risk that there is one or more participants that aren't 'ready' at go-live	 PCF agreed actions are largely around: AEMO's readiness workstream to facilitate, coordinate, plan, monitor and report AEMO to provide information fact sheets, seminars etc PCF providing information and recommendations to further assist resource constrained participants Propose RWG: manages the impact of these risks against R02 through readiness reporting and mitigation escalates issues to the PCF if they arise.
 AEMO Procedures and Technical Specifications delivery Challenges to progressing without final documentation Dependencies between AEMO artefacts and industry program design Potential for AEMO delays 	R11 - The AEMO internal project is not ready for 5MS Go Live	 PCF agreed actions: Ensure transparency around AEMO's internal program deliverables, and draft technical specifications, presenting to the PCF on an agreed basis. Agree Level 1 and Level 2 readiness milestones for the PCF. Propose that RWG escalates issues to the PCF if they arise.



Key Risks

Risk	5MS Industry Risk Register ID	Comments
 Early phases of project planning In time, detailed impact assessment and project development may identify further risks 	n/a	Further risks may arise as participants get further into scoping and development. Propose that the RWG raise risks to the PCF as appropriate as they evolve.
Vendor capacity Availability and resourcing capacity	R10 - Vendor contract negotiation timelines	 PCF agreed actions: Build negotiation time into program timelines AEMO to engage with participants to identify issues AEMO to maintain a collated list of vendors, with participants asked to supply vendor details Participants to provide updates to the PCF regarding vendor performance AEMO to hold a second vendor briefing session in October 2019. Participants to provide updates to vendor delivery as part of Readiness reporting Vendor capacity is also a risk to participant and AEMO readiness (R02 and R11).

Other risks identified

Risk	5MS Industry Risk Register ID	Comments
 Short testing and market trial period 	n/a	Industry testing and market trial strategy will propose test periods. Propose that RWG evaluate risk after completion of the <i>Industry testing</i> and market trials strategy.
New rules changes / projects impacting capacity to deliver	R06 - Interaction with other industry changes <u>that have</u> <u>already been adopted</u> through rule changes	 PCF agreed actions: Engage broadly internally and externally to understand other industry priorities. Plan engagement with consideration of these priorities AEMO to report at EF on any timeline slippage 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 Participants to consider opportunities to raise concerns regarding the pace of regulatory change with AEMC. Propose that the RWG raise risks/issues to the PCF as they evolve.
	R09 - Impact to 5MS from other rule changes <u>that are</u> <u>being considered</u>	 PCF agreed actions: AEMO and industry to participate in rule change processes and to advise AEMC of potential 5MS implications Escalate to EF should road blocks or slippage occur. Participants to engage through the AEC and the ENA. Propose that the RWG raise risks/issues to the PCF as they evolve.

Other risks identified

Risk		5MS Industry Risk Register ID	Comments
planning • Inc	eadiness and transition reased focus on flustry issues required	n/a	AEMO's readiness workstream will facilitate, coordinate, plan, monitor and report. The RWG will regularly discuss current and emerging risks and issues (see forward meeting plan).
Impact of internal	of increased data on systems	n/a	This is an implementation challenge, that can be grouped with the 'internal resourcing and systems' key risk (see R02 above)
 Physical upgrade 	meter / meter software es	n/a	This is an implementation challenge, that can be grouped with the 'internal resourcing and systems' key risk (see R02 above)



Readiness reporting - next steps

- AEMO to incorporate RWG feedback in next Interim Readiness Reporting questionnaire and progress report
- Round 2 of Interim Readiness Reporting will commence on 2 September 2019
- AEMO to commence engagement on the Industry Readiness Reporting Plan at September RWG.

Interim Readiness Reporting Plan

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	Fri, 15 Nov	Tue, 26 Nov	Thu, 28 Nov

Industry Readiness Reporting Plan - Consultation timeline

RWG engagement	Draft paper published	Draft paper comments due	Final paper
Tue, 24 Sep	Thu, 31 Oct	Thu, 21 Nov	Fri, 13 Dec

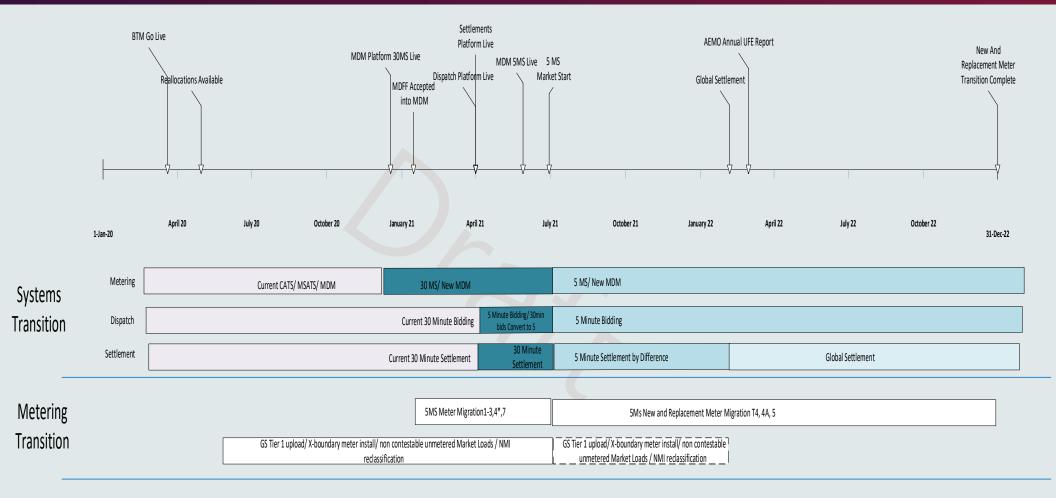


5MS/GS metering transition

Greg Minney



Market Systems and Metering transition





Phased Implementation of platforms:

- Operational stabilisation on a 30-minute settlement basis
- Provides capability required to support 5MS and GS metering transition and metering data population

Proposed Metering Transition - Context

- Over time, meters in the NEM will be affected by transition to GS and 5MS. The key timeframes are:
 - From Dec 2018: All new and replacement type 4 meters installed to be *capable of* storing and communicating 5 minute data
 - From Dec 2019: All new and replacement type 4A meters installed *capable of* storing and communicating 5 minute data
 - By 1 July 2021: All type 1,2,3, and 7 metering installations and some type 4 metering installations providing 5-minute data
 - By 1 July 2021: Updates to metering and standing data to support UFE calculations and reporting
 - By 6 February 2022: Participant relationship code updates LR and FRMP change to GLOPOOL to enable global settlement.
 - By 1 December 2022: All new and replacement type 4 and 4A meters installed since 2018 (type 4) and 2019 (Type 4A) to be providing 5-minute data



Proposed Metering Transition - approach

- Identify all activities required for the metering transition to 5MS/GS:
 - · activities that can commence now
 - activities that have dependencies prior to commencement e.g. on AEMO's or participants' system capability
- Determine "transition completion" milestones to ensure key timeframes are met (as opposed to NER/procedure milestones)
- Through formal readiness reporting, establish participant completion and status reporting to provide cross-industry transparency on:
 - progress against milestones
 - dependency management among participants
 - dependency management between AEMO and participants
- Detailed activities, dependencies and timeframes will be discussed with TFG on Friday, 30 August.
- AEMO invites the RWG to comment on the overarching approach to the metering transition to inform the TFG discussion

Proposed metering transition – developing the transition

- High level categories of work:
 - Meter installation and reconfiguration
 - Meter data delivery
 - MSATS standing data creation and maintenance
 - Metering accreditation updates
- Categories broken down into sub-categories, and sub-categories will be broken down into activities
- For each activity, we will identify the responsible entity, dependencies and required timeframes.



Proposed metering transition: EXAMPLE – INDICATIVE ONLY!

Category	Sub-category	Activity	Resp'	Dependencies	Resp'	Transition start & finish	Rule or procedure timina	Transition objective/ outcome
Meter data delivery	Type 1-3, subset of 4	Meter data delivery between MDP and its customer (retailer, generator etc) at 5min or other granularity as agreed	MDP	Required systems are in place to support 5min data delivery	AEMO MDPs Retailers Generators	TBC	1/07/2021	
		Meter data delivery to AEMO for Settlement	MDP	Accreditation updates	AEMO MSPs	TBC	1/07/2021	
		Meter data delivery for 1000 wholesale meters (subset of 19,000)	MDP			1/4/21 (finish)		Wholesale meters essential for the calculation of the 5 minute profile are in place for commencement
		Updating and creation of records in the MSATS datastream table: - update for 5min - transition datastreams from net to register - delivery of import/export active (kWh)/reactive (kVArh) energy	MDP			TBC		Data required to support 5MS and calculate UFE
	Meter data file format (MDMR, MDFF)							
	Update of Type 7 metering installations to 5-min							
	Non-contestable unmetered loads							
	Delivery of tier 1 loads							
	New and replacement Type4 5-min data delivery							
	New and replacement Type 4A 5- min data delivery							
	AEMO to determine MDP requirements associated with meter data delivery to LRs							

Managing focus groups

Monica Morona



Focus group objectives

Objectives

- To match the industry challenges with the right expertise at the right time
- To provide forums for AEMO and industry stakeholders to engage in detailed discussions on specific matters or issues.
- To optimise focus group resourcing to avoid "meeting fatigue"

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 focus groups

- Moving forward, AEMO will use focus groups to undertake cross-program discussions, coordination and "problem solving" to support development and readiness phases of the implementation program.
- Known areas will require focus groups e.g. testing and transition, can plan meetings in advance. Even these known 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, minimising 'downtime' in focus group meetings and enabling 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?
 - AEMO will review focus groups, seeking and incorporating working group feedback.
- AEMO invites the RWG to provide suggestions for focus groups and/or topic areas





Forward Meeting Plan

Greg Minney

Upcoming RWG Meetings – Content and Discussion Items

Seeking feedback for proposed content/topic areas

Meeting Date	Meeting	Proposed Content
24 Sep 19	RWG #4	 Interim readiness reporting - round #2 results
		Principles for industry readiness reporting
		Debrief on TFG
		 Initial readiness issues and risks workshop
28 Oct 19	RWG #5	 Market readiness strategy – RWG feedback
		Approach to accreditation update plan
28 Nov 19	RWG#6	 Interim readiness reporting - round #2 results
		RWG feedback on
		Industry testing and market trials strategy
		Transition and go-live strategy
		Readiness issues and risks workshop
TBC	RWG#7	December or January?

Upcoming meetings

Meetings and forum dates: http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement

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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





General Questions

Greg Minney

