5MS Systems Working Group (SWG) Meeting Notes

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| MEETING: | 1 |
| DATE: | Friday 24 August 2018 |
| TIME: | 10:00 AM - 2:00pm |
| LOCATION: | AEMO Offices Melbourne, Sydney, Brisbane, Adelaide and Video/Teleconference |

Attendees:

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| **Attendee** | **Organisation** | **Office** |
| Hamish McNeish | AEMO | Melbourne |
| Graeme Windley | AEMO | Melbourne |
| Satheesh Kumar | AEMO | Melbourne |
| Umesh Dutt | AEMO | Melbourne |
| Pierre Fromager | AEMO | Sydney |
| Alex Polonetskiy | Plus ES | Sydney |
| Martin Vyhnalek | Origin Energy | Sydney |
| Vidhya Uthaman | Infigen Energy | Sydney |
| Victor Sanchez | Infigen Energy | Sydney |
| Samantha Sheperd | Origin | Sydney |
| Anette Reitmann | AGL | Melbourne |
| Arif Syarifuddin | Powercor | Melbourne |
| Akash Sembey | Simply Energy | Melbourne |
| Adrian Honey | Tas Networks | Melbourne |
| Bebin Thomas | Engie | Melbourne |
| Chris Leffler | AGL | Melbourne |
| Enrico Buenaventura | Energy Australia | Melbourne |
| Jarrah Van Rijswijk | Hydor Tasmania | Melbourne |
| Mahdi Maleki | AusNet Services | Melbourne |
| Nilesh Kevet | Jemena | Melbourne |
| Paul Sampson | Acumen Metering | Melbourne |
| Peter Docking | Hydro Tasmania | Melbourne |
| Pratham Bhandari | Jemena | Melbourne |
| Siew Kiat Tai | Jemena | Melbourne |
| Solochana Vivekanandan | Red Energy | Melbourne |
| Tariq Pervaz | Red Energy | Melbourne |
| Mark Riley | AGL | Melbourne |
| Benn Blumenthal | CS Energy | Brisbane |
| Brian McKerr | CS Energy | Brisbane |
| Alan Ford | Stanwell | Brisbane |
| Adam Neilson | Stanwell | Brisbane |
| Tim Bellette | Stanwell | Brisbane |
| Jackie Mayo | Metering Dynamics | Brisbane |
| Stewart Bryce | ERM Power | Brisbane |
| Adam Gritton | Stanwell | Brisbane |
| Wayne Baldwin | Intergen | Brisbane |
| Adam Power | Brave Energy | Dial In |
| Dino Ou | Endeavour Energy | Dial In |
| Divya Kapoor | Flow Power | Dial In |
| Ingrid Farah | Ergon Energy | Dial In |
| Joseph Giddings | Energy One | Dial In |
| Kevin Bourchard | Aurora Energy | Dial In |
| Lok Jackson | Hydro Tasmania | Dial In |
| Neville Lewis | Select Data | Dial In |
| Richard Dumont | Ausnet Sevice | Dial In |
| Sarah Grundy | Brave Energy | Dial In |
| Suresh Maguluri | Hydro Tasmania | Dial In |
| Paul Willacy | Aurora Energy | Dial In |

1. **WELCOME, INTRODUCTION and APOLOGIES – Hamish McNeish (AEMO)**

* Attendees were welcomed to the Systems Working Group.
* This meeting was presented by AEMO staff to participant representatives as an open forum for discussion on upcoming changes to market systems, prompted by the 5-minute settlement rule change. The AEMC set the go-live date as 1 July 2021.

1. **RECAP ON 5MS – Graeme Windley (AEMO)**

* The 5MS program resulted from an AEMC decision handed down in a final Rule change made on 28 November 2017 with an industry go live on 1 July 2021, to remove the anomaly between five-minute dispatch and 30-minute settlement, which promoted disorderly bidding, and to provide a clearer price signal for investment in fast response technology. Functional impacts of the program affect metering, settlement calculation, dispatch and market information.

1. **5MS PROGRAM ENGAGEMENT – Graeme Windley (AEMO)**

* The 5MS program engagement structure reflects the SWG role in IT system change, with focus groups formed as required. Other 5MS program groups include the Program Consultative Forum (PCF), Executive Forum (EF), Procedures Working Group (PWG) and the Readiness Working Group (RWG).
* AEMO staff, Chris Muffett and Gary Eisner, are currently doing **roadshows** visiting participants face to face to disseminate information and gather questions and concerns.
* Participants are encouraged to use [5ms@aemo.com.au](mailto:5ms@aemo.com.au) to **contact AEMO about 5MS**. Information is also on AEMO’s website and updates will be emailed to all participants. Participants present at this SWG meeting are automatically included; other representatives can be nominated.

1. **SWG and FOCUS GROUP APPROACH – Hamish McNeish (AEMO)**

* The SWG is a forum for industry stakeholders to engage with AEMO during the IT systems development process. AEMO is aiming to keep participants informed as early as possible, with timelines for planning activities.
* A draft **Terms of Reference (ToR)** stipulating the groups objectives, expectations, logistics and focus group streams is available via the following link: <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>. SWG members are invited to provide feedback on the draft Terms of Reference (**Action 1.1**), following which AEMO will finalise this document (**Action 1.2**).
* AEMO’s approach is to **provide information and systems early** and focus on minimising the risk of a ‘big-bang’ style release. This includes releasing some functionality earlier than the mandated go-live date to better facilitate transition.
* AEMO will consider **opportunities to be innovative** as part of this program where it relates to an area that is changing within 5MS. These changes would need to be justified and present minimal risk to 5MS delivery.
* AEMO was asked to review **Global Settlements** (GS) as there are benefits to implementing both (5MS and GS) together. AEMO is planning to make system changes that can cope with GS changes, this can then be activated when required for GS. The GS rule change is still in consultation.
* A concern was raised on AEMO **management of system changes** in the same timeframe as 5MS, such as DER, Life Support, Standing Data review. Life Support is expected to complete before any 5MS changes start. A similar issue was raised at the PCF and will go to the Executive Forum (EF), AEMO will report back on the progress of this issue (**Action 1.3**).
* The 5MS program is being managed by a formal program management team. **Participants expressed concern at the number of working and focus groups** in which they will have to participate. AEMO is planning to align these, combining them where possible. A focus group, for example, will allow the procedures (PWG) and systems working groups (SWG) to work closely together.
* **A participant questioned whether a Test Working Group would be created**. There is no plan to do this – any testing activities prior to Industry Testing (in pre-production) will be managed through the SWG. With Industry Testing and Market Trials to be managed through the Readiness Working Group (RWG).
* It was agreed to **split the SWG into wholesale and retail areas**. Meetings for these will be held on the same day, one in the morning and one in the afternoon. Communications will have to be very clear as to which session is for which area.
* Participation in **focus groups is optional**. Participants will be advised of the discussion topics and can then choose whether to attend and which representatives to send.
* Participants will be given a **week's notice of upcoming focus group meetings**. This should give them the opportunity to get the right people to come, think and investigate ahead of time. Participants can choose whether to send a representative or not. AEMO will then confirm then attendees based on numbers and the content.
* There has been discussion at the PCF around **vendor engagement**. Vendors can be nominated by participants and are welcome to come along and be involved. AEMO is also preparing a separate information session for product vendors.

1. **SYSTEM WORKSTREAM APPROACH – Hamish McNeish (AEMO)**

* AEMO propose a smaller scale **test environment**, called a ‘sandbox’, for targeted testing runs. This would leave the existing pre-production environment running without any 5MS changes for activities outside of 5MS (until Industry Testing begins). The Sandbox will not be a full system environment. Participants supported the Sandbox concept and noted a more complete test system, say ‘Pre-production 2’, would be more beneficial. AEMO to assess the potential of a second pre-production (**Action 1.4**).
* AEMO will consider building a **dashboard** allowing participants to be kept informed of the sandbox status, functionality and defects (**Action 1.5**).
* A participant suggested allowing participants to stand up their own **market systems environment**. A software image could be distributed by AEMO, allowing participants to manage their own environment and internal testing. AEMO’s response was that this would raise intellectual property issues, and make it difficult for AEMO to provide support and bring in a versioning complexity for participants.
* A participant suggested an **offline testing tool** similar to that used for the B2B module (Validation Module). AEMO considered this. The data validation done for bids/offers requires AEMO database access so a standalone “offline” module is hard to achieve. The provision of the Sandbox environment should meet this requirement.
* Participants raised concerns about **bandwidth** and latency when working with AEMO’s systems and are especially concerned that this will get significantly worse with increased data volumes and new interfaces. AEMO is anticipating this issue and are looking at addressing it, especially for metering. AEMO to provide assessment on bandwidth/networking impacts (**Action 1.6**).

1. **NEM RETAIL SYSTEMS – Satheesh Kumar (AEMO)**

* Procedures consultation is underway so there may be further changes in the procedures that will impact system change. The information presented is the current position on system change and impacts.
* AEMO proposed to rationalise the meter data formats across B2M & B2B i.e. proposed MDFF data format (NEM12 & NEM13) for both B2M & B2B. However, there will be a transition period wherein AEMO will accept both legacy B2M MDMF format and MDFF format after which MDMF will be retired.
* AEMO has proposed to use the **MDFF** format (B2M & B2B) for 5-minute reads. MDFF can currently handle 5-minute meter read data.
* This is proposed to be NEM12 and NEM13, if new attributes need to be supported then a NEM22 format may be required. At this time there is no identification of new attributes. The position is NEM12 and NEM13 will be used.
* A participant queried if **partial data** would be supported, AEMO said no the NEM12 data should be the full dataset.
* AEMO asked it is was an issue to have meter data of **different resolution** in MDFF (i.e. within a single <MeterDataNotification> transaction), e.g. 5-minute, 15-minute, 30-minute. Participants did not indicate a concern around this.
* **Web APIs** will be introduced (FTP will remain supported) to support B2M message interactions, the B2M web APIs will be accessible over the internet (as the B2B web APIs are today).
* The current B2B API is exposed to the internet and this will continue. The B2M interface is not currently exposed, the new web APIs will be **accessible over the internet**.
* AEMO will look at **metering changes** in various programs and consider consolidating the effort where this offers efficiencies.
* A participant asked AEMO to **add titles to the architecture diagrams** (**Action 1.7**).
* Profiling will change to 5 minutes, so **reports** will need to change. The current mechanism (CSV payload within an aseXML file) will not change.
* B2M meter data: files are currently **limited to 1 MB**; AEMO is reviewing this (increasing the limit) but need to consider the impact on bandwidth and effective throughput. If we increase the limit, participants can choose to keep the files small however bear in mind you may receive larger files from other participants. AEMO to provide more information and a recommended limit to discuss (**Action 1.8**).
* AEMO asked for review of 13 months of **online storage**. Participants have access to this data via the MSATS browser. Could data older than 6 months, for example, be stored offline and be available on demand? This proposal is prompted because the volume of data will increase significantly, driving up costs of storage for AEMO. Participants to consider this proposal. (**Action 1.9**).

1. **NEM WHOLESALE SYSTEMS – Hamish McNeish (AEMO)**

* Procedures **consultation is underway** so there may be further changes in the procedures that will impact system change. The information presented is the current position on system change and impacts.
* AEMO is proposing to allow **acceptance of 5-minute bids early**. Participants are encouraged to provide feedback or concerns.
* AEMO proposes to **deprecate the current text** format moving to a JSON format supported over web APIs and FTP. There is no timeline for **deprecating FTP**. An archiving mechanism is under discussion. At least 2 participants, while supporting shifting to JSON as a strategy, felt that extending the existing format increased risk to the 5MS project, and this change could be done in the future. Other participants felt that the shift was sensible and may reduce risk. AEMO stated that it felt it was the right time to transition the format within the context of 5MS with a change required to the existing TXT format. This will be discussed in the related Focus Group.
* AEMO is planning on making changes to the EMMS **data model / InfoServer / Data Interchange**. The changes are planned to support transition of systems. Subsequent focus groups will discuss the changes in detail.
* **30-minute pre-dispatch** (next day and 7-day) is proposed to use the last 5-minute bid from the associated 30-minute period as an input.
* **ST PASA** is proposed use the 5-minute bid with the lowest availability bid from the associated 30-minute period as an input.
* AEMO noted that **5-minute pre-dispatch (P5)** is not currently mandated by the Rules, but it will be with the 5MS rule change.
* The PWG are looking at options to **extend P5 covering** at least 6 hours, potentially 24 hours, as well as adding price sensitivity. AEMO is investigating what is feasible from a systems perspective.
* Settlements residue auction (SRA) itself is not affected by 5MS but the Inter-Regional Settlements Residue (**IRSR**) will be affected.
* A participant identified that **intervention pricing** should be looked at, especially considering data volume, AEMO to come back on any impacts on intervention pricing (**Action 1.10**).

1. **OTHER BUSINESS: GENERAL QUESTIONS – Hamish McNeish (AEMO)**

* A participant queried if any **further work was planned for MT PASA**, and a question on its stability. AEMO was not aware of any projects. Any stability issues should be dealt with under standard maintenance.
* Can we **standardise the data provided by network companies**? AEMO has no control over the provision of this information.
* A participant asked if the **rules around meter data submission timing would be changed**. AEMO said that there it is not aware of any proposed changes to timings. In terms of volumes participants can submit whenever the required meter data is available and have until 5pm to submit prior to a settlement run. Most participants submit daily.
* A participant asked if the **APIs** would be technically like those created under Power of Choice. AEMO said “yes, they would, except API Keys would not be required; the authentication model would leverage URM (Universal Rights Management) which is currently managed via MSATS”. I.e. basic authentication and URM authorisation.

1. **FORWARD MEETING PLAN – Hamish McNeish (AEMO)**

Attendees were thanked for their attendance and advised of future SWG meetings for 2018;

* Mon 17 September
* Wed 17 October
* Wed 21 November
* Mon 17 December

Focus Groups:

* Joint PWG/SWG – Fri 14 September

Further information on the 5MS program, and a calendar of all meeting and forum dates can be found via the following link: <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>.

Actions arising from SWG meeting on 24 August 2018.

The item number format is <SWG Meeting number>:<Incremental number>.

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| **Item** | **Topic** | **Action required** | **Responsible** | **By** |
| 1.1 | SWG Terms of Reference | Participants to provide AEMO with feedback on the draft PWG Terms or Reference. Email feedback to [5ms@aemo.com.au](mailto:5ms@aemo.com.au) | SWG Members | 17/9/2018 |
| 1.2 | SWG Terms of Reference | AEMO to finalise the SWG Terms of Reference | AEMO | 24/9/2018 |
| 1.3 | AEMO System Change | This will be raised at the Executive Forum (EF). AEMO to report back on outcomes. | AEMO | 17/9/2018 |
| 1.4 | Sandbox options | AEMO to evaluate the option of having an external test system that more closely resembles pre-production, as opposed to a cutdown Sandbox. | AEMO | 24/9/2018 |
| 1.5 | Sandbox dashboard | AEMO to evaluate having a mechanism such as a dashboard to provide the status of the Sandbox environment. Allow viewing current defects etc… | AEMO | 24/9/2018 |
| 1.6 | Participant bandwidth implications | AEMO to provide assessment on bandwidth/networking impacts | AEMO | 24/9/2018 |
| 1.7 | Architecture Diagrams | AEMO to add titles to the architecture diagrams | AEMO | 17/9/2018 |
| 1.8 | 1 MB message limit | AEMO to provide more information and a recommended limit to discuss | AEMO | 24/9/2018 |
| 1.9 | 13 months archiving | Could 6 months of data be stored online and 7 months offline being made available on demand? i.e. An web service request, and data is provided a number of hours later for a period of 3 days.  There is the potential to look at value add services in this space. i.e. request files related to a message or transaction id.  SWG members to consider this concept. | SWG Members | 17/9/2018 |
| 1.10 | Intervention Pricing | AEMO to come back on any impacts on intervention pricing | AEMO | 17/9/2018 |