17 October 2017

Dr Kris Funston
Senior Director
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Electronic Lodgement – ERC0201

RE: Draft Rule Determination – Five Minute Settlement

Dear Kris

CitiPower, Powercor and United Energy (the **businesses**) appreciate the opportunity to respond to the Draft Rule Determination (**paper**) on Five Minute Settlement. This paper represents a shift from the positions in the Directions Paper and we welcome the more pragmatic approach should this 5 minute settlement rule be made.

The businesses have based this response on the Draft Rule and the summary table of policy intent provided by the Australian Energy Markets Commission (**AEMC**) to the Energy Networks Australia (**ENA**) on 4 October 2017, Attachment 2. The businesses high level comments are below and more detailed drafting comments are outlined in Attachment 1.

The AEMC is proposing that:

- all new and replacement meters for meter types 1-3, 4, 4A and 5 after 1 December 2018 need to be capable of providing 5 minute data and must provide 5 minute data for settlement from 1 July 2021; and
- type 7 unmetered loads need to provide 5 minute settlement data from 1 July 2021.

The businesses recognise that a more responsive wholesale market may encourage the uptake of renewables and battery storage and could potentially assist to deliver network support in constrained areas. However a move to 5 minute data using meters will require industry participants to upgrade their metering systems and this comes at a cost as noted in our response to the Directions Paper. Ultimately the AEMC must be convinced the rule change will deliver value for Victorian customers.

In summary, the businesses recommend:

- the final rule could vary again from the current position hence we would welcome a further industry workshop to review the final draft rule;
- practical solutions to implementation should be sought and built into the final rule;
- a 12 month transition beginning from 1 July 2021 should be provided to allow the industry time to troubleshoot and ensure the system that they have built or modified are capable of coping with the significantly higher data volumes. The businesses consider this would allow an orderly transition to 5 minute data and avoid the big bang issue that has raised issues for the metering competition implementation;
- we strongly recommend that an independent post implementation review of this Power of Choice reform be undertaken and the learnings considered in the implementation of this 5 minute rule change;
- the Australian Energy Markets Operator (**AEMO**) procedures listed in 11.100.2 (a) should be completed by 1 December 2019 and not 1 December 2020;

- the Information Exchange Committee (**IEC**) Business to Business (**B2B**) Procedures in 11.100.2 (b) should be delivered in a consistent timeframe with the AEMO procedures, 1 December 2020;
- the exemption process in Rule 7.8.2 (a1) must be extended to include meter types 4A and 5 now that AEMC has clarified these meters also need to meet 5 minute data requirements.; and
- the AEMC should also amend Rule 7.8.2 (a) (9) and (10) to cover remotely read meters in (9) and manually read meters in (10).

1 Clarity of final rule and practical transition

Aspects of the Draft Determination and Draft Rule appear to provide conflicting policy positions. We have welcomed the openness of the AEMC to facilitate a clearer view of the policy intent during this consultation phase. We however remain concerned that the final policy could vary again from the current position and would welcome an industry workshop to review the final draft rule in light of the AEMC final policy intent. It is important that industry participants understand their obligations and that practical transition arrangements are built into the process. A managed approach is important so that wholesale settlements and billing is not impacted.

We believe the AEMC should include a transitional period post 1 July 2021 for meters to start providing 5 minute data rather than requiring the changeover to occur on a particular day. For our businesses, we expect there will be around 100,000 type 5 AMI meters installed between 1 December 2018 and 1 July 2021 that would need to provide 5 minute data. The volume of meters (and value of transactions) is significantly more when also considering that all type 1-3 and certain type 4 and 4A meters will also need to comply. A 12 month transition beginning from 1 July 2021 will allow the industry time to troubleshoot and ensure the system that they have built or modified are capable of coping with the significantly higher data volumes. Practical solutions to implementation should be sought and built into the final rule. We consider this would allow an orderly transition to 5 minute data and avoid the big bang issue that has raised issues for the metering competition implementation.

2 Strong governance

The current metering competition, embedded network manager, B2B and meter replacement rule changes which take effect on 1 December 2017 is a significant reform programme. We strongly recommend that an independent post implementation review of this Power of Choice reform be undertaken and the learnings considered in the implementation of this 5 minute rule change which is a similar major implementation for industry.

3 Earlier finalisation of National Energy Market procedure changes

AEMC state in the Draft Determination summary that the rule provides for three years and 7 months transition for the substantial Information Technology (**IT**) system changes involved. AEMO notes that the data delivery requirements to it (and registered participants) could require more frequent delivery than weekly—perhaps daily or even within day. This would be a substantial change for participants receiving data and for meter data processing, collation into NEM12 or NEM 22 and delivery of data.

Rule 11.100.2 (a) requires AEMO to change procedures by 1 December 2020 providing participants only 7 months to finalise business requirements and test the final design and procedures requirements. Participants should be afforded more time to deliver and test changes and undertake bi-lateral testing with participants.

Changes in data delivery to within day could be core system changes for meter communication head end systems and meter data processing systems and may even involve the need to procure new more suitable IT systems. The finalisation of AEMO procedures in December 2020 does not allow sufficient time to consider these

business and system design issues. We need finalised procedures before significant investment can be undertaken.

The IEC needs to provide the B2B Procedures changes on 3 December 2018, earlier than the AEMO procedure amendments. There is benefit in considering the Business to Market (**B2M**) and B2B arrangements over consistent timeframes and providing participants with extra time to build or contract the new requirements. In light of the recent Power of Choice experience, a date of December 2019 or earlier is preferable.

The AEMO procedures listed in 11.100.2 (a) should be completed by 1 December 2019 and not 1 December 2020.

The IEC B2B Procedures in 11.100.2 (b) should be delivered in a consistent timeframe with the AEMO procedures. Rather than complete changes by 3 December 2018, changes should be completed by 1 December 2019 (this will still allow the end to end industry processes to be considered and provide AEMO with 10 days publication time necessary for the B2B Procedures). Rule 11.100.2 (b) should reflect the 1 December 2019 date for revised (a) or 1 November 2019.

We believe that no change is necessary in 11.100.2 (d) for the Australian Energy Regulator's (**AER**) revised documents. The AER's finalisation of Distribution Loss Factor (**DLF**) arrangements by 1 December 2020 is suitable given that 5 minute data is not expected to occur until 1 July 2021 and will not affect DLF calculations until early 2022.

4 Clarity of Rule by meter type

The AEMC has sought to clarify the obligations by meter type, which is outlined in Attachment 2.

We consider the exemption process in Rule 7.8.2 (a1) must be extended to include meter types 4A and 5, now that AEMC has clarified these meters also need to meet 5 minute data requirements. As noted in earlier submissions to the AEMC, the meter configuration and tariff requirements may vary to require several data streams and the minimum memory requirements listed in 7.8.2 (a) (9) and (10) could be breached with a 5 minute data requirement.

In principle we support that manually read type 4A and 5 meters that are read quarterly on a manual cycle should be limited to 30 minute interval data. Where a meter is registered in the market as type 4A, and later has remote communications available, then the meter could be reconfigured and provide 5 minute data, but should only need to meet the 35 days (or 30 days) storage requirements.

The AEMC could also amend Rule 7.8.2 (a) (9) and (10) to cover remotely read meters in (9) and manually read meters in (10).

Consistent with the intent of the AEMC's policy, it must make it clear that type 4A and 5 meters that are remotely read need only meet the 35 days storage requirement and that the AEMO exemption procedure may also cater for any exceptions to this requirement. It is important that the AEMC deal with practical implementation issues in the Final Rule. Some Victorian AMI meters can meet well in excess of 35 days of 5 minute data whilst other AMI meters in Victoria will breach the 35 days limit for remotely read meters.

Should you have any comments in relation to this response please do not hesitate to contact Verity Watson (03) 8846 9856.

Yours sincerely,

Brent Cleeve
Head of Regulation, CitiPower, Powercor and United Energy

Rule	Issue	Response
Schedule 3 commences 1 July 2021		
6.20.1 (a) (2) (i)	The effect of removing "half hourly" from the drafting in this clause is that demand-based prices could be on metered or agreed demand. This means a range of distribution Customers could be on 30 minute demand and other on 5 minute demand. There may also be agreement to re-aggregate the 5 minute data to 30 minute data to avoid the volatility of 5 minute demand billing to customers. Network constraints and network demand could be considered on a more aggregate level to avoid the individual customer 5 minute demand volatility.	There should be nothing in the NER that constrains the tariff structures to customers to require 5 minute data for demand billing. Refer to response on 6.20.1 (e).
6.20.1 (e)	Type 4 metering will become the standard metering for mass market customers. The Draft Rule has a transition for type 4 meters to provide 5 minute data from the metering installation. Current Rule 6.20.1 (e) requires settlement ready data to be used for network billing which can include validated 5 minute data provided by the Metering Data Provider (**MDP**) and collected from the meter and also 5 minute profiled data prepared from 30 minute period data obtained from AEMO. The general principle for mass market customers is that data obtained from the meter (or estimated) is used for billing, this would mean some customers could be network billed on 30 minute metered data and others on 5 minute metered data.	AEMC should consider amending (e) (2) to clarify that type 4 billing can occur on metering data in accordance with the metrology procedure or settlement ready data. (type 4A is included in (e) (2) by the metering competition final rule). The use of metrology data, actual 30 minute data, is preferred for network billing as opposed to settlement ready profiled 5 minute data. Five minute demand based on profiled settlement ready data or 5 minute metering data obtained from the meter is likely to be more volatile and may not be suitable for customers. It may be preferable to retain more flexibility in demand and network billing so that demand can be re-aggregated from MDP provided 5 minute metering data to 30 minute demand. Flexibility should be retained in the Rules to allow engagement with impacted stakeholders as part of the Tariff Structure Statement.
Schedule 4 commences 1 July 2021		

7.8.2 (a1)	Metering data storage requirements cater for types 1-4. As noted in the Draft Determination any meter replacement after 1 December 2018 should have the capability for 5 minute data recording and provide 5 minute data from 1 July 2021. The exemption process should also include type 5 and 4A meters where if communications is added later would then be able to provide 5 minute data. It is possible that where a meter records import and export and then changes to 5 minute data it may not have the required storage capacity.	7.8.2 (a1) should be amended to also cover type 4A and 5 meters and to pick up the data storage minimum requirements for meter types 4A and 5 in 7.8.2 (a) (10). Refer to our earlier comments on meter type clarity and our suggestion that 7.8.10 (a) (9) and (10) refer to remotely read and manually read meters in line with the original intent of the NER.
7.8.2 (b1)	7.8.2 (b1) appears to be the requirement to turn on certain type 4 meters to provide 5 minute data from 1 July 2021. The turn on to 5 minute data for the type 1-3 meters is in new 7.10.5 (a). However the draft rule is less clear for the new and replacement interval meters that have been installed from 1 December 2018.	We recommend that any new and replacement meters with remote meter reading capability (4, 4A and 5) installed between 1 December 2018 and 1 July 2021 are moved to 5 minute data provision by the MDP over a 12 month period July 2021- June 2022. A new transitional provision should be added to cater for this approach rather than leave the arrangement optional. Rule 11.100.4 caters for these meters installed in the interim period to have the capability of 5 minute and implies that they are transitioned to 5 minute on 1 July 2021. The businesses prefer a more practical staged transition. The AEMC Table in Attachment 2 suggests that the new and replacement meter types 4, 4A and 5 need to be configured to provide 5 minute data from 1 July 2021. However the clause referred to provide the obligation is 7.10.5 (b), this clause requires AEMO to profile any data provided as 30 minute by these meter types to a 5 minute profiled data set. This is not the same as the obligation on the MC to ensure that the meters are reconfigured to provide 5 minute actual data to the market.

7.8.2A	All new and replacement meters from 1 July 2021 when this schedule commences, need to be capable of recording and configured to provide trading interval energy data. The term trading interval energy data is 5 minute data from the metering installation validated and provided as 5 minute settlement ready data. The rule as drafted does not clarify meter types, so as drafted it includes any type 1-4, type 5 AMI, manually read type 4A and 5, and even a type 6. We recognise that type 5 and 6 meters should not be installed however there may be gaps between the threshold for small customer roll out of minimum specification meters and the upper limit for use of these meters types. Manually read type 4A and 5 meters need to have at least 200 days storage capacity based on a 30 minute trading interval and a quarterly read cycle. These meters if unable to be read due to no access are able to store data until the next quarterly read with some additional time to gain actual data if there is a further access issue. These meters whilst theoretically able to record, store and provide 5 minute data would not meet the 200 data storage requirement of 7.8.2 (a) (10) and would need a shorter read cycle resulting in higher manual read costs.	We recommend that this rule clarify which meter types it applies to. The AEMC policy intent is that remotely read interval meters installed as new and replacement after 1 December 2018 should provide 5 minute data to settlement from 1 July 2021. During consultation the AEMC has noted the difficulty of rules compliance of 200 days interval data storage of 5 minute data and the possible need for shorter manual read cycle and data storage exemption for meter type 4A and 5. Type 4A could have communications added later, may still be called a 4A in the market but with remote read capability and should only need to meet the NER requirement in 7.8.2(a) (9) of 35 days. It is not clear whether a 4A meter which has communications added later must be altered in the market to be a type 4. Amendments to NER 7.8.2 (a) (9) and (10) to reflect the data storage capabilities of remotely read and manually read meters is preferable to linking storage to meter types. Given the 2.8 million type 5 AMI meters in Victoria, the AEMC must make it clear in the Rules drafting that these remotely read AMI meters can be included in the data storage in 7.8.2 (a) (9) either by amending the wording to remotely read meters instead of meter type or making explicit reference in the AEMC Final Determination. This will provide clear direction to industry and AEMO during the consequential procedure development and consultation.
Schedule 6- commences 1 July 2021		

	Interval energy data is required as 5 minute data for meters types 1-3, transmission and distribution wholesale connection points, Market generators/small generator aggregators and for all new and replacement meters (4A, 5 and 6) installed once the rule commences on 1 July 2021.	As drafted the meters capable of 5 minute data (4, 4A and 5) installed between December 2018 and July 2021 appear to be discretional whether they provide 30 minute period data or sub multiples which could be 15 minute data or 5 minute data. Depending on the interpretation of Rule 7.8.2A and in view of Table 6.4 in the Draft Determination, it could also be interpreted as all new and replacement 4 and 4A's need to provide 5 minute data from 1 July 2021, the same meters installed prior to this date and type 5 meters, regardless of when they are installed, need only provide 30 minute period data. Based on the AEMC table provided in Attachment 1, we understand that the AEMC intend to capture all 4, 4A and 5 meters installed from 1 December 2018 in the obligation to provide 5 minute data from 1 July 2021. It would be useful if clarity was improved in the Final Rule.
Schedule 7 commences Nov 2017		
11.100.2	Amendment to AEMO procedures AEMC state in the Draft Determination summary that the rule provides for three years and 7 months transition for the substantial IT system changes involved. The AEMO design notes that the data delivery requirements to AEMO (and registered participants) could change to require more frequent delivery than weekly, this could mean daily or this could mean within day which is a substantial change for participants receiving data and for meter data processing, collation into NEM12 or NEM 22 and delivery of data. Sub clause (a) requires AEMO to change procedures by 1 December 2020 giving participants only 7 months to deliver and test the final AEMO design and procedures requirements. Participants should be afforded more time to deliver and test changes and undertake bi-lateral testing with participants. The IEC needs to provide the B2B Procedures changes much earlier that the AEMO procedure amendments. There is benefit in considering the B2M and B2B arrangements over consistent timeframes and providing participants extra time to build or contract the new requirements. In light of the recent POC experience dates of December 2019 or earlier are preferable.	The AEMO procedures listed in sub clause (a) should be completed by 1 December 2019 and not 1 December 2020. The IEC B2B Procedures should be delivered in a consistent timeframe with the AEMO procedures, rather than completing changes by 3 December 2018, changes should be completed by 1 December 2019 (or a month or two earlier whilst still allowing the end to end industry processes to be considered and providing AEMO the publication time). Subclause (b) should reflect the December 2019 date for revised (a).

11.100.4	From 1 December 2018 until 1 July 2021, all new and replacements meters (ie type 4, 4A and 5 and 6) must be capable of • Recording and providing trading interval energy data, and • Configured to record and provide trading interval energy data. The trading interval energy data term under the new Chapter 10, picks up the 5 minute data requirement for 1, 2, 3 and some type 4s (and new 4A and 5s) and the 30 minute period for some type 4s, 4A and type 5s.	There are a number of issues with this drafting: • Type 6 meters may still be installed where there is no communication or a customer refuses a communicating meter and they do not record and provide 5 minute trading interval data at the meter or 30 minute period data. AEMO may profile the monthly or quarterly accumulation read as part of the NSLP; • It is unclear whether the 5 minute data provision for these meters is required from the time of replacement/installation after 1 December 2018 or only commences on 1 July 2021. We suggest that the wording be amended to ensure meters are capable of recording 5 minute data and are capable of being configured to record and provide 5 minute data.
11.100.5	AEMO must establish and publish an exemption procedure in respect of data storage requirements by 1 December 2020.	The businesses recommend that this procedure be developed and consulted on at the same time as the other NEM Procedures. We recommend that 1 December 2020 be amended to 1 December 2019 in line with 11.100.2 (a). This is important for the Victorian Distributors in conjunction with the Victorian Government to assess whether the 2.8 million AMI meters should be reconfigured to provide 5 minute data. It is important that efficient processes and meter management be established in the Final Rule. We suggest that the exemption from data storage be in respect of specific meter models, so that a meter make/model could be exempted as opposed to a separate process for each individual metering installation. It is important that meter models that are exempt can be refurbished and recycled to allow lower costs to customers. The Final Rule should make it clear that the meter model is grandfathered under the exemption and does not force meters to be stranded. We suggest adding the following to the end of clause 11.100.5 - "in respect of meter models. Meter models allowed under the exemption are grandfathered and can be refurbished and reused."

Attachment 2- AEMC Policy clarifications provided to ENA 4 October 2017

Meter type	Treatment under 30 minute settlement	Proposed treatment under 5 minute settlement of meters installed before 1 Dec 2018	Proposed treatment under 5 minute settlement of new and replacement meters (installed after 1 Dec 2018)	Comment	Clause in draft rule
Type 1-3	30 minute data collected and used for settlement	From 1 July 2021, 5 minute data collected and used for settlement for all meters.	From 1 December 2018, all new and replacement meters must be capable of providing 5 minute data. From 1 July 2021, 5 minute data from these meters will be used for settlement.	Obligation on Metering Data Provider to provide 5 minute data from these meter types.	7.10.5(a) 11.100.4
Type 4 meters at transmission and wholesale boundaries	30 minute data collected and used for settlement	From 1 July 2021, 5 minute data collected and used for settlement.	From 1 December 2018, all new and replacement meters must be capable of providing 5 minute data. From 1 July 2021, 5 minute data from these meters used for settlement.		7.8.2 (b1) 11.100.4
Type 4 (all not included above); Type 4A	30 minute data collected and used for settlement	30 minute data collected and profiled to 5 minute resolution using NSLP methodology.	From 1 December 2018, all new and replacement meters must be capable of providing 5 minute data. From 1 July 2021, 5 minute data from these meters used for settlement.	AEMC specifically seeking feedback on treatment of 4A meters.	7.10.5(b) 11.100.4
Type 5	30 minute data collected and used for settlement	30 minute data collected and profiled to 5 minute resolution using NSLP methodology.	From 1 December 2018, all new and replacement meters must be capable of providing 5 minute data. From 1 July 2021, 5 minute data from these meters used for settlement.	The proposed rule does not specifically state type 5 meters must be replaced by a type 4 meter, rather requires that the new meters must provide 5 minute data. This should avoid some of the concerns raised about Victorian meters.	7.10.5(b) 11.100.4

Type 6	Data collected quarterly and profiled to a 30 minute basis for settlement	Accumulated data is profiled to 5 meters using 5 minute resolution NSLP.	The NER currently states accumulation meter must be replaced by an interval meter. The proposed rule states from 1 December 2018, all new and replacement meters must be capable of providing 5 minute data. Additionally, from 1 July 2021, 5 minute data from these meters used for settlement.		7.10.5(b) 11.100.4
Type 7	Unmetered loads calculated on 30 minute basis	Unmetered loads calculated on a 5 minute basis	n/a	AEMC is seeking feedback on costs and benefits of calculating Type 7 loads on a 5 minute basis.	Current clause 7.10.5(c)
Controlled load	Not in NER. Under AEMO Metrology Procedure, sample meters used to profile load to 30 minutes, in some jurisdictions.	TBC during AEMO detailed design process.	n/a	AEMO is looking at options of calculating controlled load without sample meters.	AEMO High Level Design (3.2.2)

Storage Exemptions: Meter types 1-4 installed before 1 July 2021 may apply for an exemption on data storage requirements. AEMO will assess on a case by case basis. The intention is for meters that fall just short of the data storage requirements in the rules to potentially be eligible for an exemption to avoid replacement.

Clauses in draft rule: 7.8.2 (a1); 11.100.5.