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Electronic Lodgement – ERC0201

Dear Kris

RE: Directions Paper – Five Minute Settlement

United Energy (UE) appreciates the opportunity to respond to the Directions Paper on Five Minute Settlement. This paper represents a substantial shift from the original rule change proposal which limited the five minute data to larger connection points with type 1-3 metering.

The AEMC is now proposing that:

- Five minute settlement would apply to all market participants (generators and all consumers including, residential customers);
- Metering would be used to provide five minute data rather than profiling, the exceptions being type 6 and possibly manually read type 5 meters; and
- A transition period in the order of three years is required for implementing five minute settlement with a further two years to transition type 4 and relevant type 5 metering to five
- minute data.

UE in principle supports moves to align settlement and dispatch in the NEM. This is required to support the development of distributed energy resources within networks such as UE's that have relatively high levels of solar panels (by global standards), near to 100 per cent smart meter penetration and behind the meter storage.

The AEMC needs to ensure an appropriate cost/benefit analysis across all industry participants before the Draft Determination. The changes impact heavily on UE's smart metering (AMI) fleet, communications infrastructure and IT landscape. These impacts are described in detail below, including implications of timing.

Q 7. Metering Issues

Type 4/5 metering

UE recognise that SCADA data would not be available for all NMIs in the market and collection of five minute data is likely to be possible from remotely read interval metering.

UE agree that Victorian AMI meters could be reconfigured to be capable of five minute data recording and will in the majority of instances have sufficient memory to meet the NER 35 days storage requirement. The one exception is for approximately 200 Premier CT meters programmed for 4 channel import/export application. It is expected that the 200 will grow as more embedded generation is installed by larger customers. UE is supportive of AMI meters being retained as type 5 meters in the NEM, however with five minute data the typical type 5 manually read metering 200 days of memory would be breached.

Five minute data recording would require a firmware change which would require rigorous testing for each metering category/configuration in our fleet and a roll out across the entire fleet including exceptions management.

UE agrees with stakeholders who have advised the AEMC that a meter reconfiguration would result in metering data in the memory being lost. It is not possible to avoid the loss of historical data by adding an additional data channel recording the five minute data. In rolling out a meter firmware change, the meter would need to be read to ensure that any missing actual data from the meter was gained before the firmware was upgraded and the meter would need to be reconfigured to the same configuration eg export generation data streams, time switch settings etc.

Transition alignment to testing and inspection

Aligning the transition of metering to five minute data where the MC is already a competitive MC in the market makes sense. A site visit for meter testing or inspection could also involve a meter exchange where needed.

Where an initial MC (LNSP) is responsible for the metering installation, the initial MC will have a testing program approved by AEMO, the testing or inspection regime resides with the incumbent MC, but the incumbent MC cannot replace the metering if this were required in the case of LNSP provided type 5 metering e.g. manually read metering. Arrangements would need to be made between the MC(LNSP) and retailer to exchange the metering prior to the end of the transition date.

Exemptions

Exemptions or no actions should be provided by the AER to the MC where meters are manually read type 5 meters and are not able to be reconfigured to five minute data and maintain a quarterly meter read route. The proposed Rule must also include grandfathering provisions for any remotely read interval meters which may not meet the 35 days meter data storage requirements for type 4 or 200 days for type 5 Vic AMI meters if actual data is reliably collected on a daily basis. The proposed Rule should grandfather meters which could be reconfigured and meet above say 20 days data storage where the meters are read reliably daily, this could avoid the cost of meter replacements and customer inconvenience and interruption to supply.

Q8 One off contract negotiation costs

Contract negotiation costs extend beyond the wholesale market type contracts to change of meter procurement, possibly major/core changes to IT systems with vendors etc. There may also be impacts on newly formed MC agreements and value add services/pricing. There are lead times for other contract negotiations and delivery timeframes not just those related to the wholesale market.

Q10. IT requirements

The move to five minute data as an LNSP receiving five minute data from type 1-3 meters and eventually type 4-5 meters will require substantial application and database changes to accommodate the 6 fold increase in storage and the significant infrastructure overhead of processing this data for network billing, data exceptions management etc. The data handling and storage will need to cater for existing interval meter data (e.g. 30 minute) and the new five minute interval data for a lengthy period, not just in the transition phase. The impacts are not just on Retailers, AEMO and Metering Businesses, but on all registered participants.

The potential changes and ongoing operating effort required to enable collection, handling and provision of five minute interval data into the market as an initial MC or MDP in addition to the above include:

- Additional capacity in the radio mesh network and 3G data plans to accommodate the additional data;
- Upgrade to head end interval data collection systems to enable the additional data to be collected and comply with the Victorian AMI Daily Meter Data Collection & Publishing requirements, which may require substantial changes to core vendor applications;
- Six fold increase in online data storage and backup etc;
- Upgrade (or replacement) of Meter Data Management applications to enable processing of five minute interval data, which is not currently available in UE's vendor applications. This will likely require substantial re-design and re-implementation of the vendor application to enable data processing, quality and delivery timeframes to be maintained. This assumes data delivery to AEMO for settlement will remain within the current service levels, as opposed to adoption of a more frequent delivery schedule, which would drive further change and complexity;
- Impacts on internal integration software and gateway sizing, which would drive the requirement to upgrade or replace current technology;
- Increased data for network billing calculation and invoice aggregation and possible change of network tariff structures if five minute data as opposed to 30minute data was used for some/all customers;
- Increased volumes of data and the change of data format/meter configuration is likely to lead to increased queries and exceptions management across the market; and
- Ongoing IT and business operational effort and complexity would likely increase with the move to five minute interval data, through increased IT system availability requirements and the requirement for more frequent maintenance, system upgrades and archiving activities will increase.

Where changes to a range of IT systems require core system changes, this may involve vendors re-designing their products or it could involve a full tender for an alternative IT system with more suited capability. Based on a preliminary view UE expects that costs would exceed \$20m, depending on the need to replace IT systems. A better estimate could only be provided after a more thorough review and discussions with vendors on their product capability and willingness to redesign. Also more detailed input on the 30 minute to five minute transition complexity and network pricing also needs to be considered in our system redesign assessment and cost estimates.

The paper suggests that the MDP could collect both 30 minute and five minute data and provide five minute to AEMO and 30 minute to retailers. Presumably the MDP could be required or elect to offer a data aggregation service to provide 30 minute data to retailers and LNSPs to avoid/defer system changes if this did not create other adverse impacts. MDP's or MC's have the discretion to provide the service, LNSPs cannot rely on the MDP's providing the 30 minute aggregation service or providing the service on a fair and reasonable basis. This means that LNSPs will have additional costs to either procure data for network billing which would be passed onto consumers or where this service is not offered/accepted we will need to ensure that all systems have the capability to manage both five minute and 30 minute or to manage aggregation ourselves.

For the MDP role, the requirement to provide 30 minute and five minute data would essentially require a separate parallel meter data processing approach as our current IT solution validates all 30 minute incoming data before publishing the same dataset to retailers and AEMO. If there were to be different interval granularity, there would likely be IT system redesign required.

With the commencement of metering competition on 1 Dec 2017 a number of competitive providers in the market would be gearing up for meters capable of 30 minute data and systems capable of their value add offering. These new competitive providers may be able to more readily provide five minute capable meters in the competitive meter rollout but they may have made many of their IT investment decisions in light of the 1 Dec 17 version of the NER and NEM procedures. These new systems may not be at the end of their life cycle within the three to five year period envisioned by the proposed transition.

11. Cost and transition

Transition to five minute settlement

A transitional approach and an early indication of a move to five minute settlement could help to allow better decision making and ease the cost increases. As noted above with a move to metering competition on 1 Dec 17, there may be new systems that also need significant levels of change and not at the end of their life in the next three to five years.

The proposed transition which takes effect immediately the rule is made:

- Stage A – by the end of three years commence five minute settlement, upgraded all type 1-3 metering to be capable of five minutes data and be providing the five minute data, upgraded IT systems across participants to be capable of dealing with five minute data, AEMO to have implemented NSLP at five minute for manually read type 5/6 and presumably a process to manage type 4s from 30 minute to five minute data, MC's to have commenced the change in remaining remotely read interval meters to five minute data recording and data provision.
- Stage B – a further two years to complete the transition for all remaining remotely read interval meters to five minute data recording and data provision to transition to five minute settlement.

The proposed transition appears reasonable in the NEM with the following qualifications:

- If there are any changes to meter data management/data processing to streamline arrangements in conjunction with metering data providers, then any amendments are finalised in NEM procedures within 8 months of the rule change to allow the change of contracts and IT systems etc;
- Current participants may already aggregate any 15 minute data provided to 30 minute data so that data storage is maintained for 30 minute data only. The move to five minute data should only occur after participants are ready to receive and perform their own aggregation or have the flexibility to manage both five minute and 30 minute data;

- Consideration of a possible gating process to evaluate the benefits of the rule change based on the emergence of new technologies and assess settlements residue growth/distortions at the time, including the realisable benefits where small customers not involved in new generation technologies or demand response remain on 30 minute data until the next meter replacement which could occur beyond the five year period.

UE supports the need to align dispatch and settlement to provide stronger price signals for new generation mix and more flexible reserve in the NEM to avoid the issues which have occurred in SA. The 3-5 year transition timeframe needs to be carefully considered in Victoria. Ultimately the costs are borne by consumers and need to be economically efficient for Victorian consumers.

The AEMC could consider a longer transition period where small customer metering needs to meet five minute data requirements if installed after a certain date or if there is generation/demand response at a site. As envisaged by the transition proposed AEMO will be in a position to create five minute data from 30 minute type 4/5 data and to profile type 6 metering to five minute increments. This more flexible transition is no different to the commencement of mass market retail competition where earlier tranches required remotely read interval meters but the last tranche was profiled as a cheaper alternative to cater for a lengthier transition. Any transition approach should be pragmatic and allow the flexibility of the market to respond at appropriate times when system need upgrading.

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

Yours sincerely



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