

### 0 Introduction

EDMI welcomes the Australian Energy Market Commission's (AEMC) Directions Paper: Five Minute Settlement, 11 April 2017.

EDMI continues to appreciate the work and supports the policy direction of the AEMC to deliver robust market-based solutions to industry challenges.

In our response, EDM I has focused on providing feedback and advice relating to metering and metering systems (including meter data). While we have excellent information and a capacity to provide advice regarding the financial implications of market changes, and will be in a position to work with our partners as an informed contributor, EDM I supports the feedback of our market colleagues on matters outside of metering and metering services.

EDMI believes that market systems which support new services and technologies will build a more vigorous market, deliver greater choice to the consumer, encourage innovation, power next generation services and provide a strong framework for the implementation of new technologies well into the future.

### 1 Assessment Framework

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(a) How suitable is the proposed assessment framework for this rule change request?

(b) Are there any additional factors that should be considered in assessing this rule change request?

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EDMI considers that the proposed assessment framework represents a broad and comprehensive method of establishing and comparing the costs and benefits from adopting five-minute settlement. However, EDM I submits that AEMC could also consider (or place a stronger emphasis on considering) the effect of changing technology and changing demands into the future.

In particular, EDM I submit that delivering against the principles behind the Power of Choice reforms: greater choice and greater flexibility, could also deliver greater benefits in this area of the market and that these benefits could be considered as part of the cost-benefit equation. The possible upgrade of meters and systems can bring a range of benefits beyond those directly related to 5-minute settlement. Further, so long as the process for upgrade and the requirements and conditions around it follow a "services" base, rather than a "functionality" base, these benefits could continue to accrue for the life of the meter (up to 10 years in a high-voltage environment).

In upgrading meters and systems to deliver 5-minute data, market entities also have an opportunity to deliver and profit from other new services. With foresight, participants also have an opportunity to ensure they can continue to access new income streams in the future. EDM I submit that in addressing the issue of 5-minute data, AEMC should create an environment that encourages and rewards such actions.

## 2 Understanding the inefficiencies

EDMI supports the feedback of our market colleagues on these matters.

## 3 Impact of an evolving market

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How does an aging generation fleet together with rapidly evolving digital technologies and the increasing role of intermittent generation affect the prospects of five minute settlement as compared with 30 minute settlement?

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EDMI supports the AEMC's summary of the challenges faced moving forward. However, EDM I submits that there is scope to consider beyond five-minute settlement and consider possible future benefits of even more regular settlement times. While clearly the current rule change cannot consider directly technologies that are either nascent or undeveloped, EDM I submits that it can take these into account when assessing costs vs benefits, as well as incorporating drafting changes that may allow flexibility moving forward.

## 4 Bidding behaviour

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What kinds of generator bidding behaviours could emerge under five-minute settlement as compared with 30-minute settlement?

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EDMI supports the feedback of our market colleagues on these matters.

EDMI further notes that future technology may allow for settlement as regularly as near-real-time. While clearly the current rule change cannot consider directly technologies that are either nascent or undeveloped, EDM I submits that it can take these into account when assessing costs vs benefits, as well as incorporating drafting changes that may allow flexibility moving forward.

## 5 Materiality of the problem

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(a) What other issues are likely to be material in considering the introduction of five-minute settlement?

(b) Is there other data or data sources that can better inform the analysis of the materiality of the problem with 30-minute settlement or the move to five minute settlement?

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EDMI supports the feedback of our market colleagues on these matters.

However, EDM I also submits that, regardless of current knowledge, it is likely that there are now or will be technologies in the future that will be able to improve data or deliver other benefits to the settlement process. In addition, EDM I notes that, given the volume of data that may be involved, it would be pragmatic to consider not only data sources, but also data repositories and data storage methods. EDM I recognizes that this raises questions of data privacy and security that would appear to fall within the jurisdiction of other Australian Commissions.

EDMI supports an approach that will not only allow for, but also encourage the use of new and evolving technologies.

## 6 Demand-side optionality

EDMI supports the feedback of our market colleagues on these matters.

## 7 Metering issues

The Commission proposes reconfiguring or replacing existing interval meters so that five minute data can be provided for five minute settlement.

(a) Are there any suitable alternatives to collecting five-minute data from the transmission network metering installations used to compile the NSLP other than reconfiguring or replacing the existing meters?

EDMI strongly endorses the AEMC position that *“if five-minute settlement is to be implemented, a solution involving five-minute data from revenue meters would be most appropriate.”*

SCADA systems are not subject to the same strict levels of metrological standards to which EDM I and our competitors must meet to deliver a pattern-approved revenue meter. While systems have a valuable place in the management of transmission networks, current accuracy standards are not sufficient to meet the requirements of handling small volumes of billable (or chargeable) data, let alone many millions of dollars of value.

However, while revenue-grade meters of an appropriate accuracy class are the appropriate method, it does not necessarily follow that all current systems would need to be replaced. EDM I’s current range of revenue grade meters, ranging all the way from a simple single-phase consumer meter, to the high-end transmission-grade meters already allow for direct or over-the-air upgrades and configuration changes. The technology and capacity to deliver 5-minute (or even one-minute) revenue-grade data has been available in our products for more than 20 years.

Further, where such a replacement does need to take place, EDM I submits that this replacement would be a necessary step in the near future, regardless of the determination on five-minute settlement. While EDM I cannot speak for our competitors in the market in the past, the capacity to deliver more granular data and to configure the meter remotely to do so is strongly aligned with Power of Choice market requirements. If a regime that allows for greater choice and the flexibility to adapt to changing technology over the life of the meter is as desirable for the transmission market as it is for the consumer market – and EDM I submits that it is – then a replacement program for five-minute data will have significant additional benefits.

EDMI submits that the more accurate, reliable and desirable method of retrieving data is by way of pattern-approved revenue metering. While some costs may be involved in updating systems or replacing obsolete technology, we believe that this is inevitable in any case. If meters and systems are not capable of being remotely configured to change something so fundamental as measurement intervals down to as long a period as 5 minutes, how can these systems be considered applicable for use in the new world of energy?

(b) What percentage of meters can be remotely reconfigured? What would this process look like and what would costs be? Conversely, what percentage would be need to be manually reconfigured or replaced?

EDMI is not able to provide as accurate a picture of the entire market as our colleagues. However, EDM I can state that 100% of EDM I Atlas and Mk6E Genius meters can be remotely configured – and remotely

configured to deliver revenue-grade data at 5-minute intervals (and lower). We do note that some form of communications device (e.g. a 3G modem, among many other options) is also required, and that some of our customers have chosen to face-read the meters rather than install remote systems.

Beyond that, all EDM I Mk3 meters, as well as the older Mk2 and more-than-20-year-old Mk1 meters can be configured to deliver better than 5-minute data, though in the case of many of the older meters, these are not currently connected to a remote-communications system.

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(c) The Commission has proposed aligning the transition with the timeframes for the NER test and inspection regime. Would this provide an appropriate amount of time for changes to occur?

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EDMI would not presume to advise on the turn-around times for our clients, though does note that some metering groups may also have expertise focused on Power of Choice systems and changes.

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(d) For which categories and situations should an exemption from providing five-minute data be considered? Why?

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EDMI is not aware of any compelling reasons that any category or situation should be exempt from providing 5-minute data. Our meters at all entry points are capable of providing such data, utilizing the back-haul data facilities that would form part of the technical capacity of any modern business. At the same time, our competitors already have, or are developing meters to meet similar requirements in the residential and commercial space, and so we expect that they will also be able to provide compliant meters for the transmission space.

However, EDM I also acknowledge that many of our partners and clients have a much broader understanding of their particular market segments and we accept that we may not be aware of one or more valid or even vital exemptions that arise from, for example, consumer affairs or energy supply contracts.

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(e) Are there any other metering implementation issues relevant to collecting five-minute data that should be considered?

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In addition to the matters covered above, EDM I submits that it would be worthwhile to consider:

- Communications

By what method is this five-minute data to be transmitted? Is the transmission method likely to be expensive? What is the cost of this and future upgrades?

- Data storage

What will the data storage requirements be? Should the determination consider requirements for systems to maintain data, rather than the meters themselves? Can the current trade-off between volume and breadth of data storable be avoided now and for the future?

- Burden on MDPs

EDMI submits that, while there exist benefits in the long term of MDPs, it should be recognised that these entities will be providing a significantly expanded service to deliver this data. It would be reasonable to suggest that value from the change should flow back to these service providers.

At the core of each of these questions is the need for us as an industry to welcome new technologies and allow for participants to adapt to them by setting up a framework that makes this possible. EDM I submits

that AEMC should continue its forward-thinking approach in their response to 5-minute settlement and avoid approaches that would tend to address only this issue.

## **8 One-off contract negotiation costs**

EDMI supports the feedback of our market colleagues on matters relating to market contracts.

## **9 Effects of a reduction in cap contracts**

EDMI supports the feedback of our market colleagues on matters relating to market contracts.

## **10 IT system requirements**

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(a) What are the costs, synergies and risks involved in upgrading IT systems to accommodate five-minute settlement?

(b) What timeframes are required to upgrade IT systems?

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The pricing and scoping of projects related to the upgrade or deployment of IT systems can be quite a complex operation. Bare estimates will often miss important information both in the input and the output. EDM I can advise some quite specific costs relating to meter reading, meter data management and market interface systems, but would prefer to provide this information as part of a supplementary discussion with AEMC so that the information we give is accurate and to the point.

## **11 Costs and transition**

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(a) Are there any further categories of costs that would be incurred if five-minute settlement was adopted?

(b) How suitable is the proposed two-stage transition period to implement five-minute settlement? Do you consider there to be a more preferable approach to a transition period such as alternative timeframes?

(c) What are the detailed benefits, costs and risks of the proposed two-stage transition to five minute settlement on:

(i) existing contract arrangements?

(ii) metering requirements?

(iii) IT system requirements?

(d) Are there any other practical aspects of implementing five minute settlement that should be considered?

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EDMI supports the AEMC's current position and the proposed transition period. Such a period is entirely consistent with the adoption process for metrological and safety standards and would minimise the impact on the market. AEMC has undoubtedly considered the current metering safety standard changes which will also come into effect over a transition period, as well as the positive market disruption that is and will continue to take place with respect to Power of Choice metering.

EDMI do note however that a transition period makes the need to consider future technologies all the more pressing. Delaying implementation only increases the risk that technology changes may make current intentions obsolete. As such, EDM I submits that any changes to deliver five-minute data should be changes that empower, rather than restrict.