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# SMART METERS REGULATORY REVIEW – CAPACITY CONTROL AND VERIFYING BILLS

FINAL DECISION

DECEMBER 2011

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# 1 | INTRODUCTION

In March 2010, the Essential Services Commission (the Commission) commenced a review of energy regulatory instruments, for which it has responsibility, to ensure that they would continue to promote the interests of customers and provide clear obligations for distributors and retailers when dealing with electricity customers with smart meters.

After extensive stakeholder consultation, this review resulted in amendments to various energy regulatory instruments. However, during the consultation process, several matters were raised that the Commission believed required further consultation. Therefore, in December 2010, the Commission released an Issues Paper<sup>1</sup> to commence a review of these matters, which are:

- the regulation of load control products;
- the regulation of supply capacity control products for purposes other than credit management;
- inclusion of the total accumulated consumption read corresponding to the start of the billing period on customers' bills for smart meters; and
- whether the distributors should be required to leave customers the final accumulation meter read when they change over the accumulation meter to a smart meter.

The Commission published a draft decision in June 2011 and received eleven submissions, from:

- the Energy and Water Ombudsman Victoria (EWOV)
- consumer welfare and advocacy groups:
  - Consumer Action Law Centre (CALC)
  - Consumer Utilities Advocacy Centre (CUAC)
  - Victorian Council of Social Service (VCOSS)
- energy retailers:
  - Lumo Energy
  - Origin Energy
  - TRUenergy
- distributors:
  - CitiPower and Powercor

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<sup>1</sup> Essential Services Commission 2010, *Smart meters regulatory review – Capacity control and meter reads*, December

- Jemena Electricity Networks
- SP AusNet
- United Energy Distribution

After considering stakeholder feedback on the draft decision, the Commission has made a final decision, which is detailed in sections 2 and 3.

## Summary of final decision

The Commission will not regulate or prohibit the use of supply capacity control and load control products for non-credit management purposes.

An amendment to Clause 12A of the Energy Retail Code (the Code) and to the Code's definition of supply capacity control is required to effect this decision and will be made as follows:

- Clause 12A of the Code will be amended to state: "A retailer may not offer to provide a supply capacity control product to a customer **for the primary purpose of credit management** before 1 January 2014".
- The definition of *supply capacity control* will be amended to state: "means the use, other than the emergency use, of the smart meter to temporarily interrupt electricity supply to a customer". The current words "for credit management purposes" will be deleted.

However, the Commission will:

- permit the development of supply capacity control and load control products as part of customer trials, but only if the customer voluntarily chooses to take part in the trial;
- write to retailers, as supply capacity control and load control products are being developed, to organise meetings in which retailers can explain how the products might work (if developed), the level of information that will be provided to customers, and the costs and benefits that may be realised through the use of supply capacity control and load control products;
- consult with stakeholders to determine:
  - the information that customers would require to make an informed decision to participate in the trials
  - how retailers and distributors intend to fulfil these requirements. If warranted, the Commission may issue a guideline to ensure sufficient information is provided;
- conduct research into the international experience with supply capacity control and load control products to determine the costs and benefits to consumers, retailers and distributors; and
- monitor any attempts to utilise load control products for credit management purposes.

In relation to billing matters, the Commission will:

- not require distributors to leave a reminder notice or a card with the final reading when it replaces an accumulation meter with a smart meter; and
- require retailers to include a start index read on smart meter bills from 1 July 2012. Clause 4.2(h) of the Energy Retail Code will be amended to reflect this requirement.
- monitor retailers' compliance data as well as EWOV billing complaint numbers that relate to the installation of a smart meter.



There are two types of capacity control products:

- supply capacity control and
- load control.

Supply capacity control operates by switching all power supply off when the customer's load reaches a certain limit. The power would resume after a set short period. The system will continue to assess the load and, if the load exceeds the limit, power will again be disconnected. Supply capacity control could be used by distributors in emergencies to ration power and avoid power outages. Supply capacity control could be used by retailers to offer capacity limited tariffs, again to ration power and possibly avoid disconnection.

Load control is a feature of smart meters that allows the use of the Home Area Network based in the meter to turn individual appliances on and off. Load control does not disconnect all power to the customer's premises. This feature might be offered to customers by retailers for use when the cost of power is very high and by distributors when a segment of the network is near capacity. An example of load control is to cycle an air conditioner on and off, which could reduce load on the network on a very hot summer's day. The customer would be offered a saving on the bill for accepting such a load control and the cycling of the air conditioner would be designed so that the customer's comfort would not be materially affected.

While the Commission banned retailers from offering supply capacity control products to any customers for credit management purposes until 31 December 2013, it did not seek to limit the distributors' use of supply capacity control to ration power and avoid power outages in emergencies.

This review considers the possible regulation of supply capacity control and load control products for non-credit management.

## 2.1 Draft Decision

Based on stakeholder submissions to the *Smart meters regulatory review – Capacity control and meter reads* Issues Paper, the Commission considered it too early to make a decision on allowing or regulating retailers to offer supply capacity control for non-credit management purposes. It was also considered too early to allow retailers to offer load control products to customers or regulate retailers' use of this type of product.

The Commission acknowledged supply capacity control and load control may be used by distributors in emergencies to ration power and avoid outages, but did not sanction its use by distributors outside of emergencies without the Commission's further consideration.

In making the draft decision, the Commission noted that distributors were still rolling out smart meters and that the National Smart Metering Project is currently consulting on the technical detail of smart meters. Further, it is unclear whether consumers would embrace all the features and tariffs of smart meter technology. If there is no demand for such services in the energy market, it is unlikely that retailers would offer these services to consumers.

The Commission acknowledged the value of innovation in the marketplace and did not wish to inhibit it. Equally, there is a need to understand and mitigate any risks these developments may present to consumers. The Commission is conscious that industry is yet to determine what products may be offered through smart meters and that national consultation processes are continuing.

Nevertheless, the Commission stated its intention to maintain its ban, as specified under clause 12A of the *Energy Retail Code*, on retailers' use of supply capacity control for credit management purposes until 31 December 2013, unless earlier revoked.

The Commission acknowledged that distributors can utilise load control as a valid means of rationing power and avoiding outages, but would not sanction its use outside of emergencies without further consideration.

### **2.1.1 Submissions to the Draft Decision – Supply Capacity Control**

The draft decision was supported by CitiPower and Powercor, and EWOV. However, the consumer advocacy groups did not support the draft decision.

VCOSS regards the draft decision as effectively allowing retailers to introduce supply capacity control products for non-credit management purposes. VCOSS believes that, even if such products are not currently being offered in the market, establishing a regulatory framework would be beneficial as it would provide retailers with certainty as they develop these products and protect consumers.<sup>2</sup>

In CALC's view, if the Commission does not make a clear decision on supply capacity control, retailers will begin to offer such services. Therefore, CALC sought an assurance from the Commission that the draft decision "...means that retailers are prohibited from offering supply capacity control products or services" until the Commission makes a decision allowing them to do so.<sup>3</sup> The CALC also sought confirmation that the prohibition on retailers offering supply capacity products for credit management purposes would not be revoked prior to 31 December 2013.

While CUAC agreed with the Commission's view in the draft decision that there are too many uncertainties surrounding the full potential of smart meter technology and consumers' response to the technology, it also believes that these uncertainties

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<sup>2</sup> Victorian Council of Social Service 2011, *Smart Meters Regulatory Review – Capacity Control and Verifying Bills Draft Decision*, July, p. 4.

<sup>3</sup> Consumer Action Law Centre 2011, *Submission to Smart Meters Regulatory Review – Capacity Control and Verifying Bills Draft Decision*, July, p. 2.

mean that "...all consumers potentially are at risk from the use of supply capacity control products even if they are used for non-debt management purposes."<sup>4</sup>

CUAC also submitted that there are no smart meter provisions in the National Energy Customer Framework (NECF) and was concerned that after 31 December 2013, retailers may use supply capacity control as a debt management tool. Therefore, CUAC recommended that the Commission extend indefinitely the ban on the use of supply capacity control for credit management purposes.<sup>5</sup>

In relation to the potential use of supply capacity control for non-debt management purposes, CUAC recommended that prior to making any decision, a comprehensive review of its risks needs to be undertaken. Pilot trials will also need to take place in order to assess the potential advantages and disadvantages of supply capacity control products. Consumer acceptability would also need to be tested and an appropriate regulatory framework established.<sup>6</sup>

Jemena believes supply capacity control can be used to protect assets, such as meters and service cables, from damage caused by blown fuses. Jemena explains that under current practices, when a fuse blows, supply would be interrupted until fault crews attend on site. However, supply capacity control can be used to avoid the fuse blowing and thereby avoid supply interruptions.<sup>7</sup>

### **2.1.2 Submissions to Draft Decision – Load Control**

CALC submitted that there is "...value in the use of load control products and services for consumers" provided safeguards are implemented to ensure its fair, safe and effective operation.<sup>8</sup> CALC believed that load control products would introduce additional complexity in retail contracts, which consumers need to understand in order to provide explicit informed consent to enter into such contracts. CALC recommended simplified information be provided to customers and minimum standards established for the use of load control. CALC also urged the Commission to implement a process to address consumer protection.<sup>9</sup>

While the distributors supported the draft decision not to regulate load control products, three of the five distributors expressed concern that the draft decision would prohibit them from undertaking customer trials and improving the network. United Energy considers the customer trials important in product development and in gauging consumer interest in capacity control products.<sup>10</sup> SP AusNet believes

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<sup>4</sup> Consumer Utilities Advocacy Centre 2011, *Smart meters regulatory review – capacity control and verifying bills draft decision*, July, p. 4.

<sup>5</sup> *Ibid*, p. 4.

<sup>6</sup> *Ibid*, p. 5.

<sup>7</sup> Jemena Electricity Networks 2011, *Essential Services Commission's Draft Decision on Smart Meters Regulatory Review – capacity control and verifying bills*, July, p. 2.

<sup>8</sup> Consumer Action Law Centre 2011, *op. cit.*, p. 3.

<sup>9</sup> *Ibid*, p. 3.

<sup>10</sup> United Energy Distribution 2011, *Smart Meters Regulatory Review – Capacity Control and Verifying Bills*, July, p. 2.

that customer trials are valuable in establishing the full range of smart meter capabilities.<sup>11</sup>

The only retailer commenting on the draft decision regarding load control products was Lumo Energy, which was concerned that the Commission has not properly considered "...the justification for any prohibition".

Lumo raised questions about whether the ban would extend to distributors or other third parties and whether the Commission would monitor distributors' compliance with contractual arrangements agreed with consumers for load control products. Lumo also believed that a definition of emergency network management should be provided if distributors are allowed to use supply capacity control for such purposes.<sup>12</sup>

## 2.2 Final Decision

The Commission confirms that the ban on retailers offering supply capacity control for credit management purposes, as specified under clause 12A of the *Energy Retail Code*, will remain until 1 January 2014.

However, the Commission will not consider in this consultation process the possibility of extending this prohibition indefinitely, as CUAC has suggested.<sup>13</sup> We note CUAC's observation that NECF currently contains no provisions to deal with smart meters, but its suggestion is outside the scope of this present review. The Department of Primary Industries (DPI), which contributes to the establishment of the NECF, is the appropriate body for dealing with this issue.

The Commission remains of the view that it is too early at this stage to consider drafting regulation or prohibiting supply capacity control and load control products for non-credit management purposes.

Further, it is evident from Section 7.3 of the National Smart Metering Program's *Smart Meter National Minimum Functionality Specification* that the ability of the energy industry to offer supply capacity control products in future has been considered and at least five supply capacity control limits are required to be incorporated into smart meters.<sup>14</sup>

As we noted in the draft decision, distributors are still rolling out smart meters and industry have yet to determine what products might be offered through smart meters.

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<sup>11</sup> SP AusNet 2011, *Smart Meters Regulatory Review – Capacity Control and Verifying Bills Draft Decision*, July, p. 1.

<sup>12</sup> Lumo Energy 2011, *Submission*, July, p. 1.

<sup>13</sup> Consumer Utilities Advocacy Centre 2011, *Smart Meters Regulatory Review – Capacity Control and Verifying Bills Draft Decision*, July, p. 4.

<sup>14</sup> See National Smart Metering Program's *Smart Meter National Minimum Functionality Specification* at [www.share.aemo.com/smartmetering](http://www.share.aemo.com/smartmetering)

Distributors' submissions have emphasised the importance of undertaking customer trials as part of better managing its network and establishing the potential of smart meters. Therefore, the Commission clarifies that distributors and retailers should be able to undertake supply capacity control and load control trials, but only after ensuring that the customer's explicit informed consent has been obtained and documented. We expect that customers will voluntarily decide to take part in any trials and that distributors and retailers will ensure that regulatory agencies and Government departments are advised of the parameters and rationale for any future trials prior to their commencement.

The Commission will write to retailers and distributors outlining its expectation that they will notify it and DPI, if and when these products commence development. We will then arrange meetings with retailers and distributors to understand what is proposed for these products, establish their implication for customers and whether any further changes to the existing regulatory framework is warranted. The Commission will also consult with consumer groups to better understand their concerns if these products are developed.

Further to Lumo's recommendation that "emergency network management" be defined, the Commission notes that a definition of "emergency" is already provided under clause 19 of the *Electricity Distribution Code*. The distributor's right to interrupt (clause 5.3) and disconnect (clause 12.2) supply to a customer's supply address in an emergency is also already explicitly allowed for in the *Electricity Distribution Code*.

The Commission needs to learn from the experience of other countries which have permitted supply capacity control or load control products to be offered by retailers and distributors to consumers and the broader community. We will undertake research into the use of supply capacity control and load control products in other jurisdictions to better understand the potential costs, benefits and potential detriment to consumers, retailers and distributors. This research will be published in the first quarter of 2012.

An amendment to Clause 12A of the Code and to the definition of supply capacity control product is required to give this decision effect. The Commission will make the following amendments:

- Clause 12A of the Code will be amended to state: "A retailer may not offer to provide a supply capacity control product to a customer for the primary purpose of credit management before 1 January 2014".
- The definition of supply capacity control will be amended to state: "means the use, other than the emergency use, of the smart meter to temporarily interrupt electricity supply to a customer". The current words "for credit management purposes" will be deleted.

Finally, the Commission notes that the Australian Energy Market Commission (AEMC) is currently undertaking a review to identify options for more efficient electricity consumption through cost effective demand side participation.<sup>15</sup> One of

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<sup>15</sup> See the AEMC website ([www.aemc.gov.au](http://www.aemc.gov.au)) for the Issues Paper that was released as part of that review.

the options under consideration is the potential use of smart meters and load control technologies to send price signals to consumers.<sup>16</sup> This review is being undertaken at a national level and will inform future Commission decisions on the potential role of supply capacity control and load control products in Victoria.

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<sup>16</sup> Australian Energy Market Commission 2011, *Power of choice - giving consumers options in the way they use electricity, Issues paper*, 15 July, p. 27

## Final Decision

The Commission will not regulate or prohibit the use of supply capacity control and load control products for non-credit management purposes.

An amendment to Clause 12A of the Energy Retail Code (the Code) and to the Code's definition of supply capacity control is required to effect this decision and will be made as follows:

- Clause 12A of the Code will be amended to state: "A retailer may not offer to provide a supply capacity control product to a customer for the primary purpose of credit management before 1 January 2014".
- The definition of supply capacity control will be amended to state: "means the use, other than the emergency use, of the smart meter to temporarily interrupt electricity supply to a customer". The current words "for credit management purposes" will be deleted.

However, the Commission will:

- permit the development of supply capacity control and load control products as part of customer trials, but only if the customer voluntarily chooses to take part in the trial;
- write to retailers, as supply capacity control and load control products are being developed, to organise meetings in which retailers can explain how the products might work (if developed), the level of information that will be provided to customers, and the costs and benefits that may be realised through the use of supply capacity control and load control products;
- consult with stakeholders to determine:
  - the information that customers would require to make an informed decision to participate in the trials; and
  - how retailers and distributors intend to fulfil these requirements. If warranted, the Commission may issue a guideline to ensure sufficient information is provided;
- conduct research into the international experience with supply capacity control and load control products to determine the costs and benefits to consumers, retailers and distributors; and
- monitor any attempts to utilise load control products for credit management purposes.

## 3 | VERIFYING BILLS

This chapter addresses a number of matters arising from the introduction of smart meters in Victoria. These matters primarily relate to the adequacy of the regulatory obligations for retailers and distributors to provide certain information to customers after their meter changeover and to assist them to verify their electricity bills once they begin receiving bills comprised from smart meter interval data.

### 3.1 Readings at meter changeover

In the *Regulatory Review – Smart Meters Final Decision*, the Commission noted a suggestion from DPI that distributors could be required to:

- leave a final reading at the premises at the time of changeover; or
- remind customers in the distributor’s letter that installation is imminent and that the customer should take the opportunity to note the current reading on the accumulation meter.

This would allow customers to verify their final bill based on the accumulation meter and provide a starting point for verifying future bills from the smart meter. However, the Commission wished to further consult with stakeholders on these options.

#### 3.1.1 Draft Decision

The draft decision stated that when an accumulation meter is replaced with a smart meter, distributors would not be required to leave a reminder notice or a card with the final reading from the accumulation meter. The Commission noted that distributors are already required to take a final reading before replacing a meter. Clause 2.8 of the *Metrology Procedure: Part A* specifies that, at the time an existing meter is de-commissioned, a final reading must be taken by an Australian Energy Market Operator accredited metering provider.

Retailers are obliged, under clause 4.2(g) of the *Energy Retail Code*, to pass this information on to customers (through the bill). This clause requires retailers to show the total amount of electricity consumed on the customer’s bill, and for an accumulation meter, the end readings for the previous period and the current period.

The Commission noted that there were potential advantages and disadvantages associated with the options proposed by DPI. Requiring distributors to only send a notice reminding customers to take their own reading from the accumulation meter prior to its replacement is advantageous in that it imposes less cost on distributors and, therefore, less cost on consumers.

This approach assumes that all consumers have sufficient knowledge, and are physically able, to take a reading from the meter, which cannot be assumed to be the case. Further, the reading noted by a consumer in the days leading up to a meter replacement will not exactly match the final meter reading taken by the distributor's meter reader.

The alternative option of requiring distributors to leave a card with the final reading from the accumulation meter may overcome the above problem, but there is a possibility that consumers may perceive the card as another "junk mail".

### 3.1.2 Submissions

There were no substantive issues raised in stakeholder submissions.

CUAC did not consider that clause 2.8 of the *Metrology Procedure: Part A* or the *Energy Retail Code* would help all customers, particularly those with language or literacy difficulties, to verify their bills or reduce the number of complaints to EWOV.<sup>17</sup>

While EWOV indicated support for the draft decision, it also recommended that distributors maintain thorough records so that customer queries about the final meter read can be substantiated. According to EWOV, some distributors are already keeping good records, such as taking photographs of the meter at the time of an exchange, but other distributors have not been so thorough.<sup>18</sup>

### 3.1.3 Final Decision

As there were no substantive issues raised in submissions, the Commission confirms its draft decision that distributors would not be required, at the time a smart meter replaces the accumulation meter, to leave a notice or a card with a final reading from an accumulation meter. This decision however does not affect distributors' existing obligations under Clause 2.8 of the Metrology Procedure.

The Commission encourages distributors to keep thorough records in order to assist with customer queries, as suggested by EWOV.

#### **Final Decision**

The Commission will not require distributors to leave a reminder notice or a card with the final reading from an accumulation meter when it is replaced with a smart meter.

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<sup>17</sup> Consumer Utilities Advocacy Centre 2011, op. cit., p. 5.

<sup>18</sup> Energy and Water Ombudsman (Victoria) 2011, *Re: Essential Services Commission Smart Meter Regulatory Review – Capacity Control and Verifying Bills (Draft Decision)*, June, p. 1.

## 3.2 “Start” readings on smart meter bills

In September 2010, the *Regulatory Review – Smart Meters Final Decision* included a requirement that retailers show on customers’ bills the total accumulated consumption read from smart meters, corresponding to the end of the billing period, referred to as an “end index read” by industry participants. The Commission deferred making a decision relating to showing start meter readings on smart meter bills there had been insufficient consultation on the matter.

The Commission also supported in principle that retailers be required to also include in customers’ bills the consumption read corresponding to the start of the billing period, or the “start index read”.

However, the Commission recognised that stakeholders had not been provided with sufficient opportunity to comment on this matter. Accordingly, the Commission has subsequently consulted on this proposal.

### 3.2.1 Draft Decision

Retailer and distributor submissions to the Issues Paper argued against requiring retailers to include a start read on smart meter bills on the basis of increasing customer confusion and complaints, and imposing further costs on industry. Industry have argued that customers are unlikely to be able to reconcile their bill with the start and end meter reads because customers are billed on the basis of both substituted and estimated reads. Unable to reconcile their bill with the meter reads, customers will complain to their retailers and/or EWOV, which imposes further costs on the industry.<sup>19</sup>

The Commission was not persuaded by these arguments as currently customers’ bills are not based entirely on the meter reads, but may be based on substitutes and estimates. As substitution and estimation are already occurring with accumulation meters, the Commission could not see how requiring retailers to include a start read on the bills would *increase* confusion and complaints. Rather, the Commission considered that removing the start read from smart meter bills would more likely raise confusion, dissatisfaction and complaints as customers have become accustomed to seeing a start read on their bills.

Industry submissions also asserted that including a start read on bills would raise costs for industry. The Commission did not believe that these submissions had adequately explained why costs would increase. Further, as customers’ bills currently contain a start index read, the Commission considered that retailers’ current billing systems would already have a field for the start read. Without further information, the Commission did not accept that there is a significant case against including a start read on a bill due to raised costs for retailers.

Therefore, the Commission’s draft decision was to require retailers to include a start read on smart meter bills.

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<sup>19</sup> For a more thorough discussion of these issues, refer to pp. 13-14 of the Commission’s *Smart meters regulatory review – Capacity control and meter reads draft decision*.

### 3.2.2 Submissions

The consumer advocacy groups and EWOV supported the draft decision. VCOSS saw the draft decision as maintaining the existing level of information provision. It also believed that many customers will continue to be billed on a flat tariff and, for these customers, the start and end reads will remain the most relevant consumption information on the bill.<sup>20</sup> EWOV stated that customers have an expectation to be able to reconcile the consumption on their bill with that on the meter.<sup>21</sup>

Retailers and distributors reiterated their concerns that including a start read on bills will further confuse and mislead customers, and result in increased complaints and costs.

Origin Energy<sup>22</sup> and TRUenergy<sup>23</sup> explained that this confusion arises from the fact that, under smart meters, the basis of customer billing is not the difference between the start and end reads as shown on the meter, but the aggregation of the half-hourly readings fed back from the smart meter to the distributor and subsequently provided to the retailer.

TRUenergy noted that index reads have historically been useful for customers when verifying bills for manually read accumulation meters. This practice is seen as less useful for “more accurate, digital AMI [smart] meters”.<sup>24</sup>

It also identified a number of events that may lead to the smart meter being reset to zero, which would result that the final index read being lower than the start index read. These events include:

- Reconfiguration of the meter when solar panels are installed
- Reconfiguration of the meter to alter the set up of peak and off-peak channels
- Re-setting of the meter due to a fault or other issue.

Lumo Energy cautioned against providing customers with a method to validate their bills that has a “significant flaw” as this may have “significant ramifications” for retailers when handling disputes regarding bills.<sup>25</sup> Lumo Energy noted that:

*...the amount of consumption in intervals verses the values of the “start and end” accumulation/index reads, may not balance invoice to invoice, or even within the same invoice.*

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<sup>20</sup> Victorian Council of Social Service 2011, op. cit., p. 5.

<sup>21</sup> Energy and Water Ombudsman (Victoria) 2011, op. cit., p. 1.

<sup>22</sup> Origin Energy 2011, *Re: smart meters regulatory review – capacity control and verifying bills*, July, p. 2.

<sup>23</sup> TRUenergy 2011, *Submission*, July, pp. 1-2.

<sup>24</sup> TRUenergy 2011, op. cit, p2

<sup>25</sup> Lumo Energy 2011, *Submission*, p.2

The result of this situation is that Lumo would anticipate as many complaints being made as those arising from customers not being able to see the index read or compare their bill to the meter.

Concerns about confusion and complaints are also reflected in some distributors' submissions. For instance, United Energy stated that:<sup>26</sup>

*...the index reads taken from interval meters is not validated metering data. All financial transactions including calculation of customer charges are based on the interval metering data which is validated and processed according to NEM [now the Australian Energy Market Operator] procedures.*

United Energy expressed some support for the Commission's draft decision provided that the approach did not result in increased complaint handling costs being passed through to all consumers.

Noting that for smart meters delivering interval data, the customer's bill will be based on an aggregation of the readings for each interval in the billing period, SP AusNet noted that:<sup>27</sup>

*Providing the retailer bills on data aggregated to midnight, the difference between the index read stored at midnight on the last day of the last bill period and on the last day of the current bill period will equate to this aggregated interval data"*

If interval data is subsequently required to be substituted as a result of meter access or data read issues, the index read on the customer's meter will not reflect this substituted amount. SP AusNet also noted that the advent of smart meters and the use of interval data means that "customers have to trust the distributors' interval data".

The index reads will not reconcile with the aggregated half-hourly readings if some of the half-hourly reads are not received by the distributor due to a failure in communication from the smart meter. SP AusNet submitted that should this scenario occur, "...the index read difference will now produce a value less than the billing data", which can never be realigned. Therefore, the index read on the next bill will not reflect the actual usage billed".<sup>28</sup> According to Origin Energy, this discrepancy will widen over time as missed reads are replaced with substitutes.

The impending national energy market and developing national regulatory framework were also identified as being a further potential constraint.

TRUenergy noted that if index start reads were to be used, retailers would need this data to be provided on a daily basis to ensure that it aligned with the start and end of the customer's bill period.

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<sup>26</sup> United Energy Distribution 2011, op. cit., p. 2.

<sup>27</sup> SP AusNet 2011, op cit, p.2

<sup>28</sup> SP AusNet 2011, op. cit., p. 2.

TRUenergy further identified that existing rules and obligations within the national electricity market currently obstruct retailers' use of index read data and that changes to these rules would be time consuming and represent significant costs to industry.

It, along with Origin Energy, noted that there is no obligation for distributors to provide daily index reads, nor if they were provided, did retailers have any rights to verify or query this data with distributors<sup>29</sup>. It considered that the National Electricity Rules would require amendment to ensure that retailers could mitigate these issues should distributors not provide index reads to them,

TRUenergy noted the remedy for these constraints is likely to be time consuming with any consultation taking one to two years, would be subject to a prioritisation process and even at the end of this process there was no guarantee the changes would be supported.

A general view previously expressed and reiterated by retailers and distributors was for the need for customers to be educated surrounding such industry processes as the interval data aggregation, the substitution of interval data, bill compilation and the rigorous controls and regulatory oversight (including regulatory audits) placed on industry when undertaking these tasks.

Origin Energy reiterated its view that customers can be educated about different sources of information available from smart meters, such as the details of the half-hourly reads.<sup>30</sup> It also considered that new information sources to assist customers will develop and noted that Origin Energy was developing services to enable customers to better understand their energy use.

TRUenergy indicated that it has successfully dealt with complaints from some of its approximately 150,000 customers with manually read interval meters by providing detailed half-hourly meter reads. While acknowledging complaints from smart meter customers have increased, TRUenergy believed that the rate of complaints is not higher than from customers with accumulation meters or any more difficult to resolve.<sup>31</sup>

The cost of handling increased complaints is estimated by Lumo to be \$4.5 million, based on the assumption that 5 per cent of properties with smart meters will complain and that 25 per cent of these complaints will escalate to EWOV.<sup>32</sup> Lumo notes that a situation may arise where almost every bill may be the source of complaint due to "the imbalance between 'start and end' reads verses interval consumption.

However, SP AusNet provided a cost estimate of \$30 million based on the average costs of \$1500 for the retailer and distributor for EWOV fees and internal resource

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<sup>29</sup> TRUenergy *Submission*, op. cit p2 ; *Origin Energy* op. cit, p1

<sup>30</sup> *Origin Energy* 2011, op. cit., p. 2

<sup>31</sup> TRUenergy 2011, op. cit., p. 2

<sup>32</sup> Lumo Energy 2011, op. cit., pp. 3-4.

costs dealing with potential complaints arising from approximately 20,000 bills containing substituted data.<sup>33</sup>

### 3.2.3 Analysis

It is useful to outline the metering differences between the new smart meters in Victoria and their predecessors, accumulation meters.

For accumulation meters, the distributors obtain meter reads of the accumulated consumption total on a meter and forward the reading to the Australian Energy Market Operator (AEMO) for validation. The validated data is then provided to the relevant retailer for billing. The retailer subtracts that reading from the previous reading to calculate the usage. The bill shows both the previous and current readings as well as the calculated usage, which is used to calculate the usage charges. The customer can then effectively verify the bill by comparing the reading on the bill with the reading on the physical meter at their property.

For Smart Meters, the usage and the meter reading are recorded electronically each 30 minutes by the distributor and forwarded to AEMO for validation. The validated data is then provided to the retailer for billing purposes<sup>34</sup>. For each billing date, the retailer receives from the Market Operator the tallied usage figures (48 usage totals per day) and will use this as the basis of the customer's bill. Where any of the 48 readings per day are missing or considered incorrect, usage for those 30 minutes is either estimated or substituted.

The index read has the following characteristics:

- Collecting the index read is only a requirement for type 5 meters (the smart meters being installed in Victoria).
- The index read that is collected is the value of the accumulation register at the time the metering data is collected. That is, if the meter is accessed for its daily read at 2am (assuming the smart meter is remotely read) then the index read will correspond to the accumulated usage up to that time.
- The index read corresponds to the total accumulated energy that has flowed through the meter. This is independent of the number of meter registers or the network or retail tariff.
- No tests are applied to determine if the index read is likely to be valid or correct. Metering data that is used for billing purposes, i.e. interval consumption data that has been collected remotely, is validated and substituted if the values do not meet the validation criteria.
- Consistent with the index read not being validated there is no mechanism for retailers to query the read.
- The index register may be reset under certain circumstances when the smart meter is reconfigured or reprogrammed. The interval consumption data seen on

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<sup>33</sup> SP AusNet 2011, op. cit., p. 3.

<sup>34</sup> It is intended, if the smart meter rollout continues for this data to be remotely forwarded to the distributor from 2014.

the bill would not be affected by such resetting but the index read would be affected.

In the absence of a start index read, a customer who has retained a copy of the last bill will be able to calculate the start index read, as it should correspond to the end index read of the preceding bill

The smart meter bill will be comprised of the aggregate of hundreds of usage readings which have been recorded every 30 minutes. It is unlikely that the aggregate figure will exactly match the difference between the start meter readings on consecutive bills. This is particularly the case when estimates of 30 minute consumptions have been included in the aggregate to cover faulty or missing readings.

We note, with some concern however, Origin Energy's submission regarding the divergent effect over time that these estimated and substituted readings may have on customer bills. If Origin Energy's observation proves to be the case and there is no current industry remedy, this would imply that the current industry agreed procedures for smart meters relating to meter reconciliation and meter read validation are deficient.

The Commission has considered the matters above and maintains that customers will have more confidence in the bill if they can see meter reading information similar to what they have been used to under the former accumulation metering system.

Furthermore the Commission believes that some of the constraints that have been identified through this consultative process could be overcome through appropriate customer information strategies and training of staff in retailers' call centres. We would also observe that there is a need for retailers and distributors to work together to ensure that customer queries are able to be resolved appropriately. .

Provided the industry responds in a timely manner to customers' enquiries, addresses customers' information needs and manages their ongoing expectations, there would seem to be no rationale for customer enquiries to escalate into complaints. In the event that complaints increase, industry should view these complaints as an added incentive to improve its customer service and provision of information to its customers. The Commission does not consider the withholding of customer information an appropriate regulatory response to the new international environment that will be enabled by smart meters.

If the Commission observes significant increases in complaints that relate to their customers' failure to understand billing matters that should have been clarified by educational programs, we will review the prescriptive adequacy of regulatory arrangements.

### **3.2.4 Final Decision**

The Commission, after consideration of the technical and logistical constraints outlined by industry, and conscious that the smart meter rollout is continuing and a number of industry procedures require 'bedding down', will require retailers to include start index reads on smart meter bills from 1 July 2012.

This decision is consistent with Clause 25 (j) of the National Energy Retail Rules (NERR), which is intended to take effect from 1 July 2012 and which will require retailers to include on a bill:

*(j) the values of meter readings (or if applicable, estimations) at the start and end of the billing period.*

The NERR would supersede the Victorian Energy Retail Code.

No additional metering data information should be needed in order to include the start read, as the end read from the previous bill, which retailers already have, should automatically become the start read for the next bill. For move-ins the start read is available from the first daily meter reading and will be retained until the bill is due.

The Commission notes also that some retailers, whose customers have had smart meters installed, may choose to put the start and end reads on customer bills earlier.

### **Final Decision**

The Commission will require retailers to include a start index read on smart meter bills from 1 July 2012. Clause 4.2(h) of the Energy Retail Code will be amended to reflect this requirement.

The Commission will also monitor retailers' compliance data as well as EWOV billing complaint numbers that relates to the installation of a smart meter.