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Thank you for the opportunity to comment on the MCE discussion papers on *Smart Meters Cost Benefit Analysis, Phase 1 – National Minimum Functionality*.

The Energy & Water Ombudsman NSW receives, investigates and resolves complaints from customers of electricity and gas providers in NSW, and some water providers.

EWON welcomes the work being undertaken by the MCE and its consultants to arrive at a list of minimum functionalities for smart meters and to analyse the cost benefits of these functionalities. In the past electricity consumers generally have not had a relationship with the metering installations by which their providers issue them with accounts. Instead, consumers have generally relied on the information contained in the account they receive at the end of a billing period to tell them how much electricity they have used during the period, and how much they will have to pay for that usage.

A nationally consistent approach to the roll out of smart metering provides an opportunity to allow electricity consumers to better understand the true cost of the energy they consume *as they consume it*, and also to adapt their energy usage behaviour in ways that will reduce their costs and the demand on generation and distribution infrastructure. This is particularly important in the context of climate change, recent volatility in wholesale electricity prices, and capacity restraints in generation and distribution infrastructure.

As noted in the discussion papers, smart metering also has the potential for other savings and benefits, including reducing the cost to all parties through remote energisation and de-energisation of customer supply, remote monitoring of quality of supply at the customer's point of supply by Distribution Network Service Providers (DNSPs), and more efficient restoration of supply following supply interruptions on the Low Voltage distribution network.

EWON has received a relatively small number of complaints from electricity customers about billing and contract problems that arise following the installation of a Type 5 meter at their premises. However, despite their relatively low numbers, these cases indicate some of the systemic problems experienced by some customers with Type 5 meters.

Functionalities not recommended for inclusion in a minimum national functionality

EWON notes the comments of NERA Economic Consulting that:

*[...] the cost associated with the mandatory provision of an in home display (function 17) to all recipients of a smart meter was found to not exceed the likely benefits arising from enhancements to demand response or improvements in business efficiency that may arise. At this stage however whether a smart meter should be capable of communicating with an in home display (functionality 16) remains uncertain. We believe that further analysis is required [...]*¹

In EWON's experience, customers who are easily able to access information about the daily cost of the electricity they consume are better able to adjust their electricity usage behaviour. Customers who are able to access information about the cost of certain high-consumption appliances (e.g. swimming pool filter pumps, inefficient heating or cooling systems) are better able to adjust their electricity usage behaviour (or at least postpone it). Immediate and accessible information is of greater benefit to customers than having to rely mainly or solely on the usage information in the account they receive from their retailer at the end of the billing period.

While Type 5 meters capture a range of consumption data, they are often locked away in parts of dwellings generally not accessed by the occupant, and in any case most customers billed via a Type 5 meter do not know how to view their usage data via the meter. This indicates that until such time as meters themselves become physically accessible to, and easily understood by, the occupants of premises supplied via them, the capability of communicating with an in-home display should be a minimum functionality in the national roll out of smart metering.

¹ *Cost Benefit Analysis of Smart Metering and Direct Load Control: Phase 1 Overview Report*, NERA Economic Consulting, page viii.

Case Study 1

Gary had had a Time of Use (TOU) meter at his premises for approximately 15 years prior to his electricity distributor/retailer installing a Type 5 meter in 2003. Gary had been able to easily view the cumulative usage across the different time bands on the old TOU meter, but after the Type 5 meter was installed, this was no longer possible and Gary could only view the total consumption, even though each time band was charged at a different tariff. Gary's electricity distributor had made public statements to the effect that their Type 5 metering "empowers" consumers to make decisions affecting their consumption of electricity. Gary took strong exception to this statement, given he was no longer able to see how much electricity he was consuming in each time band. Gary's distributor suggested that he could install, at his own cost, a sub meter if he wished to monitor his daily usage across the different time bands. Given Gary was not given a choice in the installation of the TOU meter, he felt that it was unreasonable for his distributor to remove functionality he previously enjoyed, and then advise him he could restore that functionality at his own cost. Following negotiations between EWON and Gary's electricity distributor, they agreed to install a new Type 5 meter at Gary's premises that was specifically programmed to allow Gary to read it as he had done with his old meter.

When investigating high bill complaints, EWON often advises the customer to check their meter at regular intervals to gain an understanding of their daily usage and which appliances use the most power. With freestanding homes customers are usually able to access their meter board, and the meter is easily read and understood. However, this does not always apply to Type 5 meters.

EWON notes that some electricity distributors have undertaken customer trials in responsiveness to critical peak pricing, and that a number of different types of customer communication methods have been trialled (including in-home displays, the sending of messages via mobile telephones and customer access to secure websites where they can view their consumption). According to the results of a trial undertaken by Integral Energy for example, 85% of customers provided with an in-home display used the display during the six months prior to being surveyed. However, only 9% of customers with secure web access to their consumption data used this facility.² EWON believes that the option of receiving an in-home display for customers whose premises are mandatorily installed with a smart meter may help to offset the apparently negative perception of smart meters

² *Cost Benefit Analysis of Smart Metering and Direct Load Control Work Stream 4: Consumer Impacts*, NERA Economic Consulting, page 110.

among many customers as identified by NERA Economic Consulting's customer focus groups.³

While the technology for customer communication is subject to ongoing analysis, EWON suggests that the most efficient and accessible method of communicating essential data such as present and cumulative consumption and ongoing costs per kWh to customers is via an in-house display that the customer can place in a frequented room in their home (such as the kitchen or lounge room).

Smart metering and retail competition

Some customers have complained to EWON that following the installation by their distributor of a Type 5 meter at their premises, they have either been unable to transfer to a retailer of their choice, or their retailer of choice has cancelled their contract and transferred them back to their standard retailer. In both scenarios, the reasons appear to be that 2nd tier retailers do not have the capability in their billing systems to be able to bill the customer using TOU pricing.

One distributor has advised EWON that although their Type 5 meters are programmed to collect usage data across differently-priced time periods and they charge the retailer for such supply addresses network charges that align with these periods, the retailer is still able to charge the customer a flat tariff if they wish. However, EWON's experience is that 2nd tier retailers are not prepared to do this, as the retail tariffs they would need to offer the customer in order to make even a modest profit margin would not be competitive or attractive to the customer.

Case Study 2

Lorna signed an electricity supply contract with a 2nd tier retailer when a door-to-door marketer visited her. Four months later she received a letter from the retailer advising her that due to her meter type being "incompatible" with their billing software as it was a "smart" meter (i.e. a Type 5 meter programmed by Lorna's distributor to collect usage data across different time bands), they were unable to honour the contract. Lorna felt the installation of a Type 5 meter was "anti-competitive" as it effectively prevented her from signing with a retailer other than her standard retailer. Lorna was also upset that the 2nd tier retailer could go to the length of signing her up as a customer only to inform her some months later that they could not accept her as a customer due to the type of meter installed at her premises.

³ Ibid., page 176.

While over time, more 2nd tier retailers may invest in enhancing their billing systems to cope with data produced by Type 5 meters, it appears that at present, there is the potential that the roll out of smart meters and retail competition may be running at cross-purposes. EWON suggests that retailers, distributors, their peak bodies and regulators may need to discuss this issue at the earliest opportunity so that customers are not disadvantaged or unreasonably prevented from taking full advantage of retail competition.

Time of use and critical peak pricing

As electricity distributors move away from flat, all day pricing for domestic customers to pricing that is designed to discourage usage during certain times (i.e. peak times or critical peaks), it is essential that those customers are able to access 'live' information about how much electricity they are using at a given time, and how much it is costing per kWh. EWON believes that the most accessible and practical way for consumers to be able to do this is via an in-home display.

Case Study 3

Giovanni operates a small business and is supplied under a standard contract by his retailer. After they changed his meter to a Type 5 meter in 2005, Giovanni noticed that his bills increased by over 80%, while his overall usage had only increased by around 15% during that time. Because of the nature of Giovanni's business (a motel), he was not in a position to change the time of day that the usage occurred. Giovanni noted that the regulator (the Independent Pricing and Regulatory Tribunal) had placed a cap on annual increases to customer bills under the retail pricing determination (for the period 2004-2007) then in place, yet his bills had increased considerably more than that. Giovanni also complained that while he could easily read the former 'clock face' style meters himself, he was unable to read the Type 5 meter and had to rely on his quarterly in-arrears account to learn how much electricity had been consumed. (EWON's investigation of Giovanni's disputed accounts was ongoing as of late October 2007.)

Data quality and smart meters

Some customers with Type 5 meters have found that their distributor and/or retailer encountered difficulties obtaining consumption data from the meters. These problems typically result in the customer either not receiving an account for an extended period, or in the customer receiving a high bill that includes undercharged consumption from the previous 12 months.

Case Study 4

Since 1999, Nina's distributor has installed three different Type 5 meters, and Nina's electricity accounts have been reversed and reissued several times as a result. Nina told EWON she was confused by the different accounts and she was not satisfied with the explanations provided to her by her retailer. Nina's distributor explained to EWON that the most recent problem related to the "probe interface" of one of the meters. However, Nina's distributor also manually adjusted the meter readings down after collection, apparently because the distributor thought the readings were not accurate. The most recent meter installed at Nina's premises (in 2005) did not present any reading problems and produced consistent usage data, but by this time Nina was deeply suspicious of its accuracy, and felt her bills were too high.

Case Study 5

Kris operates a small catering business and received an unusually high bill from her retailer. Six weeks prior to receiving the high bill, Kris was advised by her distributor that they had installed new Type 5 meters. Kris contacted her retailer and requested a meter test, but she did not hear back from them about the result. The retailer advised EWON that Kris' usage was charged according to their standard business TOU tariff package, and that the meter test revealed no errors. Following further discussion and investigation by EWON, the retailer realised that Kris' account was indeed incorrect, and that the cause of this was a "pulse multiplier error" wherein the data extracted from the meter reading database had been incorrectly converted to the retailer's billing system. Following correction of the error, Kris' account was found to be in credit.

In EWON's experience even the distributor/retailers responsible for installing Type 5 meters at their customers' premises sometimes encounter difficulties collecting, interpreting and issuing bills based on the data from such meters. This indicates that the back end systems of distributors and retailers are required to exercise a higher level of analysis and data integrity checking than was the case with manually-read Type 6 cumulative meters. Both technical factors and human error may continue to cause occasional billing problems for customers with smart metering unless adequate resources are invested in this area of operations by retailers and distributors.

Supply and service monitoring

EWON looks forward to the further analysis of customer supply monitoring (functionality 21) by the MCE as recommended by NERA Economic Consulting. EWON sees much value in including this functionality as ‘core’ after analysis has occurred, given the benefits to customers of their distributor being able to receive immediate notification of supply quality problems or loss of supply without the customer needing to contact their distributor. EWON also considers this functionality has the potential to streamline customer transfers from one retailer to another, following the customer’s decision to enter a market contract with a retailer other than the current financially responsible retailer for the supply site.

Conclusion

EWON firmly believes that the capability of smart meters to communicate with an in-home display is a crucial and essential functionality, particularly if customers are to be empowered to monitor their own electricity usage adequately, alter their usage patterns where necessary and possible, and understand the cost of the electricity they use. Each customer whose premise is fitted with a smart meter should be given the opportunity of being provided with an in home display if they feel it would be of benefit to them.

Arming customers in this way with real-time information about how much electricity they are consuming and how much it is costing them not only treats them as an equal partner in their relationship with their retailer and distributor, but may help to reduce the demands on networks during peak periods and reduce the need to invest in new distribution and generation assets.

EWON is not able to address the question of who should provide the customer with the in-home display (e.g. the customer’s distributor, their retailer, or a third party such as an electrical goods retailer). However, EWON considers that if customers are to be charged for the provision of an in-home display, any pricing structure agreed on should ensure that low income customers are equally able to take advantage of this functionality.

If you would like to discuss this matter further, please contact me or Damien Sams, Investigations Policy Officer on 82185250.

Yours sincerely



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