

30 April 2010

Electricity Commission
Level 7, ASB Bank Tower
PO Box 10041
Wellington 6143

by email: submissions@electricitycommission.govt.nz

**SUBMISSION ON AMENDMENTS TO THE ADVANCED METERING
INFRASTRUCTURE GUIDELINES**

- 1 Orion New Zealand Limited (**Orion**) welcomes the opportunity to respond to the Amendments to the advanced metering infrastructure guidelines consultation paper (**the paper**) released by the Commission in March 2010.
- 2 Our submission is in three parts:
 - 2.1 General comments on the paper,
 - 2.2 Specific comments on a number of the proposed drafting changes, and
 - 2.3 As a schedule, responses to the Commission's specific questions.

General comments

- 3 Our main general comment is that there is no clear rationale for all of the changes to the guidelines. The guidelines are, despite their relatively low-key nature, a regulatory instrument, and as such need to be based on an expectation that normal voluntary arrangements will not lead to appropriate outcomes in the absence of the guidelines, and further that the guidelines themselves will not unduly restrict the set of possible solutions. The guidelines should not include functions simply because they are – possibly – a good idea or because existing AMI systems have them. It is not necessary, or in our view desirable, for the guidelines to attempt to be a full

specification of AMI system functions and capabilities. Rather the guidelines should be designed to ensure that AMI systems meet the reasonable *minimum* requirements of *likely* users.

- 4 An example of this is Question 1: “Do you agree that AMI systems should be capable of sharing infrastructure?” Orion does not have a particular view on this question, but we do not think there is an obvious affirmative answer to the implicit prior question – “Do you agree that the guidelines should cover sharing infrastructure capability?”
- 5 Other aspects of the guidelines changes are so broad as to be unworkable. For example Question 4: “Do you agree that the AMI system installed should meet all potential users’ requirements?” How are these requirements to be established? How would you know when all potential users have been canvassed?
- 6 Orion agrees that it is imperative for distributors to be consulted at an early stage by AMI system providers when they are considering installation or replacement of systems, and in our experience this has happened. However we note that it is retailers that are, under the current rules, responsible for the metering, and more importantly retailers are the parties that pay for it. As such it is unlikely that an AMI systems provider would not consult with retailers, since they presumably want to be able to charge retailers for their service.
- 7 In relation to distributor consultation, given that the AMI implementations on each network are likely to be substantially similar, we do not think it sensible to require consultation with *all* distributors for every implementation. There are two aspects to this: First, the initial deployment proposal is the most important in terms of distributor consultation. Second it would be undesirable if an AMI system acceptable on some networks, was unacceptable on others. We note in this regard that the Electricity Networks Association has established the Smart Network Working Group, and it may be that this group can provide guidance in this respect.
- 8 We also struggle to see that the guidelines need to specify the circumstances in which advanced meters should be replaced. Unless there is a price or functionality reason for a replacement, why would it happen? Have there been examples? Replacement of meters on customer switching has not been the experience on the Orion network, where, due to customer churn Arc Innovation’s AMI is now in use at around 16,000 ICPs where Meridian is not the retailer (out of a total of around 106,000 Arc AMI installations) while AMS’s AMI is now in use at around 14,000 ICPs where Contact is not the retailer (out of around 47,000 AMS AMI installations.)

- 9 Overall then Orion's view is that the Commission should consider the proposed changes to the guidelines in terms of whether they are an appropriate response to an actual problem.

Specific comments on new draft guidelines

- 10 Paragraph 7 contains a reference to "monthly invoicing". "Charging" would be a better word, as not all consumers are invoiced monthly, and some – pre-pay consumers – are not invoiced at all.
- 11 Paragraph 10 (i) seems to repeat 10 (d), since (i) is a list of some power quality attributes, while (d) is a generic power quality attribute.
- 12 Paragraph 16: We presume the intention of this new paragraph is to deal with mass deployments or programs of work, however it is written as if it applies to individual installations. It does not seem like a sensible or practical process to go through on an ICP by ICP basis. If the consultation has occurred, what more needs to be in the guidelines?
- 13 Paragraph 17: Generally it is unclear whether this paragraph relates to the metering CPE, or the entire AMI system, including back-office systems and processes. In more detail:
- 13.1 17 (b) refers to "generation" information. We presume this should be "export". Also, but only where relevant, presumably export should be recorded by the *non* half-hourly metering as well as the half hourly? This suggests changes are required to other parts of paragraph 17 to generalise it, for example 17 (a) and (c).
- 13.2 17 (c) also talks about a master accumulation register "for all units consumed on site". Where there are separately metered loads on site, this will not be practicable, and nor does it seem sensible.
- 13.3 17 (k): we do not see how compliance with this can be assessed unless we already know what all future applications might be, which we doubt.
- 14 Paragraph 38: TOU pricing signals do not *control* consumption behaviour. They might encourage or reward certain behaviour, and that behaviour might include some sort of programmed response, however that is delivered (ripple relay, time clock, manual switch, etc). We note that where the TOU pricing is for pre-defined periods, no information from the AMI system is required to manage customer response. Regarding footnote 6 we see no need to specify how HAN might be provided.

- 15 Paragraph 53: Is this needed given the rules? Once AMI data is in the back office system is its processing any different to that of data from non-AMI systems?
- 16 Paragraphs 59 to 61.
- 16.1 Customer displays are essential in at least some prepay situations, as despite the comment about pre-pay and post-pay becoming a continuum, there is the fundamental difference that a pre-pay consumer needs information about their account balance, at least at the point where further credit is required.
- 16.2 The reference to “Register displays” in paragraph 61 is confusing as it looks to relate to the meter? Given the earlier comment that register accumulation might occur in the back office system, it will not be available from the meter and therefore could not be sent from the meter to a customer display. Other than in pre-pay situations we do not believe that the AMI system will be able to provide pricing information – since the AMI system will not normally have it – and indeed there are some pre-pay solutions where pricing and account information are not held anywhere in the AMI system.
- 17 Paragraph 67: Remote configuration between pre-pay and post-pay will not remove the need for a site visit where the pre-pay solution requires additional CPE, for example a display unit. Conversely there are pre-pay solutions that do not require any reconfiguration of the AMI system.
- 18 Function 5: *“Rules certification as half-hourly (HH) or non half-hourly data aggregator (NHHDA) as applicable to metering information.”* We are unsure how this relates to Function 27. If the certification is NHHDA, then why should half hourly recording be essential, and if it is essential, should it not be certified as HH? What is the status of HH information from a NHHDA certified installation?
- 19 Function 15: *“Sufficient capacity to include the provision of future services such as shared infrastructure with other utilities.”* We do not believe this function should be in the guidelines. It is inappropriate and in any case “future services” is not specific enough.
- 20 Function 19: *“Capacity control capability.”* While this has not changed, we think its classification as “highly desirable” introduces a new dimension compared to “Essential” and “Optional”. This also applies to Functions 52, 63 and 66.

- 21 Function 27: *“Half-hour consumption information.”* See the comment on Function 5 above.
- 22 Function 30: *“Meter display of accumulating registers used in settlement.”* Again this is not changing, but the existing wording is a little unclear. Who is the information being displayed to? What is the relevance of “settlement”? What if the accumulation is done in the back office system (for example by aggregating half hourly data)?
- 23 Function 53: *“Sufficient memory and processing capability to allow the addition of future services including power quality monitoring and reporting, capacity control, and home area networks.”* As with Function 15, this is in our view far too open-ended to be an appropriate guideline. How would “sufficient” be determined? The “sufficient” RAM provided in PCs 2 years ago is probably woefully insufficient today.
- 24 Function 57: *“AMI system will be open, but not necessarily at CPE. All service users have access to AMI system features on equal terms. AMI systems owners to ensure data exchange protocols are not a barrier to using their AMI system.”* There is a difference between open access and data exchange protocols and access “on equal terms”. This might be taken to mean equal *commercial* terms, which would not, in Orion’s view, be appropriate for the guidelines. It is conceivable for example that a party who regularly pays an AMI systems owner \$1 million per month would get more favourable terms than a party with an ad hoc data request. Also note the cross reference needs to be updated: it should be to 63?
- 25 Function 67: *“Connectability to / from other meters.”* As noted above we do not think it is appropriate for the guidelines to address this functionality.

CONCLUDING REMARKS

- 26 Thank you for the opportunity to make this submission. If you have any questions relating to this submission, please contact Bruce Rogers (Pricing Manager) DDI 03 363 9870 email bruce.rogers@oriongroup.co.nz.

Yours faithfully



Bruce Rogers
Pricing Manager

Schedule: Responses to specific questions

Q No.	Question	Response
1	Do you agree that AMI systems should be capable of sharing infrastructure? Please give reasons.	We do not see that the guidelines need to address this point.
2	Do you agree that, regardless of whether a distributor wants to make use of information from an AMI system at the time that it is installed, the capability should be made available, for those distributors that wish to pay for this access? Please give reasons.	Whether the AMI system incorporates a capacity to provide data that the distributors do not want at the time the AMI system is installed is a commercial decision the AMI system owner should make. It may well be that the capability is incorporated in the hardware, and cannot practically be removed. If a distributor is prepared to pay for access to information at a price that the AMI system provider(s) think is appropriate, then there is no obvious barrier to the transaction occurring.
3	Do you agree that, as a minimum, both the distributor and the retailer should be consulted by the AMI systems provider when an AMI system is being initially installed or replaced? Please give reasons.	The retailer, actually retailers, will in most cases be the party paying the AMI system owner to use or obtain data from its system, so it seems highly unlikely that they would not be consulted. Of course new retailers may enter the market and for them the functionality and services of existing AMI systems may not meet their requirements.
4	Do you agree that the AMI system installed should meet all potential users' requirements? Please give reasons.	No. This would seem to prevent any system being deployed as it is impossible to determine all potential user's requirements.
5	Do you agree that advanced meters should be replaced only if there is a functionality or price reason for the replacement? Do you agree with the proposed wording in the Guidelines or do you have suggestions for alternative wording? Please also give reasons.	We cannot see why metering would be replaced unless there is a functionality or price reason. We think the wording (in paragraph 16) implies an ICP by ICP decisions, when we presume the intention is to deal with mass deployments or replacements or fundamental changes to AMI systems.
6	Do you agree that all AMI systems should have half-hour data capability as well as programmable time of use registers? Please give reasons.	Yes in a general sense, but there is a question about the status of the half hourly data if the metering is only NHHDA certified. We also note that the accumulation of half-hourly data may occur in back office systems, rather than in time of use <i>meter</i> registers.

Q No.	Question	Response
7	Do you agree with the clarification that there should only be one party that operates the AMI system and that access should be via standardised formats? Please give reasons.	While this is likely to be the case, we do not believe the guidelines need to specify it.
8	Do you agree that the services access interface should have access and security provisions? Please give reasons.	No comment.
9	Do you agree with the proposed recommendation that there should be sufficient memory and processing capability installed? Please give reasons.	The real question is sufficient for what? We do not consider that the guidelines should require speculation as to future requirements.
10	Do you agree with the proposed recommendation for interoperability with other utility devices? Please give reasons.	We do not think this needs to be in the guidelines.
11	Do you agree that voltage and current should also be available as meter register information? Please give reasons.	We do not see any particular value in recording voltage and current all the time at every connection, or of it being displayed. It may be useful if this data can be recorded from time to time at some connections.
12	Do you agree that the meter event log should include instantaneous values that are triggered perhaps by a threshold or an application running within the meter? Please give reasons.	No comment.
13	Do you agree that the event log should be operated on a first on/first off basis? Please give reasons.	No comment.
14	Do you agree with the advantages in the management of existing hot water load control in the Guidelines? Please give reasons.	We note that the guidelines list what "can be" advantages (paragraph 37). This list does not appear to amount to a guideline so we are unsure as to its purpose?

Q No.	Question	Response
15	Do you consider that all advanced meters should have the ripple receiver built into the device? Please give reasons.	<p>While there may be advantages we do not think this is essential. The guidelines could usefully state that where the ripple receiver is built in that it be able to be remotely reprogrammed.</p> <p>We note that some more complicated pricing plans require more than one ripple receiver, or multiple contacts responding to different ripple signals.</p>
16	Do you agree with the clarification that illustrates two modes of consumption behaviour that can be controlled? Please give reasons.	We do not think this distinction adds anything, and it may also be restrictive. Two further modes not mentioned come to mind: the use of timers, and behaviour changes.
17	Do you agree that access over the services interface should be via standardised formats for all users of the AMI system? Please give reasons.	This appears desirable on the face of it, but we are unsure of the downside.
18	Do you agree with the clarification that there may be settlement information contained within event logs, and that the same data storage requirements as required under the Rules, should relate to this information also? Please give reasons.	No comment.
19	Do you agree with the clarification that the connection of the HAN to an AMI system should not require replacement of the advanced meter, should not reduce the integrity of the metering installation, and should be a simple connection type such as a plug or radio connection? Please give reasons.	Ideally yes, but there is a risk that this guideline limits the options for HANs.

Q No.	Question	Response
20	Do you agree with the proposed update to these minimum attributes, as the advanced meter must be capable of providing this information to the customer display? Please give reasons.	<p>We note that the guidelines in this area are “optional” and quite general, while the paper by contrast has some specific examples (p12). Also this section changes from talking about the AMI system to talking about the meter, which is just one component of the AMI system</p> <p>It is conceivable that this type of information may be displayed completely separately from the AMI system. For example a retailer may provide consumer access to HH and pricing data via a web portal. Or a customer may have their own system completely independent of the AMI system</p> <p>We note specifically in relation to prices that, other than in a prepay situation, there is no particular reason why the AMI system owner will know the applicable prices. And even in some prepay situations they may not know.</p>
21	Do you agree with this proposed security recommendation? Please give reasons.	No comment.
22	Are there other security recommendations that you consider should be included? Please give reasons.	No comment.
23	Do you agree with these proposed amendments? Please give reasons.	No comment
24	Do you agree with the proposed real time event notification functionality? Note that this could be for voltage or current alerts. Please give reasons.	Where fitted, the functionality should be able to be turned on and off on request.
25	Do you agree with this proposed reference? Please give reasons.	We have no problem with the references, however see 26 below.

Q No.	Question	Response
26	Do you think the Guidelines should recommend what action to take should an AMI system not be able to be installed because it does not comply with the Electricity Regulations 1997? Please give reasons.	<p>We are not sure if the “it” here is the installation itself or the AMI system. If the latter then it is hard to see how such a system could be compliant with the guidelines?</p> <p>If the former, we do not think the guidelines need to cover this off, as the persons involved in installing the systems should be aware of the regulations, and in any case the regulations apply much more widely than to just AMI system installations, they apply to all electrical work. If there is anything in the guidelines it should be by reference to the wider obligations. For example the guidelines could make it quite clear that any installation must comply with relevant legislation and regulations.</p>