

3 August 2007

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SUBMISSION ON THE ADVANCED METERING CONSULTATION PAPER

- 1 Orion welcomes the opportunity to submit on the advanced metering consultation paper.
- 2 Our submission is in two parts:
 - 2.1 general comments; and
 - 2.2 our response to the specific questions raised in the paper, which we set out in the schedule to this letter.


General comments

- 3 Orion has long been an advocate for advanced metering and we consider that in New Zealand there is sufficient evidence that the roll out of advanced metering is occurring without the need for regulatory intervention.
- 4 We are pleased to see that Arc Innovations Limited (a subsidiary of Meridian Energy) plans to roll-out up to 120,000 new 'smart meters' to Christchurch households. These meters could lead to 'time-of-use' pricing for domestic customers as smart meters can identify electricity consumption in more detail than conventional meters.
- 5 Smart meters provide an economical way of measuring when energy is used, allowing different prices for consumption based on the time of day and the season. Customers can be better informed about their energy use, and can alter their patterns of use to take advantage of cheaper prices at different times of the day and night.
- 6 We consider that the key outcomes that Advanced metering systems can produce are:
 - 6.1 Improved incentives for fuel switching and greater uptake of demand side response by giving customers with appropriate price signals leading to long term

benefits to consumers through improved utilisation of assets (improved dynamic and allocative efficiency)

- 6.2 improved energy efficiency
 - 6.3 encouragement of retail competition
 - 6.4 reduced CO2 emissions
- 7 While there is merit in having some form of standardisation in the attributes that advanced metering systems should have, we would be concerned if the roll out of advanced metering systems was delayed while waiting for industry consensus to be reached on this issue.
- 8 The provision of metering is a competitive sector of the industry and the roll out of advanced metering systems is not without risk, including regulatory risk. Clearly, Meridian has determined that there is a business case for rolling out advanced metering. Whether customers value the potential benefits that advanced metering could provide, to the extent that it provides a competitive advantage is the risk Meridian take.
- 9 Thank you for the opportunity to make this submission. Orion does not consider that any part of this submission is confidential. If you have any questions, please contact Dennis Jones (Industry Developments Manager), DDI 03 363 9526, email dennis.jones@oriongroup.co.nz.

Yours sincerely



Dennis Jones
Industry Developments Manager

SCHEDULE

Responses to the Commission's questions

Question Number	Question	Response
Question 1	Do you agree with the metering strategy outlined in section 3? Please discuss reasons for agreeing or disagreeing.	It is not clear from Section 3 what metering strategy the Commission is proposing.
Question 2	Do you agree that competing demands for discretionary load could create a demand management issue for the industry? Please discuss reasons for agreeing or disagreeing. (section 3: advanced metering and load management)	<p>Orion agrees that competing demands for discretionary load could create a demand management issue for the industry. However we believe that these issues should initially be addressed in each network region.</p> <p>Minimum service standards often apply particularly for discretionary loads such as water heating and space heating, eg the water heaters should be off for no more that 7 hours in a 24 hour period and no more that 4 hours at any one time. These minimum service standards could be compromised if more that one party has control over the loads unless it is appropriately co-ordinated.</p> <p>Alternatively if the minimum standards are applied, network and transmission peaks could be larger than necessary. For example it is common for a distributor to control water heating load for a few hours during a morning peak and then restore the load in the afternoon to allow the water heaters to recharge prior to further control for a few hours during the evening peak. If the type of service standard described above applies and a retailer has controlled the load in the afternoon (to avoid high spot prices) then the service standard may mean that the distributor cannot control load in the evening. This may result in creating larger than necessary network and transmission peaks with the possibility of creating grid emergencies and unnecessarily bringing forward investment in the network and transmission systems.</p>

<p>Question 3</p>	<p>Do you agree that certain areas such as consumers on AUFLS feeders, and certain type of controlled load should remain under the centralised load management carried out by distributors? Please discuss reasons for agreeing or disagreeing. (section 3: advanced metering and load management)</p>	<p>We do not consider that the customer response to financial signals would be a significant major issue in respect to AUFLS for a number of reasons:</p> <ul style="list-style-type: none">❖ The requirement is to have two blocks of load available with each block able to drop 16% of the pre-event load at any time. To achieve this we need to ensure that we have identified sufficient feeders selected at the lowest load periods. The result of this is that at peak times (when financial signals are likely to be at their highest) rather than shedding 32% of the network load we will drop in the order of 50%. Thus although there may be a reduction in the amount of load available on feeders connected to the AUFLS relays due to financial signals this will probably occur at times when there is a significant margin .❖ We also consider that this situation could be easily monitored particularly as in Orion's case where the Grid owner is responsible for the AUFLS relays and they are installed on Transpower's own feeders Transpower could via its SCADA system monitor in real time the load connected to the feeders with AUFLS relays and the overall network load to ensure that the appropriate percentage is available. With a simple switching system Transpower could enable or disable the AUFLS relays as desired to maintain the appropriate level of security. This would also minimise the impact on end use consumers in the event of an AUFLS tripping.❖ An alternative approach would be to review the feeder loadings on an annual basis. The load in each half hour of the previous year on the AUFLS feeders could be summated and compared to the half hourly total network loadings, if it is found that over time the customer response to financial signals is such that the appropriate percentage of load to meet the AUFLS requirements cannot be achieved then additional feeders and AUFLS relays could be added. <p>We do however consider that loss of centralised load management is a significant concern in the</p>
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		<p>event of emergencies that occur on either the distribution network or on Transpower's grid. These emergencies if unchecked could lead to an under-frequency event and the operation of the AUFLS system.</p> <p>We consider that there is a need to ensure that, whenever a consumer (both business and residential) has "suitable controllable load"¹, they must have a controller or control system (satisfactory to Orion), such as a ripple receiver-relay. The output from this controller must be connected to the controllable load to enable Orion to switch it off during emergencies that occur on its distribution network or on Transpower's grid. There is a need to ensure that there is only 'one pointman on duty at the intersection'. The alternative is chaos. This means that retailers, load aggregators and distributors must communicate well in regard to load management practices.</p>
<p>Question 4</p>	<p>Do you consider that with the development of distributed load management within advanced meters distributors will have less incentive to maintain a centralised load management system? Please discuss reasons for agreeing or disagreeing. (section 3: advanced metering and load management)</p>	<p>No as indicated in question 3 we consider that there is provision via a centralised control mechanism to control load in the event of emergencies on distribution network or on Transpower's grid. Orion has moved to ensure this is available by making it a requirement under our network code that:</p> <p><i>All new connections from 1 April 2007, and all existing connections that already have ripple controlled water heating as at that date, must have or continue to have a controller or control system (satisfactory to Orion), such as a ripple receiver-relay, whenever a consumer has "suitable controllable load". This requirement applies to both business and residential connections. Suitable controllable load means an electric water-heater of 100 to 500 litres storage capacity with a heating element of more than 1.2kW. The output from this controller must be connected to the controllable load to enable Orion to switch it off during</i></p>

¹ Suitable controllable load means an electric water-heater of 100 to 500 litres storage capacity with a heating element of more than 1.2kW.

		<p><i>emergencies that occur on its distribution network or on Transpower's grid.</i></p> <p>It is also unlikely that distributors with large investments in reliable ripple injection systems will wish to rely on any other forms of load management in the short term.</p> <p>The complexity and distributed nature of the new advanced metering and load switching technology and the communications links make it unlikely that these systems will achieve the same levels of reliability as provided by most ripple systems. It will need to be thoroughly proven before it could be considered as a replacement.</p>
<p>Question 5</p>	<p>Is there additional advanced metering or load management capabilities that should have been included or noted? If yes, please discuss these. (section 3: advanced metering and load management)</p>	<p>We note that the paper is dismissive of the benefit of achieving a more accurate wholesale settlement that half-hour meters can provide (see paragraphs 3.9 and 3.10 and appendix C of the paper). We disagree with this suggestion and consider that the logic in Appendix C is flawed.</p> <p>We consider that a half hour metering solution will be more accurate than using a GXP residual profile that is applied across a diverse range of customers i.e domestic and business. Even within this group there will be considerable variation in the load for a domestic situation with say three children and two adults compared with that of a retired couple. While adding additional registers will help the process, the fact that these represent a monthly (or many months) total for that register does not greatly improve the situation of appropriately apportioning this total to individual half hours for which the wholesale price may be very high.</p> <p>We note that paragraph 4.2 subsection (h) of the paper lists as an objective that advanced metering infrastructure (AMI):</p> <p><i>“provide an increased accuracy in the settlement process, allowing retailers to optimise their contracted positions against consumer load”</i></p>

		<p>This would appear to contradict the paper's position set out in paragraphs 3.9 and 3.10 and appendix C of the paper</p>
<p>Question 6</p>	<p>Do you agree that consumers will react to the price signals that advanced metering systems can deliver? Please discuss reasons for agreeing or disagreeing. (section 3: advanced metering and load management)</p>	<p>Orion considers that consumers can and will react to price signals that advanced metering systems can deliver. Orion's own pricing structure (with a price during peak periods of effectively 80c/kWh and an off-peak price that of either 0.5c/kWh or 4.5c/kWh depending on the time of day) is an example of a pricing structure that could, if passed on in a suitable form for end use customers produce just such a response².</p> <p>Charging high prices during peak periods encourages retailers to persuade their customers to reduce their electricity consumption during electrical 'rush hours'.</p> <p>We are pleased to see that Arc Innovations Limited (a subsidiary of Meridian Energy) plans to roll-out up to 120,000 new 'smart meters' to Christchurch households. These meters could lead to 'time-of-use' pricing for domestic customers as smart meters can identify electricity consumption in more detail than conventional meters. Smart meters provide an economical way of measuring when energy is used, allowing different prices for consumption based on the time of day and the season. Customers can be better informed about their energy use, and can alter their patterns of use to take advantage of cheaper prices at different times of the day and night.</p> <p>The use of "dynamic electricity pricing" or "critical day pricing" has been shown by trials to be</p>

² Orion does not charge each home or business individually. Instead, we charge retailers for the total electricity used by all their residential and small business customers combined.

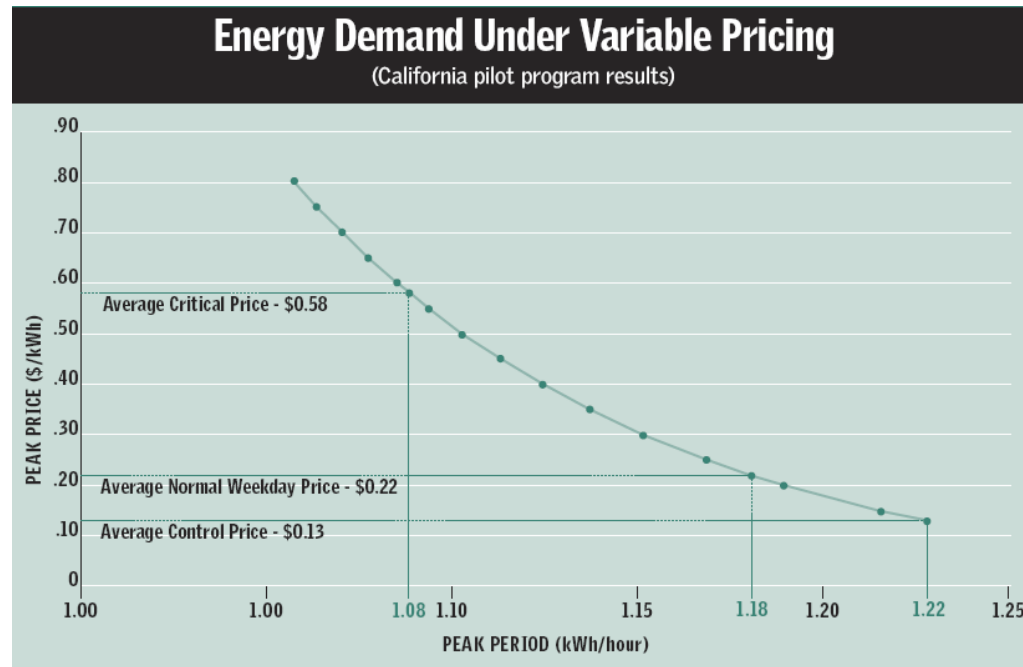
		<p>effective. We refer the Commission to an article by Matt Burgess in the newsletter of the New Zealand Institute for the Study of Competition and Regulation Inc³ (ISCR) and also to an article by A Farugui and R Earle 2006 Demand response and Advanced Metering Regulation Spring p22-27⁴.</p> <p>These articles refer to a dynamic pricing trial involving residential and small business customers carried out in California over a two year period by three investor-owned utilities and two regulatory commissions.</p> <p>Burgess notes:</p> <p><i>“There were many questions about dynamic pricing. But the most important was whether consumers would respond.</i></p> <p><i>To test this, 2500 residential and small business customers were supplied with smart meters and enrolled in the Statewide Pricing Pilot – a controlled experiment with about one-third of customers paying standard flat rates for their electricity and the remaining two-thirds subject to dynamic pricing. ...</i></p> <p><i>So did consumers respond to dynamic pricing?</i></p> <p><i>Absolutely – in the summer months. Residential users’ electricity consumption fell by 13% on average on critical days during the peak, and by 7% on ‘normal’ peak days. Small business</i></p>
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³ ICSR Competition and Regulation Times Nov 2006 issue 21 <http://www.iscr.org.nz>

⁴ <http://www.cato.org/pubs/regulation/regv29n1/v29n1-3.pdf>

customers also responded, with the heaviest users reducing their 'critical peak' consumption by 9% and lighter users by 6%. Response rates varied quite substantially amongst consumers: those who lived in the hot interior areas of California and had air conditioning reduced their critical peak consumption by about double the rate of those who lived in cooler areas (15% versus 7%).

The article notes that summer air-conditioning is not a mirror for winter heating and that customers were much less willing to turn down heaters in winter peak periods : the winter response was about one third that of summer.



		<p>Fig 1 Demand/price curve derived by A Farugui and R Earle</p> <p>Figure 1 indicates the Demand price response established by A Farugui and R Earle the price structure in the experiment was very similar to Orion's but with a smaller price range the critical peak price was 58c (for a short number of hours) and an off-peak prices of either 22c/kWh or 9 c/kWh depending on the time of day.</p> <p>The articles indicate that the experiment provided sufficient information for PG&E to develop a business case for implementing AMI in its service area.</p>
<p>Question 7</p>	<p>Do you agree with the objectives outlined in section 4? Please expand with why or why not. (section 4: objectives of advanced metering)</p>	<p>The Commission lists a number of high level outcomes that may be achieved provided that advanced metering systems are correctly figured and information that can be made available is used. These are:</p> <ul style="list-style-type: none"> <i>a. provide regular and accurate meter readings;</i> <i>b. reduce network non technical losses by decreasing the incidence of theft or fraud and vacant premise consumption;</i> <i>c. reduce costs to generate and deliver electricity;</i> <i>d. improve the reliability of the overall electricity network;</i> <i>e. minimise barriers to competition in both generation and retail;</i> <i>f. provide increased and relevant information to electricity users to assist in promoting the efficient use of electricity and enable consumers to make their own decisions on cost</i>

		<p><i>conservation;</i></p> <p><i>g. provide a platform for future energy-focused innovation; and</i></p> <p><i>h. provide an increased accuracy in the settlement process, allowing retailers to optimise their contracted positions against consumer load.</i></p> <p>We consider that the key outcomes/objectives that Advanced metering systems can produce are:</p> <ol style="list-style-type: none">1. Improved incentives for fuel switching and greater uptake of demand side response by giving customers with appropriate price signals leading to long term benefits to consumers through improved utilisation of assets (improved dynamic and allocative efficiency)2. improved energy efficiency3. encouragement of retail competition4. reduced CO2 emissions <p>In relation to the Commissions objectives (a) to (h) above we agree that all these objectives are desirable outcomes. However we note in relation to objective (b): <i>reduce network non technical losses by decreasing the incidence of theft or fraud and vacant premise consumption</i> that non technical losses are <u>not</u> network related.</p> <p>Common Characteristic</p> <p>We do not consider that to realise these objectives listed above it is necessary that advanced metering systems must share the common characteristics that have been identified in paragraph 4.3:</p>
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		<p><i>a. open operation (operated to allow multiple parties to concurrently offer services across a single metering infrastructure);</i></p> <p><i>b. established standards for communications (ideally to permit meters from multiple providers to co-exist within the same infrastructure thus providing commercial incentives for least cost deployments; a variety of communication channels may assist to facilitate additional appliance control over time);</i></p> <p><i>c. relevant feature flexibility (able to accommodate a variety of supporting tasks, including assisting consumers to switch between retailers with minimal inconvenience and cost, and the ability to calculate and reconcile distribution line losses);</i></p> <p><i>d. wider localised load control capability (extending load control to other than traditionally controlled loads and allowing load or demand reduction aggregation to encourage demand-side participation in the electricity market);</i></p> <p><i>e. consumer information availability (removing barriers to help electricity consumers better understand their electricity usage patterns and pricing options); and</i></p> <p><i>f. metering information availability (remote communications to allow regular and accurate reading of meters, network, and supply parameters).</i></p> <p>While we agree that it may be desirable to have open operation, standards for communications etc this should not come at the expense of delaying potential rollout of AMI.</p>
Question 8	Are there additional objectives of advanced metering that should be added? If yes, please discuss these. (section 4: objectives	As indicated in response to question 7 we consider that the key outcomes/objective that advanced metering systems can produce are:

	of advanced metering)	<ol style="list-style-type: none"> 1. Improved incentives for fuel switching and greater uptake of demand side response by giving customers with appropriate price signals leading to long term benefits to consumers through improved utilisation of assets (improved dynamic and allocative efficiency) 2. improved energy efficiency 3. encouragement of retail competition 4. reduced CO2 emissions
Question 9	Do you consider that there is an issue to be addressed on ownership of discretionary load on a consumer's premise? Please discuss why you agree or disagree. (section 7.2: load control)	<p>Orion does not consider there is an issue to be addressed on ownership of discretionary load on a consumer's premise. This issue has been dealt with by the ECWP⁵ in the final report to the Commission Board they recommended that:</p> <p><i>Recommendation 1: The ECWP recommends that the Board accept:</i></p> <p><i>i. A consumer's property right to a supply of electricity arises from entering into a Contract with an electricity supplier;</i></p> <p><i>ii. Other than as provided for in the Contract or otherwise agreed with the consumer, no party has a right to interrupt the consumer's supply except where interruption or partial interruption of supply is needed for the maintenance of security of supply; and</i></p>

⁵ Recommendation 1 - Final Existing Capabilities Working Panel Report 27 September 2006

		<p><i>iii. The model use of system agreement must reflect the position specified in i, and ii, above. The benefits of further load management however, are a matter of negotiation between parties.</i></p>
<p>Question 10</p>	<p>Do you consider that the beneficiaries of information from advanced meters should pay for access to the information outlined in section 7.3? Please discuss why you agree or disagree.</p>	<p>Paragraph 7.3 suggests that:</p> <p><i>“distributors may freeload on advanced metering systems and should contribute to these costs of these devices either through rebates in the rates charged, or contribution to the meter lease costs.”</i></p> <p>Orion does not agree that distributors should contribute to the cost of these devices either through rebates in the rates charged, or contribution to the meter lease costs. We consider that the provision of metering and the various attributes that advanced metering provides offers retailers the chance to differentiate themselves and seek a competitive advantage in the retail product development and the provision of customer choice. Orion also provides a pricing basis that passes on the benefits of improved load shape to retailers and customers.</p> <p>We consider that there is also the opportunity for competition between the various meter providers to provide both meters and information services to a variety of parties.</p> <p>Paragraph 7.3 goes on to suggest that distributors could benefit from AMI by using the systems to:</p> <p><i>a. check on distribution asset loadings (transformers, cables) and shuffle assets into best locations;</i></p> <p><i>b. track temperatures of distribution transformers and be warned of life-shortening temperatures;</i></p>

		<p><i>c. identify points of failure on a network;</i></p> <p><i>d. check voltage limits (high and low) on a low voltage feeder to ensure it is within compliance limits;</i></p> <p><i>e. ensure that remote load control signals have been received;</i></p> <p><i>f. offer capacity limited rates to encourage improvement of load factor on their networks; and</i></p> <p><i>g. manage capacity limiting of demand, which could also be used in dry years to share electricity consumption within a region.</i></p> <p>Orion agrees that a number of these benefits could be useful to distributors, although in many cases distributors will already have adequate monitoring systems in place.</p> <p>However, the provision of this information may compete with the other metering and information systems that distributors already have through their SCADA systems. Where information can be provided competitively by AMI, in good time, possibly real time (not six weeks later) and provide cost effective benefits relating to network efficiencies, then we consider that distributors will look at purchasing the information.</p> <p>Paragraph 7.3.4 raises the question of networks owning the advanced metering systems</p> <p><i>“If networks own these advanced metering systems, the network should not “freeload” on the lease of them – they should separate their “ownership” revenue requirements from their “user” costs and pay for access to these services like other users, otherwise other users will be potentially over-contributing to the ROI”</i></p>
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		<p>At present network owners are required to separate out the costs of metering from their network assets. The provision of metering is currently a contestable activity with a significant degree of risk (stranded assets etc) and a network owning such assets would clearly want to be making an unregulated rate of return on these assets.</p> <p>Another consideration is that the paper may be alluding to the possibility of mandating that networks should supply the metering, communications and information requirements (as provided for in Victoria) then clearly this would be an entirely different matter and in this case a network owner would want to be assured that they would make an appropriate regulated ROR on the required assets.</p>
Question 11	<p>Do you consider that remote disconnections for credit issues should not be carried out? Please discuss why you agree or disagree. (section 7.4: credit control and vacant premises control)</p>	No Comment
Question 12	<p>Do you consider that remote connections may require the consumer accepting responsibility for the restoration? Please discuss why you agree or disagree. (section 7.4: credit control and vacant premises control)</p>	<p>Section 7.4 of the paper discusses disconnection and reconnection from a credit control and vacant premises perspective. We consider that a process may be needed. This may be relatively simple i.e if there is an occupant on the premise then it may be appropriate to talk by phone. We consider that an initial starting point in assisting with this debate is to consider what happens now. In the case where manual reconnections after disconnection for non-payment occur are checks made with an occupant before relivening?.</p> <p>To reduce the safety risk that may be an issue upon reconnection of supply following disconnection for either credit control or in the case of a vacant premise advanced meters could be fitted with a manual reset facility that would provide the customer with the final control over the restoration of</p>

		<p>supply.</p> <p>However, there is always a possibility that a customer's supply of electricity will be interrupted, due to faults or maintenance work on the network or transmission system. If the power supply has been interrupted for any reason we consider that customers should be aware that the supply may be restored at any time and they need to take responsibility for ensuring that when the supply is restored it will not give rise to any potentially dangerous situations.</p>
<p>Question 13</p>	<p>Do you agree with the discussion on costs outlined in section 7.5? Please discuss why you agree or disagree.</p>	<p>Paragraph 7.5.1. states:</p> <p><i>It is not the intention of this discussion paper to delve into details regarding costs underlying any specific advanced meter deployment.</i></p> <p>We agree that the Commission should not delve into the details regarding costs in relation to advanced meter deployment. Meter owners as the party that will bear the risk, including the regulatory risk that the Commission may mandate requirements in relation to advanced meters, are the parties that should be considering costs particular. Arc Innovations in conjunction with Meridian has already decided on a roll out of advanced meters; they have presumably looked at the business case for this roll out and decided to proceed.</p> <p>The Commission should only consider the question of cost if it proposes to recommend to the Minister that regulation/rules relating to the provision of metering are required.</p> <p>Paragraph 7.5.5 requests feedback on whether the New Zealand electricity industry considers:</p> <p><i>a. if a common advanced metering communications protocol would be desirable;</i></p> <p><i>b. if the communications pathways should be specified (i.e. meter to back office, meter to home</i></p>

		<p><i>appliances, other links);</i></p> <p><i>c. the nature of these links;</i></p> <p><i>d. whether existing standards provide the required functionality and are mature enough to consider adopting;</i></p> <p><i>e. whether an industry working panel should be established to pursue the matter of whether standard communication protocols should be developed and make recommendations accordingly; and</i></p> <p><i>f. whether appliance manufacturers should be represented on such a panel to bring their views from a world stage perspective.</i></p> <p>We would be concerned if creating working panels to consider these issues delayed the roll out of advanced metering. The issue is whether the Commission considers that competition is going to be sufficient to resolve these issues. At this stage there appears to be sufficient momentum in rolling out advanced metering to suggest this is not required.</p>
<p>Question 14</p>	<p>Do you consider that costs should be allocated to the beneficiaries of advanced meter functionality? Please discuss why you agree or disagree. (section 7.5: costs)</p>	<p>We do not consider that this question can be answered at this stage, this paper has identified a number of possible benefits that may arise from the introduction of AMI. It has not addressed whether these benefits are most cost effectively provided by AMI nor has it sought to clearly identify the beneficiaries. See also our response to question 10 and 13 above.</p>
<p>Question 15</p>	<p>Do you agree with the discussion on safety issues? Are there any other safety issues that should be considered? Please note and discuss these in your submission. (section</p>	<p>Section 7.6 raises a number of issues of safety issues:</p> <p><i>a. "It is suggested that a meter replacement programme should include a check on the wiring condition, safety of the wiring disturbed as part of the replacement or within the switchboard or</i></p>

	7.6: safety)	<p><i>meter box, and earthing of the consumer's reticulation. Any issues should be brought to the retailer's attention and the retailer should convey these to the consumer."</i></p> <p>Clearly safety is of paramount importance and we would certainly expect that any safety issues discovered as part of a meter change program should be brought to the customer's attention. We consider that there are obligations on electricians, and other workers registered under the Electricity Act regarding the action necessary in the event that they discover unsafe wiring. We would expect that these requirements would be followed.</p> <p>We note Meridian Energy's addresses this issue in their letter to customers advising them that the metering installation at their premises is about to be changed.</p> <p><i>Meridian Energy is committed to safety with electricity. If during the meter upgrade process our installer finds that your wiring insulation has deteriorated and is potentially unsafe, they will follow the Electrical Workers Registration Board procedures. This means that they may not be able to proceed with the meter upgrade. Our installer will discuss your options and leave you more details at the time of the installation.</i></p> <p>However, this does raise potential issues relating to costs for any restoration work. This may lead to a number of disputes/complaints relating to whether it was the disturbance of the wiring in the process of changing the meter that caused the issue. We expect that these issues would be managed professionally by the retailer.</p> <p><i>b. Direct connected meters should preferably have two retaining screws per conductor.</i></p> <p>We would agree that direct connected meters should preferably have two retaining screws per conductor. There is evidence of problems occurring with high resistance connections leading to over heating issues even when direct connected meters are fitted with two retaining screws per</p>
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		<p>conductor. We do however acknowledge that if a meter with a single retaining screw meets all the necessary standards and regulations it is difficult to see why it should not be allowed.</p> <p><i>c. Disconnection switches within the meter should not switch the neutral.</i></p> <p>We agree that disconnection switches within the meter should not switch the neutral. Our understanding is that section 2.8 of AN/NZS 3000:2000 and regulation 72 of the Electricity Regulations Compilation 2003 would support this conclusion.</p>
Question 16	Do you agree with the discussion on switching? Please discuss any issues in your submission. (section 7.7: switching issues)	No Comment
Question 17	Are there any other switching issues that should be discussed? Please discuss these in your submission. (section 7.7: switching issues)	No Comment
Question 18	Do you agree that there is a potential for advanced meters to create barriers to trade? Please discuss why you agree or disagree. (section 7.8: barriers to competition)	Roll out of advanced metering is already happening, and if the issues identified in paragraph 7.8.1 arise they will become apparent quite quickly. We consider that many of the suggested barriers to competition would be dealt with under the Commerce Act should they arise.
Question 19	Do you agree with the solutions to barriers to competition outlined in section 7.8.2? Please discuss why you agree or disagree.	This question suggests that the Commission has already concluded that there are barriers to competition outlined in section 7.8.2 that need to be addressed. We consider that the operational benefits and the demand response benefits of critical peak pricing, and the potential for future applications, through the use of AMI even with a proprietary system, would likely outweigh the benefits of waiting to determine if any barriers are created. As indicated in response to question 18

		we consider that many of the suggested barriers to competition identified in paragraph 7.8.1 would be dealt with under the Commerce Act should they arise.
Appendix B, Question 1	Do you agree with changing the metering installation definition in part A of the Rules? Please discuss why you agree or disagree. (paragraphs 3, 4, 5, and 6)	<p>The paper raises concerns relating to:</p> <p><i>“The argument is where the meter installation stops and the data administration system commences to set the demarcation of where the meter read exists.”</i></p> <p>The proposal is to change the existing metering installation definition to deal with this issue. The existing metering installation definition has been applied for category 3, 4, 5 and 6 metering installations from the introduction of the rules. These category 3, 4, 5 and 6 metering installations are AMI installations yet it has not been deemed necessary to implement a rule change to reflect the perceived problem referred to in the paper during this time. We suggest that the Commission provides further detail on the specifics of any proposed rule change and clearly identifies the costs and benefits of changing this rule.</p>
Appendix B, Question 2	Do you agree with not having any changes to rules 3 and 6 of part D of the Rules? Please discuss why you agree or disagree. (paragraph 7)	It is unclear what issue this question is trying to address. We do not consider that the introduction of advance metering should have any impact on rule 3 or rule 6 of part D. Clearly changes to these rules have been proposed and agreed to in the rule changes to come into effect at 1 May 2008. We do however consider that there are parts of the rules in section 3 that will need addressing in the future but these are not relevant to the advance metering issue.
Appendix B, Question 3	Do you agree to changing rule 3.8 of code of practice D3 of part D of the Rules? Please discuss why you agree or disagree. (paragraphs 8 and 9)	<p>We do not agree to changing rule 3.8 of code of practice D3 of part D of the Rules. The paper suggests that:</p> <p><i>“Advanced metering, that uses time of day distribution pricing, exposes the consumer to increased load at high cost periods, where load control is bridged out or fails to occur”.</i></p> <p>This is not a new issue and it does not just relate to advanced metering or distribution pricing. There</p>

		<p>are many hundreds of thousands of domestic and small business consumers that are on time of day pricing structures, where bridging the load control out will expose them to higher costs. We consider that, in principle, there may be a case for allowing consumers to authorise the bridging out of a faulty load control device, we are concerned about the practicalities of ensuring that the issue is reported and the faulty device fixed or replaced ASAP. We would need to see far more detail on how the Commission would address this issue before we could agree to such a proposal.</p>
Appendix B, Question 4	<p>Do you agree that appropriate controls be placed within advanced metering installations and that it is reasonable to extend the inspection period beyond one year? Please discuss why you agree or disagree. (paragraphs 11, 12, and 13)</p>	<p>The inclusion of appropriate controls that allow longer periods between inspections should be left to the meter owners discretion.</p> <p>This would allow the meter owner to consider the cost benefit assessment of whether to have such “appropriate controls” and a longer inspection time or to not have the controls and continue with annual inspections.</p>
Appendix B, Question 5	<p>Do you agree with not changing rule 3 of code of practice D4 of part D of the Rules? Please discuss why you agree or disagree. (paragraphs 14 and 15)</p>	<p>We agree with not changing rule 3 of code of practice D4 of part D of the Rules in relation to the functionality of the core metering capability, but consider that the applications programs could be changed without requiring type testing as set out in rule 3 of code of practice D4 of part D as long as the process is robust and subject to audit.</p>
Appendix B, Question 6	<p>Do you agree with the definitions in paragraph 18 being incorporated in the advanced metering guidelines? If not, what other suggestions do you have for improvement?</p>	<p>We do not agree with the proposed definitions in paragraph 18. We consider that it would be more appropriate that, where the meter records volumes in half hourly intervals, (even if these half hourly volumes are aggregated into either absolute or accumulating registers), then the half hour data should be submitted to the reconciliation manager to assist in improving the accuracy of the wholesale settlement process. The aggregated registers should be used only for customer billing purposes.</p> <p>We do not consider there is a requirement for any further definition for the case where a metering installation has only non-half hour information. These meters should be treated under the existing</p>

		<p>rules for non half hour metering.</p> <p>Hybrid meters - We consider that a hybrid meter would be one where the meter records volumes in half hourly intervals, but the meter does not have the appropriate EC certification to be classed as a half-hour meter. These meters have other non-half hour registers that are EC certified and it is these non-half hour registers that would be submitted to the reconciliation manager. In these cases we consider that the half hour interval data should also be submitted to the reconciliation manager and used as a profile for the non-half hour data.</p>
Appendix B, Question 7	Do you agree with the proposed changes to rule 5.1.7 of code of practice G1 of schedule G8 of the Rules? Please discuss why you agree or disagree. (paragraphs 18, 19, and 20)	<p>The paper does not propose any changes to rule 5.1.7. of code of practice G1 of schedule G8 of the Rules. Rather it proposes in paragraph 20:</p> <p><i>“to review the permitted time errors for meters within category 1, and determine the overall accuracy effect of wide scale implementation, with a wider tolerance band.”</i></p> <p>We are happy to agree to the suggested review and would expect any outcome from the review including any proposed rule change to be appropriately consulted on.</p>
Appendix B, Question 8	Are there any other rules that you consider constrains the introduction of advanced metering infrastructure or technology that require changes? Please discuss any other rule changes you see as necessary.	No Comment
Appendix E, Question 1	Do you agree with the minimum attributes listed in the advanced metering attributes table? Please discuss why you agree or	No Comment

	disagree.	
Appendix E, Question 2	Are there any other attributes that you consider should be included within any of the columns of the advanced metering attributes table? Please give reasons and discuss why you consider they should be included.	No Comment