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## **SUBMISSION ON LOAD MANAGEMENT VALUE AND PRICING DISCUSSION PAPER REVIEW**

- 1 Orion welcomes the opportunity to submit on the paper recently released by the Electricity Commission (the *Commission*) on the *load management value and pricing discussion paper* (the *paper*) and the associated Load Management Value and Pricing Report (the *report*).
- 2 Our submission is in three parts:
  - 2.1 general comments on the paper and report;
  - 2.2 a suggested way forward for the Commission; and
  - 2.3 our response to the specific questions raised in the paper, which we set out in the schedule to this letter.

## **General Comments**

### **Distributors as load aggregators**

- 3 Electricity distributors are load aggregators; we create economies of scale by gathering demands of thousands of consumers and delivering this to the transmission system and wholesale market. The substantial economic and social benefits of this activity primarily accrue to consumers and society in general.
- 4 In seeking to carry out this activity in the most effective and efficient way possible, for decades, New Zealand distributors have installed and utilised ripple injection plant and pilot-wire systems. New Zealand has been a world leader in this technology (as visitors to Australia and elsewhere will attest).

- 5 The primary use of ripple injection and pilot wire systems is to control electric hot water cylinders. Over many years, consumers have been advised to installed well-insulated cylinders with 3kW elements in order that they will receive a good standard of supply and not suffer any impact of the control of their cylinder. Older hot water cylinders have been retro fitted with additional insulation in projects initiated by both distributors and EECA.
- 6 Distributors also take responsibility for managing their region's transmission costs; a responsibility they take seriously.
- 7 In approximate order of importance to New Zealand, the uses of existing hot water load management are:
  - 7.1 security of network supply (transmission and distribution);
  - 7.2 managing costs of distribution and transmission capacity for consumers; and
  - 7.3 other (including reserves market, energy price).
- 8 We agree with the report that the use of managed load to reduce peak loads, and therefore reduce network investment provides significantly more value than offering it into the reserve market or managing volatility in the wholesale market. We urge caution in assuming that interruptible load (IL) can be used in the reserve market and/or wholesale market whenever it is not being used during peak demand periods.
- 9 Importantly, it should be noted that distributors do not gain commercially from the existence of load management – consumers do. Distributors remain focused on delivering good value for money and shaving peaks reduces the need for capital expenditure on networks (including transmission). This activity lowers the future asset value of distributors and Transpower.
- 10 An important context has disappeared; hot water is in a competitive market. Controlled electric hot water heating competes with bottled LPG, reticulated gas, solar, and uncontrolled electric hot water heating. De-marketing load control by over-control could penalise New Zealand consumers as a whole, if this reduces the load control flexibility and results in unnecessary investment in new line capacity.

### **Distributors should co-ordinate and prioritise load management**

- 11 Orion believes that distributors should co-ordinate and prioritise load management. We consider that there are real risks from fragmenting the control of load management to numerous other parties. These risks include:
  - 11.1 reduced security of supply;

- 11.2 increased infrastructure investment required;
  - 11.3 more frequent interruptions to supply; and
  - 11.4 increased costs to consumers and the New Zealand economy as a whole.
- 12 Load management is going on behind the scenes much of the time, usually in such a manner that consumers are totally unaware and unaffected. The ability of distributors to have the option to curtail load at any time is essential. It may be needed to alleviate the impact of faults or to reduce loads during maintenance on both transmission and distribution lines. Many of the transmission upgrades that are currently being carried out to enhance security of supply in the upper South Island are relying on the ability of distributors to manage the load on their networks to specified limits. This is done primarily by hot water control.
- 13 Fragmenting control over a number of load aggregators will have an adverse effect on distributor's ability to provide line function services at their current level without significant additional expenditure on network assets.
- 14 It should not be forgotten that the existing ripple control systems are already providing alternatives to network investment; which is precisely what this report promotes. Networks are designed and planned with an underlying assumption of an ability to control load. Without control, the ongoing benefits to consumers of significant network investment deferral will be lost.

### **Pricing is not enough**

- 15 Orion has been a strong advocate of pricing to encourage demand side management. Our peak prices provide one of the strongest price signals in New Zealand. We continue to advocate this as an essential part of an overall mix to improve demand side response.
- 16 We note the Government's initiative in the 'New Zealand Energy Strategy' (NZES) in respect to the muted price signals for residential consumers<sup>1</sup>, pricing is also touched on in the report. We would encourage the Commission to adopt the reports recommendation that the Commission:

*progress the distribution pricing methodologies project, recommending that the value of IL on an ongoing basis be determined using a 'local Long Run Average Incremental Cost (LRAIC)' approach*

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<sup>1</sup> Clause 8.4.5 New Zealand Energy Strategy to 2050 – October 2007

- 17 However, we do not believe that pricing alone is sufficient; even with Orion's pricing structure with a strong peak price component, we still continue to control domestic loads to minimise the overall costs to consumers.
- 18 This direct control by Orion allows us to minimise the impact on any one group of consumers. We operate a sophisticated control system that manages 27 different ripple plants across Orion's network area with each ripple plant switching 16 separate ripple channels for peak (hot water) control and a further 50 ripple channels for other purposes (principally switching night loads and meter registers). It is configured to monitor and control both network loadings and the Transpower grid exit point loadings, while ensuring that our hot water service levels are met and that load shedding is equitably distributed.
- 19 Orion's ripple system provides a level of reliability that cannot be matched by other systems that rely on SMS or similar communication methods. Sufficient flexibility is built into the overall ripple system to provide coverage for ripple plant maintenance and/or network reconfigurations while meeting our obligations to switch street lighting and metering registers at the appropriate times. There are also physical engineering constraints on the operation of ripple plans that we also manage.
- 20 We believe that if load management is fragmented between different parties, then the benefits of a centralised system could not be maintained. We consider that there is value to the customer that can be gained from a co-ordinated response to demand constraints. This could be regional control of peaks or in response to large events causing widespread supply issues.
- 21 Rather than looking at additional fragmentation we believe that further centralisation may be beneficial to enable co-ordinated control for the entire upper South Island and also the entire upper North Island to improve the response to the transmission pricing signals that are now in place.

**Introduction of uncertainty in regard to a distributor's ability to meet its obligation under Part 4A of the Commerce Act**

- 22 A further issue that we believe the Commission should consider is that any reduction in a distributor's access to loads suitable for control will increase the probability of a distributor breaching the Commerce Commission's quality thresholds. We believe that additional fragmentation of control of load management will add considerable uncertainty to a distributor's ability to meet the Commerce Commission's thresholds. For example loss of access to controllable loads will lead to:
- 22.1 a requirement to increase capacity of both the transmission and distribution systems to meet the increased peak demand. This increased investment in additional capacity will require funding that can only come from increased

distribution prices. This may lead to breaches of the price threshold and the uncertain consequences this may bring.

22.2 a breach of quality thresholds resulting from increased frequency and length of customers outages due to capacity constraints which could have been mitigated if load control was available.

23 The Commerce Commission currently has a process underway to consider the thresholds prior to the 2009 reset. We consider that the Commission must consult with the Commerce Commission as set out in clause 7.2(b) of the 'Memorandum of Understanding between the Commission and the Commerce Commission 16 August 2007'<sup>2</sup> prior to introducing or changing any rules or regulations pertaining to this area.

24 This may lead some parties to take the view that it is better to invest in wires and cables rather than continue with load management. This is counter to the interest of consumers

### **Roles of the Commerce Commission and the Electricity Commission**

25 As indicated above, Orion is concerned by the potential overlap of regulation between the roles of the Commerce Commission and the Commission and the level of uncertainty that this could introduce if any of the report's recommendations, that lead to a reduction in the amount or availability of interruptible load that distributors have access to, are implemented. For example the VPWG recommendations:

25.1 *consider amending the existing rules to enable IL to compete with generation by being offered into the market by the party controlling it;*

25.2 *consider amending the existing rules to enable demand aggregators to participate in the wholesale market on the same basis as generators.*

26 In New Zealand, central government has chosen to place the responsibility for the price and reliability regulation of distribution companies with the Commerce Commission. The Commerce Commission (among many other things) requires lines companies to publish an Asset Management Plan that outlines in great detail how the company plans to manage their assets over the next 10 years. These plans are periodically reviewed by the Commerce Commission, with help from engineering consultants. The report produced by the engineering consultants assesses 'the extent to which asset management plans in New Zealand ELB's are consistent with industry

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<sup>2</sup> The Electricity Commission will take into account the thresholds set from time to time by the Commerce commission for the declaration of control in relation to large electricity lines businesses, and the information disclosure requirements imposed by the Commerce commission on large electricity line owners and large electricity distributors. The Electricity commission will also consult with the Commerce Commission where a new or changed rule under the electricity Governance Regulations 2003 may have an impact on or introduce uncertainty surrounding the thresholds or the formation of future thresholds.

best practice and whether there has been significant improvement in asset management practices across the industry’.

- 27 A review of the plans in July 2006 has led to improvements in the disclosure of the value of deferring identified projects. Further improvements will no doubt be made in future (a future report was released by the Commerce commission in September 2007).
- 28 It is within this context that the report and any further work in relation to the report that the Commission’s may consider must be placed. There are a number of areas in the report where this overlap of responsibilities between the Commerce Commission and the Commission is an issue. An example of this overlap occurs in the report at paragraph 101 and 102, where the report acknowledges:
- “101 In New Zealand, distributors are subject to the Commerce Commission’s Electricity Information Disclosure requirements and the Electricity Information Disclosure Handbook, developed by the Commerce Commission under Part 4A of the Commerce Act 1986, which specifies their obligation to consider non-network alternatives. Schedule 2 of the Information Disclosure Handbook sets out the information that must be included in asset management plans: Clause 5(g) requires asset management plans to include:
- “a description and identification of the network development programme (including distributed generation and non-network solutions) and actions to be taken, including associated expenditure projections.”*
102. The above requirement is further explained in the Network Development Planning section (4.5.5) of the Electricity Information Disclosure Handbook, as follows:
- “The network development plan should include:*
- a. a detailed description of the projects currently underway or planned to start in the next twelve months;*
  - b. a summary description of the projects planned for the next four years; and*
  - c. a high level description of the projects being considered for the remainder of the [asset management plan] planning period.*
- For projects where decisions have been made, the reasons for choosing the selected option should be stated. For other projects planned to start in the next five years, alternative options should be discussed, including the potential for non-network approaches to be more cost effective than network augmentations.”*
- 29 The report has recommended that the Commission issue guidelines in relation to additional regulatory requirements relating to this area of investment. We consider that the regulatory oversight of investments by distributors fall within the regime of the Commerce Commission. Particularly in the case where a distributor comes under control by the Commerce Commission following a threshold breach.
- 30 If the Commission considers that further regulation is required in this area, we consider that this should be done via an approach to the Commerce Commission. The Commerce Commission can then consult with distributors within the overall framework of Part 4A of the Electricity Act.

### **Lack of co-ordination of Commission's work streams**

- 31 Orion questions the co-ordination of the Commission's work streams, in relation to this project.
- 32 The report is the second phase of a Commission initiated load management and metering project to determine the optimal load management infrastructure for New Zealand.
- 33 This phase involved the investigation of economic issues related to load management, including value per application, assignment of load management, allocation of benefits and free rider issues. The emphasis of the paper is on the value that can be achieved by the consumer allowing interruption to all or part of its load by another party.
- 34 This report together with the earlier report on the existing load management capability will supply input into the third phase of the project which will examine how facilitation of technology in relation to load management and advanced metering will enable the benefits identified in the previous phases to be achieved.
- 35 Yet the Commission has just finished consulting (3<sup>rd</sup> August 2007) on its "Advanced metering discussion paper", the purpose of which was to:

*"establish a set of guidelines for the introduction of advanced metering into new Zealand. These guidelines will set out recommendations relating to the introduction of new technology for metering and supporting infrastructure and load management"*<sup>3</sup>.

In addition the Advance metering discussion paper states:

*"That the introduction of advanced metering should complement rather than degrade the existing load management capability. Further research will be carried out in this area under the proposed Load management Metering Technology project that commences in July/August 2007."*<sup>4</sup>

The release by the Commission of the "Advanced metering paper" before consultation has finished on the "Load Management Value and Pricing" discussion paper has pre-empted the third phase of Commission's 'over-all load management and metering project to determine the optimal load management infrastructure for New Zealand'. This raises questions as to the relevance of the ECWP and the VPWG work and the Commission's project as a whole.

We also note the reports recommendation (paragraph 20b.) to "require that the Transmission pricing methodology allows for the interconnection charges to be based

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<sup>3</sup> Para 1.1 Electricity Commission - Advanced metering Discussion paper June 2007

<sup>4</sup> Para 3.22 Electricity Commission - Advanced metering Discussion paper June 2007

on regional coincident peaks and the local long run Marginal cost” has been overtaken by the TPM process

### **Cost benefit analysis required**

- 36 The report has put forward a number of recommendations. These recommendations are not without cost, however the report has failed to carry out a cost benefit analysis on these recommendations. For example:
- 36.1 the report recommends that the Commission develop distributor guidelines [in relation to demand side alternatives to network investment]:
- (a) *which recommend that distributors invite proposals for demand-side alternatives when considering a substantial investment to provide additional peaking capacity;*
  - (b) *for a process to be followed by distributors in issuing an RFP, evaluating proposals, and forming an agreement with a demand-side provider;*
  - (c) *that recommend that information about the value of deferral benefits of significant projects be published by distributors; and*
  - (d) *that appropriately take account of any risks associated with the use of demand-side alternatives to defer distribution investment;*
- 36.2 There report makes no assessment of the cost on either the Commission or distributors of this recommendation.
- 36.3 Distributors are already required by the Commerce Commission’s information requirements to consider distributed generation and non network solutions to network development projections. Orion does this through its asset management plan.
- 36.4 It is unclear what the extent of the additional compliance costs of this recommendation may have on any particular distributor, as there is no indication in the report of what would constitute a “substantial” investment. Nor does it provide any indication that the proposal would provide any further information than that already required by the Commerce Commission.
- 37 A further recommendation of the report that we consider requires additional information in relation to the costs of investigation and implementation is the recommendation (paragraph 66, see also paragraph 22) that the Commission:
- investigate the introduction of a mechanism by which IL can be offered in the wholesale market as ‘negative generation’*

- 38 This lack of a cost benefit analysis in the report is compounded in the paper at question 6 which raises the question:

*Do you agree that the Rules should be amended to allow interruptible load to compete with generation in terms of energy and capacity (as an alternative to generation)? If so, what mechanisms would be necessary to allow interruptible load providers to be paid?*

- 39 This question is pre-empting the report's recommendation in paragraph 66 that the Commission investigates the introduction of a mechanism by which IL can be offered in the wholesale market as 'negative generation' by asking participants if they agree to amend rules in advance of any investigation that the Commission may wish to carry out.

### **Compensation for AUFLS**

- 40 A requirement for ensuring the security of the entire transmission system is that AUFLS be in place nationally. Typically these are located so as not to interrupt supply to hospitals or areas that have a high value of lost load (VOLL); such as major industrial works or CBDs that employ large numbers of people. While theoretically it could be argued that the consumers that are connected to AUFLS should be compensated, we also know that these people will gain from the continued supply of hospital services and the continuation of economic activities of significant local employers.
- 41 Distributors also do not try to perfectly reflect the cost of supply to each consumer – nor should they. The impact of AUFLS is judged to be within the de minimis of any pricing analysis.

### **Use of ripple system for multiple purposes**

- 42 Orion acknowledges that it may be possible to use the ripple system for multiple purposes. Indeed Orion has previously (before AUFLS were introduced into the South Island) used the ripple system to operate in the IL market. Orion has also used its ripple system at the request of retailers to reduce load at times of high spot prices. There may be other uses that the ripple system could assist with. However, these are of secondary importance to the main use and value of the ripple system which is to assist with maintaining security of supply and network (distribution and transmission) investment optimisation.
- 43 Orion considers that the use that the ripple system must be solely at the discretion of the distributor. For the ripple system to remain viable and continue to provide benefits to consumers its use must be carefully managed. There can be only one coordinator and we consider that it is only the distributor that is in a position to take account of the

many technical considerations that impact on the appropriate use of the ripple system. The distributor must have the discretion as to when the ripple system is used.

## **Suggested way forward for the Commission**


- 44 We recommend that should the Commission wish to pursue the issues raised in the paper, it should submit its suggestions to the Commerce Commission for their consideration of the:
  - 44.1 potential issues that changes to the current levels of access to load control may have on distributors' ability to meet thresholds;
  - 44.2 potential conflicts between the Commerce Commission's role in relation to the requirements of Asset Management Plans and the Commission's role;
  - 44.3 coordination of the Commission's work streams with the Commerce Commission's 2009 reset process;
  - 44.4 the applicability of the rules in the event that a distributor is put under control by the Commerce Commission.
- 45 We recommend that the Commission request that the Commerce Commission allow costs associated with the use of load management to defer or reduce distribution investment, be outside the Consumer Price Index (CPI)-X cap (as a past-through cost).
- 46 We recommend that the Commission:
  - 46.1 Provide that distributors have the sole discretion over when the ripple system should be used.
  - 46.2 progress the distribution pricing methodologies project, recommending that the value of IL on an ongoing basis be determined using a 'local Long Run Average Incremental Cost (LRAIC)' approach;
  - 46.3 should consider the potential increased costs to consumers that could result from an un-coordinated and un-managed approach to the use of load management. We believe that if load management is fragmented between different parties, then the benefits of a centralised system could not be maintained. Rather than looking at additional fragmentation we believe that further centralisation may be beneficial to enable co-ordinated control for the entire upper South Island and also the entire upper North Island to improve the response to the transmission pricing signals that are now in place.
- 47 We recommend that the Commission should:

- 47.1 reject any proposals that will result in fragmentation of the existing load management mechanisms;
- 47.2 reject the recommendation that the Commission consider putting a value on AUFLS and determine whether beneficiaries of AUFLS should pay a levy to compensate the consumers affected by AUFLS for not being able to participate in any market for IL;
- 47.3 bring together the work streams on frequency keeping and voltage management from the Wind generation investigation and the Common quality development planning into a single meaningful proposal that participants can consider in a meaningful way;
- 47.4 put all other VPWG recommendations to one side at this stage.

#### **Concluding remarks**

- 48 Thank you for the opportunity to make this submission. If you have any questions, please contact Dennis Jones (Industry Developments Manager) DDI 03 363 9526, email [dennis.jones@oriongroup.co.nz](mailto:dennis.jones@oriongroup.co.nz).

Yours sincerely



Dennis Jones  
**Industry Developments Manager**

### Schedule 1 – Answers to the Commission’s specific questions

Question	Response
<p>Q1: Should the Electricity Governance Rules 2003 (Rules) allow for interruptible load to be purchased to relieve transmission constraints? If so, what are the possible mechanisms for obtaining and paying for the interruptible load?</p>	<p>No. Orion acknowledges that it may be possible to use the ripple system for multiple purposes. However, these other uses are of secondary importance to the main use and value of the ripple system which is to assist with maintaining security of supply and network investment optimisation</p> <p>The scope to use the system for these additional purposes is limited to times when the load is not being used for network management. Also the amount of load available is constrained by both the time it can take for these systems to operate and any requirements to exclude load committed to AUFLS.</p> <p>The key issue is that consumers (NZ inc) would be worse off if load was diverted away from its prime use as transmission and network peak control and system security. We remain to be convinced that the existing ripple system can be used for relieving transmission constraints, frequency keeping for wind generation, etc without adverse effects on its prime use. We would expect to see a far more detailed evaluation of these issues.</p> <p>The rules (Part C) already provide for the System operator to require that distributors reduce demand. In the first instance, if possible, a distributor would use any interruptible load available rather than have total supply outages.</p>
<p>Q2: Transpower has initiated a pilot project which allows interruptible load to be paid for deferring investment in transmission assets. Should Transpower publish information on project deferral benefits for all major projects? If so, should there be rules developed around the process for letting the</p>	<p>Orion considers that should Transpower wish to recover costs involved in purchasing interruptible load for deferring investment in transmission assets, it will need to demonstrate the viability of these proposals as part of the GIT or GUP processes. Orion does not consider that there needs to be rules developed around the process for letting contracts and monitoring compliance, other than to the extent that this may be required as part of the process of obtaining approval for the Transmission alternative from the Commission.</p>

<p>contracts and monitoring compliance?</p>	<p>We understand that on 9 May 2007 Transpower applied to the Commission for approval of interim grid expenditure (IGE) for up to \$8.27m to conduct a Demand Side Participant (DSP) and Grid support Contract (GSC) project comprising:</p> <ul style="list-style-type: none"> <li>• DSP pilot in 2007: Setup, running and analysis,</li> <li>• Consequential GSC product development, focussed on the learnings of the 2007 pilot,</li> <li>• DSP trial in 2008 using the GSC product as the basis for contracting, setup, running and analysis, and</li> <li>• Consequential GSC product refinement, focussed on the learning's of the 2008 trial.</li> </ul> <p>We note that Transpower indicated that it will require that DSP offers for the 2007 USI DSP trial be free from commitments to any other interruptible load markets.</p> <p>We suggest that the industry should await the outcome of this trial project before considering any further rule changes in this area.</p>
<p>Q3: Do you agree that distributors should have a formal process for inviting proposals for demand side (including interruptible load) providers to offer an alternative to investment in distribution assets? If so, should distributors publish deferral benefits for all major projects?</p>	<p>No. Orion does not consider that a formal process is required for inviting proposals for demand side (including interruptible load) providers to offer an alternative to investment in distribution assets.</p> <p>Orion considers that:</p> <p style="padding-left: 40px;">the requirements of the Commerce Commission information disclosure requirements) in relation to Asset management plans (AMPs) including audits of AMP's provides sufficient regulatory oversight in this area.;</p> <p style="padding-left: 40px;">at this point in time, this is within the Commerce Commission's bailiwick and it will not help future investment in this area if there are two regulatory bodies involved.</p>
<p>Q4: Is a change to current regulations required to provide incentives to distributors to invest in demand side alternatives? If so, which current regulation requires amendment? For example, do you support the approach followed by the NSW regulator? If not, why not?</p>	<p>No. This is fundamentally a Commerce Commission issue and Orion considers that the current requirements in relation to disclosure in AMPs are sufficient.</p> <p>Orion continues to maintain a watching brief on developments in NSW. However, as indicated above Orion already considers demand side alternatives as part of its asset management planning as required by the Commerce Commission. As indicated in response to Question 3, we</p>

	<p>consider that at this point in time this is within the Commerce Commission's bailiwick and it will not help future investment in this area if there are two regulatory bodies involved.</p> <p>We would also note that distributors may still be prevented from investing in some forms of demand side alternatives by the EIRA, even with the proposed changes.</p>
<p>Q5: Do you agree that distribution pricing should signal the value of interruptible load? If so, do you agree that the long run average incremental cost approach is the most effective method? If not, why not</p>	<p>Yes, Orion agrees that distribution pricing should signal the value of interruptible load. We also consider that it is appropriate to base this on the long run average incremental cost approach.</p> <p>However we consider that this is an issue that should be addressed in the overall context of the Commission's work relating to distribution pricing methodologies. As the report indicates, the value of interruptible load can vary significantly and have different values at different times and to different interested groups.</p> <p>In Orion's case our pricing signals our estimate of the average Long Run Average Incremental Cost (LRAIC) of the distribution network and transmission system. While other distributors specifically discount prices for consumers that provide interruptible load, in theory this should also incorporate an element of LRAIC.</p>
<p>Q6: Do you agree that the Rules should be amended to allow interruptible load to compete with generation in terms of energy and capacity (as an alternative to generation)? If so, what mechanisms would be necessary to allow interruptible load providers to be paid?</p>	<p>We consider that security of supply is of paramount importance and that in the interests of all consumers that where there is a suitable load that can be interrupted for relatively short durations (load such as a hot water cylinder) in the event of an emergency, then this load should be controlled.</p> <p>We believe that the distributor is best placed to carry out this function and that this essential use could be jeopardised if interruptible load is overused.</p> <p>The underlying concept of interruptible load is that the supply can be interrupted without a loss in service quality to the provider. This concept requires that there are limits on the duration of interruptions and the frequency of interruptions which both need to be considered.</p>

	<p>If interruptible load is used to compete with generation there needs to be mechanisms to ensure that this does not impinge on the distributor's ability to use interruptible load to continue to provide significant capacity cost savings to consumers and to maintain security of supply. This is currently facilitated by distributors who will respond to requests from retailers to use interruptible load only when it is unlikely to impact on network or security issues.</p> <p>Distributors must have the sole discretion as to when the ripple system is used.</p>
<p>Q7: Should the right to offer interruptible load at an installation control point be registered in the retail registry? If not, is there any other way of ensuring that interruptible load rights can be protected?</p>	<p>No. As indicated in our response to question 6 we consider that in the interests of all consumers that security of supply must come first. The rights in relation to interruptible load are defined as part of the terms of connection either via the underlying network code and delivery services agreement or by a connection contract. It is these contractual arrangements that protect the interruptible load rights. There is no need to add further detail to the registry in this regard.</p>
<p>Q8: Should demand aggregators be registered as participants and be regulated in the same way as the current market participants? For example, in relation to metering, customer switching or common quality? If not, why not?</p>	<p>This question pre-supposes that load should be able to be 'offered' into the market to compete with generation. Distributors have been demand aggregators since they first installed ripple systems many years ago. The introduction of the market has not changed this role.</p> <p>The value to New Zealand is the aggregation and management of multiple small loads by a limited number of participants. Having multiple aggregators for energy purposes would greatly reduce peak demand benefits to consumers as a whole.</p> <p>We recommend that the Commission reject any proposals that will result in fragmentation of the existing load management mechanisms. Instead the Commission should seek to increase the centralisation of control to provide significant regional benefits (e.g. upper North island and Upper south island transmission investment deferral).</p>
<p>Q9: Do you agree that there is scope for interruptible load to participate in voltage support? If</p>	<p>Orion acknowledges that it may be possible to use the ripple system for multiple purposes, however, these other uses are of secondary importance to the main use and value of the ripple system which is to assist with maintaining security of</p>

<p>not, why not?</p>	<p>supply and network investment optimisation.</p> <p>The scope to use the system for these additional purposes is limited to times when the load is not being used for network management. Also, the amount of load available is constrained by both the time it can take for these systems to operate and any requirement to exclude load committed to AUFLS.</p> <p>The key issue is that consumers (NZ inc) would be worse off if load was diverted away from its prime use as transmission and network peak control and system security. We remain to be convinced that the existing ripple system can be used to provide interruptible load for voltage support without adverse effects on its prime use. We would expect to see a far more detailed evaluation of these issues.</p> <p>We note that the Commission has recently released (18 October 2007) as part of its 'Wind Generation Investigation project' a significant discussion paper on initial options assessment. This discussion paper has a specific chapter dedicated to considering voltage management issues that wind generation may produce. The wind generation discussion paper suggests a number of areas of focus to address this problem, these areas of focus do not include the use of IL.</p> <p>We also understand that, as part of the Commission's common quality development plan, issues relating to AUFLS are being considered. Clearly any changes to the AUFLS regime will impact on the potential for interruptible load to be used for other purposes eg as a backup for intermittent generation.</p> <p>Until the information on this issue from the Commission's various work streams are consolidated into a single meaningful proposal, we do not consider it is possible to provide a meaningful answer to this question.</p> <p>We reiterate however that distributors must have the sole discretion as to when the ripple system is used.</p> <p>See also our response to question 6 above and question 13</p>
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	below.
Q10: Do you agree that the compliance regime for ancillary service provision could be improved? If so, what areas need development? For example, do the metering standards require review?	No Comment
Q11: Do you agree that consumers who provide automatic under frequency load shedding should be compensated for being unable to participate in interruptible load provision? If not why not? If so, what mechanisms would be appropriate for compensating them?(e.g. a levy)	<p>No. The basis for AUFLS is the avoidance of a cascade failure and consequential loss of supply</p> <p>A requirement for ensuring the security of the entire transmission system is that AUFLS be in place nationally. Typically these are located so as not to interrupt supply to emergency hospitals or areas that have a high value of lost load (VOLL) such as major industrial works or CBDs that employ large numbers of people. While theoretically it could be argued that the consumers that are connected to AUFLs should be compensated, we also know that these people will gain from the continued supply of hospital services and the continuation of economic activities of significant local employers.</p> <p>Distributors also do not try to perfectly reflect the cost of supply to each consumer – nor should they. The impact of AUFLS is judged to be within the de minimis of any pricing analysis.</p> <p>While the consumers with load that is connected to the AUFLS system do carry the burden and inconvenience of potential outages together with a restraint on entry to the interruptible load market, this should be viewed in the context of the national economic benefit that is derived from avoiding a cascade failure.</p> <p>In addition while interruptible load in aggregate can be entered into the reserve market with appropriate allowance for diversity. On an individual basis it would be difficult if not impossible to ensure that a load was actually available when required. Thus compensating individuals for participation could at best be by an availability payment and not for any inconvenience or loss of actual load.</p>
Q12: Is interruptible load a way to provide additional security in a dry year? If so, how would it be	No. The Commission has already consulted twice on this issue most recently in its “Mandatory use of extended water

<p>applied and what mechanisms could be used to compensate providers?(e.g. via the wholesale market)</p>	<p>heating cuts as an emergency measure" – August 2005.</p> <p>As part of this process the Commission engaged Concept Consulting Group to develop a model for a typical water heater, and simulating the likely effect of cuts of varying durations. This analysis concluded that:</p> <ul style="list-style-type: none"> <li>• the potential savings from water heating cuts was likely to be less than 2% of national electricity demand;</li> <li>• to achieve this potential savings level, water heating cuts would need to be very extended, of the order of 12 to 16 hours per day nationwide, and the effects would be uneven across society.</li> </ul> <p>We also consider that the caution needs to be exercised in respect to prolonged water heating cuts as there is the potential to de-market hot water storage supplied by electricity compared to instant hot water heating systems that are either gas or electric fuelled.</p>
<p>Q13: Do you agree that there is scope for interruptible load to be used for frequency keeping e.g. as a backup for intermittent generation?</p>	<p>Orion acknowledges that it may be possible to use the ripple system for multiple purposes, however, these other uses are of secondary importance to the main use and value of the ripple system which is to assist with maintaining security of supply and network investment optimisation.</p> <p>We remain to be convinced that the existing ripple system can be used for frequency keeping as a back up for intermittent generation; we would expect to see a far more detailed evaluation of these issues. We note that the Commission has recently released (18 October 2007) as part of its 'Wind Generation Investigation project' a significant discussion paper on initial options assessment. This discussion paper has a chapter dedicated to considering 'under frequency' issues that wind generation may produce.</p> <p>We also understand that, as part of the Commission's common quality development plan, issues relating to AUFLS are being considered. Clearly any changes to the AUFLS regime will impact on the potential for interruptible load to be used for other purposes eg as a backup for intermittent generation.</p>

	<p>Until the information on this issue from the Commission's various work streams are consolidated into a single meaningful proposal, we do not consider it is possible to provide a meaningful answer to this question.</p> <p>We reiterate that the distributor must have the discretion as to when the ripple system is used.</p> <p>See also our response to question 6 and 9 above.</p>
<p>Q14: Do you agree with the Value/Price Working Panel's analysis regarding greenhouse gas emissions reduction? If not, why not?</p>	<p>We are unable to provide meaningful comment on this aspect of the paper as there is insufficient detail provided.</p>
<p>Q15: Do you agree that a rule change to provide for the maintenance and testing of load control equipment used in the reconciliation or settlement processes should be investigated? If not why not? (Note that a cost benefit analysis would need to be undertaken as part of a rule change proposal)</p>	<p>No, there are sufficient rules relating to the reconciliation and settlement process. It is also in retailers/purchasers interests to ensure that this equipment is maintained and functional.</p>
<p>Q16: Do you agree that a project to determine the profile of load control at each representative grid exit point should be developed for representative periods? If not, why not?</p>	<p>No we do not consider that a profile of load control by GXP should be developed. A more realistic goal would be to consider the profile of load control by network area. We consider that potentially this may be costly to develop. It is also unclear if the level of additional benefits from a more accurate approximation will outweigh an approximation based on distributor's current information.</p>
<p>Q17: Do you agree with the summary of benefits outlined in the report and the analysis on the allocation of these benefits to stakeholders? If not, why not?</p>	<p>No, not in their entirety. We agree with the confirmation that the use of managed load to reduce peak loads, and therefore reduce network investment provides significantly more value than offering into the reserve market or managing volatility in the wholesale market. We urge caution in assuming that IL can be used in the reserve market and/or wholesale market outside peak demand periods.</p> <p>We consider that the benefits relating to FIR are limited by the inability of many ripple systems to respond in sufficient time to enter this market.</p>
<p>Q18: Do you agree with the</p>	<p>No. We consider that the Value/Price working panel has not</p>

<p>conclusions made by the Value/Price Working Panel in the report? If not, why not?</p>	<p>taken sufficient account of the role of the Commerce Commission in relation to the regulation of distributors, and their investment decisions.</p> <p>We recommend that should the Commission wish to pursue the issues raised in the paper, it should submit its suggestions to the Commerce Commission for their consideration of the:</p> <ul style="list-style-type: none"> <li>• potential issues that changes to the current levels of access to load control may have on distributors' ability to meet thresholds</li> <li>• potential conflicts between the Commerce Commission's role in relation to the requirements of Asset Management Plans and the Commission's role</li> <li>• coordination of the Commission's work streams with the Commerce Commission's 2009 reset process</li> <li>• the applicability of the rules in the event that a distributor is put under control by the Commerce Commission</li> </ul> <p>We recommend that the Commission request that the Commerce Commission allow costs associated with the use of load management to defer or reduce distribution investment, be outside the Consumer Price Index (CPI)-X cap (as a past – through cost).</p>
<p>Q19: How would you prioritise the recommendations made by the Value/Price Working Panel?</p>	<p>We consider that there are two recommendations in the VPWG report that should be implemented. These are:</p> <ul style="list-style-type: none"> <li>• request the Commerce Commission to allow costs associated with the use of load management to defer or reduce distribution investment to be outside the Consumer Price Index (CPI)-X cap;</li> <li>• progress the distribution pricing methodologies project, recommending that the value of IL on an ongoing basis be determined using a 'local Long Run Average Incremental Cost (LRAIC)' approach;</li> </ul> <p>We reiterate our suggested way forward.</p>

	<p>We recommend that should the Commission wish to pursue the issues raised in the paper, it should submit its suggestions to the Commerce Commission for their consideration of the:</p> <ul style="list-style-type: none"><li>• potential issues that changes to the current levels of access to load control may have on distributors ability to meet thresholds;</li><li>• potential conflicts between the Commerce Commission's role in relation to the requirements of Asset Management Plans and the Commission's role;</li><li>• coordination of the Commission's work streams with the Commerce Commission's 2009 reset process;</li><li>• the applicability of the rules in the event that a distributor is put under control by the Commerce Commission.</li></ul> <p>We recommend that the Commission request that the Commerce Commission allow costs associated with the use of load management to defer or reduce distribution investment, be outside the Consumer Price Index (CPI)-X cap (as a past – through cost).</p> <p>We recommend that the Commission:</p> <ul style="list-style-type: none"><li>• provide that distributors have the sole discretion over when the ripple system should be used.</li><li>• progress the distribution pricing methodologies project, recommending that the value of IL on an ongoing basis be determined using a 'local Long Run Average Incremental Cost (LRAIC)' approach;</li><li>• should consider the potential increased costs to consumers that could result from an un-coordinated and un-managed approach to the use of load management. We believe that if load management is fragmented between different parties, then the benefits of a centralised system could not be maintained. Rather than looking at additional fragmentation we believe that further centralisation may be beneficial to enable co-ordinated control of the entire upper South island and also the entire</li></ul>
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	<p>upper North Island to improve to improve the response to the transmission pricing signals that are now in place.</p> <p>We recommend that the Commission should:</p> <ul style="list-style-type: none"> <li>• reject any proposals that will result in fragmentation of the existing load management mechanisms;</li> <li>• reject the recommendation that the Commission consider putting a value on AUFLS and determine whether beneficiaries of AUFLS should pay a levy to compensate the consumers affected by AUFLS for not being able to participate in any market for IL;</li> <li>• bring together the work streams on frequency keeping and voltage management from the Wind generation investigation and the Common quality development planning into a single meaningful proposal that participants can consider in a meaningful way;</li> <li>• put all other VPWG recommendations to one side at this stage.</li> </ul>
<p>Q20: Are there any areas where you believe the Commission should consider regulation (or amendments to regulation) to remove barriers to interruptible load participating in the identified applications (transmission alternatives, distribution alternatives, etc)? If so, please describe what is required.</p>	<p>No.</p>