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Electricity Commission
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SUBMISSION ON DISPATCHABLE DEMAND CONSULTATION PAPER

1 Orion New Zealand Limited (**Orion**) welcomes the opportunity to comment on the Consultation Paper 'Dispatchable demand: options' (the **paper**) released by the Electricity Commission (the **Commission**) in September 2009.

2 Our submission is in two parts:

2.1 General comments on the paper.

2.2 As a schedule, responses to the Commission's specific questions.

General comments

3 Section 4 of the paper on Policy problems contains some interesting comments.

3.1 Re 4.2, given that final prices are ex-post, it is inevitable that in some cases demand may have been curtailed when it "should not have" been, or not curtailed when it "should have" been. It is thus not the response that is uncertain, but the impact of the response. Is this section in fact re-opening an old discussion about ex-ante pricing?

3.2 Re 4.3, we would urge caution in any analysis that assumes current bidding behaviour provides meaningful price information, or that it can be used to predict behaviour if bids could actually set the price[1]. We also note that, while it is conceptually true that demand reduction should be preferred over generation if it can be procured at lower cost, this is not how the situation is expressed in 4.3.1, which talks about the "most

[1] And indeed it should not be presumed that ***offer*** behaviour would be unchanged if bids could set prices.

efficient way to deliver an additional MW…". There is an implication in 4.3.2, and indeed later in the paper (5.2.11), that dispatching demand response might result in higher prices. We are unsure how this can be correct. Other things equal, the market cannot be more efficient if prices are being set that are higher than prices at which a generator was willing to generate to meet the demand.

3.3 Re 4.4, it is very peculiar to see a problem in demand curtailment – due to a conservation campaign or any other reason - "artificially" reducing spot prices. Other things equal a reduction in demand will always reduce prices where the supply curve is upward sloping.

3.4 Re 4.5, it is also possible to imagine that most customers simply prefer fixed price variable volume contracts. We note in this regard that Orion's understanding is that most larger customers - who already have interval metering – tend to prefer these type of contracts, despite the existence of CFD, fixed price fixed volume and spot price offerings. It might be useful for the Commission to actually find some customers who are on these other types of pricing and find out what, if anything, they do, or plan to do, when spot prices are high.

4 Section 5 of the paper discusses the four dispatchable demand options in turn.

Option1: Dispatch total load volumes

4.1 It is unclear to Orion how the "dispatch" of the bid tranche differs materially, particularly for the purchaser, from the current situation where the purchaser simply reduces demand in response to the forecast or dispatch price?

4.2 We can certainly appreciate the potential measurement difficulties under this option. Most purchasers will not be in a position to maintain demand at a defined level, and this is about more than just ramp rates. Depending on the nature of the underlying load, it may be very difficult ex post to work out to what extent dispatch instructions were complied with.

4.3 As noted above, the comment in para 5.2.11 about demand side dispatch leading to higher prices is at best counterintuitive. If it is true then why would any rational purchaser opt in? We are unsure how this conclusion came about, but it seems to result from the stepped nature of demand and supply curves.

Option 2: Dispatch load differences

4.4 While conceptually this is similar to option 1, we agree that measurement is more complex. Since presumably the extra complexity is offset by it being easier for participants to manage and respond, then the real question is the overall impact on the stability and coherence of the dispatch process.

Option 3: Dispatch load differences and make separate payments

4.5 The key question for this option is why a centralised solution is required? Participants may already contract with each other to arrange load reductions. Why they might do this is not really relevant, but it can be imagined that sometimes it is based on the expectation that relatively small reductions in demand will have significant effects on price. Given that (with some simplification) all purchasers pay the same final price, it could well be the case that one participant is prepared to pay another participant to reduce demand where they believe the overall impact on their *cost* will be a reduction. The paper seems to be arguing that this sort of behaviour is inefficient, but in a world of non-zero transactions costs it might well be a good way of discovering relatively low value loads. In any case it would certainly be understandable if it happened.

4.6 The discussion about retailers not passing through wholesale price signals is interesting. It is buying energy at spot prices and selling it at fixed prices that creates retailers' risk. Were retailers to "pass through" wholesale prices, they would become indifferent to them, at least from a risk perspective. The preponderance, by customer numbers if not by volume, of fixed price retail arrangements suggest that this is driven by customer preference. This preponderance is true even where customers have half-hour metering, and retailers offer the choice of exposure to spot prices (most do), with high spot price alerts. So it is quite probably not so much retailers "not passing through" as customers "not wanting to receive".

4.7 Regarding demand aggregators, we agree with what we take to be the general thrust of the paper, that nothing should be done simply to enhance demand aggregators business opportunities. And as far as we can tell, the "free-rider" problems described in 5.4 are more to do with reconciliation than the bidding process. As such the solution may rest elsewhere, and in any case these cannot be barriers where the metering is already half hourly.

Option 4: Call on load reductions using a separate framework

4.8 This option is interesting because of the overlap, noted in para 5.5.6, with the notion of grid support contracts.

4.9 It has always been the case that certain aspects of market operation, and in particular security aspects, are more administrative and less market than others. So we have energy prices determined by supply and demand, within a context of also pricing instantaneous reserve based on competitive offers to meet an administratively set demand. Frequency keeping is effectively an administered service, as is voltage support and black start, although in principle the supply side is voluntary and contestable. AUFLS obligations on distributors and grid owners are perhaps the most extreme example of an administrative arrangement where "supply" is compulsory.

4.10 There is no necessary reason to prefer market over administrative arrangements: it is horses for courses. There will be considerations of transactions costs, frequency of transaction, free rider problems and hold out risks. Therefore in dismissing this option, the Commission might first wish to establish how many participants would be interested in the various options, how often they would transact, and how customised the terms of the transactions would be. In fact it may be that more than one option is appropriate depending on the nature of the participants.

Overall comments

5 It is encouraging to see significant consideration being given to options to encourage demand side participation. Orion believes the demand side can and will make an increasing contribution particularly with increasing wind generation.

6 Our own experience with price signalling to major customers is that they place considerable value on certainty that their response will in fact be rewarded. This is achieved by Orion signalling periods of constraint that will thus coincide with a known higher price, and guaranteeing that any response in those periods will be rewarded. The options discussed in the paper do not seem to give such certainty. We suspect that many participants who have thought of "offering" demand to be dispatched will have been expecting to be paid for this, and that this is not a feature of options 1 and 2. Perhaps there is some scope for trialling some of these options?

7 We do not agree that, of the options discussed, options 1 and 2 are the best candidates for further investigation. Both of these options have the key, and somewhat counter intuitive attribute that prices are the same or higher than they would have been had the participant simply reduced demand. Given that the participant would be exposed to the risk of rule breaches as well, it is unclear why any participant would opt in to a dispatch arrangement under options 1 and 2? It is also worth noting that forms of option 4 can and probably will be developed independently, whether this be by way of grid support contracts or other voluntary arrangements.

8 More importantly, while we acknowledge that this is an options paper, we are somewhat surprised that there is little analysis of the implementation issues of the various options. For example it appears that options 1 and 2 would require considerable changes to SPD, as well as the processes, and other systems of the System Operator. We presume such changes take considerable time, are relatively expensive and require extensive testing. Clearly that cost needs to be taken account of before any final decisions are made around demand side participation, and it may be that other options are more appropriate when such costs are taken into account.

9 We are also of the view that the paper gives inadequate consideration to the maintenance of load stability, and in particular how the restoration of dispatched demand reductions is to be managed. We urge the Commission to consider this in considerably more detail as this workstream progresses.

10 A particular issue around load stability is the interaction between any demand side dispatch and existing load management arrangements. Most distributors manage the total loadings on their networks, primarily on winter weekdays, but also for other reasons and from time to time at the request of retailers. This management generally sets a target load, and turns hot water cylinders on an off to maintain load at that target. Over the past winter this load management has been coordinated across the upper South Island so that a single target was set and maintained. The way this coordination process would currently respond to a dispatch of demand is to turn an equivalent load on, thus offsetting the demand response, and with it the expected price outcome. Clearly the Commission's analysis needs to take into account such broader system features.

Concluding remarks

11 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 Bruce Rogers (Pricing Manager), DDI 03 363 9870, email bruce.rogers@oriongroup.co.nz.

Yours sincerely

Bruce Rogers
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Schedule: Responses to specific questions

Question No.	Question	Response	General Comments
1	Which, if any, of the high level options for dispatchable demand warrants further development or consideration? Please provide detailed reasons to support your view.	We do not believe any can be ruled out at this stage.	We note that options 3 or 4 may be more appropriate depending on the actual nature of possible demand response, and that option 4, or something like it, could arise under voluntary arrangements. Orion's own experience with demand response is that it is much stronger if the price signal is certain.
2	To what extent would you or your organisation participate in each of the four different kinds of dispatchable demand regime outlined in this paper?	Not really applicable.	Orion is a distributor, not a purchaser. Orion may act as agent of other parties in actioning dispatched demand response. We note the possible interaction of demand side dispatch and distributor load management, which might offset each other. The Commission needs to consider the impact of dispatchable demand on existing load management and overall system stability and coordination.
3	Are there different high level designs for a dispatchable demand regime that have not been considered in this paper?	Yes	As we note in our submission, aspects of the paper come close to re-opening an argument about ex-ante pricing. We would also note that some previous conceptions of demand side dispatch involved demand being paid for the quantity reduced. This is not a feature of options 1 or 2.
4	If further work is warranted on at least one of the high level options for a dispatchable demand regime, what priority should the Commission give to this work?		We do not believe this is the highest priority work.