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Dear Paul

GAS PIPELINES INQUIRY CROSS SUBMISSION

1. Vector appreciated the recent opportunity to present its views to the Commerce Commission as part of its conference on the draft report for the Commission's gas pipelines inquiry. The conference was a valuable opportunity for interested parties to discuss with the Commission a range of important issues. The purpose of this letter (being Vector's cross submission) is to:

- summarise our views in key areas under the following headings:
    - onus for information and investigation;
    - market definition / competition analysis;
    - modelling issues assumptions;
    - legal framework; and
- provide further information requested by the Commission during our presentation (attached as Annex A).

2. An overall summary is provided first.

Summary of Vector's view

3. The key points that Vector would like to reinforce in this cross submission are (all of which have been canvassed in Vector's main submission and/or conference presentation):

Onus for information and investigation

(a) There is an onus on all parties, *including the Commission,* to gather relevant information and put forward robust positions. In some cases, Vector is of the view that the Commission has not done sufficient work itself.

(b) The Commission must transparently discuss why any different approaches in the gas pipelines inquiry (to other Commission work) are appropriate. Comments made by the Commission at the conference (suggesting ready-departure from precedents) have the potential to significantly undermine confidence in the Commission's decision-making by eroding the robustness and durability of precedent decisions.

Market definition / competition analysis

(c) The appropriate mass-market definition for the inquiry is the 'gas market' (including natural gas and LPG), in which competition is not limited. Vector has provided a raft of publicly available information to the Commission that supports this market definition.

(d) The concerns raised by the Commission at the conference – circumstantial evidence, the suggestion that competition is inconsistent with other Vector submissions and business practices – either have no basis (as explained in the submission) or are not a valid reason to conclude there is limited competition.

(e) Despite significant efforts, Vector has been unable to provide substantial *quantitative* data on trends in the LPG business, which is not surprising given Vector is a direct competitor. The Commission, on the other hand, is well placed to request information from such industry participants (and Vector suggests it does so); Irrespective of whether Vector's evidence is largely anecdotal, the fact remains that Vector's gas business has to respond to the significant competitive threat from LPG.

(f) Vector expects that the Commission would undertake the sort of market investigations undertaken in the Commission's business acquisition context to determine whether, "as a matter of fact and commercial common sense", natural

gas and LPG are substitutable for each other. To date, Vector has not seen evidence that the Commission has done this.

Modelling issues / assumptions (a selection focussed on by Vector in this submission)

Measurement of cost base for gas businesses

(g) Having reviewed the materials the Commission noted at the conference, Vector considers the ACAM method used by Vector is consistent with the method as described in the MED paper. Insights from Baumol and Sidak suggest that, for their approach to be adopted, the pricing of Vector's services, other than its gas services, would need to be considered, which is outside the scope of this inquiry.

Use of historical information for Commission's assessments

(h) Historical information, while contextually relevant to the Commission (as well as to companies as an input to their forward-looking projections) should (for a range of reasons, including Commission precedents) not form part of the Commission's numerical analysis. If it did, the Commission would be in a difficult/subjective situation regarding the relative importance of historical and forward-looking information (e.g. would the Commission recommend control purely on the basis of historical performance?).

Handling of changes in ODV within the assessment period

(i) Treating the change in Vector's ODV value in 2003 as income is inappropriate given the purpose of the Commission's assessment. Vector (for reasons set out in the submission) recommends the Commission restate the Vector ODV values from 2000 onward (2000 being the first year of the assessment and the year in which the draft Gas ODV Handbook was released), and carry that ODV method forward consistently throughout the assessment period. Further, not making this adjustment simply because some other adjustments cannot practically be made (as was suggested at the conference) is simply inappropriate.

Dynamic efficiency effects

(j) Vector has provided further evidence to the Commission, as requested, on the dynamic efficiency calculation for missing markets.

Productive efficiency

(k) Vector considers that control would not improve the productive efficiency of Vector (or any other) gas business. Credible evidence (from PEG, including their own cross submission) suggests Vector is not a poor cost performer and, more

than that, is performing very efficiently. In Vector's view, both the numerical analysis *and* benchmarking should point to a strong need for control (if required); and any divergence should not result in control recommendations being made.

<u>Legal framework</u>

'Should' versus 'may'

(l) The Commission needs to base its recommendations on whether control *should* be imposed (not just '*may*'), as this is what the Minister of Energy requested in purchasing the Commission's advice.

(m) If the Commission does not consider it can advise on the 'should' question, or there is some jurisdictional barrier to that, Vector suggests this be explained by the Commission and tested with interested parties. In Vector's view, there is no such barrier (for a range of other reasons set out in the submission).

(n) A range of issues need to be properly evaluated before deciding whether control should be imposed, including the draft and outdated nature of the ODV Handbook; whether end consumers (as distinct from other acquirers, or other parts of the gas value chain) would benefit from control being imposed; the de-minimis test (i.e. what level of net benefits, and why, would warrant control being recommended); and, other policy or regulatory approaches, if required, to improve performance.

Length of control declarations

(o) Any control declarations should only be set for 6 years (1 for determining regulatory parameters, followed by a 5-year regulatory period). The decision to impose control for more than one regulatory period should ideally be determined by Parliament or, if not through legislation, the Government. The role of the Commission, in Vector's view, is to implement and enforce regulatory control (not make the final decision that it is required).

Onus for information and investigation

4. Vector took away from the conference an impression that the burden of proof for proving a position, particularly in important areas of judgement for the Commission, lay clearly with the submitting party. This perception is derived from comments such as:

> I think you should take the -- something that has not been done but has been suggested to you as one possibility is a challenge to provide us with a better means to do it, that that can be justified in a regulatory context. That's how you should take the 10%, 20% and 30% as a challenge to you to provide us a better basis to do it, but one that meets certain principles of regulation (Vector transcript, page 222).

5. While an important part of the Commission's consultation process is to elicit information from interested parties and test that in the public domain, Vector considers that there is an onus on all parties, *including the Commission,* to gather relevant information and put forward robust positions. As the Commission knows, Vector's approach to working with the Commission is to make submissions based on robust analysis. However, in some cases, this may not be possible due to difficulties in obtaining data (as discussed below); nor is it always incumbent on submitters, in Vector's view, to do the investigation and work that the Commission could do itself.

6. In some cases, Vector is of the view that the Commission has not done sufficient work itself. For example, the Commission has not explained an analytically-based reduction to common costs, if in fact any reduction is required; nor it seems fully investigated market conditions, particularly with respect to supply of LPG. In respect of this latter point, as discussed elsewhere in this submission, some of the questions put to Vector about LPG cannot be fully answered by Vector given the requisite information resides with direct competitors (and, therefore, is not accessible to Vector).

7. In this cross-submission, Vector has made every effort to address the Commission's requests and responses to Vector's submissions; however, in some cases, this has not been possible in all respects and additional useful information may be more likely elicited by the Commission more fully conducting its own investigation.

8. A related point is the importance of the Commission transparently discussing why its approach in the gas pipelines inquiry differs from previous Commission work. While consistency is not a goal in itself, any differences in approach by the Commission should be clearly explained so that regulatory decisions are transparent, as well as predictable in the future (a key component of regulatory certainty).

9. While the reference to ACAM is not relevant to the general principle (the relevance of precedents), the Commission Chair noted (in response to Vector suggesting there was no need for the Commission to depart from its own previous practice):

> I think we're probably reasonably clear on the submission here, but again, I'd encourage you to focus on the issue at hand here rather than whether what was done in the past was in a different context, was done this way or another way. We'll hear those submissions, and we're certainly mindful of it, but we're looking for a principled approach in this context (Vector submission transcript, page 222).

10. The Commission Chair had also earlier noted:

> I don't think necessarily what was done in one particular case is an argument for or against. First of all, there are many reasons why you take different approaches with data at different points time, for instance in electricity we might have taken a particular approach because of what data was available, and certainly past performance, while we never attempted to claw-back past excess returns, we certainly took account of past information which I'm sure you're aware of. So, I'm not sure if trying to have a discussion here about what we did in one case as opposed to another case is where we should -- you can make what submission you want, but I think it's the principle of what is appropriate that should drive what we do here. (Vector transcript, page 215)

11. In Vector's view, such comments have the potential to significantly undermine confidence in the Commission's decision-making by eroding the robustness and durability of precedent decisions. Again, Vector is not advocating consistency for the sake of consistency; however, consistency should be an objective the Commission is striving to achieve where appropriate, and any deviations clearly rationalised and explained.

Market definition / competition analysis

12. In its submission, Vector invited the Commission to consider a 'gas' product market which includes delivered natural gas and LPG. Vector provided a raft of information from publicly available sources in support of the proposition that LPG and natural gas compete head on, particularly in mass market applications.

13. From comments made at the conference, Vector has identified the following matters which appear to be of concern to the Commission:

- the evidence provided by Vector is circumstantial and insufficiently quantitative;
- Vector's view that there is strong competition between natural gas and LPG is inconsistent with other positions held by Vector in particular, Vector's acceptance of a low price elasticity and its view that retailers are not passing through price reductions; and
- aspects of Vector's contracting (prudential requirements, billing in advance and zonal pricing) appear indicative of a network operation that is not constrained by competition.

14. Vector does not agree with these assertions and each is addressed below.

Evidence

15. At the conference, the Commission asked Vector for information about a number of matters relating to natural gas and LPG, which are set out in the table below with Vector's response alongside.

Commission request / query	Vector response
The growth of LPG in the residential segment, relative to commercial and industrial segments	From what Vector hears in the marketplace, most of the growth in LPG is in the residential and commercial segments (with residential growth stronger). Vector has been unable to obtain any more detail beyond the publicly available figure of 50% growth in volume since last year (which Vector has already provided to the Commission).
The growth rate of LPG installations relative to the growth rate of natural gas connections within the footprint of Vector's gas network	Natural gas connections in the Auckland area are growing by around 5% per year. Around 80% of this growth is in new subdivisions. However, Vector has been unable to obtain any precise data on LPG connection growth within the Vector footprint or within in the wider Auckland area. Vector estimates though that around 20% of new gas connections within the Vector footprint that could have been readily connected to Vector's network have opted for LPG instead. The map on page 37 of Vector's 2 July 2004 submissions, however, identifies the location of Vector's network and the location of LPG installations in 2001. This amply demonstrates the extent to which LPG penetrated the area covered by Vector's natural gas business up until three years ago – and there has been considerable growth since. Vector understands that the LPG Association's database of LPG installations is still out of date. To assist the Commission further, Vector has reproduced this map (attached as Annex B) showing only LPG connections that are also mains-fronters' to Vector's pipeline (within 50 metres). In other words, all of the dots on the map could have readily connected to Vector's network, but chose not to. A further indicator of that growth is that, as Vector understands it, sales of one leading LPG appliance manufacturer have grown by 23% over last year.

The extent to which there is switching from reticulated natural gas to LPG and vice versa	Vector has only anecdotal information about the extent to which there is switching from reticulated natural gas to LPG. Vector has provided information (in the form of web-links marketing the transition or telling consumers how to do it) to the Commission that demonstrates that switching is both technically and economically possible. In any case, Vector cautions about the Commission attaching too much significance to churn rates once connections have been made. Even if churn rates are very low, this does not suggest there is limited competition. There are many examples of highly competitive markets where consumers make up-front choices, which they are then either locked into for a period of time (e.g. time-bound contracts) or simply do not feel like changing given they have 'made the call' and know they could do so again in a competitive context at some point in the future. Of greater significance, in Vector's view, is the level of competition for the customer's initial appliance choice. It is at that point the likely future costs of purchasing delivered natural gas versus delivered LPG will be relevant in the purchase decision, to the extent cost is a relevant factor for the purchaser (noting that there are a range of non-price factors also relevant to consumer choice of gas).
Whether it is the norm that gas hobs come with natural gas jets and LPG jets as options	Some gas appliances come with the gas jets and LPG jets as options in the pack – but this would not be the norm. However, nearly all factory models are dual-fuel capable. An example of product information – illustrating the direct substitutability of natural gas and LPG – is attached as Annex C. If the consumer has asked for an LPG hob, it will be delivered with the appropriate jets – and similarly with natural gas. The difference is unlikely to be noticeable to the consumer given the change is just a jet. Further, just as these jets can be changed upfront, they can also be changed through the economic life of the appliance (and, as noted above, there are marketing initiatives and information available targeted at that).
What has happened to the delivered price of LPG and has it experienced the same volatility as natural gas	Vector understands that the delivered price of LPG is approximately 7% more expensive per Gj than the delivered energy price of natural gas in residential applications - and the gap is closing as the price of natural gas increases. It must be remembered also that for natural gas, unlike LPG, connection costs must be factored into the total price. (Vector incurs the up front cost for installations within 20 metres of the pipeline. While Vector recoups this cost through line charges, this is over a relatively long time-frame, and at significant risk (particularly given LPG bottle providers do not have such risk)).

16. As demonstrated by the above responses, Vector is unable to provide substantial *quantitative* data on trends in the LPG business. This has not been for want of effort to obtain information. It is not surprising though that Vector has been unable to procure the information given that Vector is not itself in that business and LPG suppliers do not readily provide information about their market activities to competitors (such as Vector).

17. Vector notes that the Commission, on the other hand, is well placed to request information from industry participants and suggests that, if they have not done so already, Commission staff might approach the LPG Association, Plumbing Gas Fitters and Drainlayers Board (who administer certification for both natural gas and LPG), Rockgas, Shell, Todd and other LPG retailers, as well as appliance retailers, to obtain relevant data.

18. However, irrespective of whether Vector's evidence is largely anecdotal, the fact remains that Vector's gas business has to respond to the competitive threat from LPG. If its does not, it risks inhibited growth and could also result in loss of existing customers (both mass market and industrial).

19. Since the conference, further evidence of competition came from a recent threat by e-gas Limited to transfer customers to LPG (away from Vector's gas pipeline). In addition, Vector understands that following the flooding earlier this year in the Manawatu, a number of e-gas customers connected to the Powerco network were switched to LPG when the natural gas pipeline was damaged. That pipeline has now been repaired but the customers remain using LPG. If the Commission wishes to explore this information further, Vector is happy to provide the names of the Vector and e-gas personnel who were parties to the communication in which these matters were raised.

20. As a more general point about customer loss, Vector notes that it is receiving increasing numbers of requests for disconnection from the gas network each month. Due to the fact that the gas retailers are interposed between Vector and the end-consumer, the exact reasons for the disconnection in each case are not evident. However, given that natural gas is used for heating, cooking and water heating, Vector must assume that in most cases natural gas is being displaced with alternative fuels, including LPG.

Alleged inconsistencies

21. The Commission has commented that Vector's view that there is strong competition between natural gas and LPG is inconsistent with other positions taken by Vector in the inquiry - in particular, Vector's position that retailers are not passing through price reductions and Vector's support for a low price elasticity.

22. A number of points are relevant to responding to the Commission's concerns, viz:

- Vector is aware that both Contact and e-gas promptly passed through the price reductions. This is in contrast to Nova Gas and The Auckland Gas Company, whom Vector understands did not pass the reductions through;

- the price reductions on 1 July 2004 were reductions resulting from the second stage of zonal pricing for the commercial/industrial segment. As the price reductions occurred in the areas nearest gate stations and Nova Gas pipelines, many of the customers immediately affected would have been large customers on fixed term, fixed price delivered energy contracts with gas retailers (where the competition for the customer had already occurred). If price reductions were not passed on, it was presumably because the retailer considered there was no contractual obligation to do so and they had already won the customer in the earlier competitive round. This may be a short-sighted view on the part of the retailer if it hopes to win the customer in the next round (unless they factor in the benefit of not passing on the price reduction into their costings for their next bid for the customer when the existing contract term expires);

- for new customers in areas where line charges had reduced, and for customers in those areas whose delivered energy contracts are up for renewal, it needs to be remembered that the price offered by retailers to the customers is a bundled distribution and energy price. Vector believes that, in many cases, Nova Gas and retailers associated with Nova Gas have been able to offer lower energy prices, while maintaining the higher line charges, to give a reduced bundled price overall. Vector understands that Contact and e-gas, on the other hand, have not been able to reduce energy charges and consequently have had to pass on the reduced line charges in order to offer a competing bundled price.

23. In addition, there are factors, other than price, that are relevant to product substitutability, competition and whether a natural gas distributor can exercise unilateral market power to the detriment of consumers. In Vector's view, the Commission has too rigidly applied the *ssnip* test (primarily due to other non-price factors being relevant to consumer choices) and has failed to have regard to the commercial realities of the market into which natural gas and LPG are sold.

24. Furthermore, it is not evident from the draft report, or comments made at the conference, that the Commission has either considered, or properly weighed up, the different factors that apply to different segments of the market. Vector's concern that the Commission has not undertaken the desired level of inquiry is borne out by statements made in response to Vector's oral submissions at the Conference, for example:

> "we've heard a lot and read a lot of your observations about the market… I think we really do need quite a substantial amount of evidence to back that up… I guess my feeling is that a lot of what's in your submission, I'm afraid, comes across as circumstantial … … (Vector transcript, page 202)
>
> I think for most people it would be drawing a pretty long bow to argue that [LPG] provides anything other than very peripheral competition and you would certainly need to support that information with fairly robust information on elasticities of substitution to argue for that line of argument to be credible (Vector transcript, page 198)

> "[competition from LPG is] likely to bite in at, say, the level of residential then the higher up you go, getting all the way to generation, the cost and the time taken to have a viable alternative could be very long indeed so that competition probably wouldn't bite in nearly as quickly if it was there …" [Vector transcript, pg 157/158]

25. To assist the Commission in considering and weighing up relevant factors that apply to different segments of the market, the following tables separately list the various factors relevant to product substitutability and competition in the residential/commercial and industrial segments of the market. Some factors are common to both and some exist in only one segment. Weighed up appropriately, Vector considers that the Commission should conclude that suppliers of natural gas distribution services are constrained in a number of different ways on a number of different fronts and that overall they do not have the ability to exercise unilateral market power to the detriment of end-consumers.

Factors relevant to substitutability of LPG and natural gas

Residential/Commercial	Industrial
Delivered price of LPG is approximately 7% more expensive per GJ than the delivered energy price of natural gas in residential applications. Unlike LPG, connection costs must be factored into the total price. The low price differential underscores consumer indifference between natural gas and LPG (leaving final choices as to such issues as the timeliness of installation).	Ongoing energy price is one component of a much larger and significant set of costing decisions when installing new plant. Also, such customers tend to be in bypass markets, where there is vigorous competition. In this regard, Vector notes that any area in the locality of a gate station where there are large end-consumers or clusters of end-consumers represents a by-pass threat.[1]
LPG can be delivered through pipelines (as in the South Island) or in bottles	LPG can be delivered through pipelines (as in the South Island) or in bottles or tanks
Both are marketed to the same customer-and-influencer base (end-consumer, appliance retailers, developers, architects, designers etc)	Both are marketed to same customer/influencer base (end-consumer, energy consultants etc)
Exact same functionality – they are used for space heating, water heating and cooking (among other things)	Functionality of the energy is the same. There are only a few applications where LPG and natural gas are not (presently) substitutable (large scale electricity generation plants and industrial applications where the combination of high volume and pressure is required).
In all of the main uses – hot water, heating and gas cooking – the very same appliance can generally be used (or readily converted)	
Appliances are distributed through the same distribution channels (the same retailers of natural gas appliances retail LPG appliances)	

[1] As the Commission has already confirmed, there is vigorous competition in the areas where Nova Gas has laid its pipelines. Nova Gas is progressing rapidly with its new East Tamaki pipeline and that pipeline will compete head on with Vector's network. In contrast, although Vector noted at paragraph 5.32 of its submissions increased competitive activity in Whangaparaoa, NGC has not extended its network at Whangaparaoa but is increasing the numbers of mains fronted connections where its pipeline already exists (with the practical effect of making it more difficult for Vector to attract customers (given additional cost to Vector of, say, crossing the road to get pipe to such customers).

Factors relevant to whether Vector can exercise unilateral market power

Residential/Commercial	Industrial
Gas is a discretionary fuel	
There are other fuel options	There are other fuel options. LPG may not be an option for generation plants and large scale industrial applications where intense heat/pressure is required. However, there are only a handful of generation plants and large scale industrial plants on Vector's network that could not run on LPG.
Price is not the key determinant of fuel choice - factors other than price affect consumer choice (eg aesthetics, consumer's view of safety, historical/familial experiences (overall, a lifestyle and discretionary choice). Further, consumers primarily want gas, irrespective of whether this is natural gas or LPG	Price is a key determinant of fuel choice. However, the nature, size and significance of the industrial customer's purchase decision means that competition for the customer at the outset involves a pricing assessment over the longer term and competition results in contractual protections for the customer against unilateral or excessive price increases with price increases now contractually limited (as in many other markets) to CPI, at most.
The need to purchase appliances in order to switch (in most instances) means consumers' purchase decisions are inevitably longer-term ones (but this does not in any way suggest there is limited competition)	
The relevant product here is 'delivered energy'. Distribution charges are only a part of the total price	The relevant product here is 'delivered energy'. Distribution charges are only a part of the total price
To encourage new connection, Vector incurs the up front cost for installations within 20 metres of the pipeline. While Vector recoups this cost through line charges, this is over a relatively long time frame, and at significant (particularly given LPG bottle providers do not have such risk). Over 20 meters, the customer contributes to the actual cost of installation.	
Contractual structure of the market with retailer interposed between distributor and consumer blurs pricing behaviour of the distributor	
There is extensive competition 'for the market' with natural gas distributors having to pay large incentives to developers to win the right to reticulate a new development or subdivision (see summary of facts in Annex A)	
LPG has a timing advantage over natural gas in that connection to LPG is fairly instantaneous whereas a natural gas connection will, on average, take around 4 weeks	
	The transmission pipeline traverses the middle of Vector's network past the industrial and commercial heartland where the big customers mostly reside. This is where Nova Gas has built its competing natural gas pipeline or where by-pass is a realistic threat There is vigorous competition in 'bypass markets'
	60% by volume and 25% by revenue of Vector's sales are to industrial customers

26. Having regard to these factors, Vector considers that the characteristics of this particular product set suggest that reference to the 'Cellophane fallacy' is misplaced.

27. Criticism of the 'Cellophane' (Du Pont) case revolves around the US Supreme Court's market definition that included alternative substitute products that would normally be considered grossly inferior alternatives. It, therefore, implies consumers only reluctantly switched because the price of the superior product is pushed up so high (via monopoly power) that inferior ones get reconsidered in a new, more attractive light.

28. But here, LPG is not an inferior product – indeed it serves much the same functionality (in identical appliances etc) and is equally attractive in product quality and characteristics.

29. Further, the introduction of the 'Cellophane fallacy' assumes the Commission has been able to determine a 'competitive price' for both natural gas and LPG, to make proper comparisons. Vector has seen no indication of that assessment. Instead the Commission says (emphasis added):

> "**it is possible** that alternative fuels are only substitutable for gas because gas is priced up to the price where substitution occurs" (Draft Report para 3.19)
>
> " you may be able to show there's substitution taking place and that LPG is constraining gas prices, but **it may be that** that's because the gas distributor or the gas supplier is behaving rationally in pricing up to the point at which LPG becomes substitutable. In other words, if we put LPG and natural gas in the same market, we're falling into this cellophane fallacy trap that the Americans have dealt with a bit" (Vector transcript, page 206)

30. It is equally possible that the 'Cellophane fallacy' does not apply and that substitution is occurring for other reasons - for example one or more of the reasons listed above – given strong competition. As such, the Commission must be very careful not to assume there is a Cellophane fallacy (which requires market power that Vector considers does not exist) given the same outcome of a Cellophane fallacy – a leading competitor being able to earn super-normal profits (but not suggesting that this is the case with Vector) for a period by pricing at a market clearing price – is efficient (and desirable) market behaviour in competitive markets.

31. For the Commission to establish the relevance of the Cellophane fallacy, the necessary comparison would be with the delivered price of natural gas and of LPG (which includes difficult questions of margins in other parts of the gas value chain that the Commission has declared to be outside the scope of this inquiry).

32. In Vector's view, the Commission's reference to the Cellophane fallacy simply begs the question of whether competition is limited – the Commission would be better served to focus on this crucial question, in particular by investigating each of the constraining factors listed above.

33. Vector requests the Commission to consider further, and to make its own market inquiries in relation to, the nature and degree of the varying constraints on Vector as a distributor of natural gas - within each of the market segments. Vector's impression is that limited effort has been made to rigorously analyse the dynamics of the market into which gas distribution services are supplied, particularly with respect to understanding the competitive threat of LPG.

Aspects of Vector's contracting

34. Other submitters and/or the Commission have suggested that aspects of Vector's contracting, in particular the prudential requirements, billing in advance and zonal pricing are indicative of a firm that is not constrained by competition. As set out below, Vector does not agree with these suggestions.

35. Before discussing the detail, however, it is interesting to consider the motivation for these contracting practices being questioned by retailers. If retailers were simply passing through Vector's pipeline charges, then it could be expected that retailers would be indifferent to the contracting practices they are questioning. Vector, therefore, suspects that retailers may be seeing changes in this area as an opportunity for them to capture value at Vector's expense. This is not to suggest there is limited competition in the gas market (as the Chair has suggested if retailers are not passing through price reductions or other gains); rather, even in a competitive market there may be some imperfections between different parts of a value chain (a pertinent example is lack of pipeline price transparency by end consumers), highlighting a further point about the Commission's benchmarks (in all areas of its work) being realistic and achievable in practice.

Prudential requirements

36. In any month, the amount owing by gas retailers to Vector amounts to $3.4 - $4.5 million. It would be commercially imprudent for Vector not to seek security for payment of these amounts.

37. Vector gives retailers the option of providing a guarantee, a performance bond or a cash bond (interest bearing in favour of the retailer) of an amount equal to two months line charges. If the retailer has a credit rating equivalent to at least a Standard & Poors BBB rating, Vector does not require security for payment – on the basis that the BBB rating is an indicator of the retailer's ability to pay.

38. It is standard business practice for suppliers of all types and sizes to agree to supply only on the basis that there is some sort of security for payment. For example, electricity and gas retailers themselves seek prudential protection from their own customers (a bond of up to two months average residential charges will typically be

sought if the customer has no credit history (or a bad one); personal guarantees are also sought in many cases from commercial customers).

39. Suppliers of goods (as distinct from services) include retention of title clauses in supply contracts as a matter of course, along with the ability to register a purchase money security interest on the Personal Property & Securities Register. This secures their right to reclaim goods supplied, in the event of the receivership or insolvency of the customer. There is no equivalent for suppliers of services. Instead, it is standard business practice for service suppliers to seek guarantees or performance bonds (suppliers of goods frequently require these also.) Examples include:

- personal guarantees in relation to leases of premises (such as landlords for residential property – in a highly competitive market – requiring a bond (not interest bearing to the tenants (in contrast to Vector's approach)), plus consistent payment of rent in advance (often by 2-4 weeks); a form of credit rating is also sometimes required in the form of references from previous landlords; and

- performance bonds in a raft of service based industries (e.g. construction).

40. The fact that Vector, and other providers of gas distribution services, require security for payment as a condition of providing services is not, so long as those requirements are reasonable (which Vector considers is the case), in any way a demonstration of market power or lack of competition, but rather prudent business practice.

Billing in advance

41. The practice of billing in advance for gas distribution services is a legacy of the ownership of the gas distribution business by Orion. The bill is despatched at the start of a month based on estimated consumption for that month and payment is due on the 20th of the month. Billing is, therefore, only, in effect, 10 days in advance.

42. As Vector noted at the conference, attempts to move billing for gas line services to billing in arrears have been made. The transition would ideally involve agreement from all retailers on the transition process, given a standard billing cycle is generally a preference of all businesses (as well as efficiency-enhancing given minimisation of billing and collection costs), even in the most competitive of markets. The transition would involve a one-off funding cost for Vector unless an appropriate adjustment (through line prices) was made

43. Vector has been unable to obtain a consensus from retailers as to how the transition would be managed and accordingly the status quo currently remains. Vector remains open to considering ways and means of making the transition.

44. Vector does not see anything unusual or illustrative of market power in pre-billing (particularly given the limited period in advance it relates to). Vector inherited a billing practice from a predecessor; it responded to a customer request to change that practice; and like other firms, recognises the time value of money. On this latter point, it is pertinent to note that energy retailers recognise the time value of money through offering prompt payment discounts to customers; tradespeople recognise the time value of money by requiring payment on completion or within 7 days. That Vector also recognises the time value of money in responding to a retailer request to change a business practice to the benefit of the retailer does not demonstrate that Vector has market power. As noted above, pre-billing with a prudential requirement – both legitimate ways to manage business risk – is also standard practice in competitive markets, such as residential property rental.

Zonal pricing

45. Similarly, Vector does not consider that the introduction of zonal pricing is an indicator of market power; instead, it can be consistent with competition and the ongoing pursuit of suppliers to make prices as cost-reflective as possible. There is no use of market power in the introduction of zonal pricing. Zonal pricing simply more accurately reflects the cost of supply and the impact of heightened competitive activity by by-pass competitors. One of the key considerations in the pricing design was that:

> "[Vector's] competitive position relative to the delivered cost of alternative energy forms is to be maintained"[2]

46. Zonal pricing was introduced in January 2003 at the same time as a small general line price increase.[3] It is important to note that zonal pricing only applies to larger commercial connections on published rates and does not impact on end-consumers with individually contracted line charges. In terms of connection numbers, a relatively small number of customers are affected. The first stage of zonal pricing (from 1 January 2003) affected approximately 720 customers (in Load Groups 3 and 4). The second stage (from 1 July 2004) affected the same customers, plus an additional 135 customers (in Load Group 2 that were in the new zones X & Y).

47. The effect of the first stage of zonal pricing and the general rate increase in January 2003 was an increase in Vector's yearly line revenue of $700,000, being around 2% of the total yearly standard tariff revenue. This was offset by the second stage of zonal pricing in July 2004 which decreased yearly revenues by $575,000 or about 1.6 % of the total yearly standard tariff revenue.

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[2] Internal UnitedNetworks presentation on the Introduction of Zonal Pricing.

[3] Average line charge price increases (for UnitedNetworks/Vector owned gas networks) in the period from April 2000 to January 2003 across all capacity groups was 5%. Over a comparative period (to June 2002), the CPI increased by 8% and PPI by 10%.

48. The revenue change over the period January 2002 to July 2004 (2.5 years) resulting from all standard tariff changes has been about $125,000 per year. This is about +0.35% when expressed as a percentage of the yearly standard tariff revenue of about $36.4 million. This may be compared to CPI and PPI inflation measures over rhe same period of ~8% and ~10% respectively, i.e. in real terms standard tariff prices have declined by 8 - 10% over the 2.5 year period.

49. The largest specific average distribution tariff increase has been for the Capacity Group 4, Zone C customer group, and this was +4.3% over the 2.5 year period. The largest specific average decrease has been for the Capacity Group 4, Zone A customers and this was -50.3% over the same period. These price changes may have been obscured by other components of the delivered gas bills (e.g. whether retailers passed them on, changes in energy prices).

50. On a more specific pricing issue, Vector notes that in its presentation to the Conference, Nova Gas made a statement about Vector reducing line charges to a site from $4.60 to 97 cents. Vector is surprised by this and does not know to which site Nova Gas is referring. Vector is happy to provide further information about this site if Nova Gas is willing to provide Vector with the identity of the customer or the ICP to which they are referring. Vector has contacted the Commission to this effect and is awaiting further information.

Price/demand elasticities and levels of competition

51. The Commission queried whether there is an inconsistency between Vector's support of the price/demand elasticity used by the Commission in its model, and Vector's view that competition for natural gas is not limited (with the market definition including natural gas and LPG).

52. The Commission based its price/demand elasticity estimate on overseas research. Vector's own research identified material consistent with the Commission's findings and this was the basis for Vector's support of the Commission's estimate.

53. However, such price/demand elasticities provide limited information with respect to the level of competition in the relevant markets in New Zealand. This is due to:

- the more informative elasticities to indicate the level of competition between two or more services are their cross-price demand elasticities. Vector has been unable to find such relevant elasticities for the Inquiry from its research and the Commission appears not to have also; and

- it is not clear to Vector what forms of gas and their transport are included in the overseas research from which the Commission drew its price/demand elasticities. The relevant price/demand elasticities for identifying competition within the gas market (assumed to include natural gas and LPG) are cross-price demand elasticities between natural gas and LPG.

54. Thus, Vector considers the Commission is able to infer very little useful information on the level of competition within the New Zealand gas market from its price/demand elasticity research findings, in the absence of knowing the composition of those markets, and in particularly whether or not these elasticities reflect the effect of competing forms of gas.

Commission's processes

55. As discussed above in a general context, Vector is concerned by an apparent expectation on the part of the Commission (as evidenced by comments made by the Commission noted above) that Vector should provide hard data to demonstrate competition between natural gas and LPG. Vector has provided the Commission with numerous examples of competition from LPG but, to date, the Commission seems to have rejected that as, in its view, inadequate circumstantial evidence.

56. Vector is concerned that the Commission is looking to make a recommendation that may result in regulatory intervention in Vector's private business - yet the Commission appears to be requiring Vector to establish that the Commission should not intervene (i.e. by proving that competition *is not* limited) rather than the Commission robustly demonstrating that it should (i.e. that competition *is* limited).

57. In Vector's view, it has provided the Commission (in various submissions and correspondence with the Commission, as well as the conferences) with sufficient information and examples to warrant the Commission using its own investigative powers to make further inquiries (if required). As noted above, in some cases, the Commission is in a better position to seek out data from Vector's competitors than Vector. Vector does not know whether the data that the Commission is seeking will actually be available – even if it is not, that is not a valid reason to conclude that competition is limited. In fact, the Commission's own Mergers and Acquisitions Guidelines (page 16) envisage circumstances when quantitative data will not be available, viz:

> "Unfortunately, reliable statistical data on cross-elasticities are rarely available, especially in New Zealand. In most cases, the Commission has to rely on the next best evidence, from sources such as:
>
> - the behaviour of buyers, including analyses of historical and likely future trends, and evidence from consumer surveys;
> - price-trend data and consumption patterns;
> - business behaviour, sales strategies and marketing;

- the views of market participants; and
- observation and informed opinion."

58. Vector also notes the comments of High Court in the *Brambles*[4] case (emphasis added):

> "But it must be recognised that the *ssnip* test used by the Commission to determine substitutability is an analytical tool which will not always be able to be applied with confidence. That may be because of a **lack of accurate data** or because of **significant product differentiation**, which makes it hard to assess and compare the available data. In that event, the Commission or Court should always be alive to other evidence which can assist in identifying the appropriate market definition in accordance with commercial common sense."

59. The Commission's own comments about market definition are also relevant:[5]

> "Market boundaries should be drawn by reference to the conduct at issue, the relevant section and the policy of the statute ... the exercise of defining the market is not an end in itself, but is to be regarded as a purposive exercise intended to cast light on, or to assist with the analysis of, the conduct at issue
>
> The relevant market is one which most clearly highlights the relevant competitive process and competitive implications of the practices or business activity at issue".

<u>Summary</u>

60. Vector expects that the Commission would undertake the sort of market investigations undertaken in the Commission's business acquisition context to determine whether, "as a matter of fact and commercial common sense", natural gas and LPG are substitutable for each other. To date, Vector has not seen evidence that the Commission has done this.

61. Vector continues to hold the view that the appropriate mass-market definition for the inquiry is the 'gas market' (including natural gas and LPG), in which competition is not limited. Even if the Commission concludes that natural gas and LPG are separate product markets (and robustly rationalises that view), the Commission should give proper weight to the factors listed in the tables above as demonstrating that Vector is not in a position to exercise unilateral market power to the detriment of end-consumers.

Modelling issues / assumptions

62. In its submission on the draft report, Vector commented on a number of modelling issues and assumptions. In this submission, Vector is focussing on a subset of those issues, discussed below, due to questions being raised by the Commission or

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[4] *Brambles New Zealand* Ltd *v Commerce Commission*, (2003) 10 TCLR 868, at 883, para 81

[5] *Air New Zealand Limited/Qantas Airways Limited,* Decision 511, 23 October 2003, at paras 201-202.

additional information requested. Vector's focus on these issues should in no way be seen to undermine the significance of other issues earlier submitted on.

Measurement of cost base for gas businesses

63. The Commission's post-conference questions for Vector included two related to the appropriate measurement of Vector's costs for the purposes of the inquiry, viz:

> Question 25: Vector's view on the application of ACAM and whether it requires costs to be allocated on a stand alone basis for monopoly businesses, and/or allows recovery of more than the total of actual common costs from the different business activities.
>
> Question 26: Vector's view on whether the MED paper entitled 'Proposals for Amending the Gas (Information Disclosure) Regulations 1997' (referenced on page 54 of Vector's submission) allows multi utility businesses to allocate stand alone costs for both its electricity and gas networks and how Vector's cost allocation approach relates to the ACAM discussion in the MED paper.

64. The MED paper promotes the use of ACAM as a means of detecting so-called monopoly profits. The general application of ACAM is described in section 4.1.2 of that paper as:

> R[GPB] > SAC[GPB]
>
> If the revenue (R) of the gas pipeline business (GPB) is more than its stand-alone cost (SAC) (including the cost of capital) then the gas pipeline business is earning monopoly profits."

65. In section 4.4 of the paper, the ACAM concept is extended to the treatment of multi-industry companies, and in particular to combined electricity and gas businesses. Three tests are put forward as appropriate for identifying monopoly profits in this circumstance:

> R[GPB] > SAC[GPB]; and
>
> R[ELB] > SAC[ELB]; and
>
> R[GPB] + R[ELB] > SAC[GPB + ELB]
>
> Where (ELB) is the Electricity Lines Business

66. Baumol & Sidak (1994A),[6] in a paper referred to by Commission staff in the conference, support the use of stand alone cost as the appropriate measure for regulatory price ceilings:

> "… stand alone costs are the figures relevant for price ceilings" (page 178)

[6] Baumol W J, Sidak J G, The Pricing of Inputs Sold to Competitors, Yale Journal of Regulation, Winter 1994

67. The stand alone cost function they refer to could be applied to a single or multiple product situation, and in Baumol & Sidak (1994B)[7] they apply it to the telecommunications sector, using single product and multi-product examples, where all the services are under the purview of the regulator (i.e. all the service sets are telecommunications).

68. Vector considers the first of these applications of ACAM is appropriate for the inquiry (i.e. R[GPB] > SAC[GPB]), given the modeling approach that the Commission has adopted to estimate net benefits. Vector provided its information to the Commission on that basis.

69. Vector considers the second application of ACAM is inappropriate for the inquiry (i.e. the extension to include other businesses such as electricity), as that would, as explained below, have the effect of bringing Vector's electricity business within the scope of the inquiry.

70. It is clear from the terms of reference for the inquiry that it was never intended that any electricity distribution business (or other business for that matter) should be included in the inquiry. The Commission's interpretation of the scope of the inquiry in its Draft Framework Paper and the Draft Report has been consistent with that view.

71. The reason why Vector considers this extension of the use of ACAM would bring its electricity distribution business within the scope of the inquiry can be illustrated by examining the effect of the last equation:

$$R[GPB] + R[ELB] > SAC[GPB + ELB]$$

72. SAC comprises two components: Operating costs (Opex) and cost of capital, and the Cost of capital can be defined as WACC * invested capital (IC). Thus, the equation can be re-written as:

$$R[GPB] + R[ELB] > Opex[GPB+ELB] + (WACC[GPB+ELB] * IC[GPB+ELB])$$

and re-arranged as:

$$(R[GPB] + R[ELB] - Opex[GPB + ELB]) / IC[GPB + ELB]) > WACC[GPB + ELB]$$

73. From this last equation it can be seen that this test focuses on determining whether the combined returns generated from the gas and electricity distribution businesses are greater than the WACC of the combined businesses. There is no ability with this equation to separate the returns from each business, and thus no ability to determine whether a combined business fails the test due to the pricing of the gas or the

[7] Baumol W J, Sidak J G, Toward Competition in Local Telephony, The MIT Press, 1994

electricity distribution services. Thus, the use of this test would draw the Vector electricity distribution business into the inquiry, and by implication the pricing of electricity distribution services, which Vector considers would be inconsistent with the scope of the inquiry.

74. Vector notes that the fact the electricity distribution business is subject to the thresholds regime does not reduce the strength of this concern, as:

- the issue of including other businesses in the stand-alone test, using the logic in the MED paper, need not be limited to electricity distribution businesses; and
- in the case of electricity distribution, the thresholds regime imposes a price constraint on the electricity business and not a Return on Investment (or ROI) constraint as would be applied if the combined stand-alone test were used.

75. ACAM applied to only the gas business provides the Commission a means of undertaking the inquiry in a manner that does not implicate other aspects of Vector's business. Vector, therefore, considers the Commission should continue to use this approach (as it does in the Draft Report by using Vector's ACAM costs based on this approach), and not extend its analysis to include Vector's electricity business, or for that matter any other business activities that are not within the scope of the inquiry.

76. In summary, and in response to the Commission's questions, Vector considers:

- the application of ACAM requires costs to be measured on a stand-alone basis;
- the pricing of Vector's services, other than its gas services, is beyond the scope of this inquiry. Thus the issue of recovery of more than the total of actual common costs, through the pricing of non-gas services, is also outside the scope of the inquiry;
- the ACAM method used by Vector to assemble its information in response to the Commission's request for information is consistent with the ACAM method applied to gas businesses as described in the MED paper. Vector included verification of this in its submission, in the form of an opinion from PwC; and
- there is no need to establish as part of this inquiry a method to measure the stand alone costs of Vector's electricity business, as that business is outside the scope of the inquiry.

Use of historical information for Commission's assessments

77. In the Draft Report, the Commission assesses Vector's position over the period 2000 to 2008. This includes three years of historical information and five years of forecasts.

78. However, the question the Commission is required to address with its net benefit assessments is forward looking, i.e. it is attempting to estimate whether control (if implemented in the future) would be in the interests of acquirers, and whether it would provide net public benefits. These questions require the Commission to take a view on the future.

79. Historical information may be useful in developing a credible view of the future, particularly in circumstances where the market context in which a service is provided is not expected to change significantly. However, that is not the case in the gas sector in New Zealand. There are a number of well-known and very significant changes taking place in the gas and the wider energy sector, for example:

- the supply of Maui gas is running down and is doing so earlier than expected;
- natural gas is relatively difficult to secure under long term agreements, and the wholesale price of gas is around twice the price it was just three years ago;
- regulatory activity in the energy sector is significantly increasing; and
- LPG is making large inroads in the residential and commercial markets and is much more widely available then was previously the case.

80. Historical information plays an important role when forecasting by providing evidence of trends and patterns in the past. However, these trends and patterns need to be interpreted and modified in relation to knowledge and expectations as to how the relevant markets are expected to change in the future.

81. The use of historical information, however, need not, and Vector suggests should not, extend to including historical periods in the Commission's net benefit analyses. To do so implies that the future will be a repeat of history. In the gas sector this is clearly not the case.

82. The Commission, in its other areas of responsibilities that require forward looking assessments (e.g. airports, authorisations and the telecommunications unbundling investigation), uses forecast information to undertake these assessments. Invariably the forecasts are based on historical information and modified as necessary, but the assessments themselves are based on forecast periods and not on specific historical

performance. Vector recommends the Commission adopt the same forward-looking-only approach in its net benefits assessments in the inquiry.

83. Overall, in Vector's view, the key principle to be further examined by the Commission (and discussed transparently in its final report) is whether the Commission would recommend control purely on the basis of historical activity. The corollary of this is whether the Commission would *not* recommend control where significant and consistent forward-looking excess returns were just offset by historical performance (in this instance, Vector suspects the Commission would wish to recommend control). Clearly, therefore, stating a position that both historical and forward-looking information are accorded equal weight puts the Commission in a potentially difficult and subjective situation. This is another reason why only forward-looking information should be used.

Handling of changes in ODV within the assessment period

84. The Commission's approach to assessing the net benefits of possible control necessitates it to take a view on the value of the assets required to deliver the gas service (and for which it has decided to use ODV). This assessment is a snapshot of, in Vector's case, 8 years, while the asset lives involved are in the order of 40–60 years.

85. Vector revalued its system fixed assets in 2003 using, for the first time, the draft Gas ODV Handbook. This gave rise to an increase in the ODV of $23.5 million. The Commission has treated this change in ODV value as income in its calculations of Vector's returns from the business, as part of the net benefits calculations. It is illogical that the Commission would, on one hand, require that the 2003 valuation was consistent with the ODV Handbook as a basis for their analysis yet, on the other hand, include a revaluation in the analysis from a valuation (1999) that was not consistent with the ODV Handbook.

86. Vector considers this is an inappropriate treatment of this change in ODV values, given the purpose of the Commission's assessment, and recommends the Commission restate the Vector ODV values from 2000 onward (2000 being the first year of the assessment and the year in which the draft Gas ODV Handbook was released), and carry that ODV method forward consistently throughout the assessment period. Vector has provided the Commission in its 2 July submission with the necessary adjustments and supporting information to undertake this re-statement (this material also covers 1999). Reasons for taking this approach include:

- the assessment of Vector's ODV undertaken by EMC[a] for the Commission supported (with minor exceptions) the Vector ODV based on the draft Handbook. It follows that the same ODV would be supported had it been undertaken in 2000, as the draft Handbook was issued at that time (i.e. in June 2000, prior to the required reporting of valuations for the 2000 year). For example, had UnitedNetworks undertaken an ODV in 2000 on the basis of the draft ODV

handbook, the "revaluation" would have occurred prior to the analysis period in question and would not have entered into the calculations;

- it would be clearly mistaken for the Commission to recommend control on the basis that a business had aligned its ODV with the draft Handbook in 2003 rather than in 2000, even though the change in ODV had not led to an upward shift in prices (in fact over the period 2000 – 2003 Vector's prices have been declining in real terms). However the Commission's current approach could have that effect, in that the effect of treating the 2003 revaluation as income could increase the Commission's net benefit estimate sufficiently to lead the Commission to conclude control is warranted. Vector suggests such an outcome would be an untenable basis for a control recommendation, which illustrates the importance of addressing this issue.

87. At the conference, Commission staff noted that a potential reason for not making the necessary adjustment suggested by Vector was that other adjustments that should theoretically be made could not be done in practice, viz:

> **MS BEGG:** I don't have a major concern with that. I note that a whole lot of assumptions and approximations have had to be made in this assessment and one of those, for example, is that we've ignored all revaluation gains prior to the assessment period, which is obviously a positive assumption for the companies, and I just don't think it's possible really to unwind everything like that; that we have to -- if the companies accepted the numbers as audited we'd be opening a can of worms, I think, if we were to go back and reassess all those sorts of data (Vector transcript, pg 240).

88. Vector does not agree with this line of logic. While an overs-and-unders type approach may be acceptable for minor valuation amounts, it is not appropriate for the significant issue Vector is raising. Further, just because some other adjustments cannot practically be made, is no reason to deny other adjustments that can be. Vector is open to debating all valuation issues on their merits and having adjustments made where they have been the subject of consultation and are supported by robust analysis.

89. In addition to the re-valuation issue, Vector included in its 2004 ODV, for the first time, easements to the value of $1 million, which had been part of the business prior to 2000. Thus, this change in ODV is in the nature of "found" assets. The Commission has treated this change in ODV as income. Vector considers it should not be treated as income, as it is a correction of the ODV to include assets owned by the business but previously not reported.

Dynamic efficiency effects

90. The Commission requested further information on Vector's proposal for the dynamic efficiency calculation for missing markets to allow the Commission to replicate Vector's approach (question 24).

Vector's approach assumes that the growth markets it intends to access through future investment have the same characteristics as those depicted in the Commission's general analysis (i.e. the slope of the demand curve is the same, but applied to these growth markets only). Annex D outlines the calculations involved and incorporates two approaches:

- the first approach uses a linear demand curve for the missing markets, using the slope of the demand curve about the current price from the Commission's modeling of gas markets more generally; and

- the second approach modifies the demand curve such that it intersects the Y axis at a price level twice that of the current price, and a convex, smooth curve is constructed to connect that point with the Commission derived demand curve about current prices. As described in the Annex, Vector considers this second approach is a more realistic approximation of likely market realities.

91. It was noted by Commission staff (Sue Begg, page 230-231, Vector transcript) that the Commission model already included a small adjustment for dynamic effects (by way of a single 0.5% market adjustment). This was not factored into the numbers provided by Vector in its submission. Vector anticipates that, if its proposed approach were accepted, it would replace this 0.5% adjustment.

92. Vector was also questioned as to the assumptions underpinning this approach (Paul Sell, pp 237-239, Vector transcript), particularly whether it required the assumption that the planned investments by Vector were socially optimal.

93. Vector considers its approach requires a somewhat less demanding assumption, namely that the planned investments are value-enhancing to the company. This incorporates the assumption that customers will take up these services only if they value them more highly than the price they pay for them. However, this assumption need not extend to include the view that Vector's business plan includes all such opportunities, which would be required for the planned investments to be socially optimal (i.e. that all Vector's investment plans add value and no value adding opportunities are missed out).

94. Vector also notes that this approach to estimating dynamic efficiency losses is linked with whether or not prices, if control were to be imposed, are set at a level that would allow Vector to recover its cost of capital. The approach applies to the extent that prices are set at a level that would not allow Vector to recover its cost of capital for its growth projects.

Productive efficiency

95. In its Draft Framework Paper, the Commission, in relation to potential effects of control on productive efficiency stated:

> "Overall it is possible that incentives for cost efficiency may be reduced rather than increased by control" (paragraph 5.272)

96. However, in the Draft Report, the Commission assumes control would lead to improvements in productive efficiency of 1% per annum of total operating costs relative to no control, and then adjusts this amount downward to 0.66% due to indirect costs of control.

97. The Draft Report does not reconcile these two conflicting views, but it appears the reason for the assumption that control would enhance productive efficiency comes from the findings of the Meyrick benchmarking study that the New Zealand gas distribution businesses are very poor performers relative to their Australian peers.

98. The Meyrick study was highly qualified by its author, due to data limitations encountered in the study. In addition, the report indicated a number of desirable extensions to the study. Dr Larry Kaufmann of the Pacific Economics Group (PEG, commissioned by Vector and NGC) submitted to the Commission a benchmarking study consistent with the extensions suggested in the Meyrick study, and which compared Vector's and NGC's cost performance with 40 US gas distributors.

99. PEG presented this study at the conference and, in Vector's view, it withstood scrutiny from the Commission and its expert advisers. It finds that Vector and NGC are superior cost performers relative to the US firms in the sample.

100. In response to questions or comments from the Commission and its advisers on the PEG work, Vector and NGC commissioned PEG to prepare a supplementary report to the Commission as a cross-submission. This report is provided separately. In Vector's view, this further PEG work adds further to the robustness of their initial work.

101. In Vector's view, the Commission has before it credible evidence that Vector and NGC are, relative to other gas distributors, not poor cost performers and, more than that, performing very efficiently. This evidence indicates their cost structures do not incorporate the need to "catch up" to international best practice, which is implied in the Commission's assumptions of a 1% differential in productivity improvement due to control. Vector, therefore, recommends the Commission set the differential productivity improvement under control to zero, or possibly to some negative value.

102. In the presence of credible benchmarking work from a leading international practitioner, Vector considers that any control recommendations would need to be reconciled with benchmarking work. If the Commission finds that there are net benefits

from control, it could not simply be assumed, in Vector's view, that the benchmarking is flawed; rather, it may suggest invariable shortcomings in modelling a complex reality with what is, in effect, a simplistic model. In Vector's view, both the numerical analysis *and* benchmarking should point to a strong need for control (if required); and any divergence should not result in control recommendations being made (or, if they are, recommendations for control should be strongly caveated).

Legal framework

<u>'Should' versus 'may'</u>

Vector view

103. Vector has submitted that the Commission's recommendations to the Minister of Energy need to be based on whether control *should* be imposed (based on a range of relevant considerations); as opposed to whether control *may* be imposed (which is the test in s52 of the Commerce Act and the current (and sole) basis of the Commission's draft recommendations).

Reflections on the conference

104. Vector was left with an over-arching feeling from the conference that the Commission seemed reluctant to embrace the advisory role that the Minister has explicitly requested the Commission play, for example:

> I take your point that -- and in fact we cautioned against the net public benefit test for at least the reason of the issue around foreign ownership issues. So, I do take your point about some of these other issues and it's a -- the Minister, as you know, has invited the Commission to exercise its judgment about what might be relevant, and you've invited us to do that as well and we will be careful to explain where we have included other factors and where we haven't. But people have suggested we might ought to, but because we've been invited and given the opportunity to express a view on other matters doesn't necessarily, I'm sure you appreciate, doesn't necessarily mean that we will think that there are other relevant factors that should come into it. So that judgment will be exercised (Vector transcript, page 249).

No jurisdictional limitation on breadth of advice to Vector's knowledge

105. If the Commission's view is that it is not appropriate for it to advise on whether control should be imposed, or there is some jurisdictional barrier to that, then Vector suggests this be explained by the Commission and tested with interested parties. In Vector's view, there is no barrier to the Commission advising on whether control should be imposed, including as a result of:

- common sense, such that it would not make sense for the Commission to make recommendations on the basis of whether control *may* be imposed, if there was an obvious factor that made implementing control non-sensical. This was well summarised by Commissioner Bates at the conference who noted:

  > It would defy logic to say that control should be imposed just because you have the jurisdiction to propose (Vector transcript, page 244).

- the terms of reference for the inquiry that clearly and consistently refer to the Commission advising on whether control should be imposed, including:

  - the Minister, in the terms of reference referring to advice on whether he should implement control, specifically:

    > *"[t]he purpose of this letter [the terms of reference] is to request the Commission report to me no later than 1 November 2004 on whether or not an Order in Council under section 53 of the Act should be made …"*

  - the Minister specifically asking for advice on, in addition to the s52 (*may*) test, viz:

    > *"any other matter that the [C]ommission may think relevant to a decision on whether control should be introduced"*

  - the Commission, in clarifying the terms of reference with the Minister at the start of the inquiry, did not raise any concerns with the ambit of advice requested by the Minister;

- relevant parts of the Commerce Act, specifically s56, which makes reference, in the context of reports to the Minister, that

  > *"[t]he Commission may report to the Minister on whether or not an Order in Council under section 53 should be made, amended, or revoked"*

- recommending control being analogous in Vector's view to the Commission advising the Minister of Communications on whether to regulate telecommunications services, such as local loop unbundling (LLU). The Commission has argued that the LLU case was different, but Vector is yet to understand why that is the case, which Vector suggests, if that remains the Commission's view, be explained in the final report. For example, the Chair noted:

  > Just for the sake of transparency, I want to indicate to you that I believe the comparison with LLU -- and I take your point that this is a general principle -- is difficult because we were comparing different regulatory options, we weren't just

> looking at whether a regulatory intervention was justified or not. The Commission accepted there was a problem and we were looking at different approaches, so I just make that point to you, that it was very much a different environment to here and, like with all these things, we were also weighing up certain considerations of probability of achieving certain outcomes, which we will have to do here. In that respect this is similar (Vector transcript, pg 227).
>
> On that point I think -- you referred to the LLU work. In that context we did actually do the full analysis on the alternatives. It's not the case here, there may be other policy options that exist outside our jurisdiction that the Government might want to contemplate, but this isn't like LLU where we did the full analysis of those other regulatory options. So, I understand the point you make and we probably in the Airports case alluded to other options that the Minister could give consideration to stopping short of recommending them, and I suspect that expecting the Commission to advise in detail on other forms of control or policy approaches in a situation unlike LLU where we did the full analysis on those other approaches would be -- there's a natural limitation to how far we could possibly take it (Vector transcript, page 246).
>
> I understand that point; what I'm trying to say to you is in the LLU we did a full analysis of a range of options so we could make comparisons between them, because we had fully analysed them. In this case the Commission has not fully analysed policy approaches, we've taken a factual and a counterfactual and compared it. We might be able to make some comments on them, but taking it to the extent that we might in an environment where we did look at alternative options, I'm just pointing out to you that there is a limit to how far it may be prudent for a body such as ours to go on the basis of not having done the full analysis on anything other than one particular option (Vector transcript, page 248).

Vector agrees that, with respect to the last point, the Commission needs to be careful with making recommendations not having done the full analysis; this simply suggests to Vector that the full analysis be undertaken (or the de-minimis test (discussed below) amended accordingly).

106. Even if the Commission felt legally compelled to make recommendations based on s52 of the Commerce Act (the *may* test), there is no reason in Vector's view why supplementary recommendations could not canvass other relevant considerations for the Minister (as was done in the airports inquiry, for example, recommendations (d) and (g) with respect to Auckland and Wellington Airports respectively).[8]

Relevant issues to the should question

107. In its submission and at the conference, Vector outlined to the Commission a range of relevant considerations to whether control should be imposed. Vector's list of relevant considerations is not exhaustive, as in most submissions and conference presentations interested parties put forward a range of relevant issues for the Commission to consider.

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[8] "(d) Note that the Commission has not considered the full range of control mechanisms available under Part V of the Commerce Act and that other less intrusive, and lower cost, forms of control than price cap regulation, which was used as a means of estimating the costs of control, are likely to be available. Irrespective, the Commission is cognisant that any form of control utilised needs to be commensurate with the level of market power available to AIAL, the size of the anticipated excess return, and resulting net benefits to acquirers; (g) Note that if WIAL imposes a significant increase in charges as a result of its current consultation with the airlines, the Commission would likely be satisfied that it would be necessary or desirable for the airfield activities supplied by WIAL to be controlled in the interests of persons acquiring those goods or services" (Airports inquiry, final report recommendations).

108. In Vector's view, all such issues can be accommodated in a net public benefits assessment framework, if appropriate quantification can be performed. While this would be difficult in a number of places, it does not obviate the importance of attempting that or, if not, analysing and discussing the issues qualitatively. If an appropriate quantification cannot be performed, those issues should be addressed outside the net public benefit test as other relevant considerations.

109. Four relevant considerations to whether control should be introduced that Vector would like to reinforce its position on are:

- the draft and outdated nature of the ODV Handbook; Vector suggests, given the significance of recommending control, the Handbook should be updated now by the Commission, or at least some sensitivity analysis performed around likely uplifts in valuation that may be possible from a hypothetical update (based on recent experience the Commission has had with respect to the ODV Handbook for electricity lines businesses);

- whether end consumers (as distinct from other acquirers, or other parts of the gas value chain) would benefit from control being imposed. This matter was the subject of discussion at the conference between the Commission and Contact (relevant extract below), with Contact suggesting it was important for the Commission to satisfy itself that end consumers would benefit (including as a result of vertical integration risking that not occurring, as well as Mr Love adding that smaller customers may not benefit as much as larger customers (given, in Vector's interpretation of the comment, larger customers can protect themselves)), viz:

> **CHAIR:** But would you accept that it might be valid for the Commission to satisfy itself that we're not just setting up a transfer from one player in the chain to the other and that, at the end of the day, the end-consumer's no better off? Do we need to satisfy ourselves of that?
>
> **MR COATES:** I suppose, if you thought that there was a risk and that was going to continue in perpetuity, then I think that would be a valid thing to consider. That's, given that New Zealand does have a competitive retail market. I personally don't believe that that would be the case.
>
> **CHAIR:** What about the potential for the first leg in the chain to capture any reductions that occur further down? So, at the production end is there scope for rents to possibly be increased at the production level if transmission and distribution are controlled, and again, not even get to the retail layer?
>
> **MR COATES:** Here we think the biggest issue is regarding the terms of access and the ability of vertically integrated upstream and, with pipeline companies, being able to benefit from the informational advantages they have over all the other parties. For example, they have upstream gas which, through the terms of access, for example, with common carriage they can access the pipeline at will. We are also concerned about the ability of other new entrants in the upstream gas market to invest in the upstream production facilities without having security of access to the main means of getting that gas to the market. So, it's there that we see the biggest concerns.

> **MR LOVE:** I was just going back to whether users gain the benefit. I think certainly for larger users who have the ability to contract their own transportation services -- so, I'm talking about larger industrial sorts of customers; usually if we're contracting those services on their behalf it is a direct pass-through to them. Of course, it may be not down at the level of smaller customers where they simply can't contract for their transportation arrangements, but I guess that's a fairly small part of the overall gas market but, of course, there are significant numbers of people involved in that.

- the de-minimis test, specifically the Commission articulating, on the basis of transparent analysis what level of net benefits would warrant control being recommended (taking into account, for example, the Minister of Commerce's airport decisions and associated rationale; the Commission's local loop unbundling decisions; the Commission's draft recommendation not to control Wanganui Gas in the presence of positive net benefits, including whether that decision was based on per-customer or aggregate benefits (an important general principle to be considered); and

- the importance of the Commission considering other policy or regulatory approaches, if required, to improve performance, including:

    - the impact of the more focussed *threat of control* if the Commission does not recommend control on this occasion to the Minister, given increased clarity around what is (and by implication is not) acceptable performance;

    - the impact of current industry work on governance and the suite of regulation-making powers (including the potential for domestic gas prices to be determined under these powers) set out in the Electricity and Gas Industries Bill (imminently expected to become law); whether implemented, if required, through the industry body if established or, if it is not, via the Energy Commission.

110. In respect of the relevance of other policy and regulatory approaches, this issue was also the subject of discussion at the conference between the Commission and Contact. For example:

> **Chair:** …… So, first of all, I'm not sure we have the jurisdiction to recommend control where the test isn't met. Second of all, even if we did, there seems to be some valid questions to be asked about whether that's appropriate, and I wonder about where the benefits come from having all companies subject to a regime. I'll put to you a question that some of the benefits that I think you're after, wouldn't they be achieved through other steps that are probably being considered, such as improved information disclosure and some of the governance issues around the other stream of work?
>
> **Mr Love:** I think that may be right. I think, when we were thinking about control, we were thinking of the wider aspects of the control as well, that there should be open access and the quality of that access should be controlled, so we weren't just thinking about price. We're aware that there are a number of pipelines that currently don't offer open access, and we think that they should, and that the quality of that access should be controlled. But, as you suggest, the regime that Government's proposing, the co-regulatory regime, may have some impact on that. I guess part of what we're saying, we don't know yet what that

> impact will be and how that relates to the work that the Commission is doing (Contact transcript, page 159).

111. In Vector's view, in the presence of a large acquirer suggesting that some of the gains of control (if in fact required) would be achieved by other possible policy approaches suggests that it would be neglectful for the Commission not to consider those approaches as part of the inquiry (and as part of the recommendations to the Minister).

112. Vector notes that two of the above considerations – de minimis test and consideration of other policy/regulator approaches – are inter-related in that the level of expected net benefits from control is also a likely determinant as to what sort of intervention, if any, is warranted. Irrespective of the level of net benefits, however, less-intrusive forms of intervention (than regulatory control) should always be considered first in Vector's view. While heavier-handed interventions may elicit incremental benefits, these may not be worth chasing given the incremental costs such interventions can entail.

Comment

113. In closing on this issue, and having reflected on Vector's discussion with the Commission (as well as those of other parties), Vector remains firmly of the view that the Commission needs to base its recommendations on whether control *should* be imposed, as this is what the Minister of Energy requested in purchasing the Commission's advice. Not to do so, in the presence of the terms of reference and other relevant considerations, would seem to undermine the Commission's final report

<u>Length of control declarations</u>

114. Vector reiterates its view that control declarations should only be set for 6 years (1 for determining regulatory parameters, followed by a 5-year regulatory period). In Vector's view, the decision to impose control for more than one regulatory period should ideally be determined by Parliament or, if not through legislation, the Government. The role of the Commission, in Vector's view, is to implement and enforce regulatory control and provide input to whether regulation is required (as in this inquiry). But the final decision on whether to control should appropriately, and to be consistent with principles of sound public sector management (specifically with respect to splitting the roles of policy-making and policy-implementation), be made by Parliament or the Government.

115. At the conference, the Chair provided helpful comments that a 10-year regulatory period was not intended (as had been interpreted by Vector). Nevertheless, Vector's view remains that only a 5-year regulatory period should be used (as being long enough

for some certainty, but not too long such that further intervention is required to adjust parameters, or the regime is changed due to, for example, changes of Government).

116. Obviously, the Commission's role in electricity lines regulation is different to that described, in that it is the Commission, not the Governor-General (on the recommendation of a Minister) that decides on control. This, however, is not a valid reason to conclude that the Commission should decide on regulations in each and every sector (particularly given the Commission's role in telecommunications is different, with regulations decided on by the relevant Minister and required to be renewed by the Minister, if required, every five years). It is also noteworthy that in the electricity lines context, control declarations can only be made by the Commission for five years, after which the Commission must re-examine whether a further declaration is warranted.

Closing comment

117. Thank you for considering this cross-submission. Vector appreciates the opportunity to make a further submission as part of the Commission's gas pipelines inquiry. We would be happy to clarify our views on any matter if useful.

Kind regards

Simon Mackenzie
Group General Manager Networks

ANNEX A

FURTHER INFORMATION REQUESTED BY THE COMMISSION

The Commission has requested that Vector provide information related to the following (copied from, and numbered as per, the Commission's request):

19. The level and nature of the capital contributions made to Vector and the treatment of those contributions by Vector.

20. The growth rate of LPG versus natural gas connections in the areas where Vector has reticulated natural gas.

21. The price increase in zone C compared to the price decrease in zone X and Y by unit and revenue amounts. The gas volume and revenue amounts within each of Vector's zone pricing areas.

22. Additional analysis on the level of competition in the Auckland gas pipeline services market. Could include breaking the market into the potentially competitive sectors and providing evidence why each alternative provides a constraint on Vector's prices.

23. Information on whether the level of competition Vector are proposing results from gas being priced up to alternative energy forms in the market.

24. Further information on Vector's proposal for the dynamic inefficiency calculation for missing markets to allow the Commission to replicate Vector's approach.

25. Vector's view on the application of ACAM and whether it requires costs to be allocated on a stand alone basis for monopoly businesses, and/or allows recovery of more than the total of actual common costs from the different business activities.

26. Vector's view on whether the MED paper entitled 'Proposals for Amending the Gas (Information Disclosure) Regulations 1997' (referenced on page 54 of Vector's submission) allows multi utility businesses to allocate stand alone costs for both its electricity and gas networks and how Vector's cost allocation approach relates to the ACAM discussion in the MED paper.

27. To what extent does the electricity and gas industries bill affect the prices charged by the gas pipeline businesses?

28. Comment on whether it would be reasonable to assume that the 1999 ODV valuation could be changed as proposed by Vector, without adjusting other assumptions in the modeling.

Many of the above questions have been answered in the main body of Vector's cross submission. Where that is the case, for completeness, the relevant section is noted below. If the questions have not been address in the main body of the submission, comments are provided below.

Qn 19. Level, nature and treatment of capital contributions

Vector generally recovers the capital costs associated with standard connections through its standard line charges. Where the costs for a particular connection are above the level allowed for in standard pricing Vector will generally require a capital contribution from the customer. This many occur, for instance where the service pipe (between the gas main and the meter) exceeds 20 metres or where the connection is a low volume user of gas (in residential connections, typically where there is no gas hot water or gas space heating).

In terms of averages:

- the average per connection contribution would be in the order of $33 per connection against an average cost of $1964 (including channel partner incentive payments);

- end-consumers contribute 1.7% toward their connection costs.

However, these averages are somewhat deceptive in that capital contributions are the exception rather than the rule, with the majority of connections not requiring any capital contribution at all.

In a new subdivision development, a developer will generally pay a small proportion of the costs of reticulating the subdivision with gas. On average the developer would contribute around $120 per lot in the subdivision - less than 10% of the total costs of the installation. Developer contributions to gas reticulation of subdivisions are around 10% of the level of contribution they make to electricity reticulation, underscoring both the discretionary nature of gas generally - and the discretionary nature of reticulated natural gas relative to LPG.

It is relevant to note here that 80% of Vector's gas business growth is attributable to new developments/subdivisions. The 3,800 connection growth figure which Vector referred to in the conference includes new subdivisions.

Vector treats end-consumer and developer capital contributions as revenue. Vector would be happy to provide the Commission with such actual and forecast revenues if useful.

Qn 20. Growth rate of LPG versus natural gas connections

To the extent Vector has been able, this question has been addressed in the section '*Market definition/competition analysis'* under the heading '*Evidence*'.

Qn 21. Explanation of zonal pricing changes

This question has been addressed in the section '*Market definition/competition analysis*' under the heading '*Aspect of Vector's contracting'.*

Qn 22. Level of competition in Auckland, including market segmentation

This question has been addressed in the section '*Market definition/competition analysis*' under the heading '*Alleged Inconsistencies*'.

Qn 23. The alleged cellophane fallacy

This question has been addressed in the section '*Market definition/competition analysis*' under the heading '*Alleged Inconsistencies*'.

Qn 24. Further information on dynamic inefficiency calculations

These questions have been addressed in the '*Modelling issues/assumptions*' & Annex D.

Qn 25 & 26. ACAM-related questions

These questions have been addressed in the section '*Modelling issues/assumptions*'.

Qn 27. Impact of the Electricity and Gas Industries Bill

The Commission has asked for further information on 'to what extent does the electricity and gas industries bill affect the prices charged by the gas pipeline businesses?' In requesting this information, the Commission Chair seemed to suggest Vector's summary of the Bill, in its conference presentation, was incorrect

In its presentation, Vector noted (slide 48) that the Bill provided for:

- "regulating the terms and conditions (including prices) under which gas distributors supply their services to domestic consumers
- governance arrangements, including for distributors
- rules for the offering, availability and unbundling of gas distributors' services
- information disclosure requirements"

Having reviewed both the Bill consulted on by the Commerce Select Committee, and the amended Bill reported back by the Committee, Vector confirms that the above list is, in its view, an accurate summary of the regulation-making powers in the Bill.

The Commission Chair was, in Vector's understanding, surprised by the suggestion that regulations under the Bill could cover prices for gas pipeline services. In Vector's view, this is certainly the case. With reference to the Bill as reported back to Parliament by the Committee, in respect of prices, the Bill provides for:

- "prescribing reasonable terms and conditions for access to transmission or distribution pipelines" (s43C(2)(c));
- "minimum terms and conditions in contracts between domestic consumers and gas distributors or gas retailers" (s43E(2)(h));
- "regulating all or any charges charged by gas distributors to ensure that they are not, in the opinion of the Minister, unreasonably detrimental to the interests of low-use consumers" (s43F(7)(a));
- "regulating the terms and conditions under which gas distributors supply their services in relation to domestic consumers to ensure that they are not, in the opinion of the Minister, unreasonably detrimental to the interests of low-use consumers" (s43F(7)(b));
- setting rules as to the offering, availability, supply, and unbundling of gas distributors' services (s43F(7)(c)).

Other regulation making powers directly and indirectly affecting gas pipeline operators sit along side the above examples, and should be considered by the Commission as part of its counterfactual (e.g. information disclosure, dispute resolution, complaints resolution, consumer contract requirements, access to pipelines).

It is difficult to definitively suggest what specific impact that Bill would have on pricing given the regulatory threats encapsulated in that Bill are in the future, albeit the near term given the Bill is expected to become law the week this submission is being made.

In referring to the EGI Bill, Vector's point was to suggest to the Commission that its counterfactual for the inquiry needs to carefully consider the regulatory threats set out in the Bill, whether those be implemented via the Gas Industry Steering Group (whether through industry initiatives or regulations recommended by that group to the Minister) or, if the GISG is not implemented, the Energy Commission. There is clearly a marked increase in the scope for and of regulation affecting gas pipeline operators, which was not present in the past, and not sufficiently considered in the Commission's draft report.

Qn 28. Change to 1999 ODV valuation

This question has been addressed in the section '*Modelling issues/assumptions*'.

ANNEX B

SCATTER PLOT OF CERTIFIED LPG INSTALLATIONS WITHIN 50M OF VECTOR'S PIPELINE

In considering this graph, Vector emphasises the importance of the Commission recognising the following:

- the LPG data used to populate this map came from the "Gasfitting Certification Certificate" that legally has to be completed (pursuant to the Gas Act 1992 and the Gas Regulations 1993 and subsequent amendments) with every gas connection where the bottle size is over 9kg. This certification information is sent to the Plumbers, Gasfitters and Drainlayers Board ("PGDB") where the data is recorded;

- the data only covers the period from 1997 – 2001 (due to certification information not having been added to the database by the PGDB) and, therefore, does not include the strong recent growth experienced by LPG;

- gas connections to Vector's pipeline of over 50m length are possible and would add to the number of LPG connections shown on the map;

- the data used in this graph does not include small gas bottle connections (of which there are a significant number of such connections/appliances (an estimated 500,000 LPG cabinet heaters alone)).

Vector Gas Network and LPG Mainsfronter Installations - 50 metres or less from gas mains

Symbol Key

LPG MAINSFRONTER <= 50 m

Gas Network

- HP *2000 kPa
- IP20 1000-2000 kPa
- IP10 700-1000 kPa
- MP7 420-700 kPa
- MP4 210-420 kPa
- MP2 110-210 kPa
- MP1 7-110 kPa
- LP 0-7 kPa

0 1 2 3 4 5 km

(C) Coastline sourced from Land Information New Zealand
CROWN COPYRIGHT RESERVED
(C) Vector Ltd

July 2004

ANNEX C

PRODUCT INFORMATION SHOWING NATURAL GAS AND LPG INTERCHANGABIILTY

(Provided by separate PDF document; the product information provides evidence of appliances being suited to either natural gas or LPG (including a wide range of products in the Rinnai information, as well as technical instructions for changing the appliance between gases (the information following the Rinnai material))

ANNEX D

DERIVATION OF DYNAMIC EFFICIENCY EFFECTS

The Commission's general model for calculating the net acquirers' benefit and net public benefit that would arise from regulating the gas business is depicted in Figure 1 below. Figure 2 illustrates the case where the uncontrolled price (Pm) is found to lie below the controlled price (Pc).

Figure 1 : Economic benefit tests (Pm>Pc)

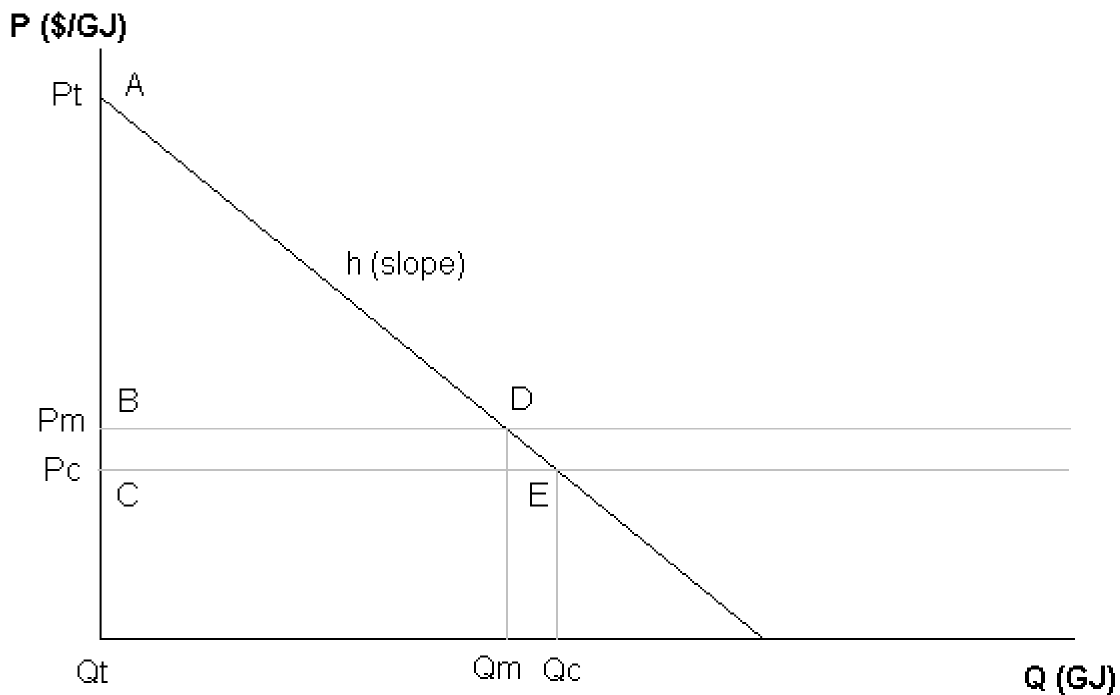
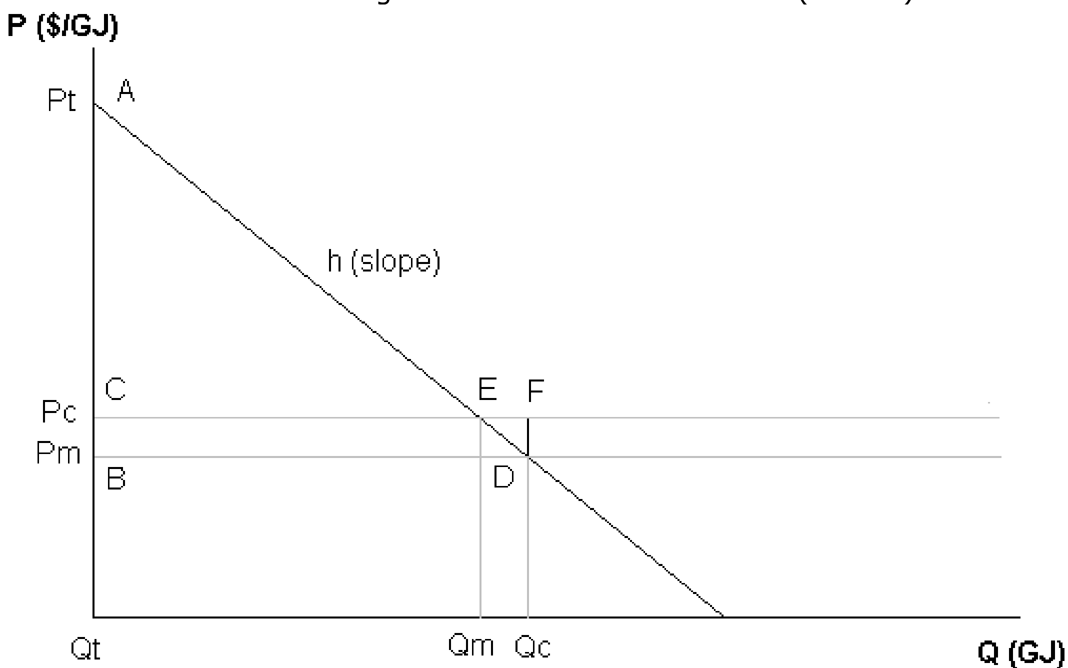


Figure 2: Economic benefit tests (Pm<Pc)



In this model it was assumed that regulation would lead to a new gas price of P_c per unit, from the current P_m. This would result in the quantity of gas sold to change from Q_m to Q_c.

The Commission extended this model to missing markets that result through the deferral of investment under control (paragraphs 5.111 to 5.115 of the Draft Report).

The Commission noted, however, that the price at which the demand curve intersects the price axis (P_t in Figure 1 above) is unknown. It therefore approximated this price by assuming linear demand, and extrapolating the demand curve using the slope of demand in the existing market.

Vector accepts the Commissions general approach to modelling welfare losses that result from missing markets. However, Vector suggests that the Commission's approach to approximating the price axis intercept may lead to a figure that is unrealistically high.

This annex sets outs how Vector calculated the resulting dynamic efficiency effects that were presented in its written submission of 2 July 2004.

In Table 1, the total benefit (acquirers and public) lost is summarised, based on the scenarios of the uncontrolled price being higher and lower than the regulated price.

Table 1 : Impact of lost sales on net benefit

	NAB	NPB
If Pm>Pc		
a) Area ABD	Lost consumer surplus	Lost consumer surplus
b) Area CBDE	No change	Lost producer surplus
Total benefit lost	**Area ABD = Area ACE – Area CBDE**	**Area ACE**
If Pm<Pc		
a) Area ABD	Lost consumer surplus	Lost consumer surplus
b) Area CBDF	No change	Gained producer surplus
Total benefit lost	**Area ABD = Area ACE + Area CBDE**	**Area ACE – Area EFD**

Based on Vector's projection of lost revenue due to non-investment in the network in a regulated environment, the lost benefit for the next five years were calculated, as set out in table 2. The control prices take into account changes to correct the treatment of the interest tax shield.

Table 2: Projected lost benefits

[

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(Monetary figures in $ '000, unless otherwise indicated)

The benefits figures are discounted using the Commission's proposed WACC rate for the years in question. It is clear from table 2 that by applying the Commission's model, the acquirers' and public benefit lost over the 5 year period projected would be very high.

Since Vector considered the Commission's approach of extrapolating the linear demand curve to result in unlikely outcomes, it developed for illustrative purposes a modified curve. The modified curve assumes that around the base quantity and price (Pc and Qc) the curve would be straight, but at higher price levels the demand would drop rapidly until, at a value of twice the base price, consumption would drop to zero. A sketch of a modified demand curve is shown in Figures 3 and 4.

Figure 3: Application of a modified demand curve (Pm>Pc)

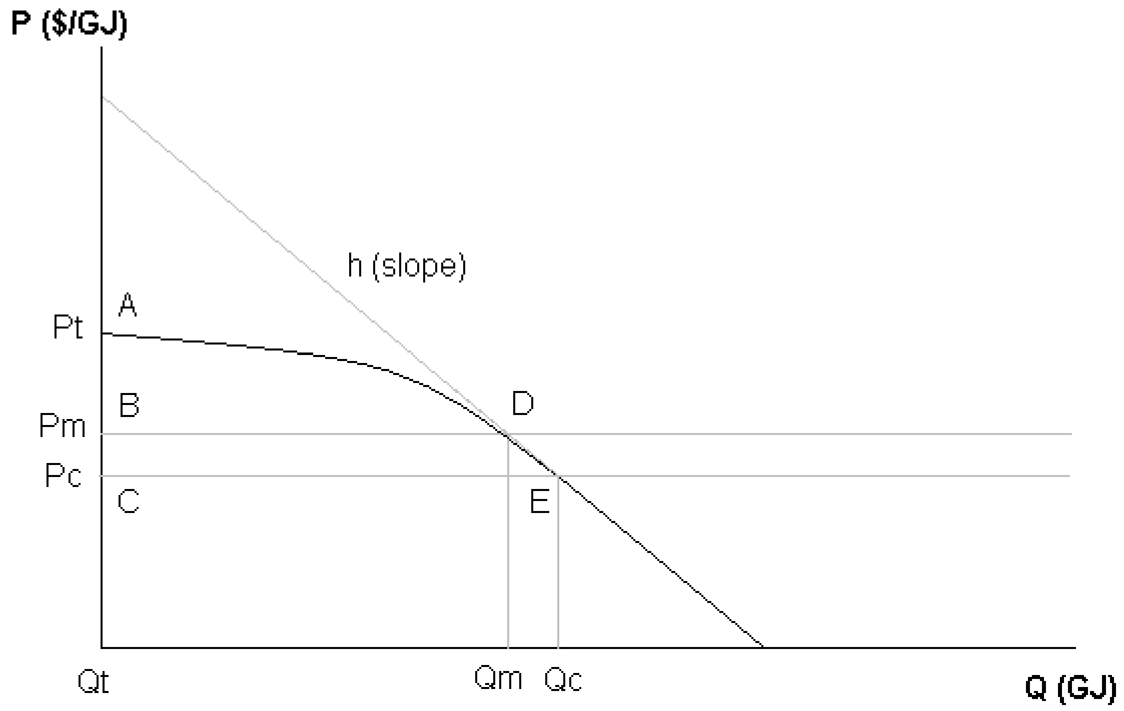
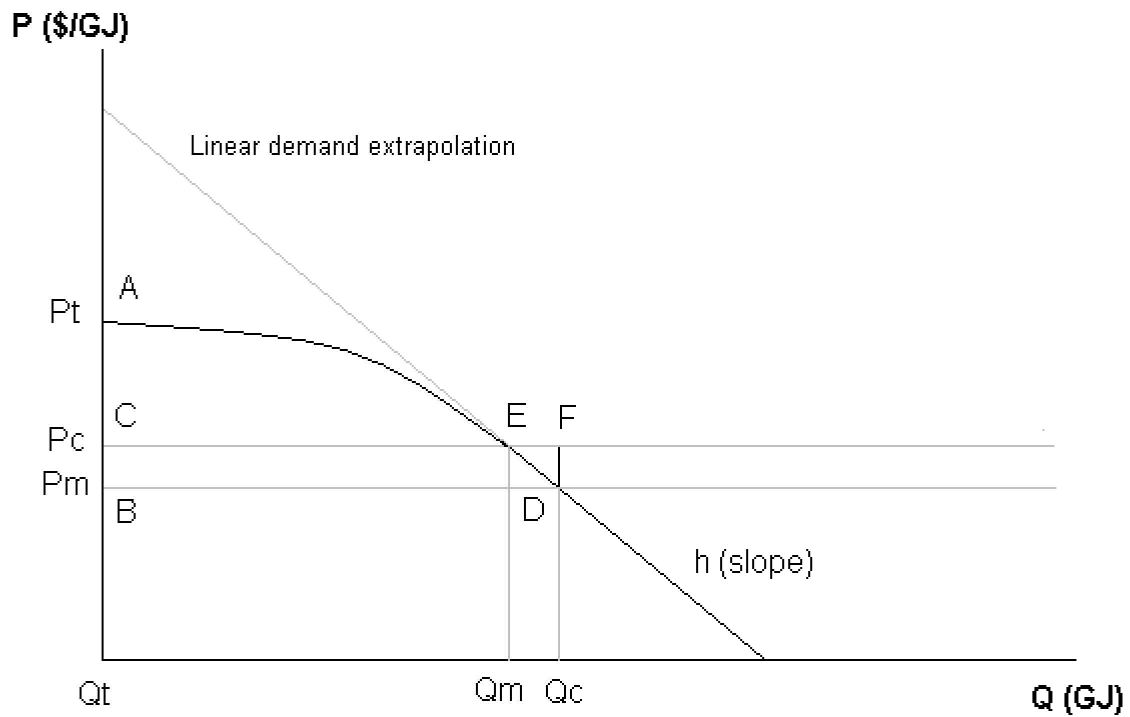


Figure 4: Application of a modified demand curve (Pm<Pc)



The resulting losses in acquirers' and public benefit is presented in Table 3.

[

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(Monetary figures in $ '000, unless otherwise indicated)

While the lost benefits are substantially reduced, the residual amounts are still significant.

Sample of calculation for 2003 for illustrative purposes

[

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Where an adapted demand curve, f(x), is used, the area under the curve, representing the benefit lost, is calculated as :

$$Area = \int f(x)dx - P_c Q_c$$

The curve f(x) is determined by linear regression, fitting it to a number of points on the curve that ensures the following conditions are met:

- the demand curve around the base quantities is a straight line, with a slope equal to that assumed under he Commission's model;
- the overall curve is smooth for the area considered; and
- the demand (Q) drops to zero when the price (P) rises to twice the base level.

An example of a typical curve, and the fitted equation, is presented in figure 3. This was for the 2004 quantities, where P_c = **[ ]**

Figure 3 : Typical adapted demand curve (2004)

[

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