# 18 AUGUST 2010 WORKSHOP:

# VECTOR GAS TRANSMISSION REGIME PRESENTATION

**Introduction**

This presentation discusses some alternatives to reform Vector's current transmission regime. They have been classified as being "Contract Carriage" or "Common Carriage".

These notes include a brief discussion of each of Contract Carriage and Common Carriage.

Vector is not hung-up on such definitions however, since it is clear that they mean different things to different people. All the alternatives presented can be considered "hybrids".

These alternatives range from minimal to moderate to substantial change. Sub-options 1.1 – 1.4 relate to Contract Carriage, while sub-options 2.1 and 2.2 relate to Common Carriage.

The notes describe the nature of each sub-option in some detail, with some analysis of the effects on the various players in the gas industry were it to be implemented. The emphasis is on practical rather than theoretical aspects.

Neither the range of alternatives, nor the discussion of each, purports to be exhaustive. It is hoped that what is presented here will provide a useful basis for comparison and more detailed investigation to assist in choosing the way forward.

The alternatives presented are not all mutually exclusive. Any change to the present regime could well encompass more than one of them.

## OPTION 1: CONTRACT CARRIAGE

**Capacity Rights**

1.1 The defining characteristic of a Contract Carriage regime is that it creates property rights out of transmission capacity (hence *Reserved* Capacity).

1.2 Reserved Capacity assures the Shipper who owns it that it won't be "bumped" by another Shipper, whether a competitor or not. Historically, access to firm capacity has been considered a pre-requisite for the largest loads (especially power stations).

1.3 Some Shippers have accordingly expressed a preference for Contract Carriage, as well as for annual Reserved Capacity. They also tend to argue that grandfathering of capacity is essential to enable them to service their retail gas supply contracts.

1.4 Despite the advantages of Contract Carriage however, problems can arise when the physical supply of capacity approaches its limit.

1.5 Transmission capacity is a means to an end: it is not the product that End-users consume. On a constrained pipeline, where an investment solution is uncertain or could take some years to implement, there should be a balance between the property rights of Shippers who hold capacity but who may not be fully using it, and the rights of other Shippers needing capacity to gain access to it.

1.6 Absence of such a mechanism could be seen as a case of "market failure", and an invitation to more heavy-handed regulation.

1.7 Constrained capacity on a crucial Pipeline is a new phenomenon for the Transmission System. If Contract Carriage is to continue, significant modifications to the current regime may be necessary. Such changes could take a number of different forms.

**Alignment of Capacity Supply with Demand**

1.8 At present, Shippers request Reserved Capacity, and seek customers requiring the use of such capacity, as if these were unconnected activities. Since End-users are free to move to another gas supplier (subject to any term contract), this can result in some Shippers having too much capacity while others cannot get enough.

1.9 A possible remedy might be to establish a Shipper's right to capacity by the *act of contracting* an End-user. A Shipper would then have certainty of capacity – for as long as it continued to supply gas to the End-user concerned.

1.10 That could be achieved by "attaching" capacity to End-users, either individually in the case of large volume End-users (sub-option 1.1) or collectively in relation to residential End-users (sub-option 1.2).

1.11 Selling Reserved Capacity only for a full year may also encourage misallocation of capacity, since gas supply contracts may start and finish at any time of the year. Capacity could be sold for shorter periods (sub-option 1.3).

1.12 Sub-option 1.4 looks at a way of providing additional capacity to a Shipper taking on new (but existing) End-users by limiting Vector's capacity obligations for the following year.

1.13 The ability to transfer Reserved Capacity, other than for the same Receipt Point-Delivery Point, is technically unsound and needs to be removed. If the existing regime was modified as described in the sub-options set out below, other transfers of capacity would also be unnecessary.

**Value of Capacity**

1.14 Economic theory would suggest that if capacity is in short supply its price should rise, and it should gravitate to parties with higher value uses for it.

1.15 Vector sells "primary capacity" at fixed prices: it would be unlikely to benefit from any increase in the value of capacity in any secondary market due to price control.

1.16 The current regime provides for secondary trading of Reserved Capacity. Shippers are free to trade capacity amongst themselves at any price they agree.

1.17 It is difficult to consider a more market-based approach to allocate capacity without also considering the linkages to the gas market (wholesale and/or retail), and that is outside the scope of this presentation.

**Pricing Methodology**

1.18 Vector considers that the current transmission pricing methodology needs a significant overhaul.

| OPTION 1: MODIFIED CONTRACT CARRIAGE<br>KEY DIFFERENCES FROM CURRENT REGIME | |
|---|---|
| **1** | **Annual reservation of capacity could be discontinued** |
| **2** | **Capacity could attach to End-users with AQ ≥ a threshold** |
| **3** | **Shippers could be able to reserve capacity for < 1 year** |
| **4** | **Residential End-users could be managed collectively** |
| **5** | **There'd be no grandfathering of capacity** |
| **6** | **Capacity transfers other than for the same Receipt Point-Delivery Point would not be possible** |

## Sub-Option 1.1: Large End-user Capacity (Minimal Change)

**Central Idea**: Capacity would attach to End-users: Shippers would pay to use it.

**Classification**: Contract Carriage.

**Issue Addressed**: To facilitate retail competition for larger End-users by ensuring sufficient transmission capacity would be available to any Shipper.

1.19 If transmission capacity attached to an End-user, Shippers would not have to obtain Reserved Capacity from Vector, or from a competitor, when switching that End-user.

1.20 A similar concept used to apply on the Auckland distribution network, where UNL used to require a "Line Charges Agreement" (*LCA*)[1] for any End-user supplied under non-standard terms and conditions. The LCA set out the (network) capacity in respect of the End-user, as well as the fees to be charged to any gas supplier for its use.

1.21 As there are more than 200,000 End-users, Vector (Transmission) would only ever consider contracting directly with the very largest; it would prefer to contract only with Shippers as at present.

1.22 Capacity could be *implicitly* attached to an End-user by Vector providing transmission capacity to enable the supply of gas to that End-user under a Supplementary Agreement.

1.23 Vector may offer a Supplementary Agreement to a Shipper for a variety of reasons. This sub-option constitutes a further reason to do so.

1.24 Unlike Reserved Capacity, "Supplementary Capacity" is non-transferrable and does not have grandfathering rights. It can only be used to supply a specific End-user or site.

1.25 Under a Supplementary Agreement, Vector charges an End-user's gas supplier (ie the Shipper) for transmission services[2] in the normal way. Generally, there is no contractual relationship between Vector and the End-user.

1.26 Making the term of a Supplementary Agreement the same as the term of the gas supply agreement to the relevant End-user would be mandatory. A Shipper would become liable for transmission charges on the commencement date of the Supplementary Agreement; its liability would cease on the date the Supplementary Agreement expired, which should correspond to the switch date.

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1 A number of such LCAs have yet to expire.

2 It would continue to be open to an End-user to become a Shipper, by signing a TSA under the VTC.

1.27 Use of a Supplementary Agreement would not be mandatory. A Shipper might prefer to use Reserved Capacity. Vector would not be obliged to offer a Supplementary Agreement either.

1.28 Prices under the Supplementary Agreement could be the same as Posted Prices.

1.29 Accurate daily quantity data is a pre-requisite for transmission billing and hence for any Supplementary Agreement. Therefore TOU metering would be essential at the End-user's site. Sufficient historic TOU data would be required to allow Vector to determine an End-user's Supplementary Capacity requirement.

1.30 An AQ ≥ 10 TJ is the general threshold for TOU metering. Vector would prefer a higher threshold for a Supplementary Agreement, say 15 – 20 TJ.

1.31 Supplementary Capacity would be defined by an MDQ and MHQ, as for Reserved Capacity. If the End-user's consumption varied markedly throughout the year, capacity could be defined as a profile.

1.32 Vector would re-assess the amount of Supplementary Capacity from time to time.

1.33 Ultimately, an End-user must be responsible for its own use and should bear any related cost. Any offtake > Supplementary Capacity would be an unauthorised overrun. Vector would charge the Shipper, who could pass the cost on to the End-user.

1.34 The Allocation Agent currently provides Vector with a DDR[3] at month end for every Supplementary Agreement. It already handles TOU data for the much greater number of sites with TOU metering, since that data is required for allocation purposes.

1.35 It would not be possible to use both Reserved Capacity and Supplementary Capacity to supply the same End-user.

1.36 Vector's Interruptible Agreements are forms of Supplementary Agreement: a mix of both Supplementary Capacity (ie firm) and Interruptible Capacity could be used to supply the same End-user.

1.37 This sub-option would facilitate competition by providing capacity to a new Shipper to supply an End-user. The biggest problem with that is that a similar amount of Reserved Capacity would remain on issue with the previous Shipper, who would not be obliged (under the current VTC) to relinquish it. That Shipper would still be able to use it to supply new load.

1.38 To the extent that Supplementary Capacity did replace Reserved capacity, it could alter the diversity in the relevant Shippers' portfolios.

[3] Daily Delivery Report.

| Sub-Option 1.1 (*Form of Contract Carriage*) | |
|---|---|
| **1** | **Vector could provide "Supplementary Capacity" in respect of an End-user with AQ ≥ a threshold** |
| **2** | **Supplementary Capacity could only be used to supply the relevant End-user; it could not be transferred or traded and would not be grandfathered** |
| **3** | **The term of the relevant Supplementary Agreement and gas supply agreement would be the same; a Shipper would pay for the use of the Supplementary Capacity only while it needed it** |
| **4** | **A Shipper could use Reserved Capacity if it preferred** |
| **5** | **Measures would still be needed to limit the aggregate amount of transmission capacity on issue** |
| **6** | **Capacity for smaller End-users would be treated differently** |

## Sub-Option 1.2: Separate Residential End-users (Moderate Change)

**Central Idea**: Manage capacity required to service residential End-users separately, based on numbers and deemed capacity per residential End-user.

**Classification**: Contract Carriage.

**Issue Addressed**: To simplify the management of capacity for the (numerically) largest group of End-users; to enhance retail competition for such End-users by ensuring sufficient transmission capacity would be available to any Shipper.

1.39 Residential and small commercial End-users are too numerous for Shippers to assess their capacity requirements individually.

1.40 While the offtake of individual residential End-users may vary widely it would seem possible to define a "statistical average" capacity per End-user.

1.41 When a Shipper acquires new residential End-users they often request additional Reserved Capacity equal to the number of ICPs x (0.10 to 0.2) GJ/day/ICP.

1.42 All this suggests that residential End-users would be managed *en bloc*.

1.43 Collectively, residential End-users have a number of significant attributes, including:

(a) accounting for the vast bulk of customer switches;

(b) comprising a relatively small proportion of the total demand for capacity[4];

(c) having a very high supply priority, being the last category of customer to be curtailed in the event of load-shedding being required[5];

(d) not justifying sophisticated metering, or telemetry;

(e) always being supplied on standard terms and conditions; and

(f) paying the highest prices for gas, transmission and distribution so that, while being of low value individually they generate considerable value *en masse*.

1.44 Treating residential End-users as a bloc could involve:

[4] On the Auckland distribution network, residential consumers account for <19% of total offtake (GJ); on the ex-NGC networks <13%.

[5] For purely practical reasons: loss of supply can be hazardous to the residents, while the sheer number of residential connections means that restoring lost supply is very time-consuming and expensive.

(a) deeming a transmission capacity requirement per residential End-user (*Residential-User Capacity*): the same across the entire transmission system, or a different value for each region or network (Delivery Point);

(b) a Shipper paying for capacity equal to: number of residential End-users × Residential-User Capacity;

(c) Residential-User Capacity being transferred automatically when a residential End-user switches;

(d) elimination of overrun charges for the residential End-user sector, subject to periodic review and adjustment of Residential-User Capacity;

(e) Residential-User Capacity having the highest priority in a contingency; and

(f) Residential-User Capacity not being interchangeable with other transmission capacity.

1.45 Given the number of switches involved there would need to be a reliable and streamlined process for tracking Shippers' aggregate Residential-User Capacity.

1.46 This process could involve Shippers advising gains and losses in customers and Vector making *incremental* adjustments to Shippers' "opening" holdings of Residential-User Capacity. That would require Vector to *know* those holdings however, which would require Vector to maintain a complete database of residential End-users.

1.47 It would be vastly preferable to use the Registry database. Currently the Registry holds all ICPs[6] and certain other information, including: the relevant Delivery Point, switch date, ICP status and retailer (ie gas supplier). Use of the Registry should eliminate switching disputes.

1.48 At each month end the Registry would provide Vector with an updated list of residential End-users; Vector would adjust each Shipper's aggregate Residential-User Capacity and bill accordingly.

1.49 As the retailer at an ICP may not be the Shipper, either the Registry would need to be modified to hold such information or Vector would need to run a filter through each report from the Registry to ensure that the correct Shipper was charged for capacity.

1.50 Were a different Throughput Fee (*TPF*) ever to apply to gas shipped for residential End-users, Vector would need to know the GJ/day so shipped. Such information should come from the Allocation Agent, though at the moment the Allocation Agent does not hold it.

[6] The Registry would need to hold ICP details for networks that are currently "closed".

| Sub-Option 1.2 (*Form of Contract Carriage*) | |
|---|---|
| **1** | **Shippers would not reserve capacity for residential End-users** |
| **2** | **Define "average" capacity per residential End-user; review periodically** |
| **3** | **Shipper' capacity usage = number of residential End-users × average capacity/End-user**<br><br>**No overrun charges payable** |
| **4** | **Use Registry as record of Shippers' residential End-users** |
| **5** | **Residential-User Capacity would transfer automatically on switching** |

## Sub-Option 1.3: Short-Term Reserved Capacity (Moderate Change)

**Central Idea**: A Shipper would purchase Reserved Capacity in advance, for periods from a month up to a year. The price could be set by demand.

**Classification**: Contract Carriage.

**Issue Addressed**: To enable Shippers to manage their capacity better; to price capacity more efficiently.

1.50 Reserved Capacity is currently sold at a constant price for a full year. However, the demand for capacity is generally lowest in mid-summer and highest in mid-winter.

1.51 Some Shippers have said they'd like to be able to buy capacity for periods shorter than a year ("short term capacity"); they'd like to pay less for capacity at times when they're not using so much.

1.52 Short-term capacity could be defined, priced and sold in various ways, with significantly different implications for Vector's cash flow. (Vector's overall revenue requirement would remain the same.)

1.53 Simplest possible option:

(a) Vector defines a *daily* Capacity Reservation Fee (*CRF*) for a Receipt Point-Delivery Point prior to a year;

(b) prior to each month of the year a Shipper requests Reserved Capacity, for any number of days up to the remainder of the contract year;

(c) Vector provides Reserved Capacity to the extent it can; and

(d) Shippers are invoiced Capacity Reservation Charges (*CRCs*) in arrears as at present.

1.54 Drawbacks:

(a) Shippers willing to book capacity for the whole year might leave insufficient for those wanting to book month to month;

(b) increased revenue uncertainty for Vector, eg by Shippers' aggregate capacity bookings being less than anticipated. Why should Vector bear this risk, as well as volume risk, under price control?

1.55 A better option:

(a) Vector defines the CRCs to be recovered for each Receipt Point-Delivery Point in the coming year;

(b) Vector then defines the proportion to be recovered each month, eg:

(i) $1/12^{th}$ of the annual total; or

(ii) different amounts, in proportion to the ratio of monthly throughput to annual throughput;

(c) prior to each month of the year a Shipper requests Reserved Capacity for any number of days up to the remainder of the contract year;

(d) Vector provides Reserved Capacity to the extent it can;

(e) Vector determines the CRF for each month, ie the capacity charges to be recovered ÷ the Reserved Capacity approved; and

(f) Shippers are invoiced CRCs in arrears as at present.

1.56 Drawbacks:

(a) again, a Shipper wanting to book capacity monthly could be left short;

(b) in (b)(i) the CRF would be *lower* in high demand months (ie same dollars recoverable ÷ more GJ of capacity): a perverse outcome;

(c) but, in (b)(ii) Vector's cash flow capacity charges would be uneven;

(d) the cost of capacity would be volatile, varying with demand; greater demand would push the price down while lower demand would push it up.

1.57 To mitigate such price volatility, Vector could publish an "advance CRF", payable by Shippers willing to book capacity more than a month ahead. Shipper could then buy certainty for part of capacity requirements, and ride the market for the rest.

1.58 It could be useful for a Shipper to know how much capacity was being booked to each Delivery Point. To keep the market informed, Vector could publish the amount of Reserved Capacity it had approved for future months at the end of each booking cycle.

1.59 Vector might also be able to publish the daily GJ of capacity it would be prepared to sell for each Receipt Point-Delivery Point. Vector would need to be able to vary the capacity for sale in response to changing loads across a pipeline.

1.60 Since Shippers would be able to avoid or minimise carrying unnecessary capacity, there should be no need to transfer capacity. Capacity trades between Shippers at the same Receipt Point-Delivery Point should still be possible.

1.61 Reserving capacity is a forward-looking process: a Shipper request followed by a Vector evaluation/approval/allocation process. Such processes would need to be streamlined, mechanical, dispute-proof and quick.

1.62 On a constrained pipeline, this sub-option could default to more or less the present one, with Shippers booking well ahead, if not for the entire year, to try and avoid being caught short of capacity.

1.63 There would still be Unauthorised Overrun Charges. A capacity-rationing process would also be required to deal with any general excess of demand over supply.

| **Sub-Option 1.3 (*Form of Contract Carriage*)** | |
|---|---|
| **1** | **Shippers could reserve capacity from a day to a year ahead** |
| **2** | **The cost of capacity would vary from month to month** |
| **3** | **Could be an advance CRF to mitigate price volatility** |
| **4** | **No grandfathering of capacity – all Shippers on equal footing** |
| **5** | **Capacity could be defined for each Receipt Point-Delivery Point** |
| **6** | **Overrun charges would still apply** |
| **7** | **No transfers of capacity (except trades at the same Receipt Point-Delivery Point)** |

## Sub-Option 1.4: Annual Re-set of Reserved Capacity (Minimal Change)

**Central Idea**: Annual capacity reservation continues. Vector approves additional capacity during the year, in respect of existing End-users, because it may reduce other Shippers' capacity accordingly for the following year. No grandfathering rights apply.

**Classification**: Contract Carriage.

**Issue Addressed**: To facilitate retail competition by re-allocating transmission capacity to Shippers who require more.

1.64 The current annual capacity round can be seen as capacity "re-set" process.

1.65 Where capacity is constrained however, such a capacity re-set may not occur if a Shipper exercises its grandfathering right and hangs on to capacity it may not need.

1.66 The problem that creates for Vector is that it is asked to provide additional Reserved Capacity for *existing* End-users, and the new capacity has grandfathering rights.

1.67 If grandfathering was abolished there could be a new process for obtaining and allocating Reserved Capacity introduced.

1.68 One option - example:

(a) for Year 1, Shippers request Reserved Capacity;

(b) during Year 1, an End-user switches from Shipper A to Shipper B, but Shipper B has insufficient Reserved Capacity;

(c) Shipper B requests additional Reserved Capacity from Vector, warranting that it's for an existing load; Vector approves additional capacity on that basis;

(d) Shipper B notifies Vector of the identity of the Shipper from whom it switched the End-user[7] (ie Shipper A); Vector records that, along with the amount of the additional capacity and whether Shipper A requests cancellation of any amount of Reserved Capacity;

(e) for Year 2: where Shipper A requests the same capacity as in Year 1 despite losing the End-user, Vector reduces the capacity it approves by the additional amount sold to Shipper B; and

(f) during Year 2, if Shipper A switches an End-user it may obtain additional Reserved Capacity as described in (c).

[7] It might be better to have the Registry do this.

1.69 A key requirement would be that Shipper requesting additional Reserved Capacity would be obligated to state whether it would be used to supply existing End-users only, or new load.

1.70 Due to the large number of switches in any year, standardised and streamlined procedures for identifying the movements in End-users and recording the relevant capacity information would be essential.

1.71 A much simpler option would be for Vector to allocate capacity at a macro level, and not to focus on individual End-users at all. For example:

(a) for Year 1, Shippers request Reserved Capacity;

(b) during Year 1, an End-user switches from Shipper A to Shipper B, but Shipper B has insufficient Reserved Capacity;

(c) Shipper B requests additional Reserved Capacity from Vector, warranting that it's for an existing load; Vector approves additional capacity on that basis;

(d) Vector tracks Shippers' offtake against Reserved Capacity during the year. Where Shipper A has a net loss of load, or otherwise continues to hold too much unutilised capacity, but nevertheless asks for such capacity for Year 2, Vector reduces the Reserved Capacity it provides to Shipper A in Year 2; and

(e) during Year 2, if Shipper A switches an End-user it may obtain additional Reserved Capacity as described in (c).

1.72 With Vector effectively setting a Shipper's level of Reserved Capacity the question of charging the Shipper Unauthorised Overruns, and the Shipper's liability associated with them, would need to be re-examined.

1.73 This sub-option could be applied to all End-users, or just some (eg large End-users).

1.74 Hopefully, if Shippers knew they could obtain additional Reserved Capacity if they gained new End-users they might be more willing to relinquish it on losing them.

1.75 Transfers of Reserved Capacity between Shippers at the same Delivery Point could still be allowed.

1.76 There should be a requirement for Shippers to notify Vector before connecting any large new End-user (ie above a specified threshold).

| Sub-Option 1.4 (*Form of Contract Carriage*) | |
|---|---|
| **1** | **Retain annual capacity reservation** |
| **2** | **Vector sells additional Reserved Capacity during the year to Shippers switching existing End-users** |
| **3** | **Vector tracks a Shipper's usage of Reserved Capacity; Vector may reduce a Shipper's capacity for the following year ("use it or lose it")** |
| **4** | **Shippers must notify Vector before supplying any large new load** |
| **5** | **Re-assess determination of overruns** |
| **6** | **No grandfathering of capacity – all Shippers on equal footing** |
| **7** | **No transfers of capacity (except trades at the same Receipt Point-Delivery Point)** |

## OPTION 2: COMMON CARRIAGE

**Provision of Sufficient Capacity**

1.77 Vector would forecast future demand for transmission capacity, but Shippers would be required to notify significant new loads, both planned and committed, in sufficient time.

1.78 Vector would analyse the capacity of existing pipelines against forecast load. If a requirement for additional transmission capacity was indicated, Vector would notify Shippers of:

(a) the anticipated capacity shortfall;

(b) the most efficient capacity enhancement; and

(c) the likely effect on transmission fees if such capacity enhancement was implemented.

1.79 Absent any legitimate objection, Vector would install the additional capacity.

1.80 The cost of the new capacity would be rolled in to the transmission asset base and Vector would re-determine its transmission fees if required. As rational investments in transmission capacity are generally "lumpy"[8] there would be suitable mechanisms for spreading the cost over time, if necessary.

1.81 Shippers would be reasonably guaranteed access to capacity: no Shipper would be turned away, provided it had given adequate notice[9] of any major new load.

1.82 The *quid pro quo* would be that Vector would be protected against asset stranding, should forecast demand fail to fully materialise or existing demand be.

**Shippers Charged for Capacity Used**

1.83 Shippers would pay only for the capacity they used. Some (if not all) transmission charges would be based on the Shipper's capacity usage coincident with peak demand on the relevant pipeline (see option 2.1).

1.84 Interruptible service would still be available, on a constrained pipeline only, and/or where it was demonstrably uneconomic to provide firm capacity.

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[13] A pipeline compressor or a stretch of looping would create a step-change in capacity. At the time of commissioning, this could exceed the immediate requirement: it might be some years before all the new capacity was fully utilised. That is <u>not</u> an argument for sub-optimal investment: looping, for example, is best installed in lengths large enough to realise some economies of scale, thereby reducing the unit cost of new capacity.

[9] Large-scale pipeline investments may have a lead-time of 2 - 5 years.

**Different Rights to Capacity**

1.85 Under a *pure* Common Carriage regime, no Shipper (or End-user) would have any preferential right to capacity. If the demand for capacity exceeded the supply, all Shippers' usage of capacity would be curtailed.

1.86 In reality, it is impractical to curtail a mass of small End-users[10]. They can't be contacted in sufficient time, nor can their compliance be verified[11]. Safety considerations also argue in favour of leaving them alone.

1.87 End-users should therefore be classified in order of supply priority. Interruptible End-users would still be curtailed first. Other End-user classes would be curtailed in ascending order of priority. Residential End-users (along with hospitals, public health facilities and the like) would have the highest priority. Probably, only a small number of larger End-users would ever need to be affected.

**Cost of Capacity**

1.88 One might expect capacity that is less firm to cost less, and therefore transmission fees to rise with increasing supply priority. In that regard however, the *delivered* cost of gas should be considered. Large End-users generally enjoy markedly lower gas prices, as well as distribution charges. Since in many cases transmission charges represent a very small portion of the total delivered cost of gas it is questionable whether lower-priority End-users should be charged less for transmission, or how material any fee reduction would be.

1.89 Moreover, if transmission charges were linked to coincident peak use of capacity, any Shipper whose End-users were curtailed would face lower charges anyway.

1.90 A Shipper who did not reduce its use of capacity when instructed to do so should be required to indemnify Vector against any loss, arising (for example) from other Shippers' claims.

**Allocation of Available Capacity**

1.91 An issue that could arise in transitioning from a Contract Carriage to a Common Carriage regime is that End-users on the upstream part of a pipeline could use so much capacity that End-users at the far end could be left short[12]. That suggests the need to set aside certain amounts of capacity for different parts of a pipeline.

1.92 Common Carriage could apply at a Delivery Point level, within a zone, or at the pipeline level. Capacity to be set aside for specified areas could be determined simply from historical throughput.

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10 Except in dire emergency, such as following a pipeline rupture: needs must when the Devil drives.

11 As noted elsewhere, verification of capacity usage requires an End-user's meter to have a TOU device.

17 Under Contract Carriage, capacity is sold point to point, allowing the availability of capacity on different parts of a pipeline to be managed by the pipeline owner. Once a Shipper obtains capacity, grandfathering may prevent that capacity from displacement by demand elsewhere. Under pure Common Carriage there is no such mechanism.

1.93 Downstream End-users should expect to pay more for transmission than those upstream, in view of the additional assets required to ship gas further. Transmission fees should therefore include some distance-related component.

| **OPTION 2: COMMON CARRIAGE**<br>**KEY DIFFERENCES FROM CURRENT REGIME** | |
|---|---|
| **1** | **Shippers could not own, trade or transfer capacity** |
| **2** | **Shippers would pay only for the capacity they used, or nominated to use** |
| **3** | **Capacity could be set aside for different parts of a pipeline** |
| **4** | **End-users would be assigned a supply priority; if capacity was short, Shippers would curtail End-users in that order** |
| **5** | **Transmission fees could include distance-related, and peak demand-related components** |

## Sub-Option 2.1: Peak Demand Capacity (Substantial Change)

**Central Idea**: Capacity charges would be allocated to Shippers in proportion to their share of peak demand, so a Shipper would pay for the true cost of its offtake.

**Classification**: Common Carriage

**Issue Addressed**: To encourage efficient utilisation of transmission capacity; to charge Shippers in arrears only for the capacity they used.

1.94 Under price control Vector's aggregate transmission charges could be fixed[13].

1.95 Whatever the revenue to be recovered via *fixed* charges, such charges could be allocated in proportion to Shippers' actual use of transmission capacity. So, for a given Shipper:

$$\text{Capacity Charge} = (P_S / P_T) \times C$$

where:

$P_S$ is the Shipper's peak offtake;

$P_T$ is the total offtake of all Shippers at the peak; and

C is the total of all fixed charges to be recovered.

1.96 Basing the parameters $P_S$ and $P_T$ on the peak day would be appropriate, since it is the peak day[14] which usually determines how big a pipeline needs to be to supply the offtakes from it.

1.97 The parameter C could be defined in a number of ways. For example, for:

(a) individual Delivery Points;

(b) groups of Delivery Points (ie zones); or

(c) a whole Pipeline,

as well as for different periods of time (eg monthly or annually). The choice would significantly affect the cost of transmission to different Delivery Points and/or at different times.

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13 The form of price control under which Vector will operate has not yet been finally decided.

19 That is not to say the peak hour might not be equally, if not more significant at some Delivery Points. As a practical matter however, the Allocation Agent does not determine Shippers' hourly offtakes at any shared Delivery Point, hence Shippers' individual contributions to any aggregate hourly peak are unknown at such Delivery Points.

1.98 If C were charged at a Delivery Point level, the unit cost of capacity could be significantly higher in months when offtake was lower. Minimising volatility in such cost could be a significant factor in defining both the level, and the time period over which C would apply.

1.99 Collecting 1/12$^{th}$ of C each month would be attractive to Vector from a cash flow point of view.

1.100 Transmission is largely a fixed-cost business. Vector might not wish to continue bearing the present degree of volume risk, ie where over 30% of its revenues derive from the Posted TPF. Under some future pricing methodology any per-GJ (throughput) fee could be substantially different to what it is today.

1.101 Supplementary Agreements and remaining Non-Code TSAs would continue until they expired. Revenues obtained under such agreements would be taken into account in setting the value(s) of C applicable to Shippers on standard terms and conditions.

1.102 Vector could still offer an interruptible service, though only on a constrained pipeline.

1.103 A Shipper would pay only for the capacity it used. A Shipper with a higher peak demand would pay proportionally more than a Shipper with a flatter load profile. That should encourage efficient use of the Transmission System.

| **Sub-Option 2.1 (*Form of Common Carriage*)** | |
|---|---|
| **1** | **Shippers would have equal entitlements to capacity** |
| **2** | **Shippers would pay for the capacity they used, in proportion to their share of peak demand** |
| **3** | **The cost of capacity could vary depending on how the monthly pool of recoverable transmission charges was defined** |
| **4** | **No capacity grandfathering** |
| **5** | **No reservation, transfer or trading of capacity** |
| **6** | **No Unauthorised Overrun Charges** |

## Sub-Option 2.2: Nominations-Based Capacity (Substantial Change)

**Central Idea**: Shippers would nominate their capacity requirements; incentive fees would encourage accurate nominations.

**Classification**: Common Carriage.

**Issue Addressed**: To encourage efficient utilisation of transmission capacity; to charge Shippers only for the capacity they intend to use.

1.104 Under the current VTC, Vector may call for nominations on the Transmission System, but only for information purposes. If this sub-option applied, nominations would play a key role.

1.105 A Shipper would nominate its requirements for transmission capacity as set out in Vector's standard Interruptible Agreements (based on the MDL procedure), ie week-ahead, day-ahead and intra-day, for each Receipt-Delivery Point.

1.106 Vector's Pipelines are much more complex than the Maui Pipeline. They have significant branches, many Delivery Points and flow-limiting sections; physical capacity generally diminishes sharply the further gas is required to flow.

1.107 Vector would therefore need a capacity allocation process that was fair to all Shippers, and did not leave the most distant Delivery Points short.

1.108 If transmission capacity was defined daily, the need for Vector to assess diversity between Receipt-Delivery Points could be avoided. Vector could define aggregate transmission capacity requirements as being the capacity actually used for a given Receipt Point-Delivery Point in the most relevant prior period, and process Shippers' nominations accordingly.

1.109 Shippers would have to advise significant new loads not represented in historical offtake.

1.110 Nominations and actual End-user demand would have to be closely aligned. Powerful incentive fees to encourage the most accurate practicable nominations would be an essential part of the nominations regime.

1.111 Two tiers of incentive fees could be payable for differences between actual and nominated/approved use of capacity, for example:

(a) for differences of (say) ± 5%, 2 – 5 times the normal cost of transmission; and

(b) for greater differences, 20 - 100 times the normal cost of transmission.

Revenue from such incentive fees would be recycled to offset transmission charges the following year.

1.112 Incentive fees would be intended to discourage both:

(a) under-nomination, ie where the Shipper used more capacity than it nominated or was approved to use (⇔ an Unauthorised Overrun; and

(b) over-nomination, ie where a Shipper requested more capacity than it expected to use, to secure a greater share in the event Vector had to ration capacity,

since both could possibly reduce the capacity available to other Shippers as well as a Shipper's own liability for transmission charges.

1.113 Shippers' nominations would determine the allocation amongst Shippers of the relevant pool of transmission charges, to be determined as discussed under sub-option 2.1.

| **Sub-Option 2.2 (*Form of Common Carriage*)** | |
|---|---|
| **1** | **Shippers would have equal entitlements to capacity, determined by nominations: eg week-ahead, day-ahead and intra-day** |
| **2** | **Vector would allocate capacity if Shippers' aggregate nominations exceeded available capacity** |
| **3** | **Shippers would pay for their nominated share of peak capacity** |
| **4** | **The cost of capacity could vary depending on how the monthly pool of recoverable transmission charges was defined** |
| **5** | **Strong incentive fees would discourage under and over-nomination** |
| **6** | **No capacity grandfathering** |
| **7** | **No reservation, transfer or trading of capacity** |