Submission to the Commerce Commission on Gas Transmission Form of Control and Investment

27 May 2011

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INTRODUCTION

1. In Vector's letter to the Chairman of the Commission of 26 November, 2010, entitled Gas Transmission Issues, Vector undertook to provide the Commission with a paper describing its proposed approach to major gas transmission investment.

2. Since that time, the Government has released its updated New Zealand Energy Strategy 2011[1], which re-emphasises the importance of energy as an essential input to all sectors to support New Zealand's economic competitiveness. The importance of establishing regulatory and market frameworks that enable investment and innovation in this critical sector to be realised as early and efficiently as possible cannot be over-emphasised.

3. Gas transmission services are regulated under default/customised price-quality regulation, intended to be a low cost form of regulatory control. Vector believes that any default price-quality path (DPP) should accommodate the unique; business as usual, characteristics of the service in order to ensure regulation is low cost. If the DPP is not properly designed, gas transmission businesses (GTBs) will be forced to engage in a lengthy, costly, uncertain customised price-quality path (CPP) process unsuited to timely, efficient major gas transmission investments because a CPP applies to the whole business and locks it into a process unsuited to the nature of gas transmission investment. There is a significant risk that GTBs may prudently choose to defer or cancel substantial investments.

4. This paper sets out Vector's more developed proposal regarding the form of control for gas transmission, including an *ex ante* regulatory investment test as part of a broader development of the regulatory and investment frameworks for gas transmission in New Zealand. The proposal accommodates the inherent features of gas transmission services and ensures a regulatory approach for GTBs that provides investment incentives over time in accordance with Part 4.

5. This paper is provided without prejudice to Vector submissions in the input methodologies process and builds on those submissions.

6. We look forward to continuing to engage with the Commission on this matter.

7. Vector's contact in relation to this paper is:

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[1] New Zealand Government, *New Zealand Energy Strategy 2011, draft released March 2011*

EXECUTIVE SUMMARY

Application of DPP / CPP regulation to GTBs

8. A stand out feature of gas transmission is the financial risk associated with gas transmission investments. These investments are infrequent and expensive, are the subject of long-term demand uncertainty and the potential for asset stranding. Importantly, they are not exceptional features of gas transmission, but rather are inherent features of the provision of transmission services.

9. In order to meet the purposes of DPP / CPP regulation, these business as usual characteristics should, and can be, accommodated within a DPP. Vector notes here that Parliament has decided not to subject GTBs to the more intrusive individual price-path regulation applicable to Transpower.

10. Under the Commission's proposed approach, however, Vector would be required to apply for and obtain a CPP determination in order to proceed with any investment in gas transmission pipelines. As Vector has previously submitted, the CPP process is inherently unsuitable for gas transmission projects. Specifically:

    (a) critical investment will inevitably be delayed under the CPP process (the timeframes are not well suited to the requirements of gas transmission investment);

    (b) GTBs will be reluctant to apply for a CPP given the considerable risks and costs associated with this process; and

    (c) the CPP rules and processes require a number of mandatory information requirements that are not applicable or necessary for GTB investment.

11. More generally, GTBs should not be forced to apply for a CPP, and face the associated costly, lengthy and uncertain process, in order to ensure that gas transmission pipeline investment is included in the revenue path.

A regulated investment test as part of a default price-quality path

12. In relation to gas transmission investment, the Commission has an important review function to ensure robust and prudent processes lead to prudent and efficient investments consistent with the purpose of the Act. This review most properly can be accommodated within a DPP.

13. Vector proposes a regulatory investment test (RIT), supported by appropriate processes of verification to be applied on an *ex ante* basis to ensure that the inherent, default characteristics of gas transmission are appropriately accommodated in the DPP.

14. Our proposal for a RIT seeks to strike an appropriate balance between providing certainty to the regulated GTB that it can recover a commercially sustainable rate of return on its proposed investment (before that investment is committed to) and providing sufficient comfort to the Commission that recovery will occur only in respect of prudent and efficient investment.

15. The RIT and supporting processes laid out in this paper are aspects of the investment framework necessary to enable any supplier of gas transmission services to make optimal investments. This will maximise New Zealand's ability to respond positively to global energy opportunities and risks in order to maximise New Zealand's economic competitiveness.

The Regulated Investment Test (RIT)

16. Vector's proposed RIT is premised on a prescribed *ex ante* process, with a set of pre-determined criteria and independent verification, the outputs of which are provided to the Commission for review and confirmation.

17. This proposal has been developed to be consistent with both international best-practice and the underlying conceptual framework informing the implementation of Part 4 of the Act. Specifically, the proposal:

    (a) ensures the investment is necessary, but not "gold-plated", through a process of customer consultation and independent verification;

    (b) ensures there is no incentive for unreasonable delay or significant reallocation of capital expenditure once the Commission has approved an investment;

    (c) is based on a transparent process and does not require the Commission to second guess the reasonable and prudent engineering judgments of the transmission service provider;

    (d) allows suppliers to develop investment plans around new capacity with some certainty, and an appropriate degree of flexibility to address changes in demand and customer requirements; and

    (e) ensures consistency with the purpose of Part 4 of the Act.

18. At the conceptual level, the RIT fits into a process by which the providers of gas transmission services:

    (a) identify the need for the investment (in the context of published security criteria and demand forecast assumptions);

    (b) consider investment options and other alternatives in determining the most appropriate solution;

    (c) have the prudency of the investment independently confirmed (to the satisfaction of the Commission); and

(d) commence recovery of prudent investments as part of the normal operations of the gas transmission service under the DPP.

19. Under the RIT, where the proposed investment meets the pre-determined criteria, an intra-period adjustment to the price path, which is calculated as part of the RIT and confirmed by the Commission, would be allowed as a recoverable cost[2] until the next price reset.

20. This review would be targeted at providing the Commission with sufficient comfort that only expenditure incurred efficiently and prudently will be recognised for the purposes of the DPP.

21. The final and critical element of the process is the translation of an increase in the RAB (by the amount of any prudent investment) to an increase in the revenue of the regulated GTB.

22. We propose that the RIT would include the calculation of revenue (i.e. pre-tax return on and of capital) for each complete year following commissioning and up to the end of the regulatory period. This amount would be treated as a recoverable cost under the revenue path. At the next reset the revenue would form part of the revenue cap and would cease to be recovered as a recoverable cost.

Conclusion

23. Developing a set of transparent, low-cost, rules for gas transmission is a key task for the Commission as it implements the new regulatory provisions of the Commerce Act. In this paper, Vector has set out its current views on how the regulatory regime can be developed to enable GTBs to efficiently invest, build and operate, as early as possible, fit-for-purpose gas transmission systems. Vector submits that the approach proposed ensures that the purpose Vector submits that the approach proposed ensures that the requirements of the Part 4 purpose are properly balanced over time, in a least-cost manner. We look forward to continuing to engage with the Commission on this matter.

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[2] In the same way the Commission will use recoverable costs for claw-back adjustments.

STRATEGIC CONTEXT

25. The importance of the energy sector has been reiterated in the March 2011 Draft New Zealand Energy Strategy, which recognised that energy was not just a commodity but an essential input to enable the New Zealand economy to respond positively to global energy risks and opportunities.[3]

26. The government's stated approach for optimising New Zealand's energy potential is to ensure energy markets are effective and efficient and that its role is to ensure it gets the market incentives and the regulatory framework right.

27. Getting the most out of energy resources involves enabling investors to optimise the development of resources and ensuring resources are used efficiently to "get the most value from them".

28. The government is committed to the aspirational target that 90% of electricity generation be from renewable sources by 2025, providing this does not affect security of supply.[4]

29. Natural gas supply to support fossil fuel generation for the provision of security of supply is a critical feature of the strategy. As noted in Maui Development Limited's August 2010 submission, evidence in recent years demonstrates that renewable energy sources, such as wind generation, rely on significant gas generation capacity to ensure supply security. Renewables, rather than phase out thermal generation, actually increase the demand for quick-start "firming" capacity when the variable renewable sources are not immediately available.[5]

30. The demands for security of supply impact capacity delivery at certain times, without necessarily increasing total gas conveyance. Moreover, as suppliers of energy generation services respond to demand signals for greater "firming" capacity, supplied by reliable and efficient thermal plant, they will seek additional transmission pipeline capacity beyond that currently provided by MDL or Vector, New Zealand's two transmission service providers. Major consumers of transmission services involved in supplying the economy's energy needs have made this point to the Commission during consultation on Input Methodologies (IMs).

> "Genesis Energy's primary interest in input methodologies for gas pipeline services is the implications for gas transmission investment....

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[3] Ibid, p.4.

[4] Ibid, p.11.

[5] Maui Development Limited (MDL), *Commerce Commission Submission: Input Methodology (Gas Pipeline Services) Draft Reasons Paper, Companion Paper, and Draft Commerce Act Determination 2010*, para 2.2-2.4, p.3.

> Given the "lumpiness" of gas transmission investment, Genesis Energy believes the Commission should consider whether an *ex ante* approval process would be appropriate for gas transmission."[6]

31. The regulatory regime should be designed to enable energy markets to have the certainty to operate efficiently and effectively and respond to the strategic direction of the country. Specifically, this includes enabling prudent and efficient investment, build and operation of fit-for-purpose gas transmission systems.

APPLICATION OF DPP / CPP REGULATION TO GAS TRANSMISSION

32. As Vector has previously submitted in the input methodology consultation process:[7]

    (a) DPPs should accommodate usual GTB business circumstances. As noted by the Commission, periodic large-scale investment based on uncertainty surrounding future demand is a feature of GTBs and not a one-off business specific problem.

    (b) CPPs are intended to be the exception to the rule. However, under the Commission's approach, CPPs are in effect the standard form of regulation for GTBs (but with GTBs likely to be reluctant to make a proposal given the associated risks and costs).

    (c) More specifically, the current CPP rules and proposes are not designed to specifically manage ongoing and unpredictable lumpy investment requirement in gas transmission pipelines.

The Inherent Characteristics of Gas Transmission

33. In 2008, Parliament recognised that the efficient delivery of gas transmission services was best provided for by DPP / CPP regulatory control to provide relatively low cost incentive regulation to enable economic efficiency and productivity improvements (relative to the general economy) as part of the regulated price path.

34. In order for the DPP and CPP framework to operate effectively a DPP must properly accommodate the characteristics inherent in the nature of the service being regulated (for the regime to be relatively low cost and for the Part 4 purpose to be met). The CPP mechanism is available as the exception where a

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[6] See: Genesis Energy, *Input Methodologies – Gas Pipeline Services*, 6 August 2010, p.1.

[7] Vector, *Submission in response to the Commerce Commission's Revised Draft Determinations and Consultation Update Papers for Electricity Distribution Businesses and Gas Pipelines Businesses, Part 5,* 19 November, 2010, p.3.

supplier of regulated services requires an alternative price-quality path that better met that supplier's "particular circumstances." (our emphasis)[8]

35. The nature and characteristics of gas transmission are commonly accepted. Gas transmission pipelines involve significant sunk costs, and require considerable economies of scale to build. Replacements, upgrades and new investments occur periodically and are large. It is because of these factors that there are few suppliers of these essential services. The result is that gas transmission services exhibit natural monopoly characteristics that now subject them to economic regulation under the Commerce Act.

36. Both MDL and Vector, New Zealand's only suppliers of gas transmission services, have expressly identified in current and earlier submissions and workshops that the lumpy, periodic investment is not particular to the provision of either supplier's transmission service, but rather, is a characteristic of gas transmission services that, along with other factors, differentiate that service from gas distribution (similar to the way electricity transmission differs from electricity distribution).

37. It is also because of these inherent characteristics that the Commission itself identified the appropriateness of establishing a separate DPP for gas transmission services differentiated from the DPP to be provided for the regulation of gas distribution.[9] The nature of gas transmission and the New Zealand gas market in particular are discussed in more detail in Appendix A.

38. The Commission has further recognised that a DPP should be a generic tool, as far as practicable, such that price-quality regulation can be cost-effectively applied across multiple suppliers of the regulated services.[10] The Commission has also recognised that infrequent lumpy investments are inherent features of gas transmission.

39. However, to date the Commission has not then gone on to establish the specific features of the DPP that accommodate the inherent or default characteristics of gas transmission services. Rather, the Commission considers that the option of applying for a CPP and relevant IM decisions that incorporate additional mechanisms for dealing with uncertain or unforeseen gas transmission investments "provide sufficient flexibility under the Part 4 regulatory framework

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[8] Commerce Act 1986, s 53K.

[9] Commerce Commission, *Initial Default Price-Quality Path for Gas Pipeline Businesses; Issues Paper,* 12 April, 2010, Section 2, pp.7-10. It is noted that the Commission's views were appropriately informed by workshops with interested parties, and a review of overseas jurisdictions.

[10] Commerce Commission, *Initial Default Price-Quality Path for Gas Pipeline Businesses, Discussion Paper,* 1 April 2011, p.7.

to cater for future investment needs for GTBs."[11]

Customised Price Path not the appropriate mechanism for accommodating gas transmission investment

40. Vector submits that, contrary to the Commission's position, CPPs are an inappropriate mechanism for GTB investment, reliance on which will undermine the purposes of the Act. Specifically, as Vector has previously submitted in the input methodology consultation process:[12]

    (a) there is nothing special or abnormal about GTBs periodically having to make large-scale investments based on uncertainty surrounding future demand (as set out above);

    (b) while CPPs are intended to be the exception to the rule (in order to achieve a low cost regime), under the Commission's approach they would be, in effect, the standard form of regulation for GTBs;

    (c) the CPP, however, remains a costly, uncertain and highly risky process and under the Commission's approach there is a real risk that investment in gas pipelines will be deterred;

    (d) the CPP mechanism is also not well suited to GTB investment given the delay that will occur before investment could proceed; and

    (e) the CPP rules and processes require a number of mandatory information requirements that are not applicable or necessary for GTB investment.

41. The Commission in its April 2011 DPP Update Paper for EDBs[13] set out a revised approach based on an assumption that the CPP is low-cost for suppliers and can and will be used by suppliers as an error correction mechanism. It appears that the Commission similarly considers that GTBs can and will apply for CPPs for the purposes of GTB investment. As set out in Vector's SPA submission, this reasoning, in Vector's view, is fundamentally flawed.[14] As Vector explained, suppliers will be reluctant to apply for CPPs. Specifically:

    (a) GTBs will be put to significant cost when applying for a CPP:

        i. CPP proposals will require the provision and development of considerable information and data, developed in a manner consistent

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[11] Ibid, p.28.

[12] Supra, footnote 7.

[13] Commerce Commission, *2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendments,* April 2011.

[14] Vector, *Submission to the Commerce Commission on 2010-2015 DPP Starting Price Adjustment and Other Amendments Update.*, 16 May 2011, pp.24 to 30.

with the broader CPP requirements, such as explicit consideration of the Part 4 purpose statement, to auditable standards;

ii. require independent review to provide assurances to directors to enable certification;

iii. involve building blocks approaches for the service that will require substantial commitment of resources across the transmission service and shared services and likely iterative engagement with any independent verifiers that will involve considerable time and resources;

(b) GTBs face considerable risks when applying for a CPP and, in reality, will be reluctant to apply (for example , proposals once made can't be withdrawn, the proposal may result in a price path that is lower or less favourable to the supplier than the DPP and may result in claw back);

(c) GTBs will be exposed to the risk of a lower WACC under a CPP.

42. Further, and importantly for gas transmission service providers, the CPP mechanism does not provide the necessary flexibility to enable a service provider to be responsive to potential investment demands.

43. The legislative timeframes established in the Act for the processing of customised (alternative) price-quality paths will, of themselves, result in the purpose of default/customised price-quality regulation for gas transmission not being met. A CPP proposal will take considerable months to develop and propose, and once proposed the gas transmission service provider is locked into a process that may take up to 220 working days with no certainty of outcome. This, in turn, will lead to considerable delays in end user investment decisions for critical energy infrastructure.

44. Practically, the board of a provider of transmission pipeline services cannot commit to the necessary lumpy investments, in advance of a CPP being clearly determined in its favour. This would extend to other prudent planning and consenting requirements that are required in advance of any investment proceeding. This would likely have a substantial chilling effect on future investment in thermal generation, particularly in the Greater Auckland region and, moreover, will provide a major impediment to the government's strategic goal of sourcing 90% of New Zealand's electricity generation from renewable sources by 2025.[15]

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[15] Economically, the likelihood of green fields investment by new investors in gas transmission, given the costs of new investment and the economies of scale and scope inherent in the provision of such services, are such that there will be no third providers of those services.

45. Vector in its submission to the Commission of 19 November, 2010, explained in some detail why investment decisions for GTBs would inevitably be delayed under the CPP process with potentially adverse consequences for consumers and the wider economy.[16]

Accommodating GTB investment under the DPP will not risk GTBs being compensated for additional costs

46. The Commission has further stated that it did not consider it appropriate to provide a re-opener under DPPs for gas transmission services because of the concern that "a re-opener may result in GTBs being compensated for additional costs, even if sufficient compensation is already provided for some or all of those costs under a DPP." [17]

47. However, because the gas transmission investments are only periodic and lumpy, the risk to the regulator that sufficient compensation is already provided for in its DPP in advance of such investments being compensated, such that it may risk a transmission service provider extracting excess profits for a period, is particularly low.[18]

48. The RIT and supporting processes will mitigate the risk of this being the case as the RIT is designed only to cater for major capital investments that are stepped changes on previous total investment, which the provider of transmission services has delivered in the recent prior years. Prior, normal capital investment is demonstrated by the service provider's disclosed asset management plans and information disclosure information.

DPP and the proposed RIT better meet the statutory purpose

49. Relying on the CPP mechanism to provide for gas transmission investment will not provide the necessary certainty or incentives to invest, including recovery of that investment under s 52A of the Act.

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[16] Supra, footnote 7, pp.4 -6, paras 20 to 25.

[17] Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipelines Services) Reasons Paper*, 22 December, 2010, p.239.

[18] The rationale that the Commission have applied for rejecting re-openers of DPPs to accommodate lumpy transmission service investments is that by doing so it "may lead to prices being higher than is needed to be consistent with s.52A(1)(d)." Ibid, p.239, para.9.5.37. Vector notes that this justification is contrary to the requirement to incentivise investment consistent with s.52A(1)(a). Vector notes also that the requirement of 52A(1)(d) does not require that there are no excessive profits, only that the GTBs ability to extract excessive profits is limited. This recognises that the potential for early higher profits can incentivise efficiency gains that will ultimately benefit end users. The Commission's considerations here seem to focus on the short term rather than the long term benefit of consumers.

50. Vector submits that this could not possibly have been Parliament's intention. Rather, it was intended that a DPP would specifically cater for the inherent characteristics of the provisions of gas transmission services such that the suppliers of transmission services have incentives to innovate and invest in assets that provide efficient services for New Zealand's economic future as early as possible.

51. Vector submits that by including a RIT, the appropriate incentives for investment for gas transmission services will be provided while ensuring that the service provider adheres to a robust process that enables the purpose statement criteria to be appropriately balanced over time. Further, as described, the purpose of s 53K is better met, as the costs of regulation to consumers will be minimised.

52. The proposed RIT focuses on the regulatory review of major investment decisions and the required adjustment of the gas transmission service's regulated asset base and revenues when a major approved investment is undertaken. A particular subsidiary issue is how to deal with investments that are commissioned part way through a regulatory period.

53. By including a RIT as described within the DPP for gas transmission services, absent the time consuming and costly processes of a CPP, will result in lower costs and a process that is better aligned to periodic lumpy investment.

54. A RIT would involve targeted information necessary to demonstrate the prudency and efficiency of the investment; it will not require full building blocks to have been developed for the entire gas transmission business. The RIT would involve the provision of information relevant to the specific project, including the options considered rather than for all gas transmission investments proposed for the same time period (as would be the case for a CPP). By comparison a RIT as part of a DPP will be lower cost and would avoid the delays in investment decisions inherent in the CPP process.

55. The RIT process proposed will retain considerable checks and balances that allow for consumer consultation, independent review and the demonstration of the prudency of the investment.

No legal impediments to including a RIT in the DPP

56. Vector submits that there are no legal impediments to a RIT process being included in the DPP. Under section 53M the DPP must include a price-quality path that specifies the maximum prices charged or revenues recovered, the quality standards to be applied and the regulatory period. These requirements are not exhaustive, and provided they are met, it is open to the Commission to incorporate the RIT within the DPP.

57. Vector notes that the RIT process will require an amendment to the aspects of

Input Methodologies dealing with recoverable costs for gas transmission businesses. Vector submits that such change is warranted as the RIT and associated processes ensure that the approach to economic regulation for gas transmission services meets the s 52A purpose statement.

MARKET AND REGULATORY FRAMEWORKS

58. The process outlined is an important component of the broader regulatory and market frameworks for gas transmission that Vector will work with customers, the Commission and the market co-regulator - the Gas Industry Company (GIC) - and other industry stakeholders, to achieve.

59. It is considered that the other critical components of the regulatory and market frameworks include the need for publically available and scrutinised demand forecasting[19] and agreed security of supply criteria that have been consulted on and have national standing. Furthermore, effort is required to develop efficient gas market design, including appropriate mechanisms such as auction arrangements for marginal or spare capacity; effective carriage arrangements; a review of existing contractual arrangements; and the ability to ensure supply and demand signalling and investment recovery. Vector is committed to working with customers, the government, regulators and industry to achieve these outcomes.

60. Vector presents below the result of its further work on the development of a RIT and supporting processes that are designed to strike an appropriate balance between:

    (a) providing certainty to the regulated GTB, prior to committing to an investment, that it can recover a commercial rate of return on its proposed investment; and

    (b) providing sufficient comfort to the Commission that recovery will occur only in respect of efficient or prudent investment.

VECTOR'S SUBMITTED VIEWS ON A REGULATORY INVESTMENT TEST

61. In Vector's submission on customised price-quality paths of 25 August 2010, we said that our initial view was that the gas transmission business should publish an annual Asset Management Plan (AMP) which would include:

    (a) a forecast of demand over the short (the current regulatory period), medium (the next regulatory period) and long term (the shorter of 20 years and the life of assets);

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[19] Ideally demand forecasting would be independently provided.

(b) a statement of the GTB's investment plans to meet this forecast demand, which would include an assessment of the optimal size and timing of investment to meet this demand (including future demand); and

(c) an independent verification of the AMP.

62. We also suggested that where the gas transmission business makes a material change to its AMP by contemplating major investment during the course of a regulatory period, the gas transmission business should be able to apply for an adjustment to its DPP without having to apply for a CPP. The change in the DPP would apply from the inclusion of the invested asset(s) in the regulatory asset based upon commissioning.

63. To make an application for an adjustment to the DPP, the gas transmission business would need to have:

(a) issued its AMP in draft and sought feedback from interested parties in respect of the material change;

(b) considered that feedback;

(c) had the material change from the previous AMP, including the results of the consultation process, verified by an independent expert; and

(d) issued a revised final AMP.

64. We further proposed that the Commission adapt the material contained in the (then) draft of Schedule C of the Commission's Gas Transmission Input Methodology Determination (material gas transmission businesses would have to include in a CPP application) and Schedule E (verification). We suggested this adaptation should include detailed methodologies to guide gas transmission businesses and verifiers in assessing investment plans.

65. Based on these views, we set out a preliminary proposal for a RIT in our marked-up draft determinations during consultation on the Input Methodology draft decisions.

66. Vector also urged the Commission to provide the flexibility in the definition of recoverable costs to allow for the recovery of revenue related to a RIT-supported investment under the DPP.

FURTHER DEVELOPMENT

67. Vector has now further developed its proposal for a RIT which would strike an appropriate balance between:

(a) providing certainty to the regulated gas transmission business (GTB) that it can recover a commercially sustainable rate of return on its proposed investment (before that investment is committed to); and

(b) providing sufficient comfort to the Commission that recovery will occur only in respect of prudent and efficient investment.

68. Consistent with Vector's submissions, the RIT has been developed for incorporation into the DPP. The proposed RIT has been developed after considering several local and international regulatory models. The models examined are briefly summarised in **Appendix B**.

69. In Vector's view, investment in major upgrades of infrastructure is a normal part of the business of gas transmission, and thus should be fully integrated in the default regulation of that industry. The approach we have developed below allows gas transmission business as usual to happen, while ensuring that the Commission, on behalf of consumers, has confidence that only prudent and efficient, fit-for-purpose investments are undertaken at prudent times.

DEVELOPING A RIT

Criteria used to develop proposal

70. Vector has sought to develop a proposal that is consistent with both international best-practice and the underlying conceptual framework informing the implementation of Part 4 of the Act, and that:

(a) ensures the investment is necessary, but not "gold-plated", i.e. through a process of customer consultation and independent verification;

(b) ensures there is no incentive for unreasonable delay or significant reallocation of capital expenditure once the Commission has approved an investment;

(c) is based on a transparent process and does not require the Commission to second guess the reasonable and prudent engineering judgements of the transmission service provider;

(d) allows suppliers to develop investment plans around new capacity with some certainty, and an appropriate degree of flexibility to address changes in demand and customer requirements;

(e) is part of a broader process for the development of efficient market and regulatory design that enables consensus on operating and security criteria, demand criteria and efficient market design including mechanisms for the appropriate recovery of investment over time; and

(f) ensures consistency with the purpose of Part 4 of the Act.

Proposed RIT

71. To successfully deliver the New Zealand Energy Strategy goals requires not just that the economic regulatory environment is designed appropriately but also that the broader market and regulatory frameworks are established in a manner that provides the requisite environment to enable appropriate prudent and efficient investment and the recovery of that investment.

72. At the conceptual level, the RIT fits into a broader process of establishing optimal market and regulatory design. This involves not just the Commerce Commission but also the GIC, and all of industry, including consumers of gas transmission services.

73. The improvements in market design extend to consensual demand forecasting, agreed with the industry; agreed security of supply standards; pricing methodologies; appropriate commercial terms and conditions that are consistent with the pricing methodologies and market design agreed, including consideration of common carriage arrangements and the appropriateness of price vis revenue caps; supply and demand signalling; and optimal transportation arrangements to support the gas market.

74. The RIT, as part of a low-cost DPP, would enable the providers of gas transmission services to identify the need for the investment (in the context of published security criteria and demand forecast assumptions), consider investment options and other alternatives in determining the most appropriate solution, and would have the prudency of the proposed investment confirmed to the satisfaction of the Commission. The supporting processes would enable commencement of recovery of the investment at Commissioning.

75. It is submitted that the process would involve the following steps:

Step	**Comment**
Forecast demand	The GTB will include in its AMP scenario-based long-term forecasts of demand for transmission services, derived from consensual (consulted upon) demand forecasting. This may be overseen and administered by the GIC. It is recognised that developing national consensus forecasting will involve a separate

	consultative process that is not squarely within the jurisdiction of the Commission. In the interim, before such a national position is established, it may be necessary, as a matter of prudency, for the GTB to establish long-term forecasts of demand, that have been subject to independent scrutiny. Once formulated and scrutinised, these would form an important foundation for any customer consultation. Customers may subsequently raise (or confirm) specific proposals that might influence demand at any time, e.g. a generator considering construction of a new gas-fired power station. These will need to be included in subsequent forecasts.
Operating and Security Criteria	The GTB will include prudent operating and security criteria in its AMP. These may appropriately form the basis of quality standards (including for the gas transmission DPP), and would include a focus on safety and reliability. The criteria would, like demand forecasts, be an important foundation upon which the adjusted AMP would be developed. Optimally, operating and security criteria should be developed as national standards, confirmed by industry consultation. Ideally operating and security criteria and the consultation associated would be facilitated by the GIC as gas industry co-regulator. It is recognised such a process would take time and be subject to a separate consultative process. It may therefore be necessary, as a matter of prudency, for the GTB to develop its views on prudent and

	efficient operating and security criteria and to consult separately on these before including them as part of any subsequent AMP.
Investigate options	In consultation with customers and other stakeholders, the GTB would develop the range of viable options (including non-transmission options) for meeting forecast demand over the short, medium and long-term, and the requisite operating and security criteria (as established in the processes described immediately above). Upon receiving feedback and submissions from consulted parties, the GTB would firm up the proposed investment options.
Ex ante prudency review	The GTB, building on the consultations undertaken, would select the optimal, prudent and efficient investment. The selected investment would be subject to independent review and verification.
Regulatory Investment Test	The RIT would constitute a review by the Commission to confirm that an appropriate process had been followed in achieving a favourable external prudency review. The investment proposal(s), including the proposed revenue consequences and the outcomes of the independent review and the consultative processes, would be provided to the Commission for confirmation that the requirements of the RIT were satisfied.
Build and commission assets	Assets would be built and commissioned.
Adjust prices	From the start of the regulatory year following the date of commissioning the GTB would adjust prices in accordance with the proposal confirmed by the Commission, including the approved costs (return of and

	on capital) as a recoverable cost.

76. Vector's proposed RIT is premised on a prescribed *ex ante* process, with a set of pre-determined criteria and independent verification, the outputs of which are provided to the Commission for review and confirmation. Where the proposed investment meets those criteria, an intra-period adjustment to the price path, which would be calculated as part of the RIT, would be allowed.

77. Vector uses "review" deliberately to describe this approach, as it does not propose ex ante approval of investment by the Commission. Rather, the Commission reviews information provided by the regulated GTB against a set of pre-determined, detailed criteria. The Commission may then raise any concerns in a timely manner, enabling the GTB to address those concerns and provide responses to the Commission to assuage the concerns, prior to committing investment capital.

78. The principal advantage of this approach is that it would provide a sufficient degree of certainty for GTBs to check and tailor their investment requirements against the relevant criteria while avoiding the need for formal ex ante regulatory approval or detailed ex post review. Vector has considered alternative approaches to developing a workable RIT, but considers that this ex ante review option is most likely to promote the long-term benefits of consumers, and so is an appropriate process for inclusion in the DPP form of control.

***Ex ante* prudency review**

79. The core of Vector's proposed RIT is an ex ante prudency review.

80. The independent review would be targeted at providing the Commission with sufficient comfort that only expenditure incurred efficiently and prudently would be recognised for the purposes of the DPP. Assessment of the proposed investment would be against a set of detailed, specified criteria. These criteria would be determined in advance and set out in the DPP determination. The process would entail:

    (a) the GTB preparing an investment case with a view to meeting each of the criteria;

    (b) the GTB ensuring its investment case is subject to external independent review against those criteria; and

    (c) the Commission assessing the information provided against the criteria.

81. The criteria, as discussed above at paragraph 75, would include demand criteria and security and operating criteria as part of broader industry engagement, or where the timing does not allow completion of this, relevant consultation.

82. The RIT would require that each investment is subject to:

    (a) sufficient [stakeholder] engagement; and

    (b) an independent prudency review.

83. The [stakeholder] consultation must demonstrate:

    (a) meaningful, timely and proactive engagement, including in the planning and development phases of the project;

    (b) provision/transparency of sufficient information to inform stakeholders; and

    (c) reliance on customer engagement outcomes to inform the decision-making process.

84. The prudency review must confirm:

    (a) the investment is necessary, given reasonable demand forecasts and prudent operating standards, to operate at minimum costs for a given scale and quantity of outputs;

    (b) the investment is reasonable given the substitution possibilities between capex and opex, and the key external factors that influence the investment;

    (c) efficiency in designing, procuring, installing and commissioning relevant assets;

    (d) the investment is feasible in terms of reasonable scope, design and sequencing, including appropriate recognition of uncertainty around the investment; and

    (e) the investment and risk management processes are consistent with good industry practice.

Commission's Response

85. The GTB would only be able to provide the package of information proposing new investments where the steps outlined above have been carried out.

86. The Commission would receive and review the package of documentation outlined. Where it was clear to the Commission that there were questions or gaps in the information that had material impacts on the proposal(s), these would be identified and communicated back to the GTB in writing for the GTB to respond to and correct.

87. It is only where the Commission is satisfied that the engagement has materially occurred in accordance with the criteria and that the prudency review has been carried out consistent with the criteria that the Commission would permit the required increase in revenue, commensurate with the independently verified

prudent, efficient investment.

Implementing the RIT

88. A critical element of the process is the translation of an increase in the RAB (by the amount of any prudent investment) to an increase in the revenue of the regulated GTB.

89. Vector proposes that the DPP RIT would include the calculation of revenue (i.e. pre-tax return on and of capital) for each complete year following commissioning up to the end of the regulatory period. These items would be treated as recoverable costs under the revenue path. At the next reset the revenue would form part of the revenue cap and would cease to be recovered as a recoverable cost.

90. The recoverable amount would not exceed that included in the RIT, unless by agreement with the Commission, but would be subject to downward adjustment if actual project costs were less than reflected in the RIT. This avoids incentives to delay capital expenditure once approved by the Commission (because revenue recovery does not start until the assets are commissioned) and capital budget over-runs (because any over-runs would not be recoverable) and should be prudently managed by the supplier of gas transmission services, at their risk. The prudency review protects against over-estimation of capital costs in the RIT.

RIT Threshold

91. A final and equally important process element is to ensure only capital expenditure projects that have materiality levels over a nominated threshold should be subject to the RIT process outlined above.

92. Any DPP incorporating a RIT and associated processes must continue to ensure that it is low-cost, effective and as least intrusive as possible, to enable the process to be properly aligned to the policy objectives of the DPP, including that they be low-cost and tailored to New Zealand's small size, with small firms and limited resources.[20]

93. It is therefore proposed that any projects with a total operating and capital expenditure of $8m or more should be subject to the RIT and the processes outlined above.

CONCLUSION

94. Developing a set of transparent, low-cost rules by which consumers can benefit

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[20] Explanatory Note to the Commerce Amendment Bill, 2008, p.3.

from the economies of scale inherent in the construction of gas transmission assets is one of the important outstanding tasks the Commission is undertaking as it works to implement the new regulatory provisions of the Commerce Act. It is Vector's submission that Parliament intended gas transmission services to be regulated under a default price-quality regime as a low cost form of regulatory control. That being so, the unique characteristics of the service must be accurately and completely accommodated.

95. It is further submitted that a CPP does not appropriately provide the low cost rules, timely process and certainty to enable consumers to benefit from regulation or gas transmission service providers to have the incentives to invest.

96. The submission sets out for the Commission Vector's more developed proposal regarding the form of control for gas transmission, including an ex ante regulatory investment test and supporting processes as part of a broader development of the investment frameworks for gas transmission in New Zealand.

97. By adopting the approach described in its submission, Vector submits that the Commission will positively enable a critical aspect of the regulatory and market frameworks for gas transmission businesses to be effectively designed such that the Commission can provide for a low-cost form of control that recognises the inherent characteristics of gas transmission and provides processes for the regulation of gas transmission services that are effective and sufficiently certain to enable GTBs efficiently invest, build and operate fit-for-purpose gas transmission systems. The certainty is required by all stakeholders to realise New Zealand's energy strategy of which gas transmission plays a critical part.

98. We look forward to continuing engagement with the Commission on the development of fit for purpose regulation for gas transmission.

APPENDIX A

THE NATURE OF INVESTMENT IN GAS TRANSMISSION

Conceptual overview

1. The nature of the market for gas transmission is such that competition is limited or is likely to be lessened,[21] meaning that absent regulation, providers of services could act to the detriment of consumers. It is for this reason that gas transmission services are automatically subject to regulation under the Commerce Act.[22]

2. There are economies of scale in building gas pipelines, especially surrounding planning, gaining resource consent, site preparation and the actual laying of the pipes, that mean that customers of pipeline services will benefit from an approach to investment that involves large, infrequent, pipeline installations. The Commission has previously acknowledged that gas transmission is characterised by lumpy, infrequent investment in pipeline capacity and long-term demand uncertainties and a risk of asset stranding.[23]

3. One consequence of these economies of scale is that it will likely be economically efficient that any given investment not initially be used to its full capacity. But if providers of services are to recover a normal return on their investment, they will need to start to recover that investment from the date of commissioning of any new assets (unless the design of the regulatory regime is such that sub-normal rates of return on major investments in early years can be "made up" in later years). The nature of gas transmission has been recognised by the Commission in its Input Methodologies (Gas Pipeline Services) Draft Reasons Paper of 21 June 2010, at paragraph 4.4.81, where it said:

> "The Commission's proposed definition of commissioning, incorporating a 'used' test, will enable Gas Pipeline Businesses to bring a new asset into the Regulated Asset Base, regardless of whether the asset is currently used to its full capacity. Thus where GPBs build assets with greater capacity than is currently required, in anticipation of future demand growth, they will not be penalised for this."

4. As is noted in the body of the submission however, what has not been properly recognised to date is the form of control that most appropriately recognises

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[21] See The Commerce Commission's final report on the Natural Gas Control Inquiry.

[22] Section 55B of the Commerce Act 1986.

[23] Initial Default Price-Quality Path for Gas Pipeline Businesses, Issues Paper, paragraph 2.3.

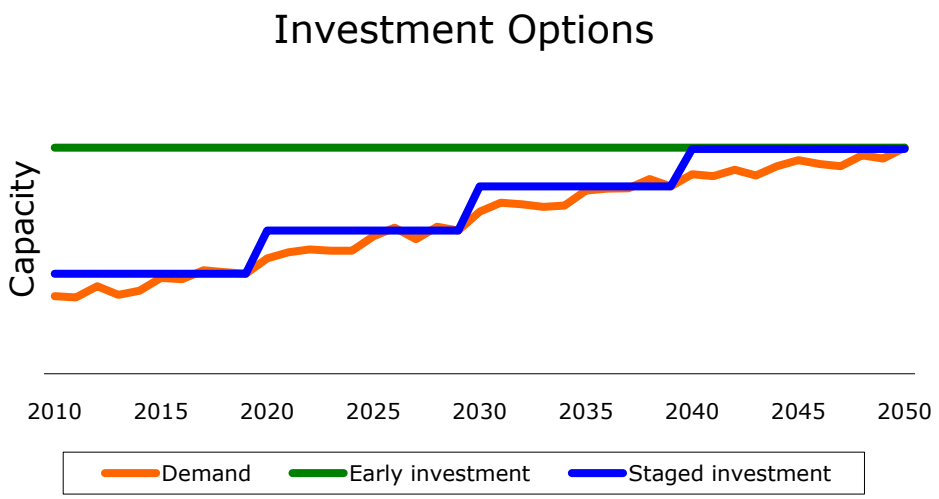
lumpy, infrequent investment that is a natural, default characteristic of gas transmission services.

5. A RIT within the DPP form of control would strike an appropriate balance between:

   (a) providing certainty to the regulated GTB, prior to committing to an investment, that it can recover a commercial rate of return on its proposed investment; and

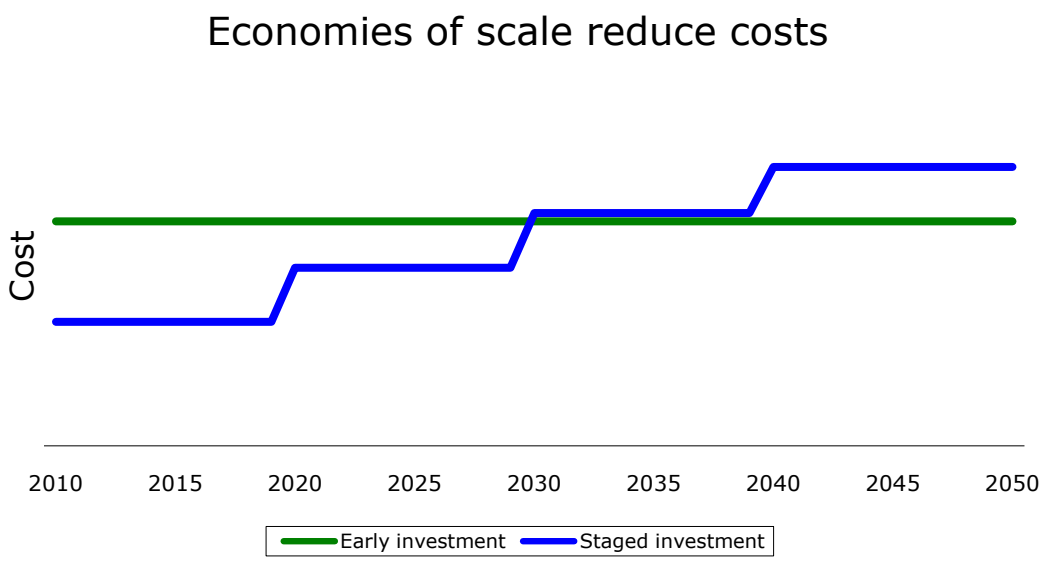
   (b) providing sufficient comfort to the Commission that recovery will occur only in respect of efficient or prudent investment.

6. The charts below are a highly stylised example of what Vector is discussing. In the first chart, two investment options are shown to meet forecast demand. In the first approach, a single large investment is made which will eventually meet demand in the long-term. In the second, a series of smaller investments are made, which eventually will provide the same capacity as the single investment.



The second chart shows the total cost of the two approaches measured over the life of the assets, showing the effect of economies of scale.[24]

[24] This presentation assumes that any "option value" from delaying investments does not outweigh the economies of scale from large, early, investments.



The New Zealand Context

7. The market for natural gas in New Zealand is by its nature an integrated one. The extensive value chain from exploration and production to end use by consumers includes a number of high-value components, of which the gas transmission system is but one. And "end use" can be both the direct combustion of gas in homes and industry, it also includes the use products and service that rely on gas, the most common being electricity.

8. Exploration and production of hydrocarbons is heavily capital intensive, and gas transmission provides essential security for owners of upstream assets and the markets they supply. Both existing and new gas transmission infrastructure will be essential in bringing gas from a wider variety of fields to market than has traditionally been the case in New Zealand.

9. Gas will continue to play a vital role in electricity generation in New Zealand, particularly in supporting weather-dependent renewable electricity generation. Equitable arrangements for access to (and pricing of) transmission capacity will be vital in ensuring renewable generation facilities can contribute to the ongoing security of electricity supply requirements of the country. Given the long-life nature of thermal electricity generation assets, the transmission requirements are ideally also long-term.

10. New Zealand has a relatively large base of gas consuming assets in industry, with others having dual fuel capability. There are a number of large industrial users in New Zealand who are seeking, or would potentially use, additional transmission capacity if it were available on a basis to support long term use as a fuel or feedstock.

11. The Government has also expressed its desire to promote direct gas use[25] and there is likely to be ongoing demand at a retail level for gas.

12. It is this nature of the gas and energy market in New Zealand that leads to the conclusion that investment in gas transmission assets is "infrequent and lumpy". As Gas Industry Company put it in its May 2010 Paper *Options for Vector Transmission Capacity*[26]:

> The starting point for capacity planning is demand forecasting. Future demand on the North Pipeline has been uncertain for some years. One or more major power station projects might be built along the pipeline; however, to date, none has been committed.
>
> A new power station would require major investment to provide extra capacity. The additional capacity would probably also cover growth in existing demand, averting the need for minor investment specifically to meet that growth. An investment strategy needs to take account of the probability of a major project proceeding. If a new project is likely, it makes sense to wait for that project to proceed before investing in capacity. If the project is unlikely, minor investment must proceed in the meantime.
>
> The longer the wait for the new project, the more pressing the minor investment becomes. In these circumstances, there might be capacity shortages until the decision on the major project is made. This issue may be exacerbated where the minor investment would not be made if the larger investment went ahead.

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[25] See: supra footnote 1, New Zealand Government, *New Zealand Energy Strategy*, March 2011.

[26] http://tiny.cc/GICOptions

APPENDIX B

LOCAL AND INTERNATIONAL MODELS

In undertaking the analysis leading to this paper, we have looked for guidance on the objective and nature of a RIT from applicable local and international models. Four examples are worth noting up-front.

- **Electricity Commission's Grid Investment Test (GIT):** The objective of the GIT is to approve grid investment proposals when doing so maximises expected net market benefits to parties who produce, distribute, and consume electricity. These benefits comprise not just economic benefits (e.g. lower dispatch costs and competition benefits), but also reliability benefits and the benefits of certainty and acceptability.
- **Regulatory Investment Test for Transmission (Australian Electricity Market):**[27] The purpose of the RIT-T is to assess credible grid investment options and to identify the credible option that maximises the present value of net economic benefits to all those who produce, consume and transport electricity in the market.
- **Australian National Gas Rules:**[28] These rules provide that "the capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services".
- **Ofgem Transmission Regulation:** Ofgem's recent work reviewing the RPI-X regime (RPI-X@20 Review), has resulted in a new regulatory model: revenue = incentives + innovation + outputs (RIIO), designed to replace the RPI-X regime used for the previous 20 years to regulate network prices. RIIO involves a range of measures that will provide stronger incentives to encourage more efficient investment and innovation to meet the challenges of ageing infrastructure and to ensure sustainable energy supplies in a "low-carbon" economy. The next price control review for transmission (electricity and gas) - RIIO-T1 (formally known as TPCR5) will apply the RIIO model to take effect from 31 March 2013.[29]

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[27] http://www.aer.gov.au/content/index.phtml/itemId/730920

[28] "Conforming Capital Expenditure" under the Australian National Gas Rules (the rules are in Part 9 at: http://www.aemc.gov.au/Gas/National-Gas-Rules/Current-Rules.html

[29] http://www.ofgem.gov.uk/Networks/Trans/PriceControls/Pages/PriceControls.aspx; See also: Ofgem, 4 October 2010; "*Britain Needs ReWiring to the Tune of £Billion*", RIIO, Press Release, R/16; and Ofgem, 4 October 2010; "RIIO – a new way to regulate energy networks", Fact Sheet 93, 04.10.10.