

23 December 2005

**AUSTRALIAN ENERGY
REGULATOR MELBOURNE**
23 DEC 2005

Blair Burkitt
Australian Energy Regulator
Level 11, The Tower
360 Elizabeth Street
Melbourne Central
Melbourne VIC 3000

FILE No:
DCC: Job/463
MARS/PRISM:

Dear Blair,

Application Under Section 8.21 of the Gas Code

Please find attached our application under section 8.21 of the Gas Code for an *ex ante* approval of GasNet's anticipated expenditure for the Brooklyn-Corio Loop. We have included a copy of the VENCORP Major System Augmentation Report as supporting evidence for our application.

It is our understanding that, upon receipt of this application, the ACCC will notify interested parties and commence a public consultation process under the provisions of the Gas Code, before issuing its draft and final decisions.

As is explained in the application and in the attached VENCORP Report, the Brooklyn-Corio Loop is vital to system security in Victoria, and GasNet is concerned that any unnecessary delays in the approvals process may impact on an efficient construction timetable. Therefore we request that the ACCC (and AER) endeavour to expedite the approvals process in support of this project to the greatest extent possible.

If you have any queries or comments on the application, please contact myself or Paul Callander on or after 5th January 2006.

Yours sincerely,



David Whitelaw
Regulatory Manager

REF: DW0255

GasNet Australia -
Application under section
21 of the Gas Code in
relation to forecast New
Facilities Investment

Dated 21 December 2005

GasNet Australia - Application under section 21 of the Gas Code in relation to forecast New Facilities Investment

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GasNet Australia - Application under section 21 of the Gas Code in relation to forecast New Facilities Investment

1 Executive summary

1.1 Background

GasNet owns and operates the GNS, which is the primary transmission system for the delivery of gas throughout Victoria.

VENCorp, the independent system operator of the GNS, has identified in its annual planning review a major system capacity constraint facing the GNS in winter 2008. The GNS will not have sufficient useable system linepack to cover supply-demand imbalances at this time. Accordingly, VENCorp has recommended that GasNet undertake a major system augmentation.

1.2 Solution

VENCorp identified a number of ways to achieve the required augmentation. After conducting a detailed cost-benefit analysis of various options, VENCorp concluded that the Corio Loop is the most suitable for addressing the emerging network limitation.

The Corio Loop is a 57 km, 500 mm diameter pipeline which will run from the Brooklyn compressor station to Lara West, south-west of Melbourne. The total cost for the project is approximately \$61.7m (excluding a capitalised return over the construction period), and the target commissioning date is March 2008. A more detailed overview of the project is set out in Annexure B to this application.

GasNet supports the Corio Loop and wishes to proceed with the project.

1.3 Nature of this application

However, before it commits shareholder funds to the Corio Loop, GasNet seeks the ACCC's agreement that the Corio Loop meets the requirements for roll-in to GasNet's capital base. This "pre-approval" process is governed by section 8.21 of the Gas Code.

This is a straightforward application under section 8.21. GasNet considers that:

- (a) the Corio Loop will satisfy the requirements to be rolled into its capital base, because it satisfies the System-wide Benefits Test; and
- (b) the estimated costs of \$63.9m (comprising project costs of \$61.7m and an allowance for capitalised return of \$2.2m over the construction period), plus a 10% contingency, are prudent, and the project is the most appropriate option for addressing the network limitation.

GasNet considers that the Corio Loop satisfies the System-wide Benefits Test, on the basis that it will substantially improve system capability, enhance

system security and create competition benefits. VENCORP has valued the net benefits at \$120m in present value terms.¹

GasNet considers that the Corio Loop is a prudent investment, taking into account relevant engineering, technical and economic considerations, as well as the availability of other options.

The 'pre-approval' that is sought for this project is independent of the timing issue discussed below.

1.4 Timing

The construction of the Corio Loop will straddle two regulatory periods. This has implications for the way in which GasNet proposes to treat the Corio Loop for the purposes of its subsequent Access Arrangement.

There are a number of ways in which this issue could be managed under the Gas Code. GasNet's preference is to make an application in March 2007 as part of its 2008-2012 reset application to treat the expenditure incurred up to December 2007 as actual New Facilities Investment. This amount will then be rolled into the capital base in the same way as other approved capital expenditures incurred in the period 2003-2007. The expenditure anticipated to be incurred in 2008 will be treated as forecast New Facilities Investment for the purposes of setting the reference tariffs for the 2008-2012 regulatory period. The "pre-approval" given to the project under this application will apply to the total cost of the project.

GasNet considers that this is the simplest way of dealing with the "straddling" issue.

¹ VENCORP Report, p 37, Table 24. In its sensitivity analysis, VENCORP assessed the "net market benefits" (ie gross benefits minus project costs, where the benefits and costs have been discounted to the present day) of the Corio Loop at \$120m when competition benefits were included.

2 Background

2.1 GNS

The GNS is the primary transmission system for the delivery of gas throughout Victoria and comprises just over 1700 km of pipeline. The GNS is owned by GasNet and operated by VENCORP (a State government authority) as a “market carriage” pipeline under the MSO Rules.

There are five injection locations on the GNS:

- (a) the Longford gas processing plant and Vichub in the south-east of Victoria;
- (b) the Port Campbell injection zone, comprising the SEAGas interconnect and underground storage facility at Iona (“WUGS”);
- (c) the interconnection with the NSW System via Culcairn;
- (d) the LNG storage facility at Dandenong; and
- (e) BassGas in the south-east, which is expected to commence operation in 2006.

2.2 Existing Access Arrangement

The GNS is a “covered pipeline” for the purposes of the Gas Code and as such, the terms and conditions of access to the GNS, including the tariffs, are governed by GasNet’s Access Arrangement.

GasNet’s existing Access Arrangement runs from 1 January 2003 until 31 December 2007.

GasNet’s Access Arrangement provides that all extensions and expansions of the GNS will be covered by the Access Arrangement unless GasNet gives a notice to the ACCC that a relevant extension will not be covered.

2.3 VENCORP’s role

Under the Victorian gas market model, the roles and responsibilities for ownership and operation of the GNS have been separated. VENCORP is the independent system operator and performs tasks such as the scheduling of market offers for gas injections and withdrawals. It also has major development and planning roles in the gas market.

As part of its statutory functions, VENCORP is required to monitor and review the capacity of the gas transmission system in Victoria and examine trends for the withdrawal and injection of gas from and into that system.²

Each year VENCORP produces a Gas Annual Planning Review (“GAPR”). The GAPR is an independent study for the forthcoming five-year period which provides information regarding trends in gas demand and the future

² Section 160(1)(e) of the Gas Industry Act 2001 (Vic).

development of the GNS, gas storage facilities and gas supplies for the Victorian market.

2.4 System constraint

As part of its 2004 GAPR, VENCORP identified that there will be a major system capacity constraint for winter 2008. The 1 in 20 peak day modelling undertaken by VENCORP shows that by 2008, there will be insufficient useable system linepack for within-day balancing. VENCORP concluded that a major system augmentation is required to increase the level of useable system linepack available to cover within-day supply-demand imbalances.

VENCORP identified two main options to achieve this augmentation:

- (a) extend the Southwest Pipeline from Lara to Brooklyn ("**Corio Loop**"); or
- (b) duplicate sections of the Longford to Melbourne pipeline ("**Longford Loop**").

Modelling undertaken by VENCORP indicated that the Corio Loop provides the greatest system benefits of the two options, by de-bottlenecking Brooklyn - Lara, freeing up Southwest Pipeline linepack and increasing capacity and response to and from Iona. VENCORP's modelling indicates that the Corio Loop will create a relatively large increase of between 20 and 40 TJ in useable system linepack due to de-bottlenecking. GasNet's own modelling has confirmed this.

Further details in relation to the nature of the system constraint and the options to address it are contained in section 6.2 of this application and the VENCORP Report set out in Annexure C.

2.5 Outline of project

The project involves the construction of a 57 km, 500 mm diameter pipeline. The pipeline will run from the Brooklyn compressor station for 12 km using the existing Brooklyn to Ballan pipeline easement, and then head in a south-westerly direction along a greenfields route to meet the Southwest Pipeline near Elcho Road, Lara West. A map of the proposed pipeline and a more detailed description of the project are available in Annexures A and B respectively.

The total capital cost of the project, including an allowance for a return on assets during the construction period (see section 6.2), is expected to be \$63.9m.

GasNet's proposed timetable in relation to the project is:

- (a) **January 2006 - December 2007** - detailed engineering, design, easement and licence acquisition, and procurement;
- (b) **September 2007** - commence construction of pipeline;
- (c) **March 2008** - commission pipeline.

GasNet considers that March 2008 is the most appropriate and prudent target date for commissioning of the pipeline. This date is based on GasNet's preliminary assessment of the likely project timing risk. However, it may ultimately be more prudent for GasNet to target an earlier commissioning date once it has gathered further information on the risks to timely project completion during the engineering, design and easement acquisition stages.

3 Approval sought

3.1 Approval under 8.21

GasNet seeks, in accordance with section 8.21 of the Gas Code, the ACCC's agreement that the forecast New Facilities Investment for the Corio Loop (being \$63.9m) plus a 10% contingency, will satisfy the requirements of section 8.16(a) of the Gas Code ("**8.21 Agreement**"), with effect that the ACCC is bound by this decision when it considers revisions to GasNet's Access Arrangement for both the 2008-2012 and the 2013-2017 regulatory periods.

In relation to the 2008-2012 Access Arrangement, GasNet considers that an 8.21 Agreement will deem total project costs of up to \$70.3m to satisfy the tests in Chapter 8 of the Code for determining tariffs on the basis of actual and forecast capital expenditure.

In relation to the 2013-2017 Access Arrangement, GasNet considers that the actual costs incurred during the 2008-2012 regulatory period will be deemed to satisfy the tests in 8.16(a) for rolling those costs into GasNet's capital base, provided that they do not result in total project costs (ie the sum of costs incurred during both 2003-2007 and 2008-2012 regulatory periods) exceeding \$70.3m.

3.2 Timing

As the construction of the Corio Loop will straddle two regulatory periods, GasNet proposes to split the Corio Loop costs between:

- (a) actual New Facilities Investment in the 2003-2008 regulatory period; and
- (b) forecast New Facilities Investment for the 2008-2012 regulatory period.

As foreshadowed above, GasNet considers that the 8.21 Agreement sought in this application will operate to deem the relevant test satisfied for each costs component (being section 8.20 for forecast New Facilities Investment and section 8.16(a) for actual New Facilities Investment), provided that the total costs do not exceed \$70.3m.

4 Timing

4.1 Issue

On the timetable indicated above, the Corio Loop will not be commissioned until after the next regulatory period has commenced (ie 1 January 2008). This means that the Corio Loop will not be completed by the time the ACCC considers revisions to GasNet's Access Arrangement for the period 2008-2012. This raises an issue as to how the costs associated with the Corio Loop will be treated for the next regulatory period.

4.2 Options for addressing issue

GasNet considers that there are essentially three options to deal with this issue:

- (a) **Option 1** - apply to have 100% of the costs of the Corio Loop included as forecast New Facilities Investment in GasNet's Access Arrangement for the period 2008-2012 in accordance with section 8.20 of the Gas Code, and then seek to formally roll the actual costs, as adjusted for depreciation and inflation, into the capital base at the start of the 2013-2017 regulatory period;
- (b) **Option 2** - apply in 2007 to have the portion of project costs incurred up until the end of 2007 regarded as actual New Facilities Investment incurred during the 2003-2007 regulatory period and rolled into the capital base at the commencement of the 2008-2012 regulatory period, and then have the remainder included as forecast New Facilities Investment for the 2008-2012 regulatory period; or
- (c) **Option 3** - apply to have 100% of the project costs rolled into the capital base once the facility is commissioned in 2008 by seeking an intra-period amendment to GasNet's 2008-2012 Access Arrangement.

At this stage, GasNet considers that Option 2 is the most straightforward.

Option 2 also has the benefit of allowing tariffs to be set for the 2008-2012 regulatory period without the need to amend those tariffs once the project is commissioned. Option 3 would require the 2008-2012 tariffs to be reset during the first year of the new regulatory period. It would also require a formal amendment to GasNet's next Access Arrangement soon after it comes into operation. GasNet is keen to avoid unnecessary disturbance to the tariffs once they have been set for the next regulatory period.

4.3 Accounting treatment for 2008-2012 Access Arrangement

One of the fundamental principles in the Gas Code is that Service Providers should be provided:

"with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service."³

³ Section 8.1(a) of the Gas Code.

On this basis, GasNet considers that it should be entitled to earn the same return on the Corio Loop regardless of which Option it adopts.

If, for example, GasNet were to adopt Option 3, then past ACCC decisions establish that GasNet would be entitled to:

- (a) capitalise a reasonable return on construction costs over an efficient construction period;⁴ and
- (b) roll the Corio Loop into its asset base and begin earning revenue on that asset from the date it is commissioned.

For the reasons outlined in section 4.2, GasNet considers that Option 2 is more straightforward than Option 3, and avoids unnecessary tariff disturbance in the next regulatory period. GasNet considers that, in relation to its 2008-2012 Access Arrangement, it should be entitled to apply an accounting treatment to Option 2 which produces the same revenue result as that which would ordinarily flow from Option 3.

5 Gas Code framework for section 8.21 approvals

5.1 Overview

GasNet seeks the ACCC's agreement that the Corio Loop (being forecast New Facilities Investment) will meet the requirements of section 8.16(a).

This part of the submission sets out GasNet's understanding of how an agreement by the ACCC under section 8.21 affects the ACCC's decision when it considers:

- (a) an application under section 8.16(a) to have project costs incurred in 2006 and 2007 recognised as actual New Facilities Investment during the 2003-2007 regulatory period, and rolled into the capital base at the commencement of the 2008-2012 regulatory period;
- (b) an application under section 8.20 to have project costs incurred in 2008 included as forecast New Facilities Investment in GasNet's 2008-2012 Access Arrangement; and
- (c) an application under section 8.16(a) to have project costs incurred in the 2008-2012 regulatory period recognised as actual New Facilities Investment in that period, and rolled into the capital base at the commencement of the 2013-2017 regulatory period.

5.2 Section 8.21

Section 8.21 of the Gas Code allows the ACCC at any time and at its discretion to agree (with or without conditions or limitations) that forecast New Facilities Investment by a Service Provider will meet the requirements outlined in section 8.16(a). The effect of an 8.21 Agreement is to bind the ACCC's decision when it considers revisions to an Access Agreement submitted by a Service Provider.

⁴ See further discussion of this point in section 6.2 of this application.

“New Facilities Investment” means the “additional capital costs incurred in constructing, developing or acquiring New Facilities for the purpose of providing Services.”⁵

“New Facility” means, relevantly, “any extension to, or expansion of the Capacity of, a Covered Pipeline which is to be treated as part of the Covered Pipeline in accordance with the Extensions/Expansions policy contained in the Access Arrangement for that Covered Pipeline.”⁶

5.3 Section 8.16

Section 8.16(a) sets out the requirements for rolling in actual New Facilities Investment and provides that:

“Subject to sections 8.16(b) and sections 8.20 to 8.22, the Capital Base may be increased under section 8.15 by the amount of the actual New Facilities Investment in the immediately preceding Access Arrangement Period provided that:

(i) *that amount does not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of providing Services (“Prudency Test”); and*

(ii) *one of the following conditions is satisfied:*

(A) the Anticipated Incremental Revenue generated by the New Facility exceeds the New Facilities Investment (“Economic Feasibility Test”); or

(B) the Service Provider satisfies the Relevant Regulator that the New Facility has system-wide benefits that, in the Relevant Regulator’s opinion, justify the approval of a higher Reference Tariff for all Users (“System-wide Benefits Test”); or

(C) the New Facility is necessary to maintain the safety, integrity or Contracted Capacity of Services (“Safety and Integrity Test”).”

5.4 Effect of 8.21 Agreement on a standard roll-in application

For simplicity, this submission first addresses the effect of an 8.21 Agreement on a standard roll-in application under section 8.16, assuming all project costs are incurred in one regulatory period. The implications of this analysis for the applications GasNet intends to make in 2007 and 2012 are set out separately in section 5.5.

The effect of an 8.21 Agreement should be considered in the context of the following issues:

⁵ Section 8.15 of the Gas Code.

⁶ Section 10.8 of the Gas Code.

- (a) what the Gas Code empowers the ACCC to agree to under section 8.21 (the content of an 8.21 Agreement); and
- (b) what it means to “bind” the ACCC to that agreement when the ACCC later comes to consider a roll-in application under section 8.16(a) (the binding effect of an 8.21 Agreement).

Content of an 8.21 Agreement

Section 8.21 allows the ACCC to agree that:

- (a) a proposed capital asset; and
- (b) the costs that a proponent forecasts it will incur in constructing, acquiring or developing that capital asset,

will satisfy the Prudency Test and at least one of the three tests in section 8.16(a)(ii). In this application, GasNet seeks the ACCC’s agreement that the Corio Loop, and the costs GasNet expects to incur in constructing and developing the Corio Loop, will satisfy both the Prudency Test and the System-wide Benefits Test.

An 8.21 Agreement is forward-looking. An applicant under section 8.21 seeks the ACCC’s agreement that a hypothetical investment **will meet** the relevant requirements if the applicant were to complete that investment and apply to roll it in formally under section 8.16(a).

Binding effect of an 8.21 Agreement

An 8.21 Agreement “binds the ACCC’s decision when the ACCC considers revisions to an Access Arrangement.”

GasNet submits that, if the ACCC were to find that a proposed investment will meet the requirements of section 8.16(a) pursuant to an application under section 8.21, then the ACCC will be held to that finding if and when the proponent subsequently applies to have that investment formally rolled into its capital base, subject only to the threshold question outlined below.

GasNet considers that the question for the ACCC, if and when a proponent applies to formally roll in an investment, will be whether the actual investment substantially corresponds with the investment approved in the 8.21 Agreement. If it does, then the 8.21 Agreement will prevent the ACCC from re-opening the questions of prudency or system-wide benefits (or other limbs of section 8.16(a)(ii) as the case may be), and will compel the ACCC to find that the actual investment satisfies those requirements.

Section 8.21 is analogous with the public ruling mechanism under the tax legislation. A public ruling by the Tax Commissioner binds the Commissioner in relation to an arrangement which falls squarely within its terms. Similarly, the ACCC’s ruling on a proposed investment under section 8.21 is binding in relation to an actual investment that falls within its terms.

On this basis, GasNet considers that the two main considerations when determining whether an actual investment falls within the terms of an 8.21 Agreement are:

- (a) whether the applicant has actually built substantially the same facility it proposed to build in its section 8.21 application; and
- (b) whether the actual costs incurred in constructing the facility are consistent with the costs approved in the 8.21 Agreement (“**Pre-approved Costs**”).

Which costs are rolled in?

Section 8.16(a) requires the ACCC to roll in the amount of the **actual** New Facilities Investment once the relevant conditions are satisfied.

Section 8.16(a) does not distinguish between a “fresh” application and an application that has been “pre-approved” under section 8.21.

GasNet submits that the only effect of an 8.21 Agreement on a formal roll-in application under section 8.16(a) is to deem the relevant conditions to have been satisfied. Nothing in section 8.21 changes the ACCC’s express obligation to roll in the amount of the actual investment once the relevant conditions are met.

Actual costs less than or equal to Pre-approved Costs

The relationship between an 8.21 Agreement and a section 8.16(a) application is straightforward if the actual costs of the New Facilities Investment which an applicant seeks to roll in are less than or equal to the Pre-approved Costs.⁷ In these circumstances, the 8.21 Agreement has the effect of satisfying the conditions to roll-in under 8.16(a), and the ACCC must roll in the actual costs. Naturally, the applicant is not entitled to roll in the amount by which Pre-approved Costs exceed actual costs.

Actual costs exceed Pre-approved Costs

GasNet’s interpretation of the Gas Code is that an applicant does not lose the benefit of the section 8.21 Agreement in circumstances where actual costs exceed Pre-approved Costs. The Gas Code gives the applicant flexibility as to the extent of the costs claimed. The 8.21 Agreement continues to bind the ACCC to roll in the actual costs of the investment claimed by the applicant **up to** the Pre-approved Costs. It does not, however, bind the ACCC in respect of the excess costs.

In order to roll in excess costs, the applicant would need to make a fresh application under section 8.16(a) and satisfy the ACCC that the higher cost (ie including the excess costs) meets the conditions to roll in. The applicant loses the “deeming” effect of the 8.21 Agreement in relation to the excess costs. However, provided that the excess costs still satisfy the relevant tests in section 8.16(a), then GasNet considers that the ACCC must roll them in.

This is consistent with the approach taken by the Victorian Essential Service Commission (“**ESC**”) in a number of recent section 8.21 applications by gas distributors seeking pre-approval of new infrastructure for reticulating gas to regional towns. For example, in its final decision on Multinet’s Yarra Valley

⁷ Assuming, of course, that the applicant has actually built substantially the same asset it proposed to build in its 8.21 application.

gas extension, the ESC agreed that project costs of \$13.5m, plus a 10% margin, would meet the requirements for roll-in. However, the ESC qualified this by stating that:

“it does not agree that any [actual] expenditure incurred by Multinet in [the project] that exceeds the [pre-approved amount] is New Facilities Investment that will meet the requirements of section 8.16(a) of the Code. If actual expenditure varies from the forecast New Facilities Investment approved by the ESC by more than 10%, Multinet would need to establish that such expenditure satisfies the requirements of section 8.16(a) and bears the risk that the ESC will not agree that such expenditure is prudent and efficient.”⁸

5.5 Effect of 8.21 Agreement on the 2007 applications

As discussed in section 4.2, GasNet’s preferred approach is to apply in 2007 to:

- (a) have the Corio Loop costs it incurs in the 2003-2007 regulatory period recognised as actual New Facilities Investment which will be rolled into its capital base from the commencement of the 2008-2012 regulatory period (pursuant to section 8.16(a)); and
- (b) have the costs it expects to incur in 2008 treated as forecast New Facilities Investment for the purposes of setting tariffs for the 2008-2012 Access Arrangement (pursuant to section 8.20),

(together the “**2007 Applications**”).

GasNet submits that the natural consequence of an 8.21 Agreement is that it binds the ACCC to approve both costs components (ie the actual and forecast) when GasNet makes the 2007 Applications, provided that the two components do not in total exceed the Pre-Approved Costs.

By analogy with the operation of an 8.21 Agreement in the more straightforward scenario outlined above, GasNet considers that the main question for the ACCC in these circumstances is whether the actual and forecast New Facilities Investments, taken together, correspond substantially with the investment the subject of the 8.21 Agreement. If they do, then GasNet considers that the ACCC is bound to determine tariffs on the basis of the sum of forecast and actual project costs, provided that that amount is less than or equal to Pre-approved Costs. To the extent that the sum exceeds the Pre-approved Costs, the applicant will need to make fresh applications in relation to the excess amount.

5.6 Effect of 8.21 Agreement on the 2012 application

GasNet expects that it will make an application as part of its 2013-2017 reset application to have project costs incurred in 2008 treated as actual New Facilities Investment and rolled into its capital base for the 2013-2017 regulatory period.

⁸ ESC, *Multinet Yarra Valley Gas Extension Final Decision*, 17 August 2005, p 19.

GasNet considers that an 8.21 Agreement will deem these costs to satisfy the tests in 8.16(a), provided that they do not result in total project costs (ie the sum of costs incurred during both 2003-2007 and 2008-2012 regulatory periods) exceeding Pre-Approved Costs. Again, GasNet will need to make fresh applications in respect of any excess.

6 Roll-in requirements

6.1 Satisfaction of roll-in requirements

GasNet considers that the Corio Loop satisfies both the Prudency Test and System-wide Benefits Test.

6.2 Prudency Test

The Prudency Test is satisfied in respect of New Facilities Investment if the amount of that investment:

“does not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of providing Services.”

GasNet submits that there are two main elements to this test:

- (a) the New Facility is an appropriate option for achieving the additional services or service standard supported by the investment, taking into account the availability of other options; and
- (b) the level of investment is prudent to achieve the additional services or service standard in a technical and engineering sense.

Appropriate option

The Prudency Test is designed to encourage project proponents to adopt the most appropriate option for providing additional services or enhancing service standards where more than one option is feasible.

The question of whether the Corio Loop is an appropriate option depends largely on the nature of additional service levels and benefits that the Corio Loop is expected to create.

GasNet considers that the principal benefits of the Corio Loop are the increase in the operational flexibility of the GNS and the capability to meet forecast peak demand, which will result from increases in system capacity and useable system linepack. This directly reduces the probability of involuntary load curtailment arising from network inadequacy or supply outages.⁹ The Corio Loop also provides increased system security, and competition benefits.

The Gas Code does not strictly require the ACCC to determine which investment among a group of alternatives should be undertaken to achieve

⁹ VENCorp Report, p 28.

these benefits.¹⁰ However, whether a proposed investment would achieve the lowest sustainable cost of delivering services will clearly depend on the availability of other options for achieving the same or similar benefits.

The VENCORP Report identifies seven broad options for improving the GNS's system capability. Of these, two options were identified as being commercially feasible and worth further investigation:

- (a) **(Corio Loop)** looping a 500 mm diameter pipeline between Lara and Brooklyn; and
- (b) **(Longford Loop)** building three 750 mm diameter pipeline loops along the Longford Pipeline.

After comparing the two options, VENCORP concludes that the Corio Loop is the most suitable option to improve system capability, on the basis that, while it is marginally more expensive, it has both a higher "net market benefit" and a higher cost-benefit ratio than the Longford Loop. Sections 5 and 6 of the VENCORP Report provide a detailed analysis of these two options.

Level of investment

The Prudency Test requires the ACCC to consider whether the Corio Loop is prudent in a technical and engineering sense, and in particular whether the construction and engineering costs associated with it are reasonable. In this sense, one aim of the Prudency Test is to deter service providers from "gold-plating" their investments.

Technical and engineering considerations

GasNet submits that, on the basis of the VENCORP cost/benefit evaluations, it has been demonstrated that the Corio Loop is appropriately sized to meet the emerging network limitation, and is adequate to meet forecast demand over a reasonable time frame.

Section 8.17 obliges the ACCC to consider, for the purposes of the Prudency Test:

- "(a) whether the New Facility exhibits economies of scale or scope and the increments in which Capacity can be added; and*
- (b) whether the lowest sustainable cost of delivering Services over a reasonable time frame may require the installation of a New Facility with Capacity sufficient to meet forecast sales of Services over that time frame."*

Although the Corio Loop and Longford Loop both address the anticipated network limitation, VENCORP estimates that the Corio Loop will increase the system capacity by around 87 TJ,¹¹ and useable system linepack by between

¹⁰ ACCC, *Revisions to Access Arrangement for the Principal Transmission System (Southwest Pipeline) Final Decision*, 29 June 2001, p 32.

¹¹ VENCORP Report, p 25.

20 TJ and 40 TJ, depending on system demand.¹² On the other hand, VENCORP estimates that the Longford Loop would add around 41 TJ of system capacity¹³ and 20 TJ of useable linepack.¹⁴ The difference in the level of system capacity augmentation between the two options is particularly relevant in the context of section 8.17(b). GasNet considers that the ACCC should give weight to the fact the Corio Loop, in addition to the immediate system-wide benefits it will create, ultimately provides a cheaper way to accommodate future growth than smaller, incremental investments as and when the need arises.

Reasonableness of construction costs

GasNet estimates that construction of the Corio Loop will cost approximately \$61.7m, excluding financing costs. These costs are broken down as follows:

Cost component	Estimated Cost (\$m)
Pipeline Materials	\$ 15.8
Pipeline Construction	\$ 32.0
EPCM	\$ 3.7
Licences, Easements etc	\$ 3.4
Facilities	\$ 6.8
Total Estimated Cost	\$61.7

These costs are based on current conditions in the steel market and the pipeline construction market, and on a detailed but preliminary design evaluation. It must be expected that costs will vary from these estimates. GasNet will achieve the best and most prudent cost for the project by committing to undertake a competitive process for procurement of the pipe, and a tender for the construction contractor. GasNet considers that the amounts above are reasonable estimates at this time of the costs GasNet is likely to achieve through these competitive processes. When it makes its next reset application, GasNet will seek to incorporate into the 2008-2012 Access Arrangement more up to date estimates of the actual and forecast project costs. It is anticipated that prior to the ACCC handing down its Final Decision on GasNet's 2008-2012 Access Arrangement, the contracts for procurement and construction will have been entered into.

Capitalisation of return over construction period

GasNet submits that the prudent costs of the Corio Loop should also include an allowance for the capitalisation of a reasonable return on construction

¹² VENCORP Report, p 27.

¹³ VENCORP Report, p 25.

¹⁴ VENCORP Report, p 26.

costs over an efficient construction period. This approach is consistent with the ACCC's past practice.¹⁵

GasNet considers that a reasonable method for calculating this component is to apply GasNet's existing WACC (for GasNet's 2003-2007 Access Arrangement) to the total estimated construction costs, from the date of each monthly expenditure until the forecast commissioning date (of March 2008). This gives a figure of \$2.2m, in \$2005.

GasNet acknowledges that this figure may change depending on which Option GasNet ultimately adopts to deal with the "straddling" issue. In particular, it will depend on the date that GasNet begins earning revenue on the Corio Loop investment. If GasNet begins earning revenue on a part of the investment from the beginning of the 2008-2012 regulatory period (as per Option 2), then the financing costs associated with that portion may only be capitalised up until the beginning of 2008, rather than the commissioning date.

Total prudent costs

Accordingly, GasNet seeks approval that \$70.3m represents a prudent amount for constructing, commissioning and financing the Corio Loop. This amount comprises:

- (a) \$61.7m in construction costs;
- (b) \$2.2m for a capitalised return on the asset over an efficient construction period; and
- (c) \$6.4m representing a 10% contingency.

6.3 System-wide Benefits Test

The main system-wide benefits arising from the Corio Loop are:

- (a) improved system capability;
- (b) enhanced system security; and
- (c) competition benefits.

Level of benefits

The Gas Code provides no guidance as to the threshold level of system-wide benefits that must be established in order to roll in a New Facilities Investment under the System-wide Benefits Test. Regulatory precedents simply establish that where an applicant proposes to recover the costs of a new asset through a substantial increase in the reference tariffs for all users, the system-wide benefits must be substantial.¹⁶

¹⁵ See, eg, ACCC, *Victorian Gas Transmission Access Arrangements - Final Decision*, 6 October 1998, p 27, footnote 50.

¹⁶ *Interconnect Decision*, p 27.

GasNet submits that the system-wide benefits arising from the Corio Loop are sufficiently “substantial”, in that their present value exceeds the forecast costs of the investment. Although GasNet acknowledges the difficulty of measuring the quantum of system-wide benefits, it considers that a reasonable estimate of net system-wide benefit arising from the Corio Loop over the life of the asset is \$93.1m in present value terms. This gives a cost/benefit ratio of 2.9:1.¹⁷ GasNet notes that VENCORP determines “net market benefit” and the cost/benefit ratio using present values of costs and benefits discounted to the present day.¹⁸

GasNet notes that this valuation is conservative, since it excludes competition benefits. In its sensitivity analysis, VENCORP estimates that inclusion of competition benefits increases the Corio Loop’s net market benefit to \$120m, giving a costs/benefit ratio of 3.2:1.¹⁹

By way of comparison, the net market benefit of the Longford Loop option (again excluding competition benefits) is \$47.2m, giving a cost/benefit ratio of 2.1:1.²⁰ When competition benefits are included, these figures increase to \$73.1m and 2.7:1 respectively.²¹

Improved system capability

The main benefit of the Corio Loop is that it improves the GNS’s capability and operational flexibility to meet within-day supply-demand imbalances (and therefore meet peak demand) by increasing the levels of useable system linepack.

This directly reduces the risk of involuntary load curtailment due to network limitations, a benefit which is ultimately enjoyed by all GNS users.

VENCORP has quantified the improvement in system capability arising from the Corio Loop by estimating the probability and magnitude of curtailment events due to network constraints (with and without the Corio Loop), and multiplying those figures by the value that gas customers place on the loss of supply. This method produces two figures:

- (a) Value of Unserved Energy (“VUE”) without the Corio Loop; and
- (b) VUE with the Corio Loop.

The difference between these two figures gives the reduction in VUE attributable to the Corio Loop, and provides one measure of the economic benefits from improved system capability. VENCORP estimates a total reduction in VUE of approximately \$35.7m between 2008 and 2011.²²

GasNet notes that this figure is conservative, as it only gives the estimated value of improved system capability over the asset’s first four years, not its full life.

¹⁷ VENCORP Report, p 35.

¹⁸ For a like for like comparison, the present value of the \$61.7m costs estimate used in this application is approximately \$50m when discounted to the present day.

¹⁹ VENCORP Report, p 37, Table 24.

²⁰ VENCORP Report, p 35.

²¹ VENCORP Report, p 37, Table 24.

²² VENCORP Report, p 32.

By way of contrast, the reduction in VUE attributable to the Longford Loop is estimated at approximately \$24.9m between 2008 and 2011.²³ Again, this figure is conservative.

Distribution of benefits

GasNet acknowledges that the benefits of the Corio Loop may not always be enjoyed equally by all GNS users. Because of the way the gas curtailment regime operates in Victoria, the proposed augmentation will naturally benefit directly those users at the top of the “pecking order” in the Curtailment Rules, currently power generators and large industrial users. This is because those users would be the first to face curtailment in the absence of the Corio Loop.

However, the ACCC has previously recognised that benefits need not accrue equally to all users to be considered system-wide. It stated in the Interconnect Decision that it:

“does not interpret the Code to require that system-wide benefits would accrue equally and simultaneously to all users. ... Rather, benefits should be available across the system and potentially be available to much of the customer base.”²⁴

In any event, GasNet notes the following:

- (a) **(Identity of beneficiaries may change)** The “pecking order” established by the Curtailment Rules may not stay in its current form over the life of the Corio Loop, and the identity of those who directly benefit from reduced curtailment risk may change over time. Moreover, those users who are currently not curtailed do not pay a premium in the tariff for this benefit over those who are curtailed, so it is appropriate that they pay a part of the cost of investments which reduce the risk of curtailment imposed on other users.
- (b) **(Deferral of curtailment risk for smaller users)** The Corio Loop defers the point at which users lower in the curtailment pecking order would otherwise be subject to curtailment.
- (c) **(Public interest considerations)** There are broad public interest considerations in maintaining the reliability of gas supply in Victoria. The ACCC is required by section 2.24(e) of the Gas Code to take public interest considerations into account when it considers Access Arrangements. Further, the augmentation has been recommended by VENCORP, an independent statutory corporation whose roles include monitoring the capacity of the GNS and providing planning services to the gas industry as a whole.

Enhanced system security

A secondary benefit of the Corio Loop is that it provides extra supply insurance in the event of supply outages affecting flows along the Longford Pipeline. VENCORP estimates that the Corio Loop will make available an

²³ VENCORP Report, p 32.

²⁴ *Interconnect Decision*, p vi.

additional 84.7 TJ to the GNS for each day of a supply failure at Longford.²⁵ Again, this reduces the risk of involuntary curtailment for all GNS users.

By way of comparison, VENCORP estimates that the contribution of the Longford Loop to the GNS capacity in the event of a plant failure at Port Campbell is limited to an additional 27.9 TJ over the first day of plant failure, and 0 TJ for each additional day.²⁶ This comparison goes to establishing the substantial nature of the Corio Loop's system security benefits, as well as the appropriateness of the Corio Loop option for the purposes of the Prudency Test.

Level of benefits

Using the basic VUE methodology described in its report,²⁷ VENCORP estimates that the Corio Loop will effect a reduction in supply-related curtailments worth around \$7.6m between 2008 and 2011, compared with a saving of \$1.6m with the Longford Loop option.²⁸ Again, GasNet expects this figure to be much higher over the full life of the asset.

Distribution of benefits

From a system security perspective, the Corio Loop benefits all users. A supply failure event can potentially expose a wide range of users to the risk of extended curtailment, as was evidenced by the Longford outage in 1998.

Competition benefits

The Corio Loop enhances the competition benefits associated with the Southwest Pipeline generally. It facilitates competition in both upstream and retail markets by increasing the Victorian market's access to:

- (a) the WUGS facility;
- (b) existing and potential gas field developments in the Otway Basin.

VENCORP has estimated the value of competition benefits from the Corio Loop at around \$26.9m, compared with competition benefits of \$25.9m from the Longford Loop.²⁹ However this calculation is based on a limited definition of competition benefits which only partially considers the impact of competitive forces on the cost of gas, and it is fair to say that on a broader definition (ie one which includes gas on gas competition), the benefits are likely to be higher. Clearly, the exact quantum of the added competition benefits will depend on the costs of the competitive gas supplies, and the extent of developments in the Otway Basin and South Australia. Nevertheless, GasNet expects that the Corio Loop will add to the existing competition benefits associated with the Southwest Pipeline.

²⁵ VENCORP Report, p 30, Table 9.

²⁶ VENCORP Report, p 30, Table 9.

²⁷ VENCORP Report, pp 30-1.

²⁸ VENCORP Report, p 32, Tables 13 and 14.

²⁹ VENCORP Report, p 37, Table 24.

GasNet agrees with VENCORP's conclusion that the competition benefits associated with the Corio Loop are greater than those associated with the Longford Loop.³⁰ While again, this mainly goes to the appropriateness of the Corio Loop compared with the Longford Loop for the purposes of the Prudency Test, it also provides a further indication of the relative level of system-wide benefits created by the Corio Loop.

7 Implications for 2008-2012 tariffs

7.1 Impact of application

This section briefly addresses the possible tariff effects of including the Corio Loop in GasNet's 2008-2012 Access Arrangement (both as part of the capital base and as forecast New Facilities Investment).

Strictly speaking, the question of appropriate tariff structure for recovering the Corio Loop costs does not arise under this application. It will only arise when GasNet submits its revised tariffs for the 2008-2012 regulatory period. However, the possible tariff effects are dealt with here to enable the ACCC and interested parties to appreciate the likely wider impact of the Corio Loop on GNS users.

As discussed in section 6, GasNet considers that the Corio Loop will meet the requirements of 8.16(a) on the basis that it is a prudent investment, and fully satisfies the System-wide Benefits Test. GasNet does not rely on the Economic Feasibility Test, and acknowledges that the Corio Loop is unlikely to generate sufficient revenues if it were required to achieve a commercial return solely through prevailing tariffs.

An investment which passes the System-wide Benefits Test could be recovered through a general uplift of the anytime tariff. Notwithstanding this, GasNet proposes to recover a portion of the Corio Loop costs from users of the Southwest Pipeline by maintaining the Southwest Pipeline tariff at the price path that would prevail in the absence of the Loop. This is because, at the prevailing price path, the new facility is expected to generate some additional revenue as a result of increased volumes along the Southwest Pipeline. At this stage, GasNet cannot accurately estimate the proportion of costs likely to be recovered in this way, as it is not in a position to predict the Corio Loop's effect on gas volumes this far in advance. A more reliable forecast will be provided at the time of the next reset application. However, based on current forecasts, GasNet expects to recover somewhere between 5% to 10% of the incremental costs of the Corio Loop directly from increased flows on the Southwest Pipeline at the prevailing tariffs on this pipeline (this proportion will grow over time as the volumes on the Southwest Pipeline grow). The remainder of the costs could be recovered from GNS users through an uplift in the anytime tariff of approximately \$0.021/GJ applying to all users. The actual tariff will depend on the actual costs incurred, the approved WACC and depreciation profile, and other factors which the ACCC considers relevant when it considers GasNet's Access Arrangement application for the 2008-2012 regulatory period.

³⁰ VENCORP Report, pp 34-5.

GasNet considers that this approach is consistent with the Gas Code, which establishes a distinction between:

- (a) the threshold question of whether an asset should be included in the capital base, which is governed by the requirements in section 8.16(a); and
- (b) the appropriate tariff structure for recovering the costs of an asset once it has been included in the capital base, which is governed by the broader tariff design principles in section 8.

GasNet acknowledges that there is some overlap between these two steps. Section 8.16(a)(ii)(B) requires GasNet to show that the Corio Loop “justifies the approval of a higher reference tariff for all Users.” Accordingly, it is arguable that if a new investment is rolled in under this test, then the applicant must recover the total project costs via a universal tariff increase. However, GasNet submits that the better view is that the choice of test under section 8.16 does not bind the applicant to implement a specific tariff structure, as this could result in inconsistency with the tariff design principles in other parts of the Code (eg, section 8.1).

The fact that a proponent relies exclusively on one test (eg, the System-wide Benefits Test) to roll in an asset cannot be treated as a concession that no portion of project costs satisfies either of the other two tests in section 8.16(a)(ii). If some portion of the project costs will be recovered by the increased revenue generated by the new facility (ie this proportion is “economically feasible”), then it is clearly consistent with the tariff design principles in section 8 for the owner to recover that portion through the prevailing tariff, and recover the balance via an universal tariff uplift.

7.2 Interconnect Decision

There is an ACCC precedent for the proposition that a portion of asset costs can be recovered directly from the users of the new asset, even though the asset has been rolled in exclusively under the System-wide Benefits Test.

The Interconnect Decision establishes the principle that, for a new investment which satisfies the System-wide Benefits Test 100%:

- (a) capital costs are first recovered from users of the new facilities via the prevailing tariff; and then
- (b) the residual capital costs are recovered from all users via a universal tariff uplift, an increase which the ACCC has expressly approved on the basis that the investment creates system-wide benefits.

GasNet submits that this is the correct approach, as almost every new facility will generate some additional revenue directly, in addition to any system-wide benefits it may create.

8 Interpretation

8.1 Definitions

These meaning apply unless the contrary intention appears:

2007 Applications has the meaning given to it in section 5.5 of this application.

8.21 Agreement means an agreement under section 8.21 of the Gas Code.

ACCC means the Australian Competition and Consumer Commission.

Access Arrangement means an arrangement for third party access to a pipeline provided by a service provider and approved by a regulator in accordance with the Gas Code.

AER means the Australian Energy Regulator.

Corio Loop means the proposed extension of the Southwest Pipeline from Lara to Brooklyn.

Curtailment Rules means the Gas Load Curtailment and Gas Rationing and Recovery Guidelines issued by VENCORP in accordance with clause 6.4.3 of the MSO Rules, dated March 2003.

Economic Feasibility Test means the test set out in section 8.16 (a)(ii)(A) of the Gas Code.

ESC means Victorian Essential Service Commission.

GAPR means the Gas Annual Planning Review undertaken by VENCORP.

Gas Code means the National Third Party Access Code for Natural Gas Pipeline Systems.

GasNet means GasNet Australia (Operations) Pty Ltd (ABN 65 083 009 278).

GNS means the primary transmission system for the delivery of gas throughout Victoria.

Interconnect Decision means the decision cited as ACCC, *Revisions to Access Arrangements for the Principal Transmission System - Final Decision*, 28 April 2000.

Longford Loop means the proposed duplication of sections of the Longford Pipeline, proposed as "Option 1b" on page 21 of the VENCORP Report.

Longford Pipeline means the gas transmission pipeline that runs between Longford and Melbourne.

MSO Rules means the Market and System Operations Rules made on 2 February 1999 under section 48N of the Gas Industry Act 1994 (Vic), as amended and currently in force.

National Electricity Rules means the National Electricity Rules made by the Minister for Energy in South Australia under the National Electricity Law, as amended and currently in force.

National Electricity Law means the law contained in a Schedule to the National Electricity (South Australia) Act 1996 (SA).

New Facility has the meaning given to it in section 10.8 of the Gas Code.

New Facilities Investment has the meaning given to it in section 8.15 of the Gas Code.

NSW System means the transmission system for the delivery of gas in New South Wales.

Pre-approved Costs has the meaning given to it in section 5.4 of this application.

Prudency Test means the test set out in section 8.16(a)(i) of the Gas Code.

Southwest Pipeline means the gas transmission pipeline that runs between Lara and Iona.

System -wide Benefits Test means the test set out in section 8.16(a)(ii)(B) of the Gas Code.

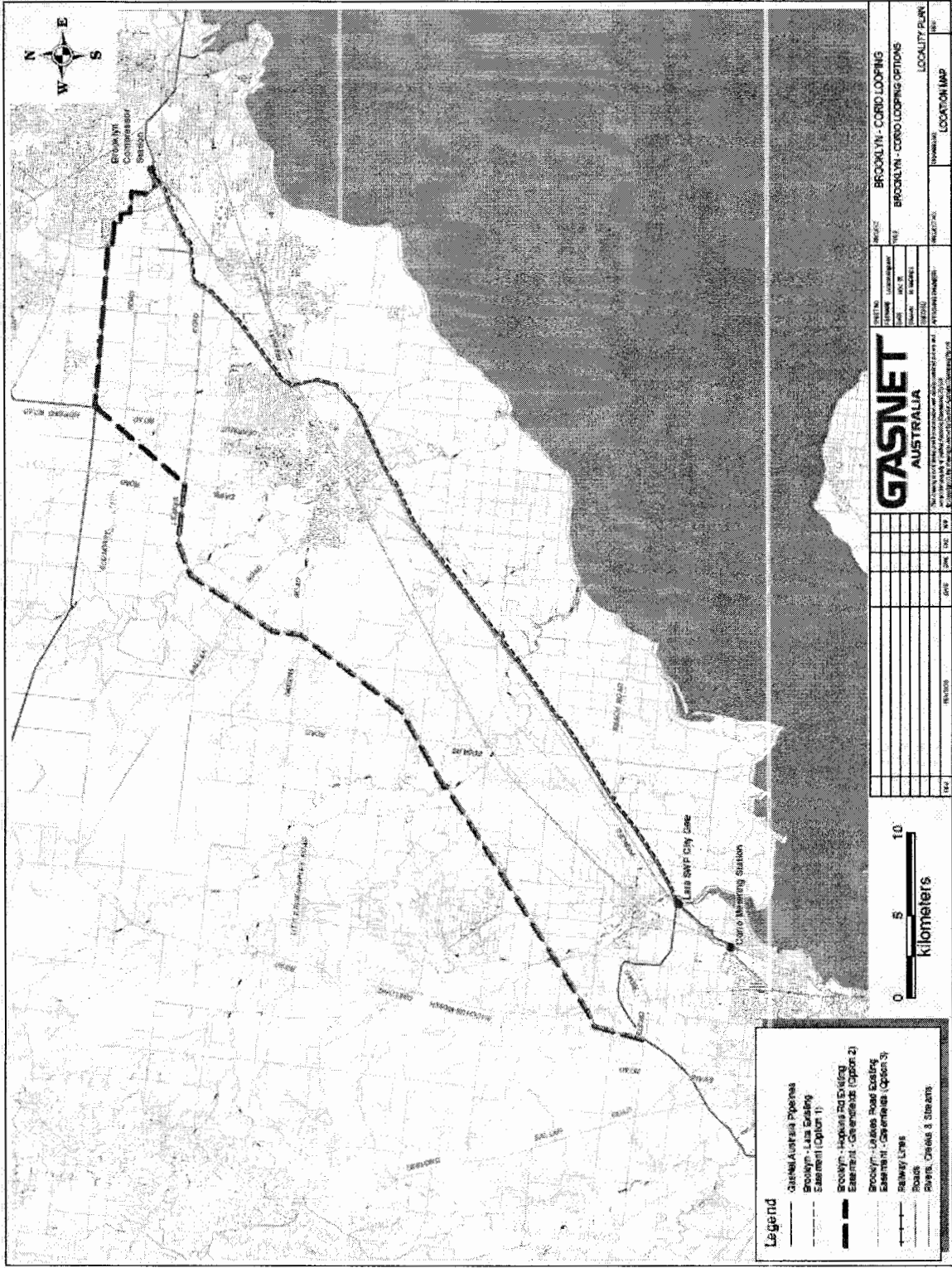
VENCorp Report means the Major System Augmentation Report for the Victorian Principal Transmission System prepared by VENCorp, attached as Annexure C to this application.

VUE means the Value of Unserved Energy, defined on pages 31-2 of the VENCorp Report.

WACC means the weighted average cost of capital.

WUGS means the underground storage facility at Iona.

Annexure A - Map of Proposed Pipeline



GasNet Australia - Application under section 21 of the Gas Code in relation to forecast New Facilities Investment

Annexure B - Pipeline Description



Brooklyn-Elcho Road Looping-Pipeline Description

1.0 BROOKLYN-ELCHO ROAD GAS TRANSMISSION PIPELINE:

1.1 PIPELINE DESCRIPTION

The pipeline will have a diameter of 500 mm. and an overall length of 57 km. Based on the preliminary design and review of the easement, the pipeline will commence at the Brooklyn Compressor Station and proceed in a westerly direction for 12 km in or close to the existing Brooklyn to Ballan pipeline easement, before heading in a south westerly direction along a greenfields route to tie into the Lara to Iona pipeline near Elcho Road, Lara West.

On current plans, the first 6 km of the pipeline route is subject to urban encroachment and environmental restrictions. The rest of the pipeline route traverses semi-rural land used predominantly for grazing and cropping.

1.2 DESIGN BASIS:

The pipeline will be designed in accordance with AS2885.1-1997 or its latest revision (expected to be released in 2006). It will be built to ANSI Class 600, at a Maximum Allowable Operating Pressure (MAOP) of 10.2 MPag. The maximum allowable operating temperature will be 60 deg C and the minimum operating temperature will be no more than -10 deg C. It is envisaged that the pipe material will be API5LX70 (the highest grade with proven operational experience) with wall thicknesses as detailed in Table 1.

TABLE 1: Selected Wall Thicknesses in mm

Pipe OD Nominal	Selected Wall Thicknesses and (%Design Factor)	Estimated Lengths (<i>to be reviewed during the detailed engineering phase</i>)
DN500		
Light Wall	7.90 (72%)	45 KM
Heavy Wall	11.10 (50%)	10 KM
Extra Heavy Wall	12.70(40%)	2 Km

For corrosion protection the pipeline will be externally coated and internally lined. The design provides for two mid-line valve stations with local bypass and venting facilities. The spacing and locations are to be reviewed and firmed up during the detailed engineering phase.

The pipeline will be designed for intelligent pigging. There are two pig trap stations envisaged at this stage, one at Brooklyn and the other near Elcho Road, Lara West.

A new city gate will be constructed on the existing Brooklyn site. This will control the pressure between the higher pressure of the loop and the existing 7.4 MPa system. The facility will comprise heaters, multiple regulator runs and required metering, together with the associated piping and civil works. Connections will be provided into the existing compression facilities and to the new loop.

An additional regulator run will also be installed at the existing Brooklyn City Gate to provide for the additional delivery capacity.

1.3 CONSTRUCTION BASIS:

The pipeline will be constructed in a 20 metre wide easement with a 10 metre temporary working width abutting the easement, to be acquired for this purpose. However, due to environmental restrictions, there will be a number of locations where the construction work space will be limited to a width of less than 20 metres.

The pipeline will be constructed in accordance with AS2885.1 and best construction practices. The minimum cover on the pipeline will be 0.9m (1.2m in the metropolitan area). A significant length (estimated at approximately 46 Km) is expected to be in rocky terrain. For this length, 150mm bedding and padding will be required to protect the pipe and its coating from long term damage from the rock. All welds will be examined by radiography in compliance with AS2885.2. Further, the pipeline will be hydrostatically tested to meet or exceed the requirements of AS2885.5.

The entire construction must comply with a project specific Environment Management Plan (EMP) to meet the expectations of the community and other stakeholders, and the APIA Environmental Code of Practice. It is anticipated that an Environmental Effects Statement under the Environment Effects Act 1978 will not be required. An Environment Effects Report (EER) will be prepared to comply with the requirements of the Pipelines Act 1967. The construction work must meet the requirements of OHSE Act, GasNet's Safety Case and Best Industry practices.

1.4 PROJECT COST:

The estimated indicative cost of the project, excluding financing costs, is \$61.7 Million in \$2005. The broad break-up is as follows:

		Estimated Cost \$M
1	Pipeline Materials	\$ 15.8
2	Pipeline Construction	\$ 32.0
3	EPCM	\$ 3.7
4	Licences, Easements etc	\$ 3.4
5	Facilities	\$ 6.8
6	Total Estimated Cost	\$ 61.7

The materials cost is based on the current pipeline steel price, which is presently significantly higher than historical values.

Based on the preliminary design and review of the likely easement, the first 3.5 km of the total length of 57 km. will be in difficult built-up street conditions and will require more expensive non-standard methods. The next 2.5 km of the pipeline could use standard mainline techniques but at a significantly slower production rate due to the likely environmental restrictions. It is anticipated that the balance of the pipeline could be constructed using typical mainline construction techniques. The main restriction to the rate of pipe laying will be the extent of rock (estimated to be approximately 46 km) and the resulting requirements to excavate the rock, bed and pad the trenches and dispose of the surplus rock at approved locations.

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Annexure C - VENCORP Report

Report is attached on the following page.

