



## **DAMPIER TO BUNBURY NATURAL GAS PIPELINE**

### **PROPOSED ACCESS ARRANGEMENT UNDER THE NATIONAL ACCESS CODE**

#### **Submission 5: Capital Base, Depreciation and WACC 12 May 2000**

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## 1. Introduction

- 1.1 On 20 April 2000, the Office of Gas Access Regulation (“OffGAR”) released a further four submissions in respect of the proposed Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline (the “DBNGP”) lodged, by Epic Energy, on 15 December 1999. In a notice accompanying the release, the Western Australian Independent Gas Access Regulator (the “Regulator”) advised that he would open a further period during which submissions might be made to him concerning the proposed Access Arrangement and, in particular, matters raised in the four submissions.
- 1.2 One of the four submissions released by OffGAR was a submission from Epic Energy (“Epic Submission 1”), which among other things, described in some detail the process of the sale through which it acquired the DBNGP from the State of Western Australia. The version of that submission released by OffGAR is a modified version of the submission lodged with the Access Arrangement on 15 December 1999, which has not been released by OffGAR. The modifications are the deletion of certain information covered by confidentiality obligations. The submission sets out Epic Energy’s arguments as to why the Regulator should consider, in his assessment of the proposed Access Arrangement, the way in which the DBNGP sale process was structured and executed. This has been added to by a third submission (“Epic Submission 3”) which was lodged with the Regulator on 17 March 2000 and has only recently been made public.
- 1.3 Two of the other submissions were from AlintaGas, the Government’s agent in the sale process, and the third was a joint submission from State Treasury and the Office of Energy. These three submissions tend to cover the majority of the points raised by other interested parties in submissions filed with the Regulator. Therefore by commenting on them Epic Energy believes it will be able to also cover most of the points raised in the other submissions. Where they have not been covered by Epic Submission 3, Epic Energy will endeavour to cover them in other submissions.
- 1.4 Epic Energy’s further comments are made in six separate submissions, each dealing with a particular set of issues. Those submissions are:
- 4 regulatory compact;
  - 5 capital base, depreciation and WACC;
  - 6 the reference service and other services;
  - 7 the reference tariff and incentive mechanism;
  - 8 the offer of a T1 Service; and
  - 9 gaining access to the DBNGP.

## 2. Epic Energy’s determination of the initial capital base

- 2.1 Epic Energy has maintained, and continues to maintain, that the gas transmission tariffs, and the path of future tariffs, recorded in Schedule 39 of the DBNGP Asset Sale Agreement, were key elements of the common understandings and expectations between Epic Energy and the Government of Western Australia that developed during the pipeline sale process.<sup>1</sup> Epic Energy has referred to these common understandings and expectations as a regulatory compact. The form of the regulatory compact was established in the Epic First Submission and in Epic Submission 1. This has been supplemented by Epic Submission 3 and Epic Submission 4. Most submissions filed by interested parties

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<sup>1</sup> Schedule 39 has now been released by AlintaGas, as Appendix 2 to its *Second Submission to Regulator on Epic Energy’s DBNGP Access Arrangement*.

suffer from the fact that the authors have not had the opportunity of reading those submissions. Hence a lot of the argument is misdirected through a lack of understanding of the regulatory compact argument or the regulatory model developed by the Brattle Group.

- 2.2 For the Government, the tariffs and the tariff path of Schedule 39 were critical policy outcomes from the sale of the DBNGP. Gas transmission tariffs were lowered to a level consistent with the Government's expectations. In addition, the tariffs and the tariff path supported a purchase price for the pipeline that allowed the Government to deliver benefits to the broader community through debt reduction, and through education, health and infrastructure initiatives, funded from the proceeds of pipeline sale.
- 2.3 The tariffs and the tariff path of Schedule 39 are linked directly to the price Epic Energy paid for the DBNGP through the assessment of pipeline value made at the time of sale. At the time of pipeline sale, Epic Energy determined, using forecasts of pipeline throughput that had been provided by the Government, that these tariffs and the tariff path would provide a revenue stream that would support a purchase price of \$2.407 billion.
- 2.4 Epic Energy has used a model of regulatory asset valuation proposed by its regulatory adviser, The Brattle Group, to establish the initial capital base for the DBNGP. The Brattle Group's report to Epic Energy on the proposed regulatory model (lodged with the Access Arrangement on 15 December 1999) was released by OffGAR on 20 April 2000, as part of Epic Submission 1.
- 2.5 The regulatory model takes the tariffs and tariff path of the regulatory compact as imposing an upper limit on tariffs. Tariffs may not exceed the upper limit imposed by the tariff path. They may, however, fall below that upper limit if increases in demand for gas transportation are expected to result in depreciation charges that recover the investment in the capital base before the pipeline reaches the end of its economic life.
- 2.6 Epic Energy believes the tariffs and the tariff path should remain fixed for a period of 20 years from the date of its purchase of the DBNGP. Financial analyses undertaken to support a major acquisition usually use a time horizon of 20 years. A shorter time horizon results in excessive weight being placed on an uncertain residual. A longer time horizon requires specific forecasts for increasingly uncertain events. Financial analyses undertaken by Epic Energy and its financial advisers immediately prior to the sale of the DBNGP used a time horizon of 20 years.
- 2.7 In maintaining its commitment to the regulatory compact, Epic Energy will not seek to change its tariffs and the tariff path for a period of 20 years. Although the Access Arrangement would be reviewed by the Regulator at five years intervals, and changes may be made to the reference service to reflect changing market conditions, there would be no change in the tariff or the tariff path resulting from changes in the capital base.
- 2.8 With the tariffs to follow a tariff path that is fixed for an extended period, Epic Energy may not recover the capital charges on the initial capital base, and on the capital base in subsequent years, without growth in the demand for gas transportation. Any shortfall in capital recovery is to be treated, in accordance with the regulatory model, as economic depreciation, and added back to the asset base. The use of an economic rather than an accounting concept of depreciation allows postponement of recovery of a part of the capital base until that recovery is warranted by growth in demand for gas transportation services. Higher demand allows Epic Energy to receive higher revenues and recover capital without an increase in the absolute level of tariffs.

2.9 In adopting the regulatory model proposed by The Brattle Group, Epic Energy is assuming the “volume risk” associated with market growth. If the demand for gas transportation grows in the way expected at the time of the DBNGP sale, Epic Energy will recover the its investment in the pipeline. If the market does not grow as expected, a part of the price paid by Epic Energy for the DBNGP will be shown to have been an imprudent investment for which Epic Energy shareholders will not be compensated.

### 3. Capital base issues raised in submissions to the Regulator

- 3.1 In the majority of the submissions to the Regulator, little consideration appears to have been given to the way in which Epic Energy has established the initial capital base for the DBNGP. As mentioned above, that probably comes about through lack of access to Epic Energy's Submissions. The principal issue raised is a perceived failure by Epic Energy to provide a depreciated actual cost (DAC) and a depreciated optimised replacement cost (DORC) valuation for the pipeline in the Access Arrangement Information.
- 3.2 Epic Energy has put to the Regulator the reasons why it believes that neither a DAC nor a DORC valuation is necessary to understanding the DBNGP Access Arrangement and its proposed reference tariff. Epic Energy has also provided the reasons why it did not include DAC and DORC valuations in the Access Arrangement Information. These reasons were supported by independent legal opinion. They have been summarised in Epic Submission 3.
- 3.3 The most comprehensive examinations of the way in which Epic Energy has established the initial capital base for the DBNGP are to be found in AlintaGas's *Third Submission to Regulator on Epic Energy's DBNGP Access Arrangement*, and in the joint submission from the Treasury and the Office of Energy. It is to be noted that at the time of lodging those submissions, only Office of Energy had had access to Epic Energy's first submission and Epic Submission 1.
- 3.4 Epic Energy has received from The Brattle Group comments on the AlintaGas *Third Submission* and on the joint submission from the Treasury and the Office of Energy in respect of this aspect. Extracts from these comments are appended to this submission as Appendix 1.
- 3.5 In its *Third Submission* AlintaGas has argued that:

*“In a competitive tender process, each bidder will make its own assessment of what to bid for the asset. Logically, the prices bid by different tenderers will be different, even though these bids are based on the same information. The fact that a vendor selects one bid over the rest, does not necessarily indicate that the successful bidder's assessment of the value of the asset is correct or is a value consistent with sections 8.1 and 8.10 of the National Access Code. For this reason, although a recent sale price is a factor which the Regulator can appropriately consider in setting the initial Capital Base, AlintaGas submits that the National Access Code sets the right balance when it gives primacy to the DAC and DORC methods.”<sup>12</sup>*

- 3.6 AlintaGas appears to be arguing that, because the prices bid in a competitive bidding process will usually differ, an accepted bid price in a recent sale is a factor which the Regulator might appropriately consider in setting the initial capital base. However, they go on to say that in giving consideration to a bid price, the Regulator should be guided by the

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<sup>12</sup> AlintaGas Third Submission, p10.

fact that, in AlintaGas's view, the *National Third Party Access Code for Natural Gas Pipeline Systems* gives primacy to DAC and DORC valuations in establishing the initial capital base. For the reasons set out in the Epic First Submission and in Epic Submission 1, Epic Energy does not agree with AlintaGas's view.

- 3.7 The initial capital base for a pipeline should, AlintaGas argue, be similar for all prospective service providers, and it should reflect the "efficient cost" of providing access:

*"The valuation of the initial Capital Base should be similar for any service provider, whether that service provider is government owned or a private firm. The initial capital base determined by the Regulator needs to give the service provider the ability to earn revenue from the provision of third party access to an asset which reflects the "efficient cost", including capital cost, of providing that access (see section 8.1(a) of the National Access Code). The "efficient cost" by definition does not include an inflated capital base, or a capital base that is set by reference to a price that includes other strategic factors."*<sup>3</sup>

- 3.8 What AlintaGas considers to be the "efficient cost" of providing access is not made clear. It is to include the capital costs of providing access, but those capital costs should not include an inflated capital base, or a capital base that is set by reference to a price that includes other strategic factors. AlintaGas does not explain what it means by an inflated capital base. It does, however, offer a view on what it considers to be a capital base set by reference to a bid price that includes other strategic factors:

*"The purchase price of \$2.407 billion paid by Epic Energy for the DBNGP was presumably the subjective value of the asset to Epic Energy in March 1998. The purchase price would have been only partly dependent on future revenue potential from existing users of the DBNGP. Factors that might have influenced Epic Energy to bid more for the DBNGP than the economic value of future cash flows from existing users include:*

- *Strategic benefits and growth potential. . . .*
- *Epic Energy may have perceived a lower risk for its investment in the DBNGP whilst anticipating a return for the DBNGP under section 8 of the National Access Code that assumes a higher risk.*
- *Epic Energy may have expected to benefit from jurisdictional taxation arbitrage – namely the marginal tax benefit that can be obtained through the use of different tax jurisdictions – in its acquisition of the DBNGP.*
- *Epic Energy may have perceived synergies between the DBNGP and its existing Australian assets.*
- *Epic Energy may have expected to outperform the benchmarks used to set regulated tariffs."*<sup>4</sup>

- 3.9 Epic Energy acknowledges that, in determining its Final Bid price for the DBNGP, it made allowance for revenues it would receive from future growth in gas transportation demand if forecasts of pipeline throughput provided by the Government at the time of sale were realised. Epic Energy also made allowances for the additional capital costs that it would expect to incur, and the additional operating and maintenance costs. The purchase price of \$2.407 billion Epic Energy paid for the DBNGP was determined after considering both the future revenue potential from existing users of the pipeline, and the revenue that would be

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<sup>3</sup> AlintaGas Third Submission, p11.

<sup>4</sup> AlintaGas Third Submission, p9.

generated from potential users whose gas transportation requirements could be anticipated during 1997 and early in 1998. In this respect, Epic Energy's approach to determining the price it paid for the DBNGP followed normal business practice.

- 3.10 Epic Energy's bid price recognised the expected economic value of future cash flows from existing users, and it recognised the expected economic value of cash flows from potential users. Epic Energy's bid price was, in consequence, higher than a bid price that recognised only the expected economic value of future cash flows from existing users. In using the price it paid for the DBNGP as the initial capital base, Epic Energy concedes that it has used a capital base which is "inflated" relative to the capital base that would result from a calculation designed to produce a lower number. Epic Energy also concedes that it has taken into account factors which are, on AlintaGas definition, strategic factors.
- 3.11 Nothing more can be concluded from this than Epic Energy has used as an initial capital base a value that is different from the value AlintaGas thinks it should have used. Without a more careful analysis of Epic Energy's position nothing substantive can be concluded from about its initial capital base, or its proposed reference tariff.
- 3.12 AlintaGas's argument continues:

*"If the sale price of the DBNGP is used as the initial Capital Base, it would result in an anomalous situation of Service Providers being willing to purchase assets at any cost, confident in the knowledge that they can recoup such costs from third party users over a period of time. If this interpretation of section 8 of the National Access Code were correct, the National Access Code would be "distorting investment decisions", contrary to one of the express objectives in section 8.1(d). It would defeat one of the purposes of competition policy reform, which is to prohibit monopoly asset owners from charging a monopoly rent for use of that asset.*

*The absurdity of Epic Energy's proposed initial capital base can be simply illustrated. Suppose one year after having purchased the DBNGP and prior to the Regulator approving the initial Capital Base, Epic Energy had sold the DBNGP to a related company for, say \$3.5 billion. On Epic Energy's argument, the initial capital base for the Pipeline would then be \$3.5 billion, when nothing about the pipeline had changed. In this scenario, it is difficult to see how the efficient cost of providing DBNGP haulage services could be different before and after the Epic Energy sold the pipeline. It is also difficult to characterise the acquirer's recovery, were it permitted, of the extra \$1 billion, as anything other than a monopoly rent."<sup>5</sup>*

- 3.13 The argument set out in these two paragraphs further supports Epic Energy's view that, without a more careful analysis of its position, nothing substantive can be concluded about the initial capital base for the DBNGP, or about the reference tariff proposed in the Access Arrangement.
- 3.14 AlintaGas concludes that use of a sale price as the initial capital base for reference tariff determination would result in the anomalous outcome of potential purchasers of pipeline assets being prepared to pay any price for them. The resulting higher reference tariffs would then distort investment decisions, and defeat the purpose of competition policy reform that sought to prevent monopoly rent extraction. This conclusion assumes that the process through which the pipeline was sold was not structured in a way that would prevent these economically inefficient outcomes. A simple sale to a related body corporate would

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<sup>5</sup> AlintaGas Third Submission, p11.

not suffice to enable Epic Energy to increase the initial capital base. The regulatory compact is crucial to the regulatory model and hence the use of the purchase price in this instance.

- 3.15 As Epic Energy has described in the Epic First Submission, and in Epic Submission 1, the DBNGP sale process was structured in a particular way. It was structured to deliver both a high sale price for the pipeline and lower gas transmission tariffs. It was structured to prevent inefficient outcomes of the type referred to by AlintaGas. To use, as AlintaGas has done, a simple example that ignores the way in which the sale process was structured and executed does not demonstrate the absurdity of Epic Energy's initial capital base. It demonstrates the inappropriateness of using a simple and poorly specified model to address a complex issue.
- 3.16 Epic Energy appreciates that AlintaGas would not have seen either Epic First Submission or Epic Submission 1 prior to its recent release by OffGAR. Until that time, Epic First Submission and Epic Submission 1 had only been seen by the Minister for Energy, the Office of Energy and the Regulator.
- 3.17 That AlintaGas may not have seen Epic Submission 1, the Epic First Submission, or The Brattle Group report on the regulatory model annexed to the Epic First Submission but now released by OffGAR, may explain AlintaGas's comments on the capital recovery mechanism associated with the initial capital base and the proposed reference tariff for the DBNGP.

- 3.18 AlintaGas submits:

*“ . . . the use of a deferred recovery account on the DBNGP, which is intimately linked with the determination of an initial Capital Base and the tariff, is not in accordance with the National Access Code and should not be allowed.”<sup>6</sup>*

- 3.19 AlintaGas make reference to the Australian Competition and Consumer Commission (“ACCC”) draft decision on access to AGL Pipelines Pty Limited's Central West Pipeline, and comments that:

*“In this case, the ACCC accepted the use of a deferred recovery account because the pipeline was a greenfields project without an established customer base. The deferred recovery account provides an opportunity for tariffs to be set at sustainable levels when initial demand is low. As demand grows through market development, the increased throughput enables recovery through the tariff of the deferred capital costs.”<sup>7</sup>*

- 3.20 However, according to AlintaGas:

*“The DBNGP is completely different. It is not a greenfields situation. Rather, Epic Energy has long-term take-or-pay contracts for the majority of its firm capacity. There is very little spare capacity and Epic Energy is not forecasting any increase in its contracted capacity over the Access Arrangement Period.*

*A deferred recovery account should not be used as a way in which the purchaser of an existing pipeline can recover an excessive purchase price by setting tariffs that*

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<sup>6</sup> AlintaGas Third Submission, p17.

<sup>7</sup> AlintaGas Third Submission, p18.

*will be higher than “the stream of revenue that recovers the efficient costs of delivering the Reference Service” (see section 8.1(a) of the National Access Code).*

*A deferred recovery account will cause DBNGP tariffs to remain high and continue to increase for many years as Epic Energy attempts to recover the purchase price of the DBNGP.”<sup>8</sup>*

- 3.21 AlintaGas does not explain why the use of a deferred recovery account is not in accordance with the National Access Code. No reference is made to Code provisions that prohibit the use of a deferred recovery account as part of an appropriately constructed capital recovery mechanism. Moreover, although the Central West Pipeline draft decision is cited, there is no examination of the ACCC’s reasoning, and no reference to Code provisions referred to by the ACCC in supporting its the decision to allow the pricing and capital mechanism proposed by AGL Pipelines. Those provisions, in particular, sections 8.1, 8.3, 8.4, 8.10 and 8.34, are key provisions of the Code relating to reference tariffs and reference tariff policy. They do not distinguish between established pipelines and greenfields projects. Indeed, the ACCC notes that, for the purposes of the Code, the Central West Pipeline is an existing pipeline. It came into existence shortly before the Code commenced in New South Wales. Both Epic First Submission/Epic Submission 1 and The Brattle Group report annexed to them address these issues and compliance with the Code. The Central West Pipeline decision is also dealt with in Epic Submission 3.
- 3.22 AlintaGas’s objection to Epic Energy’s use of a deferred recovery account appears to based solely on three assertions:
- the DBNGP is completely different;
  - the DBNGP is not a greenfields situation; and
  - a deferred recovery account will cause tariffs to remain high and continue to increase for many years.
- 3.23 The first and second of these assertions are irrelevant. The third is incorrect. As was noted in paragraph 2.5 above, the tariffs cannot exceed the upper limit imposed by the tariff path. If they remain at that upper limit, they will decline in real terms. At the time the tariffs and tariff path were set, significant increases in gas transportation demand were forecast. If those increases in demand materialise, the additional revenues will accelerate depreciation of the capital base allowing tariffs to fall below the upper limit of the tariff path.
- 3.24 In their submission to the Regulator, the Treasury and the Office of Energy appear to broadly accept the way in which Epic Energy has established the initial capital base for the DBNGP. However, they ask the Regulator to now seek a redetermination of the tariff path on which it has been based:

*“It is suggested that the tariff path proposed by Epic Energy as part of the DBNGP sale process, and subsequently under its Access Arrangement, would have involved a long term NPV calculation based on certain assumptions at the time of purchase. It is considered that the Regulator should request that Epic Energy now determine its proposed tariff path using an alternative long term NPV method based on realistic current parameters instead of the “cost of service” approach currently proposed.”<sup>9</sup>*

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<sup>8</sup> AlintaGas Third Submission, p18.

<sup>9</sup> T&OE Submission, p5.



- 3.25 Epic Energy totally rejects any proposal for it, or any other party, to now redetermine the tariffs and the tariff path of Schedule 39.
- 3.26 The tariffs and the tariff path provide the lower gas transportation tariffs sought by the Government of Western Australia from the DBNGP sale process. It is irrelevant how they were calculated by Epic Energy at the time. The State did not call for such calculations then and was clearly not interested in them. What it was interested in was the tariff and tariff path set out in Schedule 39 and the purchase price. The tariffs and tariff path also support the high purchase price sought by the Government and used by it to deliver benefits to the broader community. They are key elements of the regulatory compact with the State.
- 3.27 Although they appear to be understanding of the position in respect of the tariffs and the tariff path, and the initial capital base, being advanced by Epic Energy, the Treasury and the Office of Energy have not accurately represented the capital recovery mechanism:

*“The proposed Access Arrangement includes adjustment mechanisms that result in the capital base appreciating over the life of the Access Arrangement. This “appreciation” does not arise from planned efficient new investment in pipeline capacity. Rather, the justification by Epic Energy derives from the tariffs proposed in the sale process resulting in subnormal returns on the adjusted purchase price. The effect of this would be to prevent or delay passing on unit cost reductions from increased capacity utilisation (from efficient new investment) over the life of the access Arrangement and upon the pass-over to subsequent Access Arrangements. The mechanism capitalises (and thereby will partially transfer to future shippers) the “economic loss” arising from proposed tariffs being insufficient to earn a reasonable return, despite negligible unutilised pipeline capacity.”<sup>10</sup>*

- 3.28 The capital recovery mechanism capitalises the “economic loss” arising in circumstances where the proposed tariffs are insufficient to provide a return on Epic Energy’s investment in the DBNGP. Those losses are not, however, transferred to future shippers. If those losses are not recovered, they are borne by Epic Energy’s shareholders. As noted in paragraph 2.9 above, a part of their investment in the pipeline will have been shown to have been imprudent.
- 3.29 In their submission to the Regulator, the Treasury and the Office of Energy also expressed concern over whether the capital recovery mechanism complied with section 8 of the Code:

*“It is noted that it may be questionable whether the practice of appreciating the physical asset account balance complies generally with section 8 of the Code including with section 8.16 which governs the permissible increases in the asset base.”<sup>11</sup>*

- 3.30 Epic Energy is of the view that this concern is unnecessary. Issues of Code compliance were dealt with by The Brattle Group in its report on the regulatory model, and in Epic Submission 1 and Epic Submission 3. The key provision in the Code governing changes in the capital base is section 8.9. That section allows the resetting of the capital base at the end of an access arrangement period by taking the capital base at the start of the period and adjusting it to account for new facilities investment, redundant capital and depreciation. Any increase in the capital base may be the result of either new facilities investment, or

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<sup>10</sup> T&OE Submission, p5-6.

<sup>11</sup> T&OE Submission, p9.

negative economic depreciation. (In this context it is important to note that, although economic depreciation may be negative in some years, over the life of an asset the accumulated economic depreciation is positive and recovers the capital invested as required by section 8.33.) An increase in the capital base resulting from negative economic depreciation is not an addition to facilities covered by section 8.16.

#### 4. WACC issues raised in submissions to the Regulator

- 4.1 The determination of the cost of capital to be used in the reference tariff calculations for the DBNGP was undertaken by regulatory consultants The Brattle Group. The Group's report, *The Cost of Capital for the Dampier to Bunbury Natural Gas Pipeline*, was attached – as Appendix 2 – to the Access Arrangement Information.
- 4.2 Epic Energy has commented at some length on WACC issues in Epic Submission 3. The following paragraphs address only new issues raised in the submissions recently released by OffGAR.
- 4.3 In section 4.3 of its *Third Submission*, AlintaGas has argued that the DBNGP is less risky than pipelines in the United States that were used by The Brattle Group to establish betas for the estimation of return on equity. Epic Energy has sought comment from The Brattle Group on this issue and the Group has responded as follows.

*"In this section AlintaGas never establishes that "the DBNGP is less risky than pipelines in the United States." Instead, it primarily complains about the sample of pipelines we use for our beta estimation. It suggests that the sample does not contain "pure play" pipelines and therefore should be rejected. It asserts that pipelines in the U.S. face greater competition due to shorter term contracts and "heavy take-or-pay losses resulting from gas purchase obligations, prior to unbundling." AlintaGas also suggests that Canadian pipelines may be more representative of the risks facing the DBNGP.*

*We acknowledge that there is no perfect sample of pure play pipelines to use for beta estimation, and there certainly is no such sample that could be composed of Australian-only pipelines. Alinta does not offer an alternative. Canadian pipelines are not an alternative. There is only one major Canadian pipeline, TransCanada, that is publicly-traded, and it is not a pure play by any means. In fact, when the Canadian National Energy Board established its "multi-pipeline cost of capital," it employed U.S. pipelines in its CAPM sample. The sample we employed is one that has been, and continues to be, sanctioned by U.S. regulators. AlintaGas implies that this sample was chosen by a staff member at the FERC for application in at the end of 1996. In fact, this sample (or slight variants of it) have been in regular use now at the FERC for nearly ten years, and it is used by nearly all of the practitioners in the field. For example, as recently as 17 March 2000, the FERC approved a decision in the latest Transcontinental Gas Pipe Line rate case that included a WACC based on the same five-company sample. (FERC Docket No. RP97-71).*

*AlintaGas' argument that US pipelines are more risky because of take-or-pay obligations is erroneous, as those obligations were fundamentally resolved with the implementation of Order No. 636 in 1992 – long before the statistical sample we use to estimate beta. Finally, in our opinion the market risks faced by the DBNGP under our regulatory proposal (which puts EPIC at significant risk of underrecovery if increased volumes do not materialise) are as high or higher than pipelines in the*

*current U.S. regulatory environment. In that environment, significant regulatory protections are still available to pipelines whose capacity may be “stranded” by expiring contracts.”*

- 4.4 Section 4.4 of the AlintaGas *Third Submission* continues with the assertion that the DBNGP is less risky than other Australian pipelines. The Brattle Group has commented as follows:

*“We have made no assessment of the relative systematic risk of these pipelines. Neither has AlintaGas. AlintaGas is merely asserting an appropriate return unsupported by analysis. If a relative risk assessment were to be made a very wide range of factors would have to be considered and translating qualitative differences in a range of parameters that might affect risk into a WACC estimate would be extraordinarily difficult.”*

- 4.5 The riskiness of the DBNGP as relative to the “all ordinaries” index is discussed in section 4.5 of the AlintaGas *Third Submission*. The Brattle Group has commented as follows:

*“This is a re-hash of AlintaGas’s previously-made arguments. Our findings to the contrary are based on the beta analysis presented in our report and AlintaGas makes only qualitative arguments which we discussed under 4.4, above. The reference to the NEB in Canada is misleading for at least three reasons: 1) the relative risk of Canadian pipelines in Canada is not the relevant benchmark for Australia; 2) references to absolute risk premia are not proper since both the risk premium and the relative risk measure should be from the Australian market; and 3) in any event Canadian pipelines have started proceedings before the NEB to address persistent allowed returns well below the cost of capital. AlintaGas’s claim that the Regulator should focus on equity betas rather than asset betas and debt betas is [not right] in that these three measures must be consistent with each other or else a mistake is being made. Given that AlintaGas thinks the gearing should be higher (see section 4.6 of the AlintaGas submission), this is especially important.”*

- 4.6 In response to AlintaGas’s assertion, in section 4.6 of its *Third Submission*, that the gearing level used in the cost of capital determination is too low, The Brattle Group has responded as follows:

*“As discussed in detail in our report, there is considerable evidence that the WACC is relatively insensitive to leverage and that any advantage that debt may confer not only disappears but reverses at very high debt levels. Our report provides evidence of average debt ratios in a variety of countries and we note that in no case is a level as high as even 65% reached.”*

To that should be added the trap that a number of the submissions have fallen into, including AlintaGas, namely it is not possible to mix actual factors with notional factors. The approach regulators have taken is to take a notional organisation in working out WACC as being representative of a competitive outcome. It is therefore not possible to mix in particular facts as they apply to Epic Energy in such a model.

- 4.7 AlintaGas has commented, in section 4.7 of its *Third Submission*, that a number of the parameter values used in determination of the cost of capital for the DBNGP are inappropriate. In respect of these comments, The Brattle Group has advised:

*“4.7.1 Proposed asset beta of 0.58 and debt beta of 0.12*

*AlintaGas claims that an asset beta of 0.2 is consistent with their preferred equity beta of 0.5 to 0.6. This is nothing but reverse engineering an answer they desire and is completely unsupported by analysis. For reference, we note that betas of US Treasury securities have exceeded 0.2 and we suspect that similar results can be found in Australia. That a levered equity beta would be similar is not believable. AlintaGas also suggests that a debt beta near zero is more appropriate. Although we don't agree, we note that lower debt betas would increase our estimate of the WACC as shown in the sensitivity analyses in our report.*

4.7.2 *Proposed risk free rate of 6.4%*

*The appropriate risk free rate is observable in the market with the only question being how and whether to average rates over a short period of time to smooth out noise. Citing old decisions on this topic is completely inappropriate. In any event, rates have risen since our report and the Regulator should update the analysis to reflect rates at the time of the determination.*

4.7.3 *Proposed market risk premium of 6.5%*

*Again, AlintaGas just asserts that 6% is more typical in Australia. Our report cites the current evidence and while 6% is in the range of estimates we cite, we believe 6.5% is a better estimate. Our report shows sensitivities at both 6% and 7%.*

4.7.4 *Proposed payout ratio, franking ratio, and utilisation ratio*

*The [lack of depth] of AlintaGas's analysis is revealed by their claim that these parameters are not relevant. They also claim that these factors have not featured in recent regulatory decisions, which is wrong since they are central to the question of gamma, which is an oft-debated parameter.*

4.7.5 *Proposed gamma franking credits of 0.44*

*Again, AlintaGas just cites a favorable comparison with a single decision and does not address our very detailed analysis."*

4.8 The Brattle Group has also made a number of brief comments on the discussion of cost of capital issues in the joint submission of the Treasury and the Office of Energy. These comments are set out below:

"5.1 *Cost of debt*

*We agree that the debt premium could be determined by estimating the market price of debt for Epic, as long as other variables (and in particular the equity beta) are estimated in a consistent fashion.*

5.2 *Capital structure*

*T&OE mention that the classic Miller-Modigliani invariance proposition is based on unrealistic assumptions. Later work by Miller, however, that incorporates more realistic assumptions reaches similar results, as is*

*discussed in our report. As long as all calculations are performed in a consistent manner, it is a matter of judgement as to whether a debt ratio of 55% or 60% is more appropriate. We are troubled however, by statements such as "[w]ith the equity Beta held constant, the WACC result is particularly sensitive to changes in assumed capital structure" because it is [not right] to assume that the equity beta would be held constant.*

5.3 *Dividend imputation*

*There are no arguments advanced that any of our assumptions or calculations are incorrect, so we see no basis for T&OE's assertion that a value of 50% is more appropriate.*

5.4 *Risk free rate*

*We agree that current rate information should be used. We use a two-month average only to smooth out noise in the rates and (indeed T&OE itself cites a one-month average of spot yields) and note that rates have continued to rise since our report was written.*

5.5 *Beta value*

*We agree that the Regulator should review the WACC parameters to ensure that they reflect the risk of the business.*

5.6 *Market risk premium*

*T&OE provides no new evidence and notes that our value of 6.5% is in the range of accepted values but above the rate used previously by the Regulator. We agree.*

5.7 *Inflation rate*

*[T&OE] accept our inflation rate. We note that inflation rates have been rising since our report and that forecasts should be updated to the time of the determination and to be consistent with the risk free rate and cost of debt values used.*

5.8 *Tax rate*

*We agree that current values should be used but note that the marginal rate not the average rate should be used.*

5.9 *Method of transformation*

*Our report shows why the alternative method of transformation discussed by T&OE is inappropriate under typical regulatory treatments.*

5.10 *Calculation of WACC*

*We have not checked T&OE's calculations, but agree that the Regulator should consider whether the particular mechanics of Epic's regulatory treatment require an alternative transformation methodology."*

- 4.9 As a further observation on the cost of debt, it is important to also recognise that quoted costs of debt are usually market rates. They do not include any allowance for the costs that are incurred by a business in negotiating and arranging debt finance. These costs will add to the debt premium.



## **DAMPIER TO BUNBURY NATURAL GAS PIPELINE**

### **PROPOSED ACCESS ARRANGEMENT UNDER THE NATIONAL ACCESS CODE**

#### **Submission 5: Capital Base, Depreciation and WACC 12 May 2000 APPENDIX 1**

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## Capital Base, Depreciation and Valuation Issues Extracts from Comments made by The Brattle Group

Below are some comments on the submissions by the Treasury and Office of Energy (“T&OE”), and by AlintaGas. We conclude that the T&OE submission:

- *Reflects some confusion about our proposal.* T&OE seek clarification on the potential returns to Epic under our proposal, although we explicitly stated that Epic would recover no more than its purchase price in present value terms, and that it would remain at risk if anticipated volumes did not materialise. The confusion may arise from specific language used by Epic in its *Access Arrangement Information* document, described below, which we should clarify.
- *Implicitly assumes a particular pattern of revenue recovery.* T&OE seem to be uncomfortable with our proposed pattern of revenue recovery. We should stress that our proposal more closely replicates the efficient revenue recovery patterns found in competitive markets.
- *Ignores our regulatory risk arguments.*
- *Argues incorrectly that Epic’s purchase price could reflect an inappropriate premium based on optimistic volume forecasts.*
- *Provides an intriguing analogy of our proposal to the use of a “speculative investment fund.”*

### 1. Treasury and Office of Energy

#### 1.1 Confusion About the Proposal

Several statements indicate confusion about the risks that our proposal would place on Epic. For example, T&OE call for further calculations based on “realistic current parameters instead of the ‘cost of service’ approach currently proposed” (p. 5). We do not understand exactly what this means, but these calculations would presumably allow the Regulator to determine “the adequacy of the ‘tariff path’ in terms of providing a reasonable rate of return to Epic Energy.” (p.5). However, in present value terms, Epic can at most recover the cost of capital on its purchase price, and if future volume growth is inadequate, Epic may earn considerably less.

Elsewhere, T&OE states “it is unclear whether Epic Energy proposes that the ‘0.67 x CPI’ mechanism will dictate the tariff path into the future or only for the period of this Access Arrangement,” and that “the Regulator would need to satisfy himself that the proposed Access Arrangement would not underwrite above-normal returns...” (p. 6). There is, however, a long-term commitment to 0.67 X CPI unless volumes eventually grow so much that they threaten to re-cover *more* than the cost of capital on Epic’s purchase price. In this case, our proposal would call for even lower prices.

Epic’s volume risk also appears to be ignored in one of T&OE’s comments concerning the cost of capital: the deferred recovery account is alleged to “result in reduced risk and hence a lower rate of return may be justified...” (p. 13). However, the “comparable” pipeline companies in the cost-of-capital analysis face *less* volume risk than Epic would under our proposal. If volumes decrease, American pipeline companies can file for a new rate case. In contrast, our proposal would preclude Epic from raising its rates in response to decreased volumes.

Part of the confusion may arise from the language that T&OE quotes (p. 10) from Epic’s proposed Access Arrangement Information, Subsection 2.6:



*“if Epic Energy is able to increase demand for the reference service above the forecast quantities used in tariff determination, its revenue from sales will exceed the forecast revenue. To the extent that the increase in demand can be accommodated without a proportionate increase in cost, Epic Energy will generate higher than expected profits”.*

T&OE suspects that the “higher profits” would be used to reduce the deferred recovery account, and seeks confirmation (p. 10). I agree that this should be clarified. However, we should also clarify that although the prospect of larger-than-anticipated volumes may increase profits in a given Access Arrangement period, under our proposal it would *not* raise the present value of Epic’s long-term capital recovery above the initial purchase price.

## 1.2 Untested Assumptions About the Pattern of Revenues

Several of the T&OE’s statements implicitly assume that prices should normally decrease as volumes increase,<sup>1</sup> or that the ratebase should appreciate only if efficient new investment is undertaken.<sup>2</sup> Because our proposal does not follow either pattern, it appears to sit uncomfortably with T&OE. However, if T&OE considered the issue of timing more closely, it might lead them to identify and eventually support several advantages of our proposal. Specifically, our proposal leads to the same pattern of revenues that can be anticipated in efficient, competitive markets.

Regulated incumbents traditionally have the scope to raise prices as volumes fall, or to lower prices as volumes increase. T&OE may consider this to be the “normal course of events” (see footnote 1), but it is actually an artifact of regulation. This dynamic is not normal for competitive markets, but arises from two unique characteristics of regulation: the incumbent is typically a natural monopoly with the scope to raise or lower prices within a considerable range, and regulations traditionally pursue revenue recovery targets. A firm in a *competitive* market does not have the luxury of raising prices as volumes fall, nor do competitive market prices naturally fall as the utilisation of existing assets increases. In a competitive market, extremely high utilisation of existing assets is typically associated with *higher* prices that signal scarcity and give appropriate incentives for new investment. In equilibrium, competitive markets produce prices that track inflation, even as the utilisation of individual assets varies. With the exceptions of the “2/3 x CPI” element, and the prospect that prices might fall by *more* in real terms once the deferred recovery account is depleted, this is the pattern that Epic would follow under our proposal.

A particularly contentious misconception concerning the timing of revenues under Epic’s proposal is contained in the statement that “[i]t could serve as protection for the service provider from efficient new entry for the period until the deferred recovery account balance commences its run-down” (p. 9). This could not happen for three reasons:

- First and foremost, there is nothing that would bar a potential competing pipeline today from *also* adopting a pricing policy with precisely the same time pattern: rates that fall gradually with inflation per unit volume. Competition today is not affected.

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<sup>1</sup> T&OE states that “the product of the deferred recovery account, should the estimates of the initial capital base be accepted, would be to impose a barrier to unit prices falling as demand increases (as would be expected in the normal course of events)” (p. 9).

<sup>2</sup> T&OE notes: “[t]his ‘appreciation’ does not arise from planned efficient new investment in pipeline capacity” (p. 5).

- Second, our proposal would actually foster *future* competition more efficiently than the typical regulated pattern of capital recovery. As we indicated above, prices in competitive markets tend to rise when utilisation is tight, signalling the need for new investment. It makes natural sense under our proposal to postpone capital recovery to periods of higher utilisation, keeping prices up *precisely* when a competing pipeline would be most needed. Competition would be harmed if significant price reductions were scheduled to occur as the DBNGP approached full capacity.
- Third, AlintaGas has complained that the optimised replacement cost of the DBNGP is only \$1 billion (AlintaGas's Third Submission, p. 15). If this is true, and Epic's rates are structured to recover more than \$2 billion in net present value terms, then a competing pipeline could recover more than its construction costs and still offer significantly lower prices than the DBNGP. Even if AlintaGas is not correct in its assertion of a \$1 billion replacement cost, T&OE concerns with competition remain in tension with the concerns expressed elsewhere concerning potential windfalls for Epic's investors. Any "windfalls" in the tariffs would create room for competing pipelines to succeed with lower rates than Epic currently proposes.

### **1.3 Ignoring Regulatory Risk Arguments**

T&OE point out the absence of a binding legal commitment to the tariffs in Schedule 39. It may be useful to point out that this may be simultaneously true *and* irrelevant, because sound economic and policy arguments point to the interpretation of a commitment *even in the absence* of a formal legal obligation.

T&OE have apparently not considered our arguments about regulatory risk. Their comments may be dedicated to the main text of Epic's proposal, which highlights the postponement of capital recovery under the Schedule 39 tariffs. For example, T&OE state "the main argument advanced by Epic Energy in favour of the proposed long-term tariff path... would be based on the strong benefits to the current users of the pipeline from the initially lower reference tariffs" (p. 6).

### **1.4 Concern with a Premium Over and Above the Efficient Value of the Assets**

T&OE have stated that "the Regulator would need to take into account whether the price included certain premia over and above the efficient economic value of the assets" (p. 7). While theoretically this is possible, we do not agree that the possibility of excessively optimistic initial *volume forecasts* by Epic could be a source of concern under our proposals.

T&OE states that "the throughput projections made by bidders, including Epic Energy in late 1997 (the time of the bidding process) to an extent have not eventuated" (p. 7). The implication is that Epic should not be allowed to recover any premium in its purchase price that was associated with excessively optimistic volume forecasts. *However, Epic would not be allowed to recover such a premium under our proposals.* We specifically designed the proposals to leave Epic at risk if anticipated volumes did not materialise. If Epic's original forecasts were indeed excessively optimistic, then Epic will not be able to recover the entirety of its purchase price under our proposal. Epic retains volume risk.

## 1.5 The Speculative Investment Fund

T&OE discusses an alternative approach involving a “speculative investment fund,” in which a proportion of the initial capital base would be placed, and “subsequently add[ed] back... when increases in throughput warrant investment in new facilities” (p. 9). There are some significant differences between our proposal and the “speculative investment fund,” but an elaboration of the comparison may aid in understanding our proposal and can also serve to illustrate its advantages.

There are three key differences between our proposal and the speculative investment fund. First, as we understand it, the principle behind the “speculative investment fund” has only been defined generally to involve some unspecified “portion” of a company’s initial capital base, perhaps corresponding directly to some physical assets. The deferred recovery account under our proposal has been defined quite clearly by reference to Epic’s purchase price and the tariff trajectory in Schedule 39: it is simply the deferred return on Epic’s invested capital that inevitably arises from the immediate implementation of the Schedule 39 tariffs. Second, recovery of the “speculative investment fund” would presumably commence when new investments are required. Under our proposal, the deferred recovery account is depleted naturally under the Schedule 39 tariffs when *and if* utilisation of the pipeline increases to levels that would justify Epic’s initial purchase price.

Our proposal is conservative in some respects relative to the “speculative investment fund.” T&OE recognises that perhaps a *higher* cost of capital is required for the assets in the speculative investment fund, because their recovery is more uncertain. Under our proposal, Epic effectively bears the risk of recovering its initial purchase price, as it might under a speculative investment fund, but *without* any upward adjustment to the cost of capital.

## 2. AlintaGas

We briefly address a few key points:

- *AlintaGas speculates that Epic’s purchase price was supported by some unspecified benefits entirely independent of the “revenue potential from existing users.”* The argument itself and the quotes supplied by AlintaGas in ostensible support of this proposition are misleading and irrelevant.
- *It is wrong to assert that our proposal would encourage bidding inflated prices.*
- *The allegedly simple illustration of an “absurdity” in our proposal is misleading.*
- *AlintaGas ignores our regulatory risk arguments.*
- *AlintaGas ignores the risk that our proposals place on Epic.*

### 2.1 Factors Affecting the Purchase Price

AlintaGas speculates that the purchase price was supported by some value other than the “revenue potential from existing users of the DBNGP” (p. 9). AlintaGas concludes that the purchase price is therefore irrelevant.

Under a different set of circumstances, AlintaGas might have a point. For example, imagine absurdly that the purchase price was supported by the prospect of using the

pipeline rights-of-way for some entirely unrelated business such as building casinos, and that incorporating the entire purchase price in the rate base would therefore allow Epic to recover part of its purchase price twice. That is, the value of the casinos would be collected once by operating the casinos themselves, and a second time by collecting higher revenues from natural gas users. Clearly this would be a problem (and sometimes we see it in cases like airports with very profitable duty-free concessions that are only tangentially related to providing monopoly services to airlines), but similar facts are not present in this case. Key distinctions are:

- Epic will not be using the pipeline assets for anything other than transporting natural gas. The quotes that AlintaGas has highlighted from the Australian Infrastructure Fund (p. 9) are entirely irrelevant because they do not describe the attractiveness of the DBNGP for any business other than natural gas transportation. Some of the quotes are also not understandable, such as “its downside is protected by long-term ‘take-or-pay’ contracts.” What contracts does this refer to?
- Epic is not trying to use the rate-base to produce higher tariffs than might have been expected when the Western Australian Government selected its winning bid. Rather, our proposal simply provides that Epic’s rates will not fall *below* the Schedule 39 tariffs until it becomes clear that the purchase price will be recovered. Our proposal sticks to the tariff schedule that was explicitly stated in a competitive tender process.

## **2.2 Allegations that the Proposals would Encourage Bidding Inflated Prices**

If our proposal is adopted, the Government in the future will retain the ability to continue along the same path that it presumably followed in the past—making appropriate trade-offs between the combinations of bids and tariff schedules that competing businesses may offer.

## **2.3 The Alleged Absurdity in Our Proposal**

AlintaGas purports to illustrate an absurdity in our proposal by imagining that transfers of the pipeline assets between private parties would raise the initial Capital Base (p. 11). Our proposal would be absurd if we recommended this approach, but we do not. We do not countenance any upward revision of the initial Capital Base for subsequent transactions between private parties. Once it is set, sales to third parties should not prompt any revision. In support of our proposals, we cited regulatory policy in the United Kingdom. Regulators there were able to set the initial Capital Base by reference to flotation values, and have not been deluded into subsequent regulatory revaluations as share prices subsequently increased, or as some companies were acquired by others.

## **2.4 Ignoring Our Regulatory Risk Arguments**

AlintaGas makes much of Epic’s alleged failure to provide any substantive reason why the initial capital base should exceed DAC and DORC. AlintaGas cites two paragraphs as the “entire argument” (p. 12), but the quoted paragraphs do not contain any reference to our regulatory risk arguments.

## **2.5 Ignoring the Risk on Epic**

AlintaGas asserts the inherent risks of bidding for assets, and asserts (p. 13):

Epic Energy may have paid too much for the pipeline. Be that as it may, Epic Energy cannot now ask existing and future users to underwrite that over-expenditure through higher tariffs derived from an inflated initial Capital Base.

AlintaGas ignores that existing and future users would in no way “underwrite” the purchase price, because Epic would remain entirely at risk if anticipated future volumes did not materialise.