



DAMPIER TO BUNBURY NATURAL GAS PIPELINE

SUBMISSION ON THE NATIONAL GAS LAW

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1. INTRODUCTION

- 1.1 DBNGP Holdings Pty Ltd is the parent company of the group of companies that own and operate the Dampier to Bunbury Natural Gas Pipeline (DBNGP). The DBNGP group of companies trades under the name Dampier Bunbury Pipeline (DBP).
- 1.2 The DBNGP links major gas producers operating in the Carnarvon Basin with gas users in the south west of Western Australia. It is one of the largest gas transmission pipelines in Australia.
- 1.3 The DBNGP is undergoing major expansion of its capacity, and DBP is investigating further expansions to meet user demands. While, presently, all of its contracts with shippers have been negotiated outside of the regulatory framework, this is not expected to continue in the medium to long term. Accordingly, a regulatory framework which:
- (a) does not act as a disincentive for investment;
 - (b) fosters certainty in regulatory decision making; and
 - (c) enables timely regulatory decision making processes,
- is critical for the ongoing viability of the DBP's business and to the continued prosperity of the Western Australian economy.
- 1.4 DBP submits that there are major deficiencies in the exposure draft of the National Gas Law (NGL) released by the Ministerial Council on Energy Standing Committee of Officials on 7 November 2006.
- 1.5 DBP's views on the NGL are set out in this submission.
- 1.6 DBP was a significant contributor to the submission on the NGL made by the Australian Pipeline Industry Association (APIA), and endorses that submission. In this submission, DBP provides additional information in relation to certain parts of the NGL. That information provides further justification for the position adopted in the APIA submission.

2. NATIONAL GAS OBJECTIVE AND PRINCIPLES

- 2.1 DBP remains concerned about the national gas objective and the status of the revenue and pricing principles of the NGL.
- 2.2 DBP remains concerned that references to efficiency in the national gas objective, and in the revenue and pricing principles, are intended to be understood as references to economic efficiency. It is difficult to see how such an abstract and theoretical notion will be applied in the real world where efficiency is unattainable and inefficient states are not comparable. Inevitably, resort will be had to the imprecise notions of “allocative efficiency”, “productive efficiency”, and “dynamic efficiency”, and to the view that regulation will somehow “promote economic efficiency”.
- 2.3 DBP remains of the view that the better approach is the pragmatic one of section 2.24 of the Gas Code, which requires a balancing of the interests of the service provider and users, and recognition of the public interest.
- 2.4 DBP is also concerned by the lack of flexibility that the regime of the NGL is introducing into pipeline regulatory arrangements. Flexibility has value because it allows adaptation to changed circumstances and it permits, in conditions of uncertainty, the testing of alternatives to ascertain the outcomes which are optimal in the longer term. The NGL and the NGR do not recognize the value of this flexibility.
- 2.5 In particular, the NGL (and the NGR) establish a scheme of regulation and regulatory models which impose on the service provider the definition of pipeline services and a cost of service approach to price regulation. That cost of service approach is to be applied through a post-tax nominal model for regulated revenue determination on the grounds that the use of such a model is widely accepted. It has not been accepted in Western Australia, where a pre-tax real model for regulated revenue determination has been consistently applied by the Economic Regulation Authority, and it has been adopted elsewhere only at the insistence of regulators.

3. INFORMATION COLLECTION POWERS OF AEMC AND AER

- 3.1 Appropriate information is necessary to undertaking a complex regulatory task, and the need for this information may require that legislation confer information collection powers on a regulator. These powers should not, however, be more extensive than is necessary to performing the regulatory task.
- 3.2 DBP is concerned that, in the NGL, a balance has not been struck between the tasks to be performed and the information collection powers conferred on the AEMC and the AER. Parts 2.1 and 2.2 have wider scope than is necessary to performance of regulatory functions under the NGL. They represent a significant extension of the powers available to the regulator under the Gas Pipelines Access Law and the Gas Code, and go beyond the recommendations of the Ministerial Council of Energy's Expert Panel on Energy Access Pricing.
- 3.3 Furthermore, at the same time as the information collection powers of the regulators are extended by the NGL, the protection given to confidential information is substantially reduced.
- 3.4 DBP refers to the submissions made by the APIA on these issues, and endorses those submissions. DBP endorses the detailed comments, recommendations and proposed drafting of those submissions.
- 3.5 DBP is of the view that there has been no evidence submitted which:
- (a) demonstrates that the existing information collection power provisions of the Gas Pipelines Access Law and the Gas Code are inadequate; and
 - (b) warrants an increase in those powers in the NGL.
- 3.6 In this context, DBP wishes to draw to the attention of the Ministerial Council of Energy (MCE) to its experience in the most recent of the regulatory approvals processes undertaken by WA regulator (the Economic Regulation Authority). In this process, almost 100 submissions were provided to the regulator, all of which were done in the spirit of cooperation. The regulator exercised its powers under section 41 of the Gas Pipelines Access Law only in one instance. In that instance, DBP was unable to otherwise provide the information the regulator required because of contractual obligations it owed to third parties which restricted information disclosure. As part of the regulatory approvals process, DBP worked with the regulator to ensure that the confidentiality of information was preserved, and that the regulator had sufficient information to undertake its assessment of proposed revisions to the DBNGP access arrangement.
- 3.7 The access arrangement approval process proceeded with the regulator fully aware that DBP had engaged an asset manager, Alinta Asset Management, to provide asset management services in connection with the operation, maintenance and expansion of the DBNGP. In making its final decision, the Economic Regulation Authority was required to be satisfied with the quantity and quality of information with which it was provided. The regulator did not, however, find it necessary to use its statutory powers to obtain information directly from DBP's asset manager.

4. ASSOCIATES, ASSOCIATE CONTRACTS AND RING FENCING

- 4.1 DBP endorses the submissions made by APIA on the issues of associates, associate contracts and ring fencing.
- 4.2 In addition, DBP wishes to bring to the attention of the MCE the likelihood that most asset management contracts will, under the scheme of the NGL be found to be associate contracts. The arrangements for the management of the DBNGP are likely to fall within this category.
- 4.3 In the case of the DBNGP (and this is now likely to be the case for many other pipelines), the asset owners are primarily financial institutions and fund managers who do not have the expertise to manage and operate infrastructure assets such as transmission pipelines.
- 4.4 Concern has been expressed, by the Western Australian Economic Regulation Authority, and by others, that fees paid to asset managers such as AAM, might not reflect amounts which would otherwise have been incurred by efficient service providers because no performance or efficiency requirements were imposed on the asset manager under the contract between the asset manager and the pipeline owners.
- 4.5 DBP submits that, in the case of the fees payable to its asset manager, the amounts are such that they would be incurred by a service provider acting efficiently for the following reasons.
- 4.6 Firstly, the current owners of the DBNGP comprise DUET (60%), Alinta (20%) and Alcoa of Australia (20%). DUET is a major owner of infrastructure assets in Australia but (as with its investment in the DBNGP) it invests as a “passive” owner rather than as an “owner/operator” of assets. DUET does not possess the technical or operational expertise to manage the operation or expansion of pipelines. It therefore relies on others with these skills. Alcoa’s investment is primarily aimed at maintaining a secure, reliable and efficient supply of gas to its significant downstream operations in the south west of Western Australia. Alinta has significant experience in the ownership, operation and development of gas pipelines. Accordingly, it was appropriate for the ownership consortium of the DBNGP to have relied on the resources and expertise of one of the members of that consortium to provide services relating to the operation, maintenance and expansion of the pipeline.
- 4.7 Secondly, the agreement that was entered into for the operation, maintenance and expansion of the DBNGP was negotiated between the three owners as part of their acquisition of the pipeline in 2004. The negotiations involved each of Alinta, Alcoa and DUET, and were conducted on an arms length basis. The parties were unrelated at that time and remain unrelated today. DUET, through its ownership of other large infrastructure assets in Australia, and Alcoa through its expertise in the alumina industry, were both experienced in negotiating major construction and operating contracts. Moreover, Alcoa and DUET were commercially motivated to ensure that any fees payable to one member of the ownership consortium, and which would potentially affect the returns available to the other members, were at reasonable levels.
- 4.8 There was no reason, and there continues to be no reason, for either DUET or Alcoa, to have any commercial or other interest in Alinta deriving non-commercial fees for performing services, or for the contractual arrangements to be of a nature, that are not efficient or in accordance with good or accepted industry practice.

- 4.9 Thirdly, the fees payable by DBP are efficient because they cover an extensive range of services provided by AAM in relation to capacity expansions and capital works. These services include all project services, from conceptual design, through FEED studies, planning, construction, commissioning and final delivery of the projects for operation (and all services to support these activities – including, human resources management, procurement and financial control). These services are either undertaken directly by AAM, or arranged and managed through contractors that are under the day to day management of AAM.
- 4.10 Fourthly, the fees are efficient having regard to DBP's commercial arrangements with shippers. Under the Standard Shipper Contracts DBP has entered into with users of the DBNGP, DBP has a positive obligation to seek to minimize the capital costs of pipeline expansion. Otherwise, it risks not being able to recover costs from shippers. Therefore DBP is incentivised to ensure that its contractors, including AAM, do not spend more than amounts that can be recovered from shippers. It should also be noted that under their agreement, it is DBP, and not AAM, that approves the budgets for the operation and expansion of the DBNGP. In approving such budgets, DBP must have regard to the limitations on its ability to recover costs.
- 4.11 The fifth reason why the fees payable to AAM are reflective of costs incurred by a service provider acting efficiently is the fact that under its agreement with DBP, AAM is incentivised to incur costs efficiently. Under the agreement, AAM is required to perform all the services to a standard and in accordance with stipulated service criteria.
- 4.12 The sixth reason why the fees payable to AAM are reflective of costs incurred by a service provider acting efficiently relates to the fact that AAM is incentivised to minimize costs (or at least to not exceed the approved budget) in order to preserve its reputation. There is significant "reputation risk" at stake for AAM in undertaking the role of construction manager for DBP. As the ERA has acknowledged, the expansion of the DBNGP is a high profile project, which is critical to both energy supplies and industry in Western Australia. The delivery of an expansion project on time and budget carries significant business community focus and hence reputation risk for AAM for which it must be compensated.

5. ACCESS ARRANGEMENT CONTENT AND APPROVALS PROCESS

- 5.1 DBP again endorses the submissions made by APIA on the issues of the content of non light regulation access arrangements, and on the process for approval of such access arrangements. DBP endorses the detailed comments, recommendations and proposed drafting of those submissions.
- 5.2 By way of example, DBP advises that, in 2004, contracts for approximately 60% of the firm full haul capacity of the DBNGP were renegotiated with shippers. The shippers (and DBP) were able to negotiate commercial contracts for non reference services in full knowledge of the existence and content of an access arrangement for the pipeline which was approved pursuant to the requirements of the Gas Code.
- 5.3 Provisions of the NGL setting out requirements for the content of an access arrangement inappropriately extend, in a number of instances, the access arrangement content requirements of the Gas Code.
- 5.4 Provisions in the NGL changing the approvals process for non light regulation access arrangements create the real risk of regulatory uncertainty and protracted decision making processes.
- 5.5 As a case example, in the process of assessment of DBP's proposed access arrangement revisions for the DBNGP in 2005, the regulator – the Economic Regulation Authority – issued around 30 informal information requests. As a result, what should have been a process taking around six months took some eleven months to complete even though there was no requirement for the regulator to make an assessment of the initial capital base as part of the process. DBP is concerned that the ability of the regulator to issue formal information collection notices without any criteria having to be applied in the decisions to issue those notices will increase the frequency with which such notices are issued, lead to more disputes, and cause the access arrangement approvals process to become more protracted.
- 5.6 This creates unnecessary uncertainty for pipeline service providers.

6. GREENFIELDS PIPELINE INCENTIVES AND NEW CAPITAL INVESTMENT

- 6.1 Chapter 5 of the NGL retains the scheme of incentives for greenfields and international pipelines which was introduced into the Gas Access Regime earlier in 2006. This scheme is important for the proponents of new pipeline systems. It will, however, do little to promote the very substantial investment which will have to be made in existing pipeline systems in order to ensure that the forecast gas demand can be met in south eastern and south western Australia in the medium to long term.
- 6.2 In Western Australia, DBP is close to completing its Stage 4 expansion of the DBNGP, at a cost of around \$430 million, and expects to invest over \$1 billion in pipeline expansion over the next five years if currently indicated requirements for gas transportation service materialize.
- 6.3 With the introduction of the NGL, the opportunity exists to provide incentives for investments in the expansion and extension of existing pipeline systems which are similar to those which have already been provided for greenfields and international pipelines.
- 6.4 Furthermore, the introduction of the NGL provides an opportunity to address those provisions of the Gas Code which positively discourage new investment in existing pipelines, and to provide pipeline owners and service providers with increased certainty about the regulatory treatment of investment before investment decisions are made.

Investment incentives for existing pipeline systems

- 6.5 A significant part of the scheme of the Gas Code, allowing the addition of new investment to the capital base of a regulated pipeline, and its recovery via regulated tariffs, has been carried across to the regulatory scheme of the NGL. Many of the relevant Gas Code provisions are replicated in the NGR. The NGR are, however, subject to change. The importance of new investment to pipeline owners and service providers, and to users of pipeline services, is such that certainty, at least in respect of the principles, should be secured by provisions in the NGL.
- 6.6 Rule 26(2) of the NGR allows inclusion in the initial capital base of an existing pipeline of conforming capital investment made during the previous access arrangement period. "Conforming capital investment" is capital investment that complies with the new capital investment criteria, which are set out in Rule 27.
- 6.7 Rule 27 replicates much of sections 8.16(a) and 8.17 of the Gas Code. In replicating these provisions, it perpetuates the way in which section 8.16(a)(ii) discouraged new capital investment. This, and related problems with Rule 27, are discussed below.
- 6.8 Rule 27(2)(b)(i) appears to carry forward the anticipated incremental revenue test of section 8.16(a)(ii)(A) of the Gas Code. However, this is not entirely clear because the NGR provide none of the guidance that was provided in the Gas Code through the definition of anticipated incremental revenue (a definition which was not without ambiguity).
- 6.9 The Gas Code defined anticipated incremental revenue as the difference between the present value of incremental revenue and the present value of incremental non capital costs resulting from investment in new facilities. In accordance with section 8.16(a)(ii)(A), this difference – a present value – was to be compared with the amount of the new investment. In circumstances where the new investment was forecast to be made over a

number of years, at least one Australian regulator interpreted the Gas Code literally, insisting that the present value of the net revenue stream be compared with the sum of capital expenditures. Although this was incorrect, ambiguity in the Gas Code had the effect of making the investment less attractive than should have been the case, with the possible consequence that a significant part of the investment could not be rolled in to the capital base and recovered via reference tariffs.

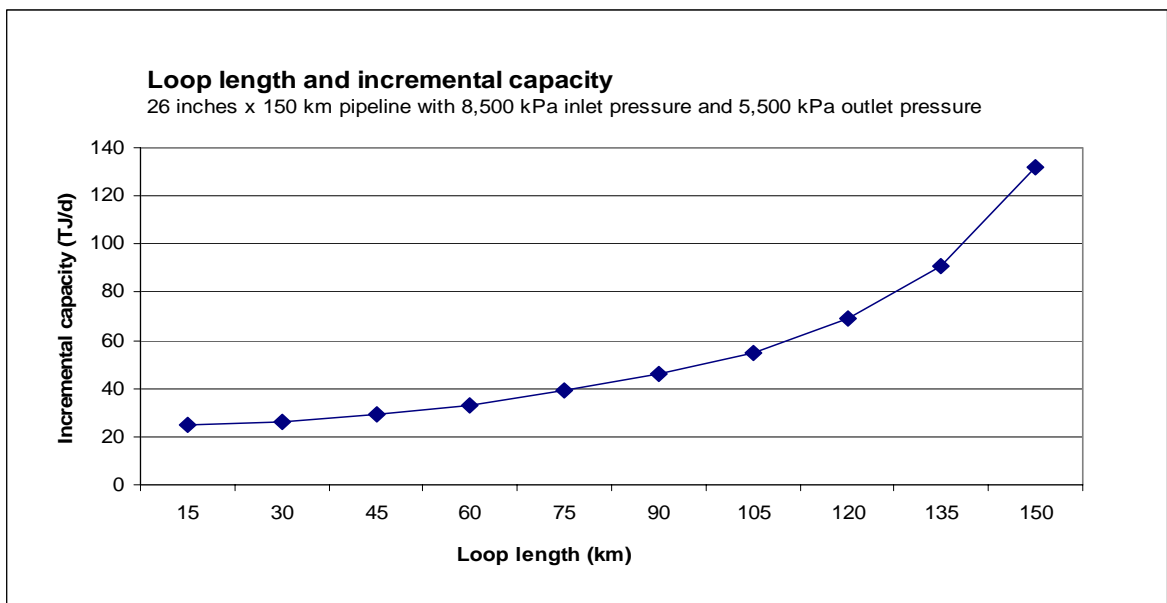
- 6.10 The NGR also does not define certain terms which were defined in the Gas Code (for example, prevailing tariff). Ambiguities of this type must be removed from the NGL and the NGR.
- 6.11 New capital investment required to expand the capacity of a pipeline to provide services, or to extend the pipeline, must satisfy the criterion of Rule 27(2)(b)(i) before it can be added to the capital base.
- 6.12 If, as assumed, the criterion of Rule 27(2)(b)(i) is equivalent of the anticipated incremental revenue test of section 8.16(a)(ii)(A) of the Gas Code, it is based on two critical assumptions:
- (a) the prices of the labour, materials and services required to expand pipeline capacity do not increase as capacity is expanded (that is, they do not increase relative to the prices implied in the establishment of the initial capital base, and relative to the prices at which the value of new facilities previously added to the capital base was determined); and;
 - (b) irrespective of whether the prices of the inputs to pipeline construction increase over time, average costs decline smoothly as the service provider invests in new facilities to expand capacity.
- 6.13 Unfortunately, these assumptions are not always valid for gas transmission pipelines.

Relative price changes

- 6.14 If the prices of the labour, materials and services required for pipeline expansion are higher (in real terms) than the prices of those inputs implied in the first establishment of the capital base, and are higher (in real terms) than the prices at which the value of new facilities investment previously added to the capital base was determined, the prevailing regulated tariff (which is derived from average cost) is likely to be lower than the incremental cost of expansion. Investment in the expansion is, then, unlikely to satisfy the criterion of Rule 27(2)(b)(i).
- 6.15 Even if the new capital investment satisfies the criterion of Rule 27(2)(a), and the AER considers it to be investment of a kind that a prudent service provider might be expected to make, it will not be added to the capital base for subsequent recovery via regulated tariffs.
- 6.16 When the timing of expansion is such that the prices of labour, materials and services required for pipeline construction are high relative to the input prices implied in the capital base, the criterion of Rule 27(2)(b)(i) operates to discourage new capital investment required to expand the provision of pipeline services.

Average costs do not decline smoothly as capacity is expanded

- 6.17 The second assumption underlying the criterion of Rule 27(2)(b)(i) – the assumption that average costs decline smoothly as pipeline capacity is expanded – is not valid because gas transmission pipeline systems usually use a mix of technologies – the pipe itself, and compressor plant – to provide the capacity to transport gas.
- 6.18 Typically, as user requirements for capacity increase, the additional capacity is provided – initially – by adding compressor units to a pipeline system.
- 6.19 Initially, additional compressor units provide relatively large increases in capacity. However, a point is reached at which the addition of compressors has little or no effect on the system’s capacity (compression power reaches “saturation”). Before the point of saturation is reached, the service provider will examine the option of providing additional capacity by duplicating sections of its pipeline which are pressure – and, therefore, capacity – constrained. The service provider will consider switching its expansion technology from “compression” to “looping”.
- 6.20 When a pipeline is looped, the capacity increase per kilometre of loop is an increasing non linear function of the total length of looping. As loop length increases, the capacity per kilometre of loop increases more than proportionally to length of the loop.
- 6.21 This is illustrated in the following diagram. The diagram has been prepared using the results of capacity calculations for a 26 inches diameter pipeline, 150 km in length, with an inlet pressure of 8,500 kPa and an outlet pressure of 5,500 kPa. (These conditions approximate some of the conditions on the Dampier to Bunbury Natural Gas Pipeline in Western Australia.)



- 6.22 Non linearity in the relationship between the capacity provided by looping and loop length implies a high cost per unit of additional capacity when a pipeline is initially looped.
- 6.23 When looping is initiated, each section of loop line must be “tied in” at two points on the existing pipeline system, and the facilities required for operation of the loops – principally, instrumentation and control systems – must be installed. Existing facilities at compressor stations (not only the compressor units, but also scrubbers, aftercoolers, power generating

equipment and station pipework), which are likely to have been installed at much earlier stages of expansion, and which are not able to accommodate the higher gas flows through the looped line, must also be upgraded. The costs of tie-in, of facilities required for loop operation, and of compressor station upgrading, are semi-fixed costs. They also contribute to a high cost per unit of additional capacity when a pipeline is initially looped.

- 6.24 Unless the switch to looping is a response to user requirements for a very large increase in capacity, it is likely to increase the average cost of providing pipeline service.
- 6.25 Once the switch from compression to looping has taken place, additional capacity can be provided (at least over a range determined by the configuration of the pipeline system at that time) by further looping, and by compression of the looped line. With the tie-ins and other infrastructure in place, further looping and compression has a lower incremental cost, lowering the average cost of providing gas transportation service.
- 6.26 For purely technological reasons – and not because the investment is inefficient – some pipeline expansions are “high cost” expansions, and will not satisfy the requirements of the criterion of Rule 27(2)(b)(i). Not all of the investment required for these “high cost” expansions can be added to the capital base and subsequently recovered via regulated tariffs. The criterion of Rule 27(2)(b)(i) thereby acts to discourage investment in the expansion of existing pipeline systems.

Consequences of failure to satisfy the criterion of Rule 27(2)(b)(i)

- 6.27 When a relative increase in the price of labour, materials or services required for pipeline expansion, or a switch from compression to looping, increases the new capital investment required to provide service above the maximum amount that would satisfy the criterion of Rule 27(2)(b)(i), either:
- (a) users using the additional capacity provided by the investment can be required to pay a surcharge (Rule 31); or
 - (b) the service provider must defer (in accordance with the speculative investment account provisions of Rule 32) the return on, and of, that part of the investment which exceeds the amount that would satisfy the test.
- 6.28 Investments in transmission pipeline expansions are substantial, and it is not in the legitimate commercial interests of pipeline service providers to make investments in respect of which they must defer – possibly indefinitely – the earning of a return and investment recovery.
- 6.29 A pipeline service provider may, in accordance with Rule 31(2), be able to earn a return on, and of, that part of new capital investment which exceeds the maximum amount that would satisfy the criterion of Rule 27(2)(b)(i) if users of the additional capacity provided by the investment were required to pay a surcharge.
- 6.30 A surcharge is, however, likely to be unpalatable to those users requiring the capacity from the new capital investment because their costs are increased relative to those of their competitors.
- 6.31 This is clearly the case where a prospective user requires capacity to compete in an expanding downstream market, and its competitors in that market are existing users.

- 6.32 A surcharge on the existing users of the pipeline is also likely to be unacceptable to those users who have contracted on a certain basis.
- 6.33 The criterion of Rule 27(2)(b)(i) is, in these circumstances, likely to act as a significant barrier to increased competition in the gas market, particularly where markets are served by pipelines operating at full or near full capacity. Competition is restricted to competition from those users who, solely through the timing of their capacity requirements, are able to access “low cost” capacity. The NGR effectively allow these users to retain privileged positions in the markets they serve, by ensuring that they always benefit from reductions in the cost of pipeline service, but do not incur higher costs, even when their potential competitors must do so.
- 6.34 This asymmetric outcome is not the outcome that would be expected in a competitive market. In a competitive market, an increase in costs incurred by all suppliers would result in a higher market price payable by all buyers. A reduction in the costs incurred by all suppliers would lead to a lower market price payable by all buyers.
- 6.35 The problems arising from application of the new investment provisions to existing pipelines, and the additional regulatory risk associated with making such investment decisions, are demonstrated in the following section of this submission. The section uses, as a case example, the proposed expansion of the Dampier to Bunbury Natural Gas Pipeline (DBNGP).

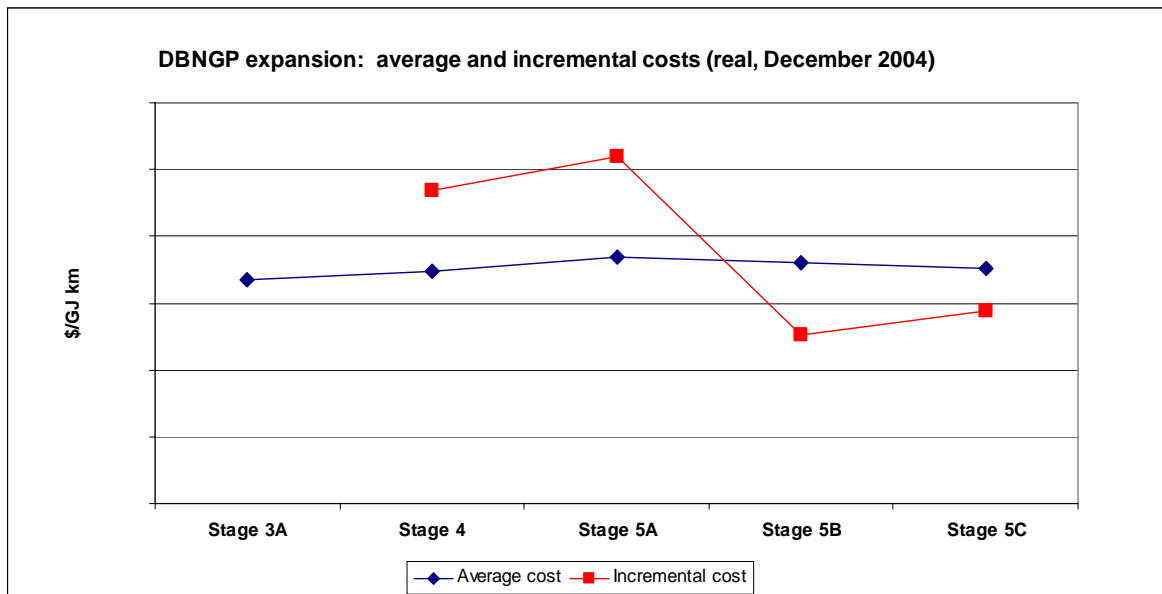
The case of the DBNGP

- 6.36 That some prudent pipeline investments are “high cost” investments which would not satisfy the criterion of Rule 27(2)(b)(i) is clearly seen from previous and planned expansions of the Dampier to Bunbury Natural Gas Pipeline (DBNGP).
- 6.37 In the mid 1980s, soon after the DBNGP had been commissioned by the State Energy Commission of Western Australia, the first stages of compression were added at compressor station sites established during initial pipeline construction. At the time, large increases in gas demand were not expected in the foreseeable future, and additional pipeline capacity was created by installing 4 MW compressor units at a number of sites. About five years later, growing demand for gas for, among other things, alumina refining and electricity generation, required further expansion with larger (9 MW) compressor units.
- 6.38 In 1998, the operators of the then recently privatized DBNGP commenced the Stage 3A expansion, which provided some 78 TJ/d of firm full haul gas transportation capacity, primarily through the installation of larger compressor units on the main line between Dampier and Kwinana (near Perth), at Compressor Stations 2, 4 and 7. Some looping of the southern section of the pipeline (between Kwinana and Bunbury) was required to provide the capacity for gas deliveries to alumina refineries located south of Perth.
- 6.39 On the completion of Stage 3A, the firm full haul transportation capacity of the DBNGP was about 510 TJ/d.
- 6.40 Further growth in gas demand in the south west of Western Australia is requiring further expansion of the DBNGP’s capacity. In 2004, the current owners of the pipeline commenced the Stage 4 expansion, and that expansion is now close to completion. Stage 4 is to provide about 127 TJ/d of firm full haul transportation capacity. It will do so through, in part:

- (a) the addition of a second 10 MW compressor unit at each of a number of compressor stations; and
- (b) the uprating of existing 9 MW gas turbine drivers for 10 MW operation at a number of compressor stations, and the upgrading of unit control systems, to accommodate the higher gas flows expected on completion of the expansion project.

6.41 With these modifications and additions, the existing configuration of the DBNGP will be “fully compressed”. The remainder of the capacity required from Stage 4 is, therefore, being provided by looping the nine sections of the main line with some 194 km of loop line.

6.42 Estimated incremental and average costs for the Stage 4 expansion of the DBNGP, and for possible subsequent expansions, are shown in the following graph. Stage 4 has an incremental cost significantly higher than the average cost of gas transportation after completion of Stage 3A. However, this high incremental cost is not an indication of inefficient investment. Forecast new facilities investment for Stage 4 was included in proposals for revision of the DBNGP Access Arrangement submitted to the Western Australian regulator in January 2005, and the regulator concluded that the forecast could reasonably be expected to meet the requirement of section 8.16(a)(i) of the Gas Code. Stage 4 requires a switch in technology from compression to looping; it is a “high cost” expansion.

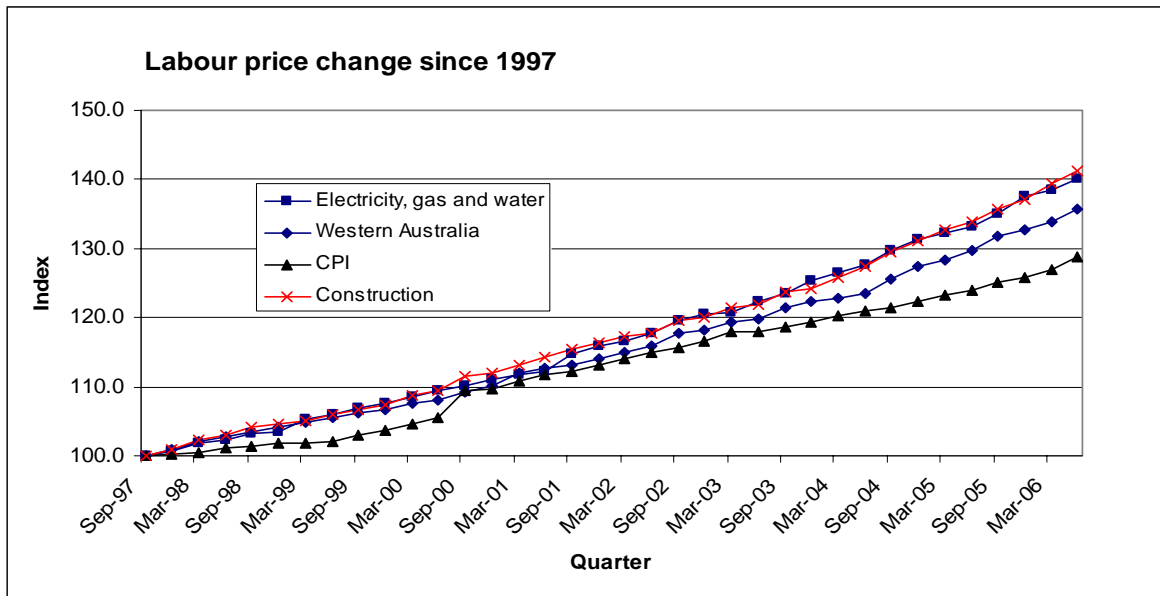


6.43 The average cost of capacity shown in the graph above is indicative of the level of the DBNGP reference tariff (the prevailing tariff). The incremental cost of expansion is indicative of the new facilities investment required. Stage 4 clearly would not satisfy the criterion of Rule 27(2)(b)(i): the present value of expected incremental net revenue is significantly less than the present value of the capital expenditure.

6.44 Stage 4 is proceeding during a period of increased economic activity in Western Australia. Western Australian resource industries are responding to increased demand for energy, minerals and mineral products internationally. With expansion of the resources sector, which has not been confined to Western Australia, skilled labour shortages have emerged in the construction sector and other sectors of the Australian economy, and labour prices

have risen. The skilled labour shortages, and the rise in labour prices, have been widely reported in the media in Western Australia and nationally.

6.45 The graph below shows the changes in a number of measures of labour price since 1997 with the change in the Consumer Price Index.



6.46 The initial capital base for the first DBNGP access arrangement was established at 1 January 2000, in part by reference to replacement cost calculations which were made in 1997, and which were escalated by the increase in the Consumer Price Index (all groups, weighted average of eight capital cities) (CPI). This initial capital base was “rolled forward” to determine the reference tariffs applying from 1 January 2005 and was, in the process, adjusted for inflation measured, again, by the increase in the CPI.

6.47 Since 1997, labour prices have risen faster than inflation measured by the increase in the CPI. Furthermore, during that period, steel prices in international markets have more than doubled. The price of hot rolled coil (an input into pipe manufacture) increased by over 150% between 2002 and 2004.

6.48 Although a proper comparison cannot be made because the prices for labour, materials and services implied in the establishment of the initial capital base of the first DBNGP access arrangement cannot be ascertained, the prices of key inputs into pipeline expansion – the prices of line pipe and construction labour – now appear to be significantly higher, in real terms, than the prices implied in the capital base.

6.49 Stage 4 is, therefore, a “high cost” expansion, not only because it involves a switch from compression to looping, but also because the prices of labour, materials and services required for pipeline construction have increased relative to the prices implied in the determination of the capital base.

6.50 The average cost of capacity is indicative of the level of the regulated tariff for the DBNGP, and the incremental cost of expansion is indicative of the capital investment required. Stage 4 is, in these circumstances, unlikely to satisfy the criterion of Rule 27(2)(b)(i): the anticipated incremental revenue is expected to be significantly less than the new facilities investment.

- 6.51 Following an extended period of negotiations with the DBNGP's operator DBP, prospective users have now committed to approximately 100 TJ/d of firm full haul capacity, which is to be made available before the end of 2008. This capacity is to be provided primarily by further looping of the main line between Dampier and Kwinana. However, further compressor unit upgrading and rewheeling, additional scrubbers and aftercoolers, and the upgrading of power generation equipment at compressor stations, will also be required to accommodate the higher gas flows.
- 6.52 Given the non linearity of capacity per kilometre of loop, and the fact that the looping for Stage 4 is early in the looping cycle, this expansion will deliver relatively less capacity than would be the case for a subsequent expansion.
- 6.53 Furthermore, the switch from compression to looping will continue at a time when the prices of labour, materials and services required for pipeline construction are higher, in real terms, than the prices implied in the establishment of the DBNGP capital base.
- 6.54 This next stage of expansion – designated Stage 5A – is also likely to be a “high cost” expansion.
- 6.55 Although Stage 5A is likely to be a “high cost” expansion, this is not an indication of imprudent investment.
- 6.56 With an incremental cost expected to be well above the average cost of gas transportation capacity, and hence well above the prevailing regulated tariff, Stage 5A is unlikely to satisfy the criterion of Rule 27(2)(b)(i).
- 6.57 During the negotiations which established the Stage 5A capacity requirement, some prospective users, who were originally seeking capacity in 2008 (or earlier), indicated to DBP that the projects for which they require gas are not now expected to be commissioned until 2009 or 2010. DBP is therefore expecting to undertake two further stages of pipeline expansion in close succession.
- 6.58 Preliminary engineering designs and costings for two further stages of expansion – Stages 5B and 5C – have been completed on a hypothetical scenario in which Stage 5B would provide a further 35 TJ/d of firm full haul transportation capacity, and Stage 5C would provide 75 TJ/d.
- 6.59 The preliminary engineering work for Stage 5B indicates that the additional capacity required can be provided by looping alone, without the need to modify existing compressor units, and without the need for additional compressor units. Stage 5C will also require further looping, and also some additional compression.
- 6.60 When the capacity of the DBNGP is expanded to the level expected after completion of Stage 5B, the incremental cost of gas transportation capacity is expected to fall below the average cost, and the average cost should begin to fall.
- 6.61 Further expansion of the DBNGP, at incremental costs which are lower than the average cost of gas transportation service, can proceed only after Stages 4 and 5A have been completed, and only if the capacity requirements of Stages 5B and 5C are sufficiently large.

Rule 27(3) exposes pipeline Service Providers and owners to additional risk

- 6.62 The DBNGP case study clearly illustrates a further difficulty with the application of Rule 27(3) which acts to discourage new investment in pipeline expansion.
- 6.63 In determining whether an amount of capital expenditure satisfies the criteria of Rule 27(2), the AER must consider the factors in Rule 27(3). In particular, the AER must consider:
- (a) whether the investment exhibits economies of scale or scope; and
 - (b) whether the investment is consistent with the objective of meeting reasonably foreseeable demand for services at the lowest sustainable cost.
- 6.64 Consideration of these factors may lead the AER to conclude that users should have the benefits of scale economies, through lower reference tariffs, as soon as possible, and this justifies an increment in capacity larger than is immediately required. If, in the regulator's view, the level of capacity that will deliver the lowest sustainable cost of delivering service is likely to be sought by prospective users within a reasonable time frame, it may press the service provider to expand pipeline capacity beyond the level for which it has contracts with users and prospective users. From the perspective of the NGR, the service provider will not be disadvantaged. Investment which does not satisfy the criterion of Rule 27(2)(b)(i) can be placed in a speculative investment account in accordance with Rule 32, and accumulate a return, until the capacity provided is required.
- 6.65 This outcome would be inappropriate. A regulator is not well placed to take views on future user capacity requirements. User requirements for additional transmission pipeline capacity are relatively large and infrequent, especially where the pipeline supplies gas primarily to mining operations, minerals processors and electric power generators. When asked by the regulator, prospective users will always indicate that they require capacity at a particular time in the future. By doing so, they minimize the risks that downstream projects will not be able to proceed at the times required by their proponents because they cannot access gas supplies. Since the regulator cannot enter into binding agreements in respect of those future capacity requirements, there is no cost to the prospective user if a downstream project does not subsequently proceed.
- 6.66 Pipeline owners providing equity, and the banks which provide the required debt finance would, however, carry the risk that expanded capacity was provided for projects which may never proceed. It is not sufficient that currently unutilized investment can be placed in a speculative investment account and earn a – notional – return. Owners and banks are unlikely to provide the finance required without reasonable prospects that the investment can be recovered in the future, and that cash flows now and in the future are sufficient to pay the financing costs. Pipeline owners and the banks financing expansion will have reasonable prospects of investment recovery, and of cash flows sufficient to pay financing costs, only if expansion is secured by firm commitments from users to pay for the expanded capacity when it is provided.
- 6.67 Rule 27(3) exposes a pipeline service provider, and those financing pipeline expansion, to considerable risk. To the extent that there may be advantages from expanding capacity to a level which exceeds the level for which commitments have been secured from users, the risks of the required investment not being recovered and of cash flows insufficient to pay financing costs are risks borne by service providers and owners. They are not a matter in which a regulator should be able to intervene in the way anticipated by Rule 27(3).

6.68 The DBNGP case study shows that this is not an insignificant issue. Proceeding from Stage 5A to Stage 5B, to realize potential scale economies and achieve a lower (although not necessarily the lowest) sustainable cost of providing gas transportation service, requires new facilities investment of around \$200 million. The owners of the DBNGP would not approve an investment of this magnitude without its being secured by firm commitments from users to pay for the expanded capacity when it is provided.

Recovering efficient but “high cost” investments: the limitations of the System Wide Benefits test (now Rule 27(2)(b)(ii)) and the Speculative Investment Fund

6.69 In seeking to recover those efficient but high cost investments which do not satisfy the requirements of the criterion of Rule 27(2)(b)(i), pipeline operators will be forced to rely on either or both of:

- (a) the System Wide Benefits test of Rule 27; and
- (b) the speculative investment fund provisions of the NGR.

6.70 However, neither the System Wide Benefits test, nor the provisions for a speculative investment fund, ensure that efficient new facilities investment will be added to the capital base for recovery via the reference tariff.

System Wide Benefits test

6.71 The System Wide Benefits test has the appearance of a more broadly based cost-benefit test, and a broad view of system wide benefits would seem to be necessary for the integrity of the access regime of the NGL, and consistent with its overarching objectives. In the absence of a broad System Wide Benefits test, efficient new facilities investment which did not satisfy the criterion of Rule 27(2)(b)(i) would not proceed, even if that investment were beneficial to pipeline users, to users of gas and, ultimately, to consumers in general.

6.72 The System Wide Benefits test appears to be similar to Regulatory Test of the National Electricity Rules. However, there has been no guidance on the way in which the System Wide Benefits test is to be applied, and there has been no development of the test through regulatory and consultative processes similar to those in which the Regulatory Test has been articulated and developed by the Australian Competition and Consumer Commission and, more recently, by the Australian Energy markets Commission in response to a formal request from the Ministerial Council on Energy.

6.73 In the absence of guidance in the regime of the Gas Pipelines Access Law and the Gas Code, and any concerted effort to specify its form, regulators have very considerable discretion as to how of the System Wide Benefits test will be applied. Based on experience under the Gas Code, in exercising that discretion, regulators in some jurisdiction have sought to narrow the System Wide Benefits test to such an extent that it is little more than the Anticipated Incremental Revenue test in less precise form. There is no suggestion that this will change under the NGL.

Speculative Investment fund

6.74 Rule 32 of the NGR allows the retention of that part of any non conforming capital investment in a speculative investment fund. The amount retained is – notionally – able to earn a return for the period it remains in the fund. If, subsequently, there is a change in the type or volume of services provided, so that a part of the amount accumulated in the

fund satisfies the requirements of Rule 27, that part of the accumulated amount may be added to the capital base for recovery via the reference tariff.

- 6.75 However, a number of significant problems arise in any attempt by a pipeline operator to rely on Rule 32. These are as follows.
- (a) Rule 32 can only be relied upon if the reference tariff policy of an access arrangement allows the creation of a speculative investment fund of the type proposed in Rule 32. On one interpretation of similar provisions in the Gas Code proposed by a regulator, if the access arrangement does not allow the creation of a speculative investment fund, any speculative investment incurred before the access arrangement has been revised to make provision for a fund will not be able to be placed in the fund once it has been created.
 - (b) Even if an access arrangement is revised to provide for a speculative investment fund, there is a risk that not all of any new facilities investment which might be considered speculative will be added to the fund because the regulator has a discretion in determining the amount that does not satisfy the requirements of Rule 27.
 - (c) Rule 32(2) creates uncertainty about the return that can be earned on investment which is added to the speculative investment fund. The rate of return at which investment in the fund is to be compounded is to be approved by the regulator, and may be different from the rate of return used in determining the current reference tariff.
 - (d) There is further uncertainty about what part of the balance in a speculative investment fund can be added to the capital base, and about when the addition is to take place.
 - (e) In Rule 32(3) a criterion is established for speculative investment to be subsequently rolled in to the capital base as conforming capital investment. The criterion is, however, unclear, and potentially unworkable for large investments that are fully contracted.
 - (f) All or part of the balance in a speculative investment fund may be added to the capital base for recovery through the reference tariff only if further investment in the pipeline system is required. If balance in the fund has accumulated because, for example, capacity has been expanded beyond the immediate requirements of shippers to gain the benefits of economies of scale in accordance with Rule 27(3), and there is no subsequent investment, the pipeline operator is precluded from recovering any investment added to a speculative investment fund. Shippers will benefit from the new facilities, but (in the absence of surcharges or capital contributions) will not have to pay for them.

DBP's recommendations summarized

- 6.76 DBP proposes two alternative solutions to overcome the regulatory uncertainty facing new investment in existing pipelines:
- (a) Part 5 should apply to expansions of existing (or brownfields) pipelines as well as greenfields pipelines (it is noted that the ACCC did not disagree with this during the review conducted by the Productivity Commission and in its draft guidelines for greenfields pipelines).

- (b) The following package of changes need to be made to the NGL:
- (i) provision needs to be made in the NGL to expressly provide that investments in existing pipelines that meet the specified test for inclusion in the capital base, are to be included in the capital base;
 - (ii) the test for what investments can be included in the capital base needs to be limited to the efficiency test (currently in Rule 27(2)(a)). The criteria that presently exist in Rule 27(2)(b) should be removed.
 - (iii) The uncertainty created by requiring that the AER, in administering Rule 27(2), speculate on future requirements for gas transportation capacity should be removed by removing Rule 27(3) from the NGR.

7. MERITS REVIEW AND ENFORCEMENT

- 7.1 DBP again endorses the submissions made by APIA on the issue of merits review and, in particular, endorses the detailed comments, drafting and recommendations.

8. COMPLEMENTARY IMPLEMENTATION IN WESTERN AUSTRALIA

- 8.1 DBP is concerned to ensure that the application of the NGL in Western Australia will be undertaken on a similar basis, and put into place the same institutional arrangements, as is presently the case under the Gas Code.
- 8.2 The State regulator – the Economic Regulation Authority - will remain, as will the State appeals body for the purposes of merits review. Certain functions will, however, be conferred on the AEMC.
- 8.3 Given that the Western Australian legislation is yet to be released, DBP has been able to comment only on the partial information contained in Table 2 of Part 3 of the Legislative Package released with the NGL in November 2006.