Western Australia

Economic Regulation Authority

Draft Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline

Submitted by

DBNGP (WA) TRANSMISSION PTY LTD

ECONOMIC REGULATION AUTHORITY

11 May 2005

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DECISION

1. On 21 January 2005, DBNGP (WA) Transmission Pty Ltd ("**DBNGPT**") submitted proposed revisions to Access Arrangement ("**Proposed Access Arrangement**") for the Dampier to Bunbury Natural Gas Pipeline ("**DBNGP**") to the Economic Regulation Authority ("**Authority**") for approval under the *National Third Party Access Code for Natural Gas Pipeline Systems* ("**Code**").

2. The Authority has considered the Proposed Access Arrangement under the principles set out in the Code. In doing so, the Authority has considered and weighed the factors in section 2.24 of the Code as fundamental elements in making the overall decision whether to approve the proposed revisions to the Access Arrangement.

3. The Authority proposes to not approve the Proposed Access Arrangement on the basis that it does not satisfy the principles in sections 3.1 to 3.20 of the Code. The detailed reasons for this decision are set out in this document.

4. Under section 2.35(b) of the Code the Authority is required, when issuing a Draft Decision that proposes to not approve proposed revisions to an Access Arrangement submitted by a Service Provider, to state amendments that would have to be made to the revisions in order for the Authority to approve them. For purposes of clarity, the required amendments are stated in the reasons for this Draft Decision at the point at which the relevant element of the Access Arrangement is addressed. A consolidated list of required amendments is provided at the end of the statement of reasons.

REASONS

Introduction

5. The DBNGP consists of the gas pipeline system as described by Western Australian pipeline licences WA: PL 40, WA: PL 41 and WA: PL 47. The pipeline system comprises 1845.3 km of high pressure gas pipeline (including laterals) linking gas suppliers in the north west of Western Australia with markets principally in the south west of the state.

6. The DBNGP is operated by DBNGPT and is owned by DBNGP (WA) Nominees Pty Ltd as trustee for the DBNGP WA Pipeline Trust.

7. An Access Arrangement for the DBNGP was approved by the then Western Australian Independent Gas Pipelines Access Regulator on 29 December 2003 ("**Current Access Arrangement**"). The functions of the Independent Gas Pipelines Access Regulator passed to the Economic Regulation Authority on establishment of the Authority on 1 January 2004.

8. Under the Current Access Arrangement, revisions to the Access Arrangement were to be submitted to the Authority on 1 April 2004. However, the Authority granted extensions of time for submission of revisions to 15 January 2005. After the

Authority refused to grant a further extension of time beyond this, DBNGPT submitted the proposed Access Arrangement on 21 January 2005.

Access Arrangement Documents

9. DBNGPT submitted the Proposed Access Arrangement on 21 January 2005. Documentation submitted to the Authority comprised:

- Proposed Revised Access Arrangement (public and confidential version)
- Proposed Revised Access Arrangement Terms and Conditions (public and confidential version)
- Proposed Access Arrangement Information (public and confidential version)
- Annexure A, Description of Gas Transmission System to Proposed Access Arrangement Information (Public and Confidential)
- Dampier to Bunbury Natural Gas Pipeline Maps (confidential)

10. In addition to the Proposed Access Arrangement and Access Arrangement Information documents, DBNGPT has made a number of submissions to the Authority in which it sought to provide explanatory and supporting information for the Proposed Access Arrangement.

11. Copies of the Proposed Access Arrangement, the Access Arrangement Information (except for confidential sections) and non-confidential submissions made by DBNGPT to the Authority are available from the Authority or may be downloaded from the Authority's web site (www.era.wa.gov.au).

12. On 14 March 2005, the Authority issued a Notice advising that pursuant to section 2.30 of the Code the Authority has determined that the Access Arrangement Information submitted by DBNGPT does not comply with requirements of the Code. The Authority exercised its discretion under section 2.30 of the Code to require the Access Arrangement Information to be amended to comply with the Code. Accordingly, the Authority advised DBNGPT that the Access Arrangement Information submitted on 21 January 2005 must be amended to comply with the Code and that a revised Access Arrangement Information was required to be submitted to the Authority by 5:00 pm on 22 March 2005.

13. The Authority received a revised Access Arrangement Information on 22 March 2005. The Authority was not satisfied that the revised Access Arrangement Information met the requirements of the Code and, on 23 March 2005, the Authority issued a further Notice advising that the Authority anticipated that a further revised Access Arrangement Information compliant with the Code will be submitted by DBNGPT in April 2005. This was not submitted.

14. The Authority remains unsatisfied that the Access Arrangement Information meets the requirements of section 2.6 and 2.7 of the Code. DBNGPT has indicated to the Authority that it will provide further information, particularly in relation to New Facilities Investment. This information may be material to the decision to be made in

relation to the Access Arrangement. However, the Authority does not wish to delay the process in relation to the consideration of the Proposed Access Arrangement. Accordingly, the Authority has taken the course of publishing this Draft Decision on the basis of the existing Access Arrangement Information. In the event that any additional information provided by DBNGPT is material to this Draft Decision, the Authority intends to make this information available for public comment and may issue a supplement to this Draft Decision.

15. To avoid any undue delay in releasing the Final Approval, the Authority has decided to release the revised Access Arrangement Information received on 22 March 2005 and Draft Decision at the same time.

16. The decision of the Authority to release the Access Arrangement Information and the Draft Decision is consistent with the timetable set for the commencement of this process. On 18 January 2005, the Authority issued a notice advising of the reasons why it was considered necessary to complete the consideration of DBNGPT's proposed revisions to the Access Arrangement by 30 June 2005. In addition to the fact that certain parties have made submissions to the effect that they will be financially disadvantaged by any delay in finalisation of the Authority's approval of the Proposed Access Arrangement, the Authority also referred to the public interest in decisions of the Authority being made in a timely manner, in accordance with the statutory timetable.

17. In forming its Draft Decision, the Authority has considered submissions made on the proposed Access Arrangement by the following parties.

- North West Shelf Gas (public and confidential submissions)
- Alinta Power Services
- South West Cogeneration Joint Venture (confidential submission)
- Western Power (public and confidential submissions)
- Alcoa
- BHP Billiton
- Tiwest
- CSBP
- Wesfarmers
- Chamber of Commerce and Industry of Western Australia
- Western Mining Corporation
- Apache Energy
- Worsley

- Newmont
- Australia Petroleum Production and Exploration Association

Requirements of the Code

18. Section 2.24 of the Code provides that:

> 2.24 The Relevant Regulator may approve a proposed Access Arrangement only if it is satisfied the proposed Access Arrangement contains the elements and satisfies the principles set out in sections 3.1 to 3.20. The Relevant Regulator must not refuse to approve a proposed Access Arrangement solely for the reason that the proposed Access Arrangement does not address a matter that sections 3.1 to 3.20 do not require an Access Arrangement to address. In assessing a proposed Access Arrangement, the Relevant Regulator must take the following into account:
>
> (a) the Service Provider's legitimate business interests and investment in the Covered Pipeline;
>
> (b) firm and binding contractual obligations of the Service Provider or other persons (or both) already using the Covered Pipeline;
>
> (c) the operational and technical requirements necessary for the safe and reliable operation of the Covered Pipeline;
>
> (d) the economically efficient operation of the Covered Pipeline;
>
> (e) the public interest, including the public interest in having competition in markets (whether or not in Australia);
>
> (f) the interests of Users and Prospective Users;
>
> (g) any other matters that the Relevant Regulator considers are relevant.

19. The "elements" of a proposed Access Arrangement, referred to in section 2.24 of the Code comprise:

- Services Policy (sections 3.1 and 3.2 of the Code);
- Reference Tariff and Reference Tariff Policy (sections 3.3 to 3.5 of the Code);
- Terms and Conditions (section 3.6 of the Code);
- Capacity Management Policy (sections 3.7 and 3.8 of the Code);
- Trading Policy (sections 3.9 to 3.11 of the Code);
- Queuing Policy (sections 3.12 to 3.15 of the Code);
- Extensions/Expansions Policy (section 3.16 of the Code); and
- Review Date (sections 3.17 to 3.20 of the Code).

20. An Access Arrangement may deal with a number of matters beside those dealt with in sections 3.1 to 3.20, but an Access Arrangement must contain at least the elements dealt with in sections 3.1 to 3.20 and satisfy the principles set out in those sections.

21. In applying the Code to its consideration of DBNGPT's Proposed Access Arrangement, the Authority has taken into account relevant judicial and other decisions, such as those by review bodies, relating to the Code.

22. The remainder of these reasons set out the Authority's considerations in respect of each of the elements of the Proposed Access Arrangement.

Services Policy

Requirements of the Code

23. Section 3.1 of the Code requires that an Access Arrangement include a policy on the Service or Services to be offered (a Services Policy). Section 3.2 of the Code requires that the Services Policy comply with the following principles.

> 3.2 (a) The Access Arrangement must include a description of one or more Services that the Service Provider will make available to Users or Prospective Users, including:
>
> (i) one or more Services that are likely to be sought by a significant part of the market; and
>
> (ii) any Service or Services which in the Relevant Regulator's opinion should be included in the Services Policy.
>
> (b) To the extent practicable and reasonable, a User or Prospective User must be able to obtain a Service which includes only those elements that the User or Prospective User wishes to be included in the Service.
>
> (c) To the extent practicable and reasonable, a Service Provider must provide a separate Tariff for an element of a Service if this is requested by a User or Prospective User.

24. The Access Arrangement must specify the Services that the Service Provider will make available. The Service Provider is not obliged to provide a Service unless it is one of the Services specified in the Access Arrangement (or an element of such a service).

25. A Reference Service is a Service that is specified in an Access Arrangement and for which a Reference Tariff is specified in that Access Arrangement under section 3.3 of the Code:

> 3.3 An Access Arrangement must include a Reference Tariff for:
>
> (a) at least one Service that is likely to be sought by a significant part of the market; and
>
> (b) each Service that is likely to be sought by a significant part of the market and for which the Relevant Regulator considers a Reference Tariff should be included.

26. As indicated in section 3.3(a) of the Code, an Access Arrangement must include at least one Reference Service. The Authority may require the Access Arrangement to include additional Reference Services if such Services are likely to be sought by a significant part of the market. For Services other than Reference Services (that is, Non-Reference Services), tariffs are to be determined by negotiation between the Service Provider and the Prospective User, and section 6 of the Code provides a process of arbitration should negotiations be unsuccessful.

Proposed Services Policy

27. A Services Policy is provided in section 6 of the Proposed Access Arrangement.

28. The current Access Arrangement for the DBNGP distinguishes between a Reference Service and a range of Non-Reference Services. The Services Policy of the current Access Arrangement commits the Service Provider to making available a single Service (the "**Firm Service**") to Prospective Users as a Reference Service. The Firm Service has the following general characteristics.

    - The pipeline is divided into 11 zones, referred to as Zones 1 to 4, 4a and 5 to 10. The Firm Service is a Service under which gas may be received into the pipeline at a Receipt Point in any zone and delivered to a Delivery Point in any zone, with the tariff payable for the Firm Service dependent upon the number of zones and number of compressor stations between the Receipt Point and the Delivery Point.
    - The Firm Service can involve either forward-haul or back haul of gas.
    - The Firm Service is not subject to interruption or curtailment except as permitted by the Access Contract.
    - The minimum contract term is two years, where the application for the Firm Service is for utilisation of spare capacity, or 20 years, where the application for the Firm Service is for utilisation of Developable Capacity.

29. The current Access Arrangement also provides for eight Non-Reference Services:

    - Secondary Market Service;
    - Park and Loan Service;
    - Seasonal Service;
    - peaking service;
    - metering information service;
    - pressure and temperature control service;
    - odorisation service; and
    - co-mingling service.

30. The Non-Reference Services under the current Access Arrangement also include Services provided by the pipeline owner under contracts entered into prior to commencement of the first Access Arrangement Period.

31. The Services Policy of the Proposed Access Arrangement describes a different Reference Service, the "**Tf Service**". There are a number of material differences in broad characteristics of the Tf Service and the Firm Service, evident from both the descriptions of the Services and the Services Policy and key terms and conditions for each service as set out in the Current and Proposed Access Arrangements, in

accordance with the requirement of section 3.6 of the Code. The material differences between the Tf Service and the Firm Service are as follows.

- The Tf Service is a "full haul" Service for the transport of gas to locations downstream of compressor station CS9 of the pipeline and the same Reference Tariff applies to any location of gas delivery. Unlike the Firm Service, the Tf Service does not include provision for the "Part Haul" transport of gas to locations upstream of compressor station CS9, or for "Back Haul" of gas.

- The minimum contract term for the Tf Service where the Service is to be provided by use of Spare Capacity is five years, whereas the minimum contract term for the Firm Service in the same circumstances is two years.

- There are substantial differences between the two Services in provisions for interruption and curtailment, with substantially greater scope under the Tf Service for interruption and curtailment without liability to DBNGPT.

32. The Services Policy of the Proposed Access Arrangement makes provision for a similar range of Non-Reference Services as the Current Access Arrangement, with changes comprising:

- inclusion in the Proposed Access Arrangement of a Part Haul Service and Back Haul Service (which would no longer be provided as part of the Reference Service);

- a change in the spot market service from the "Secondary Market Service" of the Current Access Arrangement to the "Spot Capacity Service" of the Proposed Access Arrangement; and

- the absence of provision in the Proposed Access Arrangement for revenue from certain Non-Reference Services to be rebated to Users of the Reference Service.

33. In assessing the proposed Services Policy, the Authority is required to consider the Services that a significant part of the market is likely to seek. One or more such Services must be included in the Access Arrangement and must be described. If the Authority forms the opinion that other Services should also be included then they must also be included and described. Of these Services, only one that is sought by a significant part of the market need be specified as the Reference Service, although the Authority must consider whether any other Services that are likely to be sought by a significant part of the market should also be included as a Reference Service.

34. Because the Proposed Access Arrangement includes the Tf Service as the only Reference Service, the Authority needs to consider:

- whether the Tf Service is a Service likely to be sought by a significant part of the market;

- whether there are other Services that should be described in the Access Arrangement; and

- if so, whether any of those services should be included as a Reference Service.

35. These matters are addressed in turn, below.

Is the Tf Service likely to be sought by a significant part of the market?

36. The Tf Service has the following general characteristics.

- The Tf Service is a "Full Haul" Service under which DBNGPT takes receipt of gas into the DBNGP at a Receipt Point and delivers that gas to one or more Delivery Points at a location downstream of Compressor Station 9.
- The obligation of DBNGPT to take receipt of gas into the DBNGPT on a Day is limited to the User's MDQ plus or minus the quantity of gas required to correct any Imbalance on the preceding Day.
- The obligation of DBNGPT to deliver gas at a Delivery Point is limited to the User's MDQ.
- The Tf Service cannot involve Back Haul of gas.
- The service is provided subject to the availability of Capacity, and without interruption or curtailment except as permitted by the Access Contract.
- Where a Prospective User's request for the Tf Service may be provided by use of Spare Capacity, the minimum contract term is five years unless otherwise agreed to by DBNGPT at DBNGPT's absolute discretion.
- Where a Prospective User's request for the Tf Service may be provided by use of Developable Capacity, the minimum contract term is 20 years unless otherwise agreed to by DBNGPT at DBNGPT's absolute discretion.

37. In assessing whether a Service is likely to be sought by a significant part of the market, the Authority is required to determine whether the nature of the Service described in the Access Arrangement, considered in the context of the range of Services that might be provided using the pipeline, identifies a Service that is likely to be sought by a significant part of the market. It is not necessary for the Authority to consider whether there is significant demand for a proposed Reference Service on the precise terms and conditions proposed for that Service, which is a matter for consideration under section 3.6 of the Code. The exception to this may be where an element of the terms and conditions is integral to the nature of the Service.

38. With respect to the Tf Service, a number of Users of the DBNGP have submitted to the Authority that no significant part of the market for gas transportation in the DBNGP is likely to seek a Service in the nature of the Tf Service and that, therefore, the Tf Service does not satisfy the requirement of the Code that the Access Arrangement include a Reference Service that is likely to be sought by a significant part of the market. The reasons given in submissions include:

- the proposed Tf Service is a fully interruptible Service and for that reason it is not a Service likely to be sought by a significant part of the market;[1]

- the proposed Tf Service is different to the Service for which existing Users of the DBNGP entered into contracts during contract re-negotiations in late 2004 and which is likely to be sought in the future by exercise of options to obtain additional capacity under the same terms as for currently contracted capacity;[2] and

- the proposed Tf Service could not be "bundled" with Non-Reference Services to form a Service that would be sought by a significant part of the market.[3]

39. The Authority has considered the claims made in submissions that the Tf Service is in the nature of a fully interruptible Service. In this regard, the Authority notes that clause 6.2 of the Proposed Access Arrangement indicates that the Tf Service would be provided by DBNGPT to a User "without interruption or curtailment except as permitted by the Access Contract". The extent of interruption or curtailment that would be permitted under an Access Contract for the Tf Service is set out in clause 14 of the Access Contract Terms and Conditions as follows:

> 14. CURTAILMENT AND INTERRUPTION
>
> 14.1 Permissible Interruption
>
> Operator may curtail or interrupt Shipper without liability to Shipper:
>
> (a) where the duration of the curtailment together with the aggregate duration of all other curtailments of the Tf Service during the Year (other than curtailments or interruptions permitted under clause 14.1(b)) does not cause the Permissible Limit to be exceeded; and
>
> (b) in any of the following circumstances:
>
> (i) in such circumstances as Operator considers necessary as a reasonable and prudent pipeline operator, including for Planned Maintenance and Major Works;
>
> (ii) in order to comply with obligations under any prior contract or any contract which is subject to curtailment or interruption only after the curtailment or interruption of the Tf Service;
>
> (iii) if there is an event of Force Majeure where Operator is the affected party;
>
> (iv) in the circumstances described in clause 3.10(d); or
>
> (v) by reason of, or in response to a reduction in Capacity caused by the default, negligence, breach of contractual term or other misconduct of Shipper.
>
> 14.2 Operator must provide Shipper with reasonable, and in any event not less than 3 Days, prior written notice of all Planned Maintenance that may reasonably be considered likely to interrupt normal gas transmission.
>
> 14.3 Non Permissible Interruption
>
> Operator may curtail or interrupt Shipper in circumstances which are not a Permissible Interruption provided that in that case, Operator shall:

[1] Newmont Australia Limited, CSBP, Western Power Corporation.

[2] Worsley Alumina Pty Ltd, Western Power Corporation.

[3] Western Power Corporation.

(a) compensate Shipper for any Direct Damage suffered by Shipper; and

(b) credit Shipper in the next invoice issued by Operator to Shipper, with the Capacity Charge applicable to that capacity so interrupted or curtailed.

40. The Authority notes that while sub-clause 14.1(a) of the Access Contract Terms and Conditions establishes a "Permissible Limit" to interruptions and curtailments of the Tf Service, there is a wide range of circumstances set out in sub-clause 14.1(b) in which the Tf Service may be curtailed or interrupted and such curtailment or interruption is not considered in determining whether the Permissible Limit has been exceeded. The Authority notes in particular the terms of paragraph (ii) of sub-clause 14.1(b) that provides for the curtailment or interruption of the Tf Service where that is necessary for DBNGPT to comply with obligations (for the receipt or delivery of gas) "under any prior contract or any contract which is subject to curtailment or interruption only after the curtailment or interruption of the Tf Service".

41. In regard to these provisions for curtailment and interruption, the Authority notes that the standard contract on the basis of which existing Users re-negotiated transmission contracts with DBNGPT in late 2004 ("Standard Shipper Contract"[4]) explicitly provides for gas receipts and deliveries for Users with a Service Contract based on the Standard Shipper Contract to have priority over Users with a Tf Service in the event that a curtailment or interruption is necessary. Sub-clause 17.9(a) of the Standard Shipper Contract provides:

> Any Curtailment of Shipper's Total Contracted Capacity or capacity under a Spot Transaction, is to be conducted in accordance with the Curtailment Plan. In applying the Curtailment Plan in a Point Specific Curtailment or System Curtailment, a Type of Capacity Service will only be Curtailed once all Types of Capacity Services listed below it in that column in the Curtailment Plan have been reduced to zero.

42. The Curtailment Plan is set out in Schedule 8 to the Standard Shipper Contract. The Curtailment Plan does not refer specifically to the Tf Service. The Tf Service would not fall within the first two priority types of capacity in the Plan. The third priority in the Curtailment Plan is Alcoa's Exempt Delivery Entitlement (excluding Alcoa's Priority Quantity) and T1 Service (including Aggregated T1 Service) apportioned in accordance with the provisions of Part B of Schedule 8. The effect of Part B of Schedule 8 is that up to the next 253.5TJ/d of available capacity after the first two priority types of capacity is apportioned half to Alcoa and half to the T1 Service. After that, a proportion of the available capacity is to be apportioned to Alcoa and the balance to T1 Service. Sixth in the order of priority is "Other Reserved Service". The Tf Service would appear to fall within the definition of "Other Reserved Service" which is defined in clause 1 to mean a Capacity Service offered under a contract which in the Operator's opinion acting reasonably, has a capacity reservation charge or an allocation reservation deposit or any material equivalent to such charge or deposit which is payable up front or from time to time in respect to the reservation of capacity under that contract for at least a reasonable time into the future (but at all times excluding a T1 Service, a Firm Service and Capacity under a Spot Transaction).

[4] DBNGP (WA) Transmission Pty Ltd, Standard Shipper Contract – Full Haul T1: Dampier to Bunbury Natural Gas Pipeline (Provided to the Economic Regulation Authority on 4 April 2005). A copy of the Standard Shipper Contract is available on the Authority's web page.

43. For the reasons of:

- the wide range of circumstances set out in sub-clause 14.1(b) of the Access Contract Terms and Conditions (and in particular as implied by paragraph 14(b)(i)) in which the Tf Service may be curtailed or interrupted and the curtailment or interruption is not considered in determining whether the Permissible Limit has been exceeded; and

- the subordinate priority of the Tf Service, relative to other Services, for gas receipts and deliveries in the event that a curtailment or interruption is necessary,

the Authority concurs with the submissions made by some Users of the DBNGP that the Tf Service is substantially less reliable than the Permissible Limit would suggest (or indeed than the Permissible Limit in the terms and conditions for the Firm Service under the Current Access Arrangement) and that the Tf Service is more in the nature of an "interruptible service" rather than a "firm service" as these terms are generally used in the market for gas transmission services.

44. The Authority is of the view that the principal Service that would be sought by Users of a Gas Transmission Pipeline would be in the nature of a firm service, i.e. a Service provided with a high and guaranteed level of reliability. For the DBNGP, this has been evident by the Service historically provided to Users under contracts entered into under the *Gas Transmission Regulations 1994* and *Dampier to Bunbury Pipeline Regulations 1998*), the nature of the Reference Service proposed in 1999 by Epic Energy and contained in the Current Access Arrangement, and the nature of the Service contracted for by Users under terms as set out in, or substantially based on, the Standard Shipper Contract ("**T1 Service**").

45. By virtue of the Tf Service being in the nature of an interruptible service, the Authority does not consider that it is in the nature of a Service likely to be sought by a significant part of the market. There have been no submissions made to the Authority either indicating a demand or potential demand for a service in the nature of the Tf Service or an interruptible service. Western Power Corporation has indicated that demand for such a service could be met either by trading of capacity or under transmission contracts held by existing Users for the Service represented by the Standard Shipper Contract:

> To [Western Power Corporation's] … knowledge, [Western Power Corporation] … itself is the largest user of interruptible services although from time to time other shippers use spot capacity. … WPC will most likely never contract for a Tf Service for its interruptible services but would instead use the Spot Market, trade capacity with other shippers or seek developable capacity pursuant to clause 16 of the … [Standard Shipper Contract].[5]

46. The Authority also notes that by virtue of there being no other Reference or Non-Reference Service offered under the Proposed Access Arrangement that is in the nature of a firm service, there is no opportunity for a Prospective User of the DBNGP to obtain a Service typically sought from a gas transmission pipeline by contracting for the Tf Service in combination with Non-Reference Services described in the Services Policy of the Proposed Access Arrangement.

[5] Western Power Corporation, paragraph 131.

47. DBNGPT has submitted to the Authority that in determining whether the Tf Service is a Service likely to be sought by a significant part of the market, consideration should be given to the capacity of the DBNGP to provide a service that is more in the nature of a firm Service (such as the Firm Service under the Current Access Arrangement or a T1 Service). DBNGPT has submitted that:[6]

> In the context of the capacity on the DBNGP that is not presently contracted or likely to remain uncontracted during the access arrangement period, [DBNGPT] … submits that:
>
> (a) there is not likely to exist any spare capacity on the DBNGP (as it is currently configured) which could be contracted for on the basis of either a Firm Service or T1 Service; and
>
> (b) in relation to the expansion of the capacity of the DBNGP that is proposed to take place during the proposed Access Arrangement Period, there will not exist any spare capacity which could be contracted for on the basis of either a Firm Service or T1 Service; all of this capacity will be pre-contracted under pre-existing contracts.

48. The Authority does not accept that a lack of Spare Capacity on a pipeline to provide a Service of a particular nature necessarily means that such a Service cannot be likely to be sought by a significant part of the market. The Access Arrangement does not only apply to uncontracted capacity. If an existing contract is terminated, the Access Arrangement will govern the rights of the parties. The Access Arrangement also applies to Developable Capacity.

49. While noting the submissions from DBNGPT, given the absence of evidence that the proposed Tf Service is likely to be sought by a significant part of the market, the Authority is of the view that the Tf Service does not meet the requirements of the Code for a Reference Service.

50. Following from this view, the Authority has considered the nature of a Service that is likely to be sought by a significant part of the market and that should be included in the Access Arrangement as a Reference Service.

51. In this regard, the Authority is mindful that Users of the DBNGP have recently negotiated with DBNGPT for provision of the T1 Service.

52. The nature of the T1 Service is evident from clause 3.2 and other clauses of the Standard Shipper Contract as a service with the following characteristics.

- The Service is a full haul service under which DBNGPT takes receipt of gas into the DBNGP at a Receipt Point and delivers that gas to one or more Delivery Points at a location or locations downstream of Compressor Station 9.[7]
- The obligation of DBNGPT to take receipt of gas into the DBNGPT on a Day is limited to the User's contracted capacity plus any system use gas that the User is required to deliver to the pipeline.[8]

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[6] DBNGP (WA) Transmission Pty Ltd, 14 March 2005, Dampier to Bunbury Natural Gas Pipeline Proposed Revised Access Arrangement Submission #3 Services Policy ("**DBNGPT Submission #3**"), paragraph 2.14. DNBNGPT has also indicated to the Authority that "the only basis on which a T1 Service could be contracted for on the DBNGP (as it is currently configured) is if an existing shipper with contracted T1 capacity ends its existing contract" (DBNGPT Submission #19).

[7] Standard Shipper Contract, sub-clause 3.2(a).

- The obligation of DBNGPT to deliver gas at a Delivery Point is limited to the User's contracted capacity aggregated across all Delivery Points.[9]

- The Service cannot involve Part Haul or Back Haul of gas.[10]

- The extent to which the Service can be interrupted or curtailed without liability of DBNGPT is restricted by a limit on the total time that the Service is interrupted or curtailed within each year.[11]

53. The Authority is of the understanding that the majority of Users have entered into contracts with DBNGPT under terms substantially the same as those set out in the Standard Shipper Contract. A mutual willingness of both Users and DBNGPT to enter into contracts under terms as set out in, or substantially based on, the Standard Shipper Contract indicates that the Service of the nature provided under the Standard Shipper Contract is likely to be sought by a significant part of the market and that DBNGPT is willing to provide such a service.

54. The Authority is therefore of the view that a Service in the nature of the Service that would be obtained under the Standard Shipper Contract is likely to be sought by a significant part of the market and would meet the requirements of the Code for a Reference Service.

55. DBNGPT has also submitted that mechanisms exist under the Standard Shipper Contract and under another agreement for Users and Prospective Users to obtain the T1 Service by means of Developable Capacity and, hence, provision for obtaining such a service as a Reference Service under the Access Arrangement is unnecessary:

> … all existing shippers are entitled to access to developable capacity subject to certain conditions existing. The fact that this right is afforded to all existing shippers suggests that shippers will rely on their contractual rights to access existing capacity, rather than rely on the outworkings of a regulatory approval process.
>
> Even if it is suggested that existing shippers will want to access additional T1 Capacity other than in accordance with the mechanism under the pre-existing contracts (and as at the date of this submission, there are no access requests from existing shippers to this effect), Operator is obliged … to make available T1 Service to shippers which request such a service.
>
> Accordingly, Operator submits that there is no benefit to users and prospective users to include a T1 Service in the access arrangement.[12]

56. The Authority does not accept that the availability of alternative mechanisms to obtain the T1 Service is a reason for the Access Arrangement not to include a Service of the same nature as the T1 Service as a Reference Service. The Code requires the Service Provider to include in the Access Arrangement a Reference Service that is likely to be sought by a significant part of the market as a Reference Service, and the fact that

[8] Standard Shipper Contract, clause 5.1.

[9] Standard Shipper Contract, clause 5.2.

[10] Standard Shipper Contract, sub-clause 3.2(c)

[11] Standard Shipper Contract, clause 17.2.

[12] DBNGPT Submission #3, paragraphs 2.16 – 2.18.

such a Service may be obtained by a Prospective User by some other mechanism does not lessen this requirement.

57. DBNGPT has also submitted that requiring a T1 Service to be included in the Access Arrangement as a Reference Service would be contrary to the legitimate business interests of DBNGPT for reasons that the Reference Tariff determined for a T1 Service would be likely to be less than the tariff under contracts for this service which would create contractual difficulties with Users that hold contracts for gas transmission that include terms as set out in, or substantially based on, the Standard Shipper Contract.[13]

58. The Authority does not accept that any contractual difficulties that may be experienced by DBNGPT as a result of inclusion in the Access Arrangement of a Reference Service that is in the nature of the T1 Service is a basis for not including such a Service in the Access Arrangement.

59. Under section 2.47 of the Code, the Authority must not approve revisions to an Access Arrangement (or draft and approve its own revisions to an Access Arrangement) if a provision of the Access Arrangement as revised would, if applied, deprive any person of a contractual right in existence prior to the date the revisions to the Access Arrangement were submitted (or were required to be submitted), other than an Exclusivity Right which arose on or after 30 March 1995. Despite the submission from DBNGPT indicating that requiring the Access Arrangement to include a T1 Service as a Reference Service would create contractual difficulties with Users, the Authority has no information before it that would indicate that inclusion of a Reference Service in the Access Arrangement that is in the nature of the T1 Service would deprive DBNGPT of any contractual right.

60. The Authority is therefore of the view that the Access Arrangement should include a Reference Service in the nature of the T1 Service under the Standard Shipper Contract.

61. In including a service in the nature of the T1 Service in the Access Arrangement, it is necessary that the description of the Service include the minimum term of a contract.

62. The Authority notes that for the Tf Service, DBNGPT proposed:

- a minimum contract term of five years where a Prospective User's request for the Tf Service may be provided by use of Spare Capacity; and
- a minimum contract term of 20 years where a Prospective User's request for the Tf Service may be provided by use of Developable Capacity.

DBNGPT has not provided reasons for proposing these minimum terms.

63. The proposed minimum contract term of five years for a Service provided by means of Spare Capacity is substantially in excess of minimum contract terms of one or two

[13] DBNGPT Submission #3, paragraphs 4.3, 4.4.

years established under Access Arrangements for other transmission pipelines and distribution systems in Australia, generally at the initiative of the Service Providers.

64. The Authority is of the view that, with the introduction of full retail contestability in gas markets in Western Australia and with ongoing deregulation of electricity markets, there are likely to be new customers coming into the market for gas transmission services. To the extent that long minimum terms for gas transmission contracts may impose a barrier to entry to gas and electricity markets, the Authority considers that a minimum contract term of two years would be in the public interest, including the public interest in having competition in markets.

65. The Authority therefore is of the view that a Reference Service in the nature of the T1 Service should have a minimum contract term of two years when made available through utilisation of Spare Capacity.

66. Western Power Corporation has submitted that the proposed minimum contract term for the Tf Service of 20 years (in circumstances where a Prospective User's request for the Tf Service may be provided by use of Developable Capacity) is inconsistent with provisions under the Standard Shipper Contract for the T1 Service to be provided for a minimum contract term of 15 years, with additional Capacity able to be obtained under "Capacity Expansion Rights" also for a minimum contract term of 15 years.

67. The Authority accepts that, where Capacity expansion is necessary to provide a Reference Service in the nature of a T1 Service, there is no reason for the minimum contract term for that service to be different to that under the Standard Shipper Contract.

Draft Decision Amendment 1 The Services Policy of the Proposed Access Arrangement should be amended to remove the Tf Service and to include a Reference Service that is of the nature of the "T1 Service" to which the Standard Shipper Contract relates. The minimum contract term for this Service should be 2 years when it is made available to a Prospective User through the utilisation of Spare Capacity and 15 years when it is made available to a Prospective User through the utilisation of Developable Capacity.

Are there other Services that should be described in the Services Policy?

68. As noted above (paragraph 29), the Services Policy of the Proposed Access Arrangement includes a range of Services in addition to the Tf Service. These Services are included in the Services Policy as Non-Reference Services, i.e. there is no Reference Tariff specified for any of these Services.

69. The Non-Reference Services listed in the Services Policy are the same as those included in the Services Policy of the Current Access Arrangement, with the addition of a Part Haul Service and a Back Haul Service. As with the Current Access Arrangement, brief descriptions of some of the Non-Reference Services are provided in the "Definitions" section of the Access Arrangement document (section 13 of the Proposed Access Arrangement).

70. Western Power Corporation has submitted that one of the proposed Non-Reference Services, the Spot Capacity Service (which appears to replace the Secondary Market Service in the Current Access Arrangement), should either be made a Reference Service or removed from the Services Policy to limit DBNGPT's discretion (vis a vis the Arbitrator in the event of a dispute regarding access to the Service) in setting the terms and conditions for the Spot Capacity Service.

71. The Authority notes that, while the Spot Capacity Service is not described in the Access Arrangement, it may be presumed that it involves determination of a price for capacity on a "spot" basis, depending upon demand and supply for Capacity at a particular time. It is not necessary that the Spot Capacity Service should have a price determined by market conditions at any particular time, as opposed to having a posted price established *ex ante*. However, the Authority considers that there is substantial merit in having a market price for this Service for reason of the signals that such a pricing mechanism would provide to the Service Provider as to the value of additional pipeline Capacity and the potential returns from investment in expansion of Capacity. In such a case, it is not possible to determine a Reference Tariff for that Service and hence the Spot Capacity Service cannot be a Reference Service.

72. It is indicated under the definitions of the Spot Capacity Service, the Spot Market Rules and Spot Transaction Terms and Conditions that the terms and conditions for the Spot Capacity Service are able to be varied by DBNGPT from time to time. This would appear to exclude the possibility of negotiation with Users and Prospective Users in the determination of terms and conditions for this Non-Reference Service, and may limit the power of the Arbitrator to determine terms and conditions in any access dispute in relation to this Service. Accordingly, the Authority requires the definition of Spot Transaction Terms and Conditions in the Proposed Access Arrangement to be amended to explicitly provide for negotiation of the terms and conditions with Users and Prospective Users and resort to arbitration in the event of a dispute over terms and conditions.

Draft Decision Amendment 2

The Proposed Access Arrangement should be amended so that the definition of Spot Transaction Terms and Conditions explicitly provides for these terms and conditions to be negotiated with Users and Prospective Users, with resort to arbitration in the event of a dispute over terms and conditions.

73. No other submissions on the Proposed Access Arrangement have indicated that any of the Services described as Non-Reference Services should not be included in the Access Arrangement, nor has there been any submission that other Services should be included in the Services Policy. A number of parties have submitted that two of the Services included in the Services Policy (the Part Haul Service and Back Haul Service) should be Reference Services, and this matter is addressed further below. A number of parties have also expressed concern that there has been removal of provision under the Current Access Arrangement for some Non-Reference Services to be Rebatable Services within the meaning of sections 10.8 and 8.40 of the Code. The Authority addresses this matter later in this Draft Decision in relation to the Reference Tariff Policy and the determination of Reference Tariffs (paragraph 322 and following).

74. Given that the Non-Reference Services included in the Services Policy include the Non-Reference Services of the Current Access Arrangement, and given the content of relevant submissions, the Authority is of the view that there is no reason to require any additional Services to be included in the Services Policy.

75. In its submission on the Proposed Access Arrangement, Western Power has raised a number of concerns with the Non-Reference Services included in the Proposed Access Arrangement and related provisions of the Services Policy.

76. Firstly, Western Power Corporation has expressed concern over the provision of the Services Policy that indicates that the Non-Reference Services will be made available "subject to operational availability". Western Power submits that this qualification on the availability of Non-Reference Services is undefined and ambiguous, and also inconsistent with the qualification on the availability of the proposed Tf Service, which is indicated to be available "subject to availability of Capacity". The Authority accepts Western Power Corporation's submission that the qualification on availability of Non-Reference Services is inconsistent with an indication that a Service may be provided subject to availability of Capacity. The Authority notes that some of the Non-Reference Services are not in the nature of transmission Services, and hence a reference to availability of Capacity is not relevant. However, the Authority considers that the term "operational availability" should be differentiated from availability of Capacity.

Draft Decision Amendment 3

The Services Policy of the Proposed Access Arrangement should be amended to indicate that Non-Reference Services that are in the nature of gas transmission Services will be made available subject to availability of Capacity, and other Non-Reference Services will be made available subject to operational availability.

77. Secondly, Western Power Corporation submits that the Seasonal Service as a Non-Reference Service by DBNGPT should be different in nature.

78. Under the Proposed Access Arrangement, the Seasonal Service is defined as:

> Seasonal Service means Capacity made available by Operator in relation to a particular Month out of incremental capacity (being Capacity over and above Tf Service Capacity) available due to seasonal factors.

79. Western Power Corporation submits that the Seasonal Service should be a Service whereby a User is able to contract for different MDQ in different months of the year according to seasonal variations in demand of the User for gas transmission and regardless of seasonal differences in the Capacity of the pipeline. Western Power Corporation further submits that the absence of such a service would potentially result in Western Power Corporation being forced to burn more expensive fuels or resort to load shedding, and cause the DBNGP owner to inefficiently invest in expanding pipeline Capacity so that each User with seasonal variations in demand could reserve sufficient Capacity over the entire year to meet its peak seasonal demands.

80. The Authority recognises the distinction between the two types of seasonal services and that there is, or is likely to be, a demand for both types. However, the Authority does not consider that DBNGPT should be required to provide the type of seasonal

Service requested by Western Power Corporation for reasons that requiring the provision of such a Service would neither be practical nor reasonable as the Service could adversely affect the utilisation of Capacity and the legitimate business interests of the pipeline owner.

81. The Authority also notes that there are other options available to Users with peak demands for pipeline capacity in summer months, such as Western Power, to secure such Capacity only for the period required:

- purchase of additional capacity and trading with other Users, including on a spot basis;
- purchase of capacity for the entire year and sale of capacity in months that it is not required; and
- negotiation with the Service Provider for provision of capacity only in the months required, as a Service outside of the scope of Services provided for in the Services Policy.

82. In the event that Capacity sought by a User such as Western Power is not available through these alternative mechanisms, it is unlikely that requiring DBNGPT to provide a seasonal Service of the type sought by Western Power would be consistent with the efficient utilisation of pipeline Capacity as there would not appear to be a User with a complementary demand in other times of the year. In such a case, efficient allocation of costs in providing a seasonal Service of the type sought by Western Power would require the User to pay for capacity for the entire year.

83. The Authority maintains the view expressed earlier by the Regulator that requiring the provision of a Seasonal Service of the type requested by Western Power Corporation would neither be practical nor reasonable. Moreover, given available options for dealing with seasonal variations in demand for gas transmission, the Authority does not accept that the absence of a Seasonal Service of the type requested by Western Power Corporation would necessarily have the adverse outcomes set out by Western Power Corporation in its submission.

84. Thirdly, Western Power Corporation points out in its submission that no descriptions are provided for several of the Non-Reference Services: the Peaking Service, metering information service, pressure and temperature control service, odorisation service and co-mingling service, and submits that the Access Arrangement should include descriptions for these services.

85. The Authority notes that the Non-Reference Services for which no descriptions are provided have “titles” that are themselves descriptive of the Service. However, the Authority accepts that section 3.2(a) of the Code requires a description of Services and a title of a Service would not, in itself, meet this requirement. The Authority therefore considers that, in the absence of descriptions of all Non-Reference Services, the Services Policy does not meet the requirements of section 3.2(a)

Draft Decision Amendment 4

The Services Policy of the Proposed Access Arrangement should be amended to include descriptions of all Non-Reference Services.

86. Fourthly, Western Power Corporation submits that DBNGPT should provide further information as to the reasons why the list of Non-Reference Services includes those Services that Users have obtained under contracts entered into *prior* to the commencement of the Access Arrangement, but the list of Non-Reference Services does not include Services (other than the proposed Reference Service) that Users have obtained under contracts entered into *after* the commencement of the Access Arrangement.

87. It is not clear to the Authority why DBNGPT has included in the list of Non-Reference Services those Services provided to Users under contracts entered into prior to the commencement of the Access Arrangement. The effect of this is that DBNGPT is committing to continue to provide those Services into the future if sought by Prospective Users, regardless of whether a Prospective User has previously received that Service. The Authority further considers that, if this is the intent of DBNGPT, then it is not clear why there is not the same willingness to provide Services that Users have obtained under contracts entered into *after* the commencement of the Access Arrangement. However, the Authority sees no reason to require the latter to be included in the Access Arrangement as Non-Reference Services, nor reason to require DBNGPT to explain why the distinction has been made.

88. Finally, Western Power Corporation has submitted that the provision in the Services Policy of the Proposed Access Arrangement which indicates that "[DBNGPT] *is prepared to* negotiate to provide a Prospective Shipper with any other service that is not a Reference Service" should be replaced with the provision that "[DBNGPT] *will* negotiate to provide a Prospective Shipper with any other service that is not a Reference Service". The Authority does not accept that the revision proposed by Western Power Corporation is necessary to comply with the requirements of the Code. There is nothing in the Code that requires a Service Provider to negotiate to provide a Service other than the Services described in the Services Policy.

Should any additional Services be included in the Access Arrangement as Reference Services?

89. The Tf Service proposed as the sole Reference Service in the Proposed Access Arrangement does not make provision for the Back Haul or Part Haul of gas as a component of the Service. Part haul of gas in this context refers to the delivery of gas to a Delivery Point located upstream of Compressor Station 9, and Back Haul of gas refers to gas delivery to a Delivery Point located upstream of the relevant Receipt Point under the contract for the delivery of gas.

90. The Authority requires amendment of the Proposed Access Arrangement to remove the Tf Service and include a Reference Service in the nature of the T1 Service. The T1 Service also, however, lacks provision for the Part Haul or Back Haul of gas.

91. A number of parties have made submissions to the Authority that the Part Haul Service included in the Proposed Access Arrangement as a Non Reference Service should be a Reference Service.[14] One party has also submitted that the Back Haul Service should be a Reference Service.[15]

92. The reasons set out in submissions as to why a Part Haul Service should be included in the Access Arrangement as a Reference Service are as follows.

- A Part Haul Service is sought by a significant part of the market, with one party indicating that it will ship in excess of 110 TJ/day of gas as Part Haul by mid 2005.[16]
- There is precedent for a regulated Service or Reference Service for the Part Haul of gas in both the regulatory arrangements for the DBNGP prior to the commencement of the Code and in the Reference Service of the Current Access Arrangement.
- The absence of a Part Haul Service as a Reference Service will expose existing Users with Delivery Points in the Pilbara and Carnarvon regions to significant increases in the costs of gas transmission.
- A Part Haul Service is required as a Reference Service to facilitate pipeline on pipeline competition between the DBNGP and the Parmelia Pipeline.

93. DBNGPT has forecast quantities of gas delivery by Part Haul of about 41 TJ/day for the Access Arrangement Period.[17]

94. The Authority is satisfied that a Part Haul Service is sought by a significant part of the market. The Authority also notes that, while DBNGPT has indicated that there are current and potential future constraints on the capacity of the DBNGP south of Compressor Station 7 that will limit the extent to which a Reference Service in the nature of the Firm Service or T1 Service may actually be provided to a User in the forthcoming Access Arrangement Period,[18] there is by implication an expectation of DBNGPT that some Spare Capacity exists to provide a Part Haul Service to Delivery Points upstream of Compressor Station 7.

95. The Authority is also of the view that there is a substantial interest of Users and Prospective Users in having a Part Haul Service as a Reference Service, and a substantial public interest in the potential for a Part Haul Service as a Reference Service to facilitate the supply of competitively priced gas to end users in the Pilbara and Mid-West regions of the State, and to end users of gas in the South West region via the Parmelia Pipeline.

[14] Apache Energy Limited, North West Shelf Gas Joint Venture, Tiwest, WMC, Western Power Corporation.

[15] Apache Energy Limited.

[16] Apache Energy Limited.

[17] DBNGPT Submission #12, Attachment. It is assumed that this forecast excludes Back Haul quantities for which DBNGPT has provided separate forecasts.

[18] DBNGPT Submission #3, paragraph 1.6.

96. The Authority therefore considers that the Access Arrangement should include a Part Haul Service as a Reference Service.

> Draft Decision Amendment 5
>
> The Services Policy and Reference Tariff Policy of the Proposed Access Arrangement should be amended as necessary to include a Part Haul Service as a Reference Service. The Part Haul Service should be in the nature of the T1 Service to which the Standard Shipper Contract relates and should have a minimum contract term of 2 years when it is made available to a Prospective User through the utilisation of Spare Capacity and 15 years when it is made available to a Prospective User through the utilisation of Developable Capacity.

97. One party has made a submission that the Back Haul Service should also be a Reference Service.

98. The Authority notes that there are currently four Delivery Points on the DBNGP that have, or could potentially have, gas delivered by a Back Haul Service and that DBNGPT has forecast quantities of gas delivery by Back Haul of up to 112 TJ/day for the Access Arrangement Period,[19] which the Authority considers comprises a significant part of the market. The Authority also notes that there is potential for interconnection of the DBNGP with the GGP at Yarraloola (adjacent to Compressor Station 1 of the DBNGP) and that through an interconnection there is potential for gas to be delivered to the GGP via a Back Haul Service through the DBNGP. Finally, the Authority notes that increases in the provision of Back Haul Services would not depend upon expansions in the Capacity of the DBNGP, but rather would have some effect of increasing the Capacity of the DBNGP to provide forward haul Services over the interval of the pipeline over which the notional Back Haul of gas occurs.

99. Taking these matters into account, the Authority is satisfied that a Back Haul Service is sought by a significant part of the market and that this Service should be a Reference Service.

> Draft Decision Amendment 6
>
> The Services Policy and Reference Tariff Policy of the Proposed Access Arrangement should be amended as necessary to include a Back Haul Service as a Reference Service. The Back Haul Service should be in the nature of the T1 Service to which the Standard Shipper Contract relates and should have a minimum contract term of 2 years when it is made available to a Prospective User through the utilisation of Spare Capacity and 15 years when it is made available to a Prospective User through the utilisation of Developable Capacity.

[19] DBNGPT Submission #12, Attachment.

Reference Tariff and Reference Tariff Policy

Requirements of the Code

100. Section 3.3 of the Code requires that an Access Arrangement include a Reference Tariff for:

> (a) at least one Service that is likely to be sought by a significant part of the market; and
>
> (b) each Service that is likely to be sought by a significant part of the market and for which the Relevant Regulator considers a Reference Tariff should be included.

101. Section 3.4 of the Code cross references section 8 of the Code for the principles with which a Reference Tariff must comply:

> Unless a Reference Tariff has been determined through a competitive tender process as outlined in sections 3.21 to 3.36, an Access Arrangement and any Reference Tariff included in an Access Arrangement must, in the Relevant Regulator's opinion, comply with the Reference Tariff Principles described in section 8.

102. Section 3.5 of the Code requires that, in addition to a Reference Tariff, an Access Arrangement must include a Reference Tariff Policy:

> An Access Arrangement must also include a policy describing the principles that are to be used to determine a Reference Tariff (a ***Reference Tariff Policy***). A Reference Tariff Policy must, in the Relevant Regulator's opinion, comply with the Reference Tariff Principles described in section 8.

103. As referred to in sections 3.4 and 3.5 of the Code, section 8 of the Code sets out the principles with which Reference Tariffs and a Reference Tariff Policy included in an Access Arrangement must comply.

104. Section 8.1 of the Code provides that a Reference Tariff and Reference Tariff Policy should be designed with a view to achieving the following objectives:

> (a) providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;
>
> (b) replicating the outcome of a competitive market;
>
> (c) ensuring the safe and reliable operation of the Pipeline;
>
> (d) not distorting investment decisions in Pipeline transportation systems or in upstream and downstream industries;
>
> (e) efficiency in the level and structure of the Reference Tariff; and
>
> (f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.

105. Section 8.1 of the Code also provides guidance as to the reconciliation of these objectives:

> To the extent that any of these objectives conflict in their application to a particular Reference Tariff determination, the Relevant Regulator may determine the manner in which they can best be reconciled or which of them should prevail.

106. In respect of the reconciliation of objectives of section 8.1 of the Code, "the factors in s 2.24(a) to (g) should guide the Regulator in determining, if necessary, the manner in

which the objectives in s 8.1(a) to (f) can best be reconciled or which of them should prevail".[20]

107. In addition to the objectives set out in section 8.1 of the Code, section 8.2 of the Code requires that the Authority be satisfied about a number of factors in determining whether to approve a Reference Tariff and Reference Tariff Policy:

> (a) the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement Period (the Total Revenue) should be established consistently with the principles and according to one of the methodologies contained in this section 8;
>
> (b) to the extent that the Covered Pipeline is used to provide a number of Services, that portion of Total Revenue that a Reference Tariff is designed to recover (which may be based on forecasts) is calculated consistently with the principles contained in this section 8;
>
> (c) a Reference Tariff (which may be based upon forecasts) is designed so that the portion of Total Revenue to be recovered from a Reference Service (referred to in paragraph (b)) is recovered from the Users of that Reference Service consistently with the principles contained in section 8;
>
> (d) Incentive Mechanisms are incorporated into the Reference Tariff Policy wherever the Relevant Regulator considers appropriate and such Incentive Mechanisms are consistent with the principles contained in this section 8; and
>
> (e) any forecasts required in setting the Reference Tariff represent best estimates arrived at on a reasonable basis.

Reference Tariff Policy

108. DBNGPT provides a Reference Tariff Policy as section 7 of the Proposed Access Arrangement. The Reference Tariff Policy addresses the following matters:

- general principles for determination of the Reference Tariff (clause 7.1);
- the methodology for determination of Total Revenue (clause 7.2);
- calculation of the Capital Base (clause 7.3);
- forecast New Facilities Investment (clause 7.4);
- the Rate of Return and calculation of the return on the Capital Base (clauses 7.5 and 7.6);
- the Depreciation Schedule (clause 7.7);
- forecast Non Capital Costs (clause 7.8);
- allocation of costs between Services and between Users (clauses 7.9 and 7.10);
- variation of the Reference Tariff during the Access Arrangement Period (clause 7.11);

[20] *Re Dr Ken Michael AM; Ex Parte Epic Energy (WA) Nominees Pty Ltd & Anor* (2002) 25 WAR 511, Declaratory Order 3.

- Incentive Mechanisms (clause 7.12);
- Fixed Principles (clause 7.13); and
- rebate of charges (clause 7.14).

109. The general principles for determination of a Reference Tariff that are set out in clause 7.1 of the Proposed Access Arrangement are as follows:

> 7.1 General Principles
>
> (a) Operator's Reference Tariff has been designed to recover from shippers using the Reference Service, that portion of the Total Revenue that reflects:
>
> (i) those costs (including capital costs) which are directly attributable to the provision of the Reference Service; and
>
> (ii) a share of those costs (including capital costs) which are attributable to provision of the Reference Service jointly with Services provided to other shippers with contractual rights existing prior to the commencement of this Access Arrangement Period and other Services which Operator considers are reasonably foreseeable to be offered during the Access Arrangement Period.
>
> (b) The Reference Tariff has been determined on the basis of the gas specifications prescribed in Items 1 and 2 of Schedule 2 to the Access Contract Terms and Conditions that apply at the commencement of this Access Arrangement Period.

110. Sub-clause 7.1(a) largely repeats section 8.38 of the Code, relating to allocation of costs between Services. The Authority has no concerns with this provision of the Proposed Access Arrangement.

111. Section 7.1(b) indicates that the Reference Tariff has been determined on the basis of the gas specifications prescribed in Items 1 and 2 of Schedule 2 of the Access Contract Terms and Conditions, which comprise the current Operating Specification of the pipeline. Under this Draft Decision, the Authority is requiring a different (and broader) gas quality specification to apply to the Reference Services to be offered under the Access Arrangement (refer to paragraph 0 and following, below). The Authority accepts that this may have implications for the costs that would be incurred by DBNGPT over the Access Arrangement Period (due largely to the relationship between the gas quality specification and the capacity of the DBNGP), but has not taken this into account in consideration of the proposed Reference Tariff. The Authority expects that DBNGPT would bring the cost implications of a change in the gas quality specification to account in revising the Proposed Access Arrangement to address the requirement for the terms and conditions of Reference Services to make provision for a wider gas quality specification.

112. The remaining clauses of the Reference Tariff Policy relate to particular aspects of the calculation of Reference Tariffs, as well as to Fixed Principles and the rebate of charges. The matters are addressed separately below.

Capital Base

113. Sections 8.4 and 8.5 of the Code set out methodologies that may be used to determine the Total Revenue for a pipeline:

8.4 The Total Revenue (a portion of which will be recovered from sales of Reference Services) should be calculated according to one of the following methodologies:

Cost of Service: The Total Revenue is equal to the cost of providing all Services (some of which may be the forecast of such costs), and with this cost to be calculated on the basis of:

(a) a return (***Rate of Return***) on the value of the capital assets that form the Covered Pipeline or are otherwise used to provide Services (***Capital Base***);

(b) depreciation of the Capital Base (***Depreciation***); and

(c) the operating, maintenance and other non capital costs incurred in providing all Services (***Non Capital Costs***).

IRR: The Total Revenue will provide a forecast Internal Rate of Return (IRR) for the Covered Pipeline that is consistent with the principles in sections 8.30 and 8.31. The IRR should be calculated on the basis of a forecast of all costs to be incurred in providing such Services (including capital costs) during the Access Arrangement Period.

The initial value of the Covered Pipeline in the IRR calculation is to be given by the Capital Base at the commencement of the Access Arrangement Period and the assumed residual value of the Covered Pipeline at the end of the Access Arrangement Period (***Residual Value***) should be calculated consistently with the principles in this section 8.

NPV: The Total Revenue will provide a forecast Net Present Value (NPV) for the Covered Pipeline equal to zero. The NPV should be calculated on the basis of a forecast of all costs to be incurred in providing such Services (including capital costs) during the Access Arrangement Period, and using a discount rate that would provide the Service Provider with a return consistent with the principles in sections 8.30 and 8.31.

The initial value of the Covered Pipeline in the NPV calculation is to be given by the Capital Base at the commencement of the Access Arrangement Period and the assumed Residual Value at the end of the Access Arrangement Period should be calculated consistently with the principles in this section 8.

The methodology used to calculate the Cost of Service, an IRR or NPV should be in accordance with generally accepted industry practice.

However, the methodology used to calculate the Cost of Service, an IRR or NPV may also allow the Service Provider to retain some or all of the benefits arising from efficiency gains under an Incentive Mechanism. The amount of the benefit will be determined by the Relevant Regulator in the range of between 100% and 0% of the total efficiency gains achieved.

8.5 Other methodologies may be used provided the resulting Total Revenue can be expressed in terms of one of the methodologies described above.

114. All of the methodologies described in section 8.4 of the Code for the determination of Total Revenue require, for their application, a valuation of the capital assets that form the Covered Pipeline at the commencement of the Access Arrangement Period ("**Capital Base**").

115. Section 8.9 describes the process by which the value of the Capital Base is established at the commencement of a second or subsequent Access Arrangement Period:

8.9 Sections 8.15 to 8.29 then describe the principles to be applied in adjusting the value of the Capital Base over time as a result of additions to the capital assets that are used to provide Services and as a result of capital assets ceasing to be used for the delivery of Services. Consistently with those principles, the Capital Base at the commencement of each Access Arrangement Period after the first, for the Cost of Service methodology, is determined as:

(a) the Capital Base at the start of the immediately preceding Access Arrangement Period; plus

(b) subject to sections 8.16(b) and sections 8.20 to 8.22, the New Facilities Investment or Recoverable Portion (whichever is relevant) in the immediately preceding Access Arrangement Period less

(c) Depreciation for the immediately preceding Access Arrangement Period; less

(d) Redundant Capital identified prior to the commencement of that Access Arrangement Period,

and for the IRR or NPV methodology, is determined as:

(e) subject to sections 8.16(b) and sections 8.20 to 8.22, the Residual Value assumed in the previous Access Arrangement Period; less

(f) Redundant Capital identified prior to the commencement of that Access Arrangement Period,

subject, irrespective of which methodology is applied, to such adjustment for inflation (if any) as is appropriate given the approach to inflation adopted pursuant to section 8.5A.

116. DBNGPT's determination of the Capital Base applying at the beginning of the period 2005 to 2010 is set out in sections 4.1 to 4.3 of the Access Arrangement Information. Further information (in particular the roll-forward calculation of asset value by asset class) has been provided by DBNGPT in a separate confidential submission to the Authority.[21]

117. DBNGPT indicates in the Access Arrangement Information that the Capital Base has been rolled forward in the following manner:

(a) commencing with the initial Capital Base of $1,550.00 million on 31 December 1999;

(b) actual new facilities investment during the initial Access Arrangement Period has been added;

(c) depreciation as forecast in determining the Reference Tariff applying during initial Access Arrangement Period has been subtracted; and

(d) the Capital Base in each year of the initial Access Arrangement Period has been escalated at the actual rate of inflation.

118. The roll forward of the Capital Base is presented in the Access Arrangement Information in nominal value terms as follows.

[21] DBNGP (WA Transmission Pty Ltd), 27 January 2005, Submission #4 (Confidential).

DBNGPT Proposed Roll Forward of the Capital Base (nominal $million)

Year ending 31 December	2000	2001	2002	2003	2004
Capital Base at beginning of year (beginning of year dollar values)	1,550.00	1,626.19	1,638.75	1,646.77	1,642.60
New Facilities Investment (dollar values at end of year)	25.68	3.27	1.26	0.77	3.38
Depreciation (dollar values at end of year)	39.41	41.49	42.85	43.90	45.05
Inflation adjustment	89.93	50.78	49.62	38.96	41.93
Capital Base at end of year	1,626.19	1,638.75	1,646.77	1,642.60	1,642.86

119. The Authority has examined each of the elements in the roll-forward calculation – New Facilities Investment, Depreciation and inflation adjustment – as set out below.

New Facilities Investment

120. Section 8.15 of the Code provides for New Facilities Investment to be added to the Capital Base of a pipeline, subject to that New Facilities Investment meeting a number of conditions in section 8.16.

> 8.15 The Capital Base for a Covered Pipeline may be increased from the commencement of a new Access Arrangement Period to recognise additional capital costs incurred in constructing, developing or acquiring New Facilities for the purpose of providing Services (New Facilities Investment).
>
> 8.16 (a) Subject to sections 8.16(b) and sections 8.20 to 8.22, the Capital Base may be increased under section 8.15 by the amount of the actual New Facilities Investment in the immediately preceding Access Arrangement Period provided that:
>
> (i) that amount does not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of providing Services; and
>
> (ii) one of the following conditions is satisfied:
>
> (A) the Anticipated Incremental Revenue generated by the New Facility exceeds the New Facilities Investment; or
>
> (B) the Service Provider and/or Users satisfy the Relevant Regulator that the New Facility has system wide benefits that, in the Relevant Regulator's opinion, justify the approval of a higher Reference Tariff for all Users; or
>
> (C) the New Facility is necessary to maintain the safety, integrity or Contracted Capacity of Services.
>
> (b) If pursuant to section 8.20 the Relevant Regulator agrees to Reference Tariffs being determined on the basis of forecast New Facilities Investment, the Capital Base may be increased by the amount of the New Facilities Investment forecast to occur within the new Access Arrangement Period determined in accordance with sections 8.20 and 8.21 and subject to adjustment in accordance with section 8.22.

121. For the Access Arrangement Period of 1 January 2000 to 31 December 2004, the following forecast of New Facilities Investment was taken into account in the Determination of the Reference Tariff.

Forecast New Facilities Investment for the Period 2000 to 2004

Year ending 31 December	2000	2001	2002	2003	2004	Total
Real $million at 31 December 1999						
Pipeline	0.43	0.28	0.16	0.36	0.16	**1.38**
Compression	0.96	4.35	4.45	1.83	1.85	**13.44**
Metering	0.00	0.05	0.05	0.05	0.05	**0.20**
Other	5.06	5.04	5.72	4.72	0.52	**21.06**
Total	**6.45**	**9.72**	**10.38**	**6.96**	**2.58**	**36.08**
Real $million at 1 January 2005						
Pipeline	0.51	0.33	0.19	0.42	0.19	**1.64**
Compression	1.13	5.13	5.25	2.16	2.18	**15.86**
Metering	0.00	0.06	0.06	0.06	0.06	**0.24**
Other	5.97	5.95	6.75	5.57	0.61	**24.85**
Total	**7.61**	**11.47**	**12.25**	**8.21**	**3.04**	**42.59**

122. In the Access Arrangement Information, DBNGPT has indicated actual New Facilities Investment in the period 2000 to 2004 as follows. For the purposes of comparison with the forecast values taken into account in determination of the Reference Tariff, these values are indicated in nominal terms (as set out by DBNGPT in the Access Arrangement Information) and in real terms in dollar values at 1 January 2005.

Actual New Facilities Investment for the Period 2000 to 2004

Year ending 31 December	2000	2001	2002	2003	2004	Total
Nominal $million (dollar values at end of year)						
Pipeline	1.39	0.03	0.06	0.00	0.62	**2.10**
Compression	18.62	1.33	0.08	-0.11 [22]	0.18	**20.10**
Metering	0.57	0.54	0.36	-0.03	1.67	**3.11**
Other	5.10	1.37	0.75	0.92	0.90	**9.04**
Total	**25.68**	**3.27**	**1.26**	**0.77**	**3.38**	**34.36**
Real $million at 31 December 2004						
Pipeline	1.55	0.03	0.07	0.00	0.62	**2.27**
Compression	20.77	1.44	0.09	-0.12	0.18	**22.36**
Metering	0.64	0.58	0.38	-0.03	1.67	**3.24**
Other	5.68	1.48	0.79	0.94	0.90	**9.80**
Total	**28.64**	**3.53**	**1.32**	**0.79**	**3.38**	**37.66**

123. DBNGPT made a submission to the Authority setting out supporting information to its claim that New Facilities Investment in the period 2000 to 2004 meets the requirements of section 8.16 of the Code.[23] DBNGPT submits that all of the New Facilities Investment actually incurred during the period from 2000 to 2004 falls within the scope of either section 8.16(a)(ii)(B) or section 8.16(a)(ii)(C) of the Code.

124. Supporting information provided by DBNGPT comprises information on:

- the approach of the prior owner of the DBNGP (Epic Energy) to approving capital projects and capital expenditures;
- the "alliance contracting" approach of the prior owner of the DBNGP in carrying out some of the capital works to which the New Facilities Investment relates;
- a "safety case" that provided the justification for many of the new facilities developed or acquired;
- the distressed financial state of the prior owner that imposed constraints and discipline on New Facilities Investment, including a requirement the prior owner's debt providers that expenditures be examined by an independent accountant; and
- the nature and justification of specific items of New Facilities Investment by category of –

[22] The Authority requested further information from DBNGPT on the reasons for negative entries in records of actual New Facilities Investment and was informed that the negative entries are not errors but are values taken from accounting records and arising due to corrections to prior incorrect entries of capital costs. (DBNGPT Submission #12)

[23] DBNGP (WA Transmission Pty Ltd), 27 January 2005, Submission #10 (Confidential).

- actual New Facilities Investment that was forecast for the original Access Arrangement, and

- New Facilities Investment that was not forecast for the original Access Arrangement.

125. The Authority has reviewed the information provided by DBNGPT and, with the exception of New Facilities Investment indicated to be part of the Stage 3A expansion of the DBNGP, is satisfied that the New Facilities Investment indicated by DBNGPT for the period 2000 to 2004 meets the requirements of either section 8.16(a)(ii)(B) or section 8.16(a)(ii)(C) of the Code. In reaching this view, the Authority has taken into account:

- the appropriateness of the processes of the prior owner of the DBNGP in the approval and undertaking of capital works;

- the state of financial distress of the prior owner that would have imposed substantial discipline and constraints on capital expenditures during the period 2000 to 2004; and

- the nature of the capital works to which the New Facilities Investment relates, which were works generally for the purpose of maintaining the safety and operational capability of the pipeline rather than relating to expansion.

126. The Authority does not, however, consider that all costs relating to the Stage 3A expansion of the DBNGP should be rolled in to the Capital Base. The expenditure items identified by DBNGPT as relating to the Stage 3A expansion are as follows.

Actual New Facilities Investment for the Period 2000 to 2004 – Stage 3A Expansion (nominal $million, dollar values at end of year)

Year ending 31 December	2000	2001	2002	2003	2004	Total
Pipeline looping (Kwinana Junction to Bunbury)	1.275	0.0	0.0	0.0	0.0	**1.275**
Compression	18.542	0.723	0.129	0.0	0.0	**19.394**
Metering	0.111	0.0	0.0	0.0	0.0	**0.111**
Other	0.586	0.0	0.0	0.0	0.0	**0.586**
Total	**20.514**	**0.723**	**0.129**	**0.0**	**0.0**	**21.366**

127. In the Draft and Final Decisions on the Access Arrangement proposed in December 1999, the then Regulator took the view that forecast New Facilities Investment associated with the Stage 3A expansion of the DBNGP should be incorporated into valuation of the Initial Capital Base rather than being considered as forecast capital costs in 2000.[24] The reasons for this determination of the Regulator were set out in the Draft Decision:

[24] Independent Gas Pipelines Access Regulator, 21 June 2001, Draft Decision: proposed Access Arrangement Dampier to Bunbury Natural Gas Pipeline, Part B p. 163; Independent Gas Pipelines Access Regulator, 23 May 2003, Final Decision on the Proposed Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline, paragraphs 300, 309.

- the then owner of the DBNGP (Epic Energy) was placed under an obligation to provide additional capacity of the Stage 3A enhancement by section 5 of schedule 1 of the Dampier to Bunbury Pipeline Act 1997; and

- the bulk of works associated with the forecast New Facilities Investment for 2000 was actually undertaken in 1999, and hence inclusion of this expenditure in the Initial Capital Base was consistent with valuation of the DBNGP at 31 December 1999.

128. The result of this determination of the Regulator was that the following components of forecast New Facilities Investment were removed from the forecast and, implicitly, included in the value of the Initial Capital Base.

- construction and commissioning of compressors at CS2 and CS7 at a cost of $18.885 million (dollar values of 31 December 1999); and

- final payments for CS10 of $632,000 (dollar values of 31 December 1999).

129. The owner of the DBNGP made no objection after either the Draft Decision or Final Decision to inclusion of the forecast New Facilities Investment in the value of the Initial Capital Base.

130. As a result of the inclusion of this forecast New Facilities Investment in the Initial Capital Base, the Authority is of the view that the value of actual New Facilities Investment on compression facilities related to the Stage 3A expansion should not be rolled into the Capital Base determined at 1 January 2005. The value of this expenditure in dollar values of 1 January 2005 is $21.68 million.

Depreciation

131. For the Proposed Access Arrangement, DBNGPT has used a Cost of Service Methodology for the determination of Total Revenue, consistent with the approach taken by the previous owners of the DBNGPT for the purposes of the Current Access Arrangement.

132. Section 8.9 of the Code provides that, for this methodology, the Capital Base at the beginning of an Access Arrangement Period is determined taking into account "Depreciation for the immediately preceding Access Arrangement Period".

133. "Depreciation" in this provision is a defined term under the Code and means "… in any year and on any asset or group of assets, the amount calculated according to the Depreciation Schedule for that year and for that asset or group of assets." The Depreciation Schedule refers to the value of Depreciation determined under section 8.32 of the Code and taken into account in determination of the Reference Tariff.

134. In the context of determining the value of the Capital Base for the DBNGP at 1 January 2005, the value of Depreciation to be subtracted from the value of the Initial Capital Base is therefore the value of Depreciation taken into account in determination of the Reference Tariff for the Current Access Arrangement and determined on the basis of the value of the Initial Capital Base and of forecast New Facilities Investment taken into account in determination of the Reference Tariff.

135. In the Access Arrangement Information, DBNGPT has indicated that in determination of the Capital Base at 1 January 2005, the value of Depreciation in the period 2000 to 2004 has been taken into account in accordance with this requirement of the Code. However, the copy of the financial model provided to the Authority by DBNGPT and relating to the determination of the Reference Tariff for the period 2005 to 2010 contains two discrepancies with the requirements of the Code and with the methodology for determination of the Capital Base at 1 January 2005 as described by DBNGPT in the Access Arrangement Information.

136. Firstly, in determining Depreciation of the Initial Capital Base, DBNGPT has calculated Depreciation for the period 2000 to 2004 applying different assumptions of remaining asset lives for some compression and metering assets than were applied in the determination of Depreciation for the purposes of calculation of the Reference Tariff. The different assumptions causes the value of Depreciation taken into account by DBNGPT in determination of the Capital Base at 1 January 2005 to be less than that taken into account in determination of the Reference Tariff in the period 2000 to 2004. The differences in values are indicated as follows.

Initial Capital Base Depreciation 2000 to 2004
(real $million at 31 December 2004)

Year ending 31 December	2000	2001	2002	2003	2004	Total
Applied in Reference Tariff Determination (2000 to 2004)						
Pipelines	27.35	27.35	27.35	27.35	27.35	**136.75**
Compression	13.34	13.34	13.34	13.34	13.34	**66.68**
Metering	0.54	0.54	0.54	0.54	0.54	**2.69**
Other	3.34	3.34	3.34	3.34	3.34	**16.69**
Total	**44.56**	**44.56**	**44.56**	**44.56**	**44.56**	**222.81**
Applied by DBNGPT to calculate the Capital Base at 1 January 2005						
Pipelines	27.35	27.35	27.35	27.35	27.35	**136.75**
Compression	12.74	12.74	12.74	12.74	12.74	**63.70**
Metering	0.53	0.53	0.53	0.53	0.53	**2.66**
Other	3.34	3.34	3.34	3.34	3.34	**16.69**
Total	**43.96**	**43.96**	**43.96**	**43.96**	**43.96**	**219.80**

137. Secondly, in determining Depreciation of New Facilities Investment in the period 2000 to 2004 DBNGPT appears to have calculated Depreciation on the basis of *actual* New Facilities Investment in the period rather than applying the value of Depreciation calculated on the basis of forecast New Facilities Investment for the period and taken into account in determination of the Reference Tariff. The differences in values are indicated as follows.

New Facilities Investment Depreciation 2000 to 2004
(real $million at 31 December 2004)

Year ending 31 December	2000	2001	2002	2003	2004	Total
Applied in Reference Tariff Determination (2000 to 2004)						
Pipelines	0.00	0.01	0.01	0.01	0.02	**0.05**
Compression	0.00	0.04	0.21	0.38	0.46	**1.09**
Metering	0.00	0.00	0.00	0.00	0.00	**0.01**
Other	0.00	0.20	0.40	0.62	0.81	**2.03**
Total	**0.00**	**0.24**	**0.62**	**1.02**	**1.29**	**3.17**
Applied by DBNGPT to calculate the Capital Base at 1 January 2005						
Pipelines	0.00	0.02	0.02	0.02	0.02	**0.09**
Compression	0.00	0.69	0.74	0.74	0.74	**2.91**
Metering	0.00	0.01	0.02	0.03	0.03	**0.10**
Other	0.00	0.19	0.24	0.27	0.30	**0.99**
Total	**0.00**	**0.92**	**1.03**	**1.06**	**1.09**	**4.10**

138. In view of the discrepancies with the requirements of the Code, the Authority finds that the value of Depreciation applied by DBNGP to the determination of the Capital Base at 1 January 2005 is inconsistent with the requirements of the Code.

Inflation Adjustment

139. Section 8.9 of the Code provides for the value of the Capital Base to be adjusted for inflation as appropriate given the approach to accommodation of inflation in the determination of Total Revenue.

140. For the purposes of determining the Reference Tariff for the Current Access Arrangement, the Regulator calculated Total Revenue on a real basis as contemplated by section 8.15A(b) of the Code, whereby the Capital Base, Depreciation and all costs are expressed in constant (31 December 1999) dollar values, a real Rate of Return was allowed, and the value of Total Revenue derived in the same constant dollar values.

141. For the purposes of determining the Reference Tariff for the Proposed Access Arrangement, DBNGPT has applied a quasi current cost accounting methodology whereby the Capital Base, Depreciation and all costs are expressed in dollar-of-the-day values in each year of the Access Arrangement Period and a real Rate of Return allowed to derive values of Total Revenue in dollar-of-the-day values in each year.

142. It is consistent with both the past and proposed approach to the determination of Total Revenue that the value of the Capital Base be determined at 1 January 2005 in dollar values at that date. This requires an inflation adjustment of values of the Initial Capital Base, Depreciation and New Facilities Investment for the period 2000 to 2004.

143. To make an inflation adjustment, DBNGPT has applied inflation factors derived from the changes in the Consumer Price Index (Australian Bureau of Statistics: All Groups, Eight Capital Cities) in each calendar year (December to December). The Authority

has verified the determination of these inflation factors and is satisfied that they accurately reflect changes in the CPI.

144. In a submission made to the Authority, Western Power Corporation has questioned whether it is appropriate in making the inflation adjustment to the Capital Base to use (as DBNGPT has done) inflation factors that retain the inflation "spike" resulting from the introduction of the goods and services tax in 2000.

145. The Authority has given consideration to whether the inflation adjustment of the Capital Base should be corrected to remove the inflationary effect of introduction of the goods and services. The Authority has determined that the inflation adjustment should not be corrected for this effect for the reason that the primary objective in the inflation adjustment of the Capital Base is to maintain the ability of the Service Provider to recover the cost of investment in pipeline assets in real terms. This is consistent with the objective for a Reference Tariff stated in section 8.1(a) of the Code (providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service) and with determinations made by other Australian regulators under the Code.

Rolled-Forward Value of the Capital Base

146. With corrections made as described above to the values of New Facilities Investment and Depreciation in the period 2000 to 2004, the Authority has determined the value of the Capital Base at 31 December 2004 to be $1,619.77 million in dollar values at that date. The determination of this value and the allocation of this value to asset classes is summarised as follows.

Rolled Forward of the Capital Base (corrected by the Authority)
(real $million at 31 December 2004)

Year ending 31 December	2000	2001	2002	2003	2004
Opening Capital Base					
Pipeline	1,491.15	1,465.34	1,438.00	1,410.70	1,383.32
Compressors	249.79	236.54	223.82	210.22	196.38
Meters	20.48	20.58	20.63	20.46	19.89
Other depreciable assets	56.26	58.61	56.55	53.61	50.59
Non depreciable assets	12.09	12.09	11.09	9.09	6.09
Total	1,829.77	1,793.16	1,750.09	1,704.07	1,656.26
New Facilities Investment					
Pipeline	1.55	0.03	0.07	0.00	0.62
Compression	0.09	0.65	-0.05	-0.12	0.18
Metering	0.64	0.58	0.38	-0.03	1.67
Other depreciable assets	5.69	1.48	0.79	0.94	0.90
Non depreciable assets	0.00	0.00	0.00	0.00	0.00
Total	7.96	2.75	1.18	0.79	3.38
Depreciation					
Pipelines	27.36	27.37	27.37	27.37	27.38
Compression	13.34	13.38	13.55	13.72	13.80
Metering	0.54	0.54	0.54	0.54	0.54
Other depreciable assets	3.34	3.54	3.74	3.96	4.15
Non depreciable assets	0.00	1.00	2.00	3.00	4.00
Total	44.58	45.82	47.20	48.60	49.87
Closing Capital Base					
Pipeline	1,465.34	1,438.00	1,410.70	1,383.32	1,356.56
Compressors	236.54	223.82	210.22	196.38	182.76
Meters	20.58	20.63	20.46	19.89	21.02
Other depreciable assets	58.61	56.55	53.61	50.59	47.34
Non depreciable assets	12.09	12.09	12.09	12.09	12.09
Total	1,793.16	1,751.09	1,707.07	1,662.26	1,619.77

Forecast New Facilities Investment

147. Sections 8.15 to 8.21 of the Code provide for capital costs incurred in New Facilities Investment to be included in the Capital Base of a Covered Pipeline, and for capital costs that are forecast for an Access Arrangement Period to be considered in determination of Reference Tariffs for that Access Arrangement Period.

148. Section 8.16 of the Code sets out criteria that must be met by any New Facilities Investment if the actual capital cost of that investment is to be added to the Capital Base. These criteria are:

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

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

ii. one of the following conditions is satisfied:

A. the Anticipated Incremental Revenue generated by the New Facility exceeds the New Facilities Investment; or

B the Service Provider and/or Users satisfy the Relevant Regulator that the New Facility has system-wide benefits that, in the Relevant Regulator's opinion, justify the approval of a higher Reference Tariff for all Users; or

C. the New Facility is necessary to maintain the safety, integrity or Contracted Capacity of Services.

(b) If pursuant to section 8.20 the Relevant Regulator agrees to Reference Tariffs being determined on the basis of forecast New Facilities Investment, the Capital Base may be increased by the amount of the New Facilities Investment forecast to occur within the new Access Arrangement Period determined in accordance with sections 8.20 and 8.21 and subject to adjustment in accordance with 8.22.

149. Section 8.17 of the Code sets out two factors that the Authority must consider in determining whether Capital Expenditure meets the criteria set out in section 8.16:

(a) whether the New Facility exhibits economies of scale or scope and the increments in which Capacity can be added; and

(b) whether the lowest sustainable cost of delivering Services over a reasonable time frame may require the installation of a New Facility with Capacity sufficient to meet forecast sales of Services over that time frame.

150. Section 8.18 of the Code allows for a Reference Tariff Policy to state that the Service Provider will undertake New Facilities Investment that does not satisfy the requirements of section 8.16, and for the Capital Base to be increased by that part of such investment that does satisfy section 8.16 (the "**Recoverable Portion**"). Section 8.19 of the Code allows for an amount of the balance of the investment to be assigned to a Speculative Investment Fund, and to be added to the Capital Base at some future time if the criteria of section 8.16 are met. Section 8.19 also sets out the manner in which the value of the Speculative Investment Fund is determined at any time.

151. Section 8.20 of the Code provides for Reference Tariffs to be determined on the basis of New Facilities Investment that is forecast to occur within the Access Arrangement Period, provided that the investment is reasonably expected to pass the requirements of section 8.16 when the investment is forecast to occur. This does not, however, mean that the forecast New Facilities Investment will automatically be added to the Capital Base after it has occurred (section 8.21). Rather, the Authority will assess whether the investment meets the criteria of section 8.16 of the Code either at the time of review of the Access Arrangement, or at any other time if asked to do so by the Service Provider.

152. Section 8.22 of the Code requires that either the Reference Tariff Policy should describe, or the Authority shall determine, how the New Facilities Investment is to be determined for the purposes of additions to the Capital Base at the commencement of the subsequent Access Arrangement Period. This includes how the Capital Base at the commencement of the next Access Arrangement Period will be adjusted if the actual New Facilities Investment or Recoverable Portion (whichever is relevant) is different from the forecast New Facilities Investment (with this decision to be designed to best meet the objectives in section 8.1).

153. Sections 8.23 to 8.26 of the Code set out provisions for New Facilities Investment to be financed in whole or in part by Capital Contributions from Users, or from surcharges over and above Reference Tariffs to be charged to Users.

154. DBNGPT's forecast of New Facilities Investment is set out in the Access Arrangement Information as follows.

Forecast New Facilities Investment 2005 to 2010
(nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010	Total
Pipelines	88.91	275.19	0.00	226.84	101.28	0.00	**692.23**
Compression	100.50	117.79	0.00	0.00	0.00	0.00	**218.29**
Metering	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Other depreciable assets	13.16	13.97	7.30	9.01	10.06	9.29	**62.79**
Non-depreciable assets	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Total	**202.57**	**406.95**	**7.30**	**235.85**	**111.34**	**9.29**	**973.30**

155. In Annexure 2 of the Access Arrangement Information, DBNGPT sets out a division of forecast New Facilities Investment into "expansion capex" and "stay-in-business capex", as follows.

Forecast New Facilities Investment 2005 to 2010
(nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010	Total
Expansion							
Pipeline looping	88.91	275.19	0.00	226.84	101.28	0.00	**692.23**
Compression	100.50	117.79	0.00	0.00	0.00	0.00	**218.29**
Stay-in-business	13.16	13.97	7.30	9.01	10.06	9.29	**62.79**
Total	**202.57**	**406.95**	**7.30**	**235.85**	**111.34**	**9.29**	**973.30**

156. DBNGPT has also provided in Annexure 2 of the Access Arrangement Information a breakdown of stay-in-business capital expenditure into capital projects, and information on each project to justify the expenditures by satisfaction of one or more of the conditions of section 8.16(a)(ii) of the Code. DBNGPT has not provided information to justify the capital expenditure relating to expansions of pipeline capacity.

157. Under section 8.20 of the Code, the Authority is required to determine whether the forecast of New Facilities Investment provided by DBNGPT, in whole or in part, can

reasonably be expected to satisfy the conditions of section 8.16(a) of the Code when the investment is forecast to occur. That is, the Authority is required to determine whether it may reasonably be expected that:

- the amount of forecast New Facilities Investment would not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and would achieve the lowest sustainable cost of delivering services; and

- the amount and nature of the New Facilities Investment would satisfy one of three tests: anticipated incremental revenue exceeds the expected cost; the expenditure has system wide benefits; or the expenditure is necessary to maintain the safety and integrity of the network.

158. Under Section 8.2(e) of the Code, the Authority is further required to satisfy itself that any forecasts submitted by DBNGPT, which are required for setting the Reference Tariffs, represent 'best estimates arrived at on a reasonable basis'.

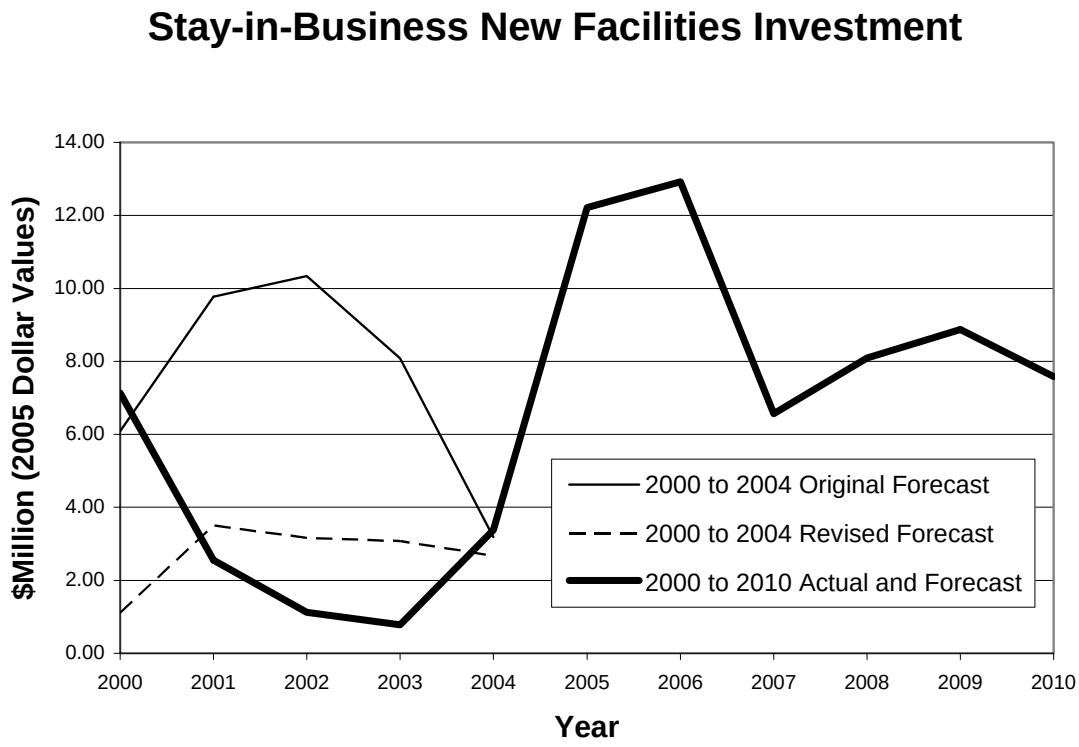
159. The Authority has separately considered the stay-in-business and expansion components of the forecast New Facilities Investment.

160. DBNGPT has described the stay-in-business component of forecast New Facilities Investment as "by and large, a relatively large number of recurring capital projects of relatively small value".[25] This is supported by the descriptions of these capital projects that are largely in the nature of works associated with the renewal, upgrading or protection of assets.

161. The Authority generally expects that for the DBNGP, as an approximately 20 year old pipeline, capital expenditures of this type would remain approximately constant in real terms, or be increasing with the scale of the DBNGP assets.

162. The time series of forecast New Facilities Investment identified by DBNGPT as of a stay-in-business nature is shown in the figure below, together with capital expenditure considered by the Authority to fall in the category of stay-in-business expenditure in the original forecast of New Facilities Investment for the Current Access Arrangement, the forecast of New Facilities Investment for the Current Access Arrangement as revised by the then Regulator, and the actual New Facilities for 2004 to 2005.

[25] Access Arrangement Information, Annexure 2, paragraph 1.4.



163. The forecast stay-in-business New Facilities Investment is of a broadly similar annual value (in $2005 dollar values) to that forecast for the 2000 to 2005 Access Arrangement Period at about $8 million per annum. This is also similar to the value of actual New Facilities Investment of this type in 2000.

164. The Authority has recognised in this Draft Decision the financial distress of the previous owners of the DBNGP and the effect that this may have had in constraining capital expenditures (paragraph 125). The effect of financial distress in the period 2001 to 2004 is consistent with the times series of actual and forecast stay-in-business New Facilities Investment which shows a substantial decline from 2000 to 2003, and a relatively high level in 2005 and 2006.

165. On the basis of indications that the stay-in-business New Facilities Investment comprises capital projects in the nature of renewals and upgrades, and actual and forecast expenditures are consistent with an approximately constant annual value of this investment in real terms over the period 2000 to 2010, the Authority is prepared to accept the forecast of this component of New Facilities Investment as likely to meet the conditions of section 8.16 of the Code when the investment occurs.

166. The Authority notes, however, that in the schedule of stay-in-business New Facilities Investment provided by DBNGPT in Annexure 2 of the Access Arrangement Information, the forecast values of capital items do not add up to the totals indicated by DBNGPT. The total values evident from this schedule are as follows.

Forecast New Facilities Investment 2005 to 2010 – Stay-In-Business Expenditure (nominal $ million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010	Total
Total value proposed by DBNGPT	13.16	13.97	7.30	9.01	10.06	9.29	**62.79**
Value derived by sum of cost items	12.53	13.59	7.08	8.95	10.06	8.82	**61.03**
Difference	**0.63**	**0.37**	**0.22**	**0.05**	**0.00**	**0.48**	**1.75**

167. In regard to forecast New Facilities Investment for expansion in the Capacity of the DBNGP, DBNGPT has indicated to the Authority that the forecast of New Facilities Investment provided in the Access Arrangement Information has, since submission of the Proposed Access Arrangement, been subject to revision. DBNGPT has indicated that it will provide revised figures of New Facilities Investment to the Authority prior to the Final Decision. The Authority intends to provide interested parties with an opportunity to make submissions on these revised forecasts prior to the Authority issuing its Final Decision. For the purposes of this Draft Decision, however, the Authority has considered the forecast of New Facilities Investment as set out in the Access Arrangement Information, recognising that a substantial investment in expansion of Capacity of the DBNGP is intended, even though the forecast costs of this investment are subject to revision.

168. Shortly before issue of this Draft Decision, DBNGPT provided the Authority with information to demonstrate that forecast New Facilities Investment for expansion in the Capacity of the DBNGP may reasonably be expected to satisfy the conditions of section 8.16(a) of the Code.[26] For the purposes of this Draft Decision, the Authority has undertaken a review and assessment of this information, as set out below. In the event that DBNGPT provides further information following the issuing of this Draft Decision, the Authority will address the further information prior to issue of the Final Decision. Subject to any issues of confidentiality, the Authority will make any further information provided by DBNGPT available for public comment.

169. DBNGPT has provided as part of the Access Arrangement Information, and as part of a separate submissions,[27] forecasts of demand for full haul Services that indicate an expectation of a substantial increase in demand that may only be satisfied by investment in expanding the Capacity of the DBNGP. These forecasts are summarised as follows.

DBNGPT Forecast of Demand for Full Haul Services

Year ending 31 December	2005	2006	2007	2008	2009	2010
Contracted capacity (TJ/day)	575.85	615.59	714.98	771.10	788.52	826.35
Throughput (TJ/day)	556.06	592.85	682.93	736.94	753.68	788.39

170. The Authority understands that DBNGPT is currently considering a number of options for expanding the capacity of the DBNGP – comprising different expansion

[26] DBNGPT, Submission #22.

[27] DBNGPT, Submission #4, #22.

strategies of investment in compression and pipeline looping – and, as such, it has not been possible for DBNGPT to provide definitive forecasts of the New Facilities Investment required to provide the necessary increases in pipeline Capacity, nor supporting information to demonstrate that the forecast New Facilities Investment may reasonably be expected to satisfy the conditions of section 8.16(a) of the Code.

171. The Authority accepts that there is likely to be substantial investment in expansion of pipeline Capacity during the Access Arrangement Period and has given consideration to whether such investment can, in principle, reasonably be expected to meet the requirements of section 8.16(a) of the Code.

172. In this regard, the first matter that the Authority is required to consider is whether the amount of forecast New Facilities Investment would not exceed the amount that would be invested by a prudent service provider acting efficiently, in accordance with accepted good industry practice, and would achieve the lowest sustainable cost of delivering services (section 8.16(a)(i) of the Code).

173. The Authority is satisfied that, with an investment of the scale envisaged by DBNGPT in expansion of the pipeline, there is a substantial incentive for the Service Provider to seek efficiency in the nature of the works undertaken for the expansion of Capacity, and in the costs incurred in undertaking the works. Moreover, the Authority notes that as DBNGPT expects only a very limited sale of Reference Services at the Reference Tariff during the Access Arrangement Period, there is a substantial incentive for DBNGPT to be conservatively low in its estimate of New Facilities Investment as a high estimate would give rise to a risk to DBNGPT of a lower value of the Capital Base at the end of the Access Arrangement Period without the benefit of charging higher tariffs during that period (as a high estimate would have the effect of reducing the value of the Capital Base of the end of the Access Arrangement Period through the value of Depreciation of the *forecast* New Facilities Investment, while the Capital Base would be increased by the value of *actual* New Facilities Investment). As such, the Authority accepts that the forecast New Facilities Investment can reasonably be expected to meet the requirement of section 8.16(a)(i) of the Code.

174. The second matter that the Authority is required to consider is whether the amount and nature of the New Facilities Investment would satisfy one of three tests: anticipated incremental revenue exceeds the expected cost; the expenditure has system wide benefits; or the expenditure is necessary to maintain the safety and integrity of the network.

175. The forecast New Facilities Investment relating to expansion of the DBNGP is not directed at maintaining the safety or integrity of the pipeline and as such the Authority has considered only whether the investment would give rise to incremental revenue that exceeds the expected cost, or have system wide benefits.

176. In order to determine whether the proposed New Facilities Investment is likely to give rise to incremental revenues in excess of incremental cost and generate system-wide benefits through a reduction in the average cost of gas transmission, DBNGPT has provided the Authority with, and the Authority has itself undertaken, an indicative analysis to compare the average cost of full haul gas transmission under the forecast of costs and pipeline throughput provided by DBNGPT with an alternative scenario of zero New Facilities Investment in expansion of pipeline Capacity and zero growth in

pipeline throughput.[28] These analyses suggest DBNGPT's forecast average cost of gas transmission (approximately $1.09/GJ in present value terms) would remain effectively unchanged (change of less than one percent)by the New Facilities Investment in expansion of pipeline Capacity if forecast increases in throughput are realised.

177. While the forecast New Facilities Investment not envisaged to give rise to incremental revenues in excess of incremental costs during the Access Arrangement Period, the Authority notes that under section 8.17 of the Code there is provision for consideration to be given to a longer time frame and to economies of scale in the addition of Capacity. The Authority considers that, with further expansion of the DBNGP subsequent to the Access Arrangement Period (including ultimately complete looping of the pipeline), there is a reasonable potential for a reduction in the average cost of gas transmission.

178. The Authority has also considered whether the expansion in Capacity of the DBNGP could have system-wide benefits through improving reliability in delivery of Services. The Authority recognises that while some options for expanding the capacity of the DBNGP may improve reliability (for example, duplication of compressor facilities), this is not necessarily the case. In the absence of further information from DBNGPT on the nature of capital works to be undertaken for the expansion of Capacity, the Authority is unable to find that the New Facilities Investment would have system wide benefits through improvement in the reliability of Services.

179. The Authority takes the view, however, that consideration of system-wide benefits may reasonably extend beyond simply the operation of the DBNGP, and include benefits to users of gas that rely on the DBNGP. In this regard, the Authority is aware that the expansion in capacity of the DBNGP is in the interests of a substantial number of the Users of the DBNGP and correspondingly in the public interest, and that such expansion may be frustrated by risk that the investment would not be rolled into the Capital Base.

180. On the basis of information before it, the Authority is therefore satisfied that the forecast New Facilities Investment relating to expansion of pipeline Capacity is likely to meet the conditions of section 8.16(a)(ii) of the Code.

181. For the purposes of this Draft Decision and consideration of Reference Tariffs, the Authority has therefore taken into account the New Facilities Investment as forecast by DBNGPT. The Authority notes that DBNGPT has indicated that it will provide a revised forecast of New Facilities Investment prior to the Final Decision. In the event that such further information is provided, the Authority will provide interested parties with an opportunity to make submissions on this information prior to the Authority issuing its Final Decision.

[28] This analysis is made on the basis of cost and throughput forecasts provided by DBNGPT in the Access Arrangement Information with final year (2010) costs and throughput carried forward for a further five years. The "zero growth" scenario involves zero new facilities investment in expansion of pipeline capacity, constant pipeline throughput at the forecast level for 2005, and constant operating expenditure in real terms.

182. Taking into account the correction in summation of cost items in the category of stay-in-business New Facilities Investment, the revised forecast of New Facilities Investment for the Access Arrangement Period is as follows.

Revised forecast of New Facilities Investment 2005 to 2010

Year ending 31 December	2005	2006	2007	2008	2009	2010	Total
Nominal $million, dollar values at end of year							
Expansion							
Pipeline looping	88.91	275.19	0.00	226.84	101.28	0.00	**692.23**
Compression	100.50	117.79	0.00	0.00	0.00	0.00	**218.29**
Stay-in-business	12.53	13.59	7.08	8.95	10.06	8.82	**61.03**
Total	**201.04**	**406.57**	**7.08**	**235.79**	**111.34**	**8.82**	**971.55**
Real $million, dollar values at 31 December 2004							
Expansion							
Pipeline looping	86.70	261.68	0.00	205.11	89.30	0.00	642.78
Compression	98.00	112.01	0.00	0.00	0.00	0.00	210.01
Stay-in-business	12.22	12.92	6.56	8.09	8.87	7.58	56.25
Total	196.92	386.61	6.56	213.20	98.17	7.58	909.04

183. A matter related to New Facilities Investment of the nature proposed by DBNGPT is the redundancy and disposal of some assets. Although DBNGPT has not provided the Authority with a final description of the investment to be undertaken to expand the Capacity of the DBNGP, the Authority understands that a likely component of any expansion is a replacement of some compressor units with larger units. There is therefore a prospect that some of the existing compressor units will be made redundant and disposed. One User of the DBNGP has submitted that there is a need for the value of the assets thus made redundant to be subtracted from the value of the Capital Base.

184. Section 8.9 of the Code makes explicit provision for the value of "Redundant Capital" to be subtracted from the value of the Capital Base for a pipeline when the value of the Capital Base is being determined for the commencement of an Access Arrangement Period. Redundant Capital is defined under section 8.27 of the Code as a value that is subtracted from the Capital Base so as to:

- ensure that assets which cease to contribute in anyway to the delivery of Services are not reflected in the Capital Base; and
- share costs associated with a decline in the volume of sales of Services between the Service Provider and Users.

185. Section 8.9 of the Code allows for subtraction from the Capital Base at the commencement of a forthcoming Access Arrangement Period of Redundant Capital identified prior to the commencement of the preceding Access Arrangement Period. Under section 8.27 of the Code, the identification of Redundant Capital would occur

through inclusion in an Access Arrangement of a relevant mechanism within the Reference Tariff Policy.

186. The treatment of redundant compressor assets as Redundant Capital under section 8.9 of the Code would therefore require inclusion of a Redundant Capital mechanism in the Access Arrangement for the Access Arrangement Period from 2005 to 2010. This mechanism would need to identify the assets that may become redundant in the Access Arrangement Period and indicate how the value of Redundant Capital would be determined. This mechanism would then be applied in determining the Capital Base for the Access Arrangement Period commencing in 2011.

187. In considering the inclusion of a Redundant Capital mechanism in an Access Arrangement, section 8.27 of the Code requires the Authority to take into account the uncertainty that such a mechanism may have on the Service Provider, Users and Prospective Users.

188. The Authority is aware that, in some circumstances, a Redundant Capital mechanism has the potential to create risk for the Service Provider and consequently to create incentives for inefficiency in investment decisions. The Authority does not, however, consider that this is the case in circumstances where specific assets are taken out of service and disposed of in the manner envisaged for some compressors for the DBNGP, and if the value of Redundant Capital is determined consistent with the financial benefit to the Service Provider from the disposal.

189. Given the potentially significant disposal value of compressor assets disposed of during the Access Arrangement period, the Authority is of the view that the Proposed Access Arrangement should be amended to make provision for a Redundant Capital mechanism that makes provision for the disposal value of these assets to be subtracted from the Capital Base at the commencement of the ensuing Access Arrangement Period.

Draft Decision Amendment 7 The Proposed Access Arrangement should be amended to include in the Reference Tariff Policy a Redundant Capital mechanism that provides for the disposal value of any compression assets made redundant during the Access Arrangement Period to be removed from the value of the Capital Base at the commencement of the ensuing Access Arrangement Period.

Rate of Return

190. Sections 8.30 and 8.31 of the Code state the principles for establishing the Rate of Return used in determining a Reference Tariff:

> 8.30 The Rate of Return used in determining a Reference Tariff should provide a return which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the Reference Service (as reflected in the terms and conditions on which the Reference Service is offered and any other risk associated with delivering the Reference Service).
>
> 8.31 By way of example, the Rate of Return may be set on the basis of a weighted average of the return applicable to each source of funds (equity, debt and any other relevant source of funds). Such returns may be determined on the basis of a well accepted financial model,

> such as the Capital Asset Pricing Model. In general, the weighted average of the return on funds should be calculated by reference to a financing structure that reflects standard industry structures for a going concern and best practice. However, other approaches may be adopted where the Relevant Regulator is satisfied that to do so would be consistent with the objectives contained in section 8.1.

191. DBNGPT has calculated a value of Total Revenue using a Cost of Service methodology in accordance with section 8.4 of the Code, and in this calculation has accounted for inflation by use of a current cost accounting financial model. Under this model, costs in each year of the Access Arrangement Period, including the value of the Capital Base, are expressed in dollar-of-the-day values. The return on assets is calculated in each year by multiplying the opening value of the Capital Base in each year by a real pre-tax rate of return.

192. DBNGPT has determined a Rate of Return as a weighted average cost of capital ("**WACC**"). A cost of equity has been estimated using the capital asset pricing model ("**CAPM**") and a cost of debt estimated as the sum of a risk free rate of return, an estimate of the corporate debt margin, and an estimate of the cost of raising debt.

193. The real pre-tax Rate of Return proposed by DBNGPT is 7.24 percent, corresponding to a nominal pre-tax Rate of Return of 9.98 percent. The values of CAPM parameters and costs of debt used by DBNGPT to derive this WACC are set out in the following table.

Parameters used by DBNGPT to calculate the WACC for the DBNGP (January 2005)

Parameter	Parameter Value
Nominal risk free rate of return	5.39%
Real risk free rate of return	2.77%
Expected inflation rate	2.55%
Market risk premium	6.00%
Asset beta	0.60
Debt beta	0.20
Equity beta	1.20
Debt margin	1.36%
Debt to asset ratio (gearing)	60%
Corporate tax rate	30%
Dividend imputation factor: value of franking credits	50%

194. WACC values estimated from the values of CAPM parameters and cost of debt assumed by DBNGPT are as follows.

WACC values estimated from DBNGPT's assumed CAPM parameters and cost of debt (January 2005)

	Nominal	Real
Post-Tax (Officer) WACC	6.99%	4.32%
Pre-Tax WACC (Forward Transformation)	9.98%	7.24%

195. The Authority accepts that its task is to consider whether the Rate of Return used for the derivation of the Reference Tariff in the Proposed Access Arrangement falls within the range of rates commensurate with the prevailing market conditions and the relevant risk. The proposed Rate of Return will comply with the Code if the value used is within the range of values that different minds acting reasonably might attribute to the Rate of Return, applying the methodology of the CAPM that was chosen by DBNGPT. In undertaking this task, the Authority has given consideration to the range of values within which the Rate of Return might be supported by reasonable minds as being commensurate with prevailing conditions in capital markets. The Authority then considered whether the value proposed by DBNGPT for the Rate of Return for the Proposed Access Arrangement falls within that range.

196. Consistent with the general approach taken by DBNGPT in its proposed Access Arrangement, the Authority has applied the CAPM to estimate the cost of capital for the DBNGP. In doing so, the Authority has considered the parameters of the CAPM and ranges of values that may reasonably be applied to these parameters. This analysis is set out in Appendix 2 of this Draft Decision.

197. The ranges that the Authority considers may reasonably be applied to parameters of the CAPM in estimating the cost of capital for the DBNGP are as follows.

Reasonable CAPM parameter values for estimation of the rate of return for the DBNGP

Parameter	Value
Risk free rate (nominal, %)	5.45
Risk free rate (real, %)	2.69
Expected inflation (%)	2.69
Market risk premium (%)	5.0 – 6.0
Equity beta	0.80 – 1.20
Cost of debt margin (%)	0.980 – 1.225
Corporate tax rate (%)*	30
Franking credit value (γ)	0.3 – 0.6
Debt to total assets ratio (%)	60
Equity to total assets ratio (%)	40

198. The ranges in the estimated costs of equity derived from the limits in ranges in the values of the CAPM parameters are as follows.

Estimated costs of equity derived from ranges in CAPM parameter values

Cost of Equity (%)	Nominal	Real
Post-Tax	9.5 – 12.7	6.6 – 9.7
Pre-tax	10.7 – 16.0	7.9 – 13.0

199. The ranges in estimated WACC values corresponding to the ranges in the values of the CAPM parameters and ranges in the estimated cost of debt are as follows.

Estimated WACC values derived from ranges in CAPM parameter values

Estimated WACC (%)	Nominal	Real
Post-Tax (Officer)	5.7 – 7.3	2.9 – 4.5
Pre-tax (forward transformation of Officer WACC)	8.2 – 10.4	5.3 – 7.5

200. The Authority notes that applying the extremes of ranges in CAPM parameter values and estimates of the cost of debt gives rise to wide ranges in estimates of the WACC: 1.6 to 2.2 percentage points depending on the form of WACC. The wide ranges in estimates of the WACC result from the multiplicative effect of differences in assumptions for CAPM parameters.

201. The Authority considers that the range of values that different minds acting reasonably could attribute to the cost of equity and WACC is narrower than the ranges that the extremes of ranges in CAPM parameters would suggest. An approach by a Service Provider to determination of the Rate of Return that adopted the highest value within the reasonable range for each of the relevant CAPM parameters would not, in the Authority's view, result in a value for the Rate of Return that different minds, acting reasonably, would attribute to the Rate of Return. Also, such an approach would be inconsistent with the nature of regulatory oversight because the incentive throughout the process of consideration of a Rate of Return would be for the Service Provider to contend for those values for each of the underlying parameters that would produce the highest rate of return. The process would be reduced to a consideration of what would be the highest possible Rate of Return rather than determining a best estimate of the Rate of Return on a reasonable basis.

202. Similarly it would not be reasonable for the Authority to make a determination based on, or implying, a Rate of Return at the lower extreme of the range.

203. The Authority has given consideration to defining a reasonable range of estimates of the Rate of Return that would comply with the Code, which would be narrower than the range that may be derived by the application of the extremes of values for each of the parameters of the CAPM. However, while the Authority recognises that no reasonable person would adopt the extremes of this range, the Authority is of the view that there is no apparent rigorous statistical or other methodology for determining precisely at which point values close to the extreme values of the range do not reflect a reasonable view of the current market for funds.

204. Taking account of these matters, and noting that the Code requires the uncertainties associated with determining the Rate of Return to be bought into account in determining the Total Revenue, the Authority is of the view that the range of values that would comply with the Code should not include the values that lie within the lower 10 percent or upper 10 percent of the range that is derived by the application of the extremes of values for each of the parameters of the CAPM. The range of values that the Authority considers would comply with the Code is therefore 5.5 percent to 7.3 percent, pre-tax real.

205. While the Authority notes that in deriving its proposed Rate of Return, DBNGPT applied CAPM parameter values that the Authority does not accept are either appropriate point estimates (in the case of the risk free rates and inflation rates) or fall into a reasonable range of estimates (in the case of the debt margin), the actual value of Rate of Return proposed by DBNGPT (7.24 percent pre-tax real) lies within the range of values that the Authority considers would comply with the Code. As such, the Authority accepts that this proposed Rate of Return complies with the Code.

Depreciation

206. Sections 8.32 to 8.35 of the Code relate to depreciation of assets that form part of the Capital Base, for the purposes of determining a Reference Tariff.

207. Section 8.32 defines a Depreciation Schedule as:

> the set of depreciation schedules (one of which may correspond to each asset or group of assets that form part of the Covered Pipeline) that is the basis upon which the assets that form part of the Capital Base are to be depreciated for the purposes of determining a Reference Tariff.

208. Section 8.33 requires that the Depreciation Schedule be designed:

> (a) so as to result in the Reference Tariff changing over time in a manner that is consistent with the efficient growth of the market for the Services (and which may involve a substantial portion of the depreciation taking place in future periods, particularly where the calculation of the Reference Tariffs has assumed significant market growth and the Pipeline has been sized accordingly);
>
> (b) so that each asset or group of assets that form part of the Capital Base is depreciated over the economic life of that asset or group of assets;
>
> (c) so that, to the maximum extent that is reasonable, the depreciation schedule for each asset or group of assets that form part of the Capital Base is adjusted over the life of that asset or group of assets to reflect changes in the expected economic life of that asset or group of assets; and
>
> (d) subject to section 8.27, so that an asset is depreciated only once (that is, so that the sum of the Depreciation that is attributable to any asset or group of assets over the life of those assets is equivalent to the value of that asset or group of assets at the time at which the value of that asset or group of assets was first included in the Capital Base, subject to such adjustment for inflation (if any) as is appropriate given the approach to inflation adopted pursuant to section 8.5A).

209. Section 8.34 provides for the application of depreciation principles in the determination of Total Revenue using internal rate of return or net present value methodologies. If the internal rate of return or net present value methodology is used, then the notional depreciation over the Access Arrangement Period for each asset or group of assets that form part of the Capital Base is:

(a) for an asset that was in existence at the commencement of the Access Arrangement Period, the difference between the value of that asset in the Capital Base at the commencement of the Access Arrangement Period and the value of that asset that is reflected in the Residual Value; and

(b) for a New Facility installed during the Access Arrangement Period, the difference between the actual cost or forecast cost of the Facility (whichever is relevant) and the value of that asset that is reflected in the Residual Value,

and, to comply with section 8.33:

(c) the Residual Value of the Capital Base should reflect notional depreciation that meets the principles of section 8.33; and

(d) the Reference Tariff should change over the Access Arrangement Period in a manner that is consistent with the efficient growth of the market for the Services (and which may involve a substantial portion of the depreciation taking place towards the end of the Access Arrangement Period, particularly where the calculation of the Reference Tariffs has assumed significant market growth and the pipeline has been sized accordingly).

210. Section 8.35 of the Code provides for the cash flow needs of the Service Provider to be recognised in the determination of the Depreciation Schedule:

> In implementing the principles in section 8.33 or 8.34, regard must be had to the reasonable cash flow needs for Non Capital Costs, financing cost requirements and similar needs of the Service Provider.

211. In the Access Arrangement Information, DBNGPT indicates that it has determined a separate Depreciation Schedule for each of four groups of physical assets that form the DBNGP, and that Depreciation during the Access Arrangement Period has been determined by applying the straight-line methodology.

212. In its financial model used for the determination of Reference Tariffs, DBNGPT has determined Depreciation separately for the value of assets in the Initial Capital Base (determined at 31 December 1999 and adjusted for inflation for each year of the proposed Access Arrangement Period 2005 to 2010) and for the value of New Facilities Investment made subsequent to 1 January 2000. Asset lives assumed for the purposes of determining Depreciation are as follows.

DBNGPT Proposed Depreciation Schedule: Assumed Asset Lives

Asset class	Asset life for new assets	Remaining asset life for assets of the Initial Capital Base (at 31 December 2004)
Pipeline assets	70	49.50
Compression assets	30	14.60
Metering assets	50	33.50
Other depreciable assets	30	11.85

213. On the basis of these asset lives, the Capital Base determined by DBNGPT at 31 December 2004 and forecast New Facilities Investment for the period 2005 to 2010, DBNGPT has determined the Depreciation Schedule for the period 2005 to 2010 as follows.

DBNGPT Proposed Depreciation Schedule
(nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Pipeline assets	28.08	30.10	34.90	35.79	40.03	42.53
Compression assets	13.83	17.62	22.09	22.66	23.24	23.83
Metering assets	0.61	0.63	0.64	0.66	0.68	0.69
Other depreciable assets	3.76	4.30	4.89	5.27	5.71	6.20
Total	**46.28**	**52.65**	**62.53**	**64.37**	**69.65**	**73.25**

214. On the basis of this Depreciation Schedule and the proposed New Facilities Investment, DBNGPT has projected a roll-forward of the Capital Base over the proposed Access Arrangement Period as follows.

DBNGPT Projected Roll-Forward of the Capital Base
(nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Capital Base at beginning of year	1,642.86	1,841.08	2,242.38	2,244.39	2,473.16	2,577.97
New Facilities Investment	202.57	406.95	7.30	235.85	111.34	9.29
Depreciation	46.28	52.65	62.53	64.37	69.65	73.25
Inflation adjustment	41.94	47.00	57.24	57.29	63.13	65.80
Capital base at end of year	1,841.08	2,242.38	2,244.39	2,473.16	2,577.97	2,579.82

215. DBNGPT's proposed depreciation methodology and assumptions as to asset lives are consistent with the Depreciation Schedule applied in determining the Reference Tariff for the Current Access Arrangement, although there have been minor changes to assumptions of asset lives as a result of DBNGPT having, for the purposes of the Proposed Access Arrangement, calculated depreciation for assets that were included in the Initial Capital Base at 31 December 1999 on the basis of asset classes whereas for the purposes of the Current Access Arrangement, asset lives were specified for a more detailed breakdown of assets into asset classes and pipeline zones. The Authority is of the view that these changes in asset lives are not material and the Authority is satisfied that the depreciation methodology and assumed asset lives are consistent with the requirements of section 8.33 of the Code.

216. The Authority notes that, in its forecast of New Facilities Investment, DBNGPT has not assigned any component of New Facilities Investment to metering assets (see paragraph 154, above). This is despite DBNGPT having forecast New Facilities Investment for metering (as part of stay-in-business capital expenditure) of $2.618 million ($nominal, equivalent to $2.513 in dollar values of 1 January 2005).

217. It appears that DBNGPT has included New Facilities Investment in metering facilities in the "other depreciable assets" assets class, with the result that the value of the assets is depreciated over 30 rather than 50 years. The effect of this is an increase in the Reference Tariff for the Access Arrangement Period and a lower asset value at the end of the period. The Authority notes, however, that the value of New Facilities Investment in metering assets is very small (only approximately 0.1 percent of the Capital Base) and the effects of the change in Depreciation assumptions on the Reference Tariff and Capital Base are not material.

218. As noted above in this Draft Decision, the Authority is proposing to not allow all New Facilities Investment for the period 2000 to 2004 as submitted by DBNGPT to be rolled into the Capital Base and the Authority has made a minor correction to the forecast of New Facilities Investment in the period 2005 to 2010 that is to be considered in the determination of the Reference Tariff. Taking these matters into account, the revised Depreciation Schedule and projected roll-forward of the Capital Base over the proposed Access Arrangement Period are as follows.

Revised Depreciation Schedule

Year ending 31 December	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Pipeline assets	28.09	30.11	34.91	35.80	40.04	42.54
Compression assets	12.86	16.61	21.06	21.60	22.15	22.71
Metering assets	0.61	0.63	0.64	0.66	0.68	0.69
Other depreciable assets	3.76	4.28	4.86	5.22	5.66	6.15
Total	45.32	51.63	61.47	63.28	68.52	72.10
Real $million, dollar values at 31 December 2004						
Pipeline assets	27.39	28.63	32.37	32.37	35.30	36.58
Compression assets	12.54	15.80	19.53	19.53	19.53	19.53
Metering assets	0.60	0.60	0.60	0.60	0.60	0.60
Other depreciable assets	3.67	4.07	4.50	4.72	4.99	5.29
Total	44.19	49.10	57.00	57.22	60.42	61.99

Revised Projected Roll-Forward of the Capital Base

Year ending 31 December	2005	2006	2007	2008	2009	2010
Nominal $million[29]						
Capital Base at beginning of year (dollar values at beginning of year)	1,619.77	1,820.14	2,224.96	2,230.15	2,463.54	2,572.86
New Facilities Investment (dollar values at end of year)	202.22	407.67	7.11	237.07	112.09	8.89
Depreciation (dollar values at end of year)	45.38	51.77	61.72	63.62	68.98	72.68
Inflation adjustment (dollar values at end of year)	43.53	48.92	59.80	59.94	66.21	69.15
Capital Base at end of year (dollar values at end of year)	1,820.14	2,224.96	2,230.15	2,463.54	2,573.86	2,578.22
Real $million, dollar values at 31 December 2004						
Capital Base at beginning of year	1,619.77	1,772.50	2,110.01	2,059.58	2,215.57	2,253.32
New Facilities Investment	196.92	386.61	6.56	213.21	98.17	7.58
Depreciation	44.19	49.10	57.00	57.22	60.42	61.99
Capital Base at end of year	1,772.50	2,110.01	2,059.58	2,215.57	2,253.32	2,198.92

Non Capital Costs

219. Sections 8.36 and 8.37 of the Code provide for the recovery of Non Capital Costs through the Reference Tariff:

> 8.36 Non Capital Costs are the operating, maintenance and other costs incurred in the delivery of the Reference Service. Non Capital Costs may include, but are not limited to, costs incurred for generic market development activities aimed at increasing long-term demand for the delivery of the Reference Service.
>
> 8.37 A Reference Tariff may provide for the recovery of all Non Capital Costs (or forecast Non Capital Costs, as relevant) except for any such costs that would not be incurred by a prudent Service Provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the Reference Service.

[29] Nominal values are calculated on the basis of a forecast of inflation of 2.69 percent per annum.

220. DBNGPT indicates in the Access Arrangement Information that it has used the following forecast of Non Capital Costs in determination of Total Revenue and Reference Tariffs for the proposed Access Arrangement Period.

DBNGPT Forecast Non Capital Costs 2005 to 2010
(nominal $ million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010	Total
Wages and salaries	8.61	7.93	12.37	12.20	12.00	11.58	**64.69**
Materials and services	34.78	34.82	44.03	42.72	41.47	43.81	**241.63**
Corporate overheads	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Fuel gas	20.11	23.19	40.83	38.79	37.88	41.11	**201.91**
Total	**63.50**	**65.95**	**97.23**	**93.70**	**91.34**	**96.50**	**508.23**

221. DBNGPT has provided explanatory information on Non Capital Costs in submissions to the Authority separate from the Access Arrangement Information.[30]

222. DBNGPT has indicated that Non Capital Costs over the Access Arrangement Period will depend upon the nature of works undertaken to expand the Capacity of the pipeline. DBNGPT has indicated to the Authority that, as a final determination on the nature of these works had not been made at the time that the Access Arrangement was submitted, the forecast of Non Capital Costs is likely to not be correct. For the purposes of this Draft Decision, the Authority has considered the forecast of Non Capital Costs provided by DBNGPT in the Access Arrangement Information. However, the Authority expects that DBNGPT will provide a revised forecast of Non Capital Costs after the Authority has issued this Draft Decision.

223. DBNGPT indicates that forecast of Non Capital Costs provided in the Access Arrangement Information was determined on the basis of costs incurred by the owners of the DBNGP and by contracted operators of the pipeline under arrangements described by DBNGPT as follows:

> Under a Transitional Services Agreement ("TSA"), corporate and operational services are to be provided to the DBNGP until at least 28 April 2005 by Epic Energy Corporate Shared Services Pty Ltd ("EECCS"), an entity owned by the Epic Energy group.
>
> Following the end of the TSA, most of these services are to be provided by either DBNGP (WA) Nominees Pty Ltd and DBNGP (WA) Transmission Pty Ltd, or by Alinta Network Services Pty Limited ("ANS"). In accordance with an Operating Services Agreement ("OSA"), ANS will operate, manage and construct, or procure the operation, management and construction of the DBNGP, and provide some corporate services. The OSA is to expire on 31 March 2040.

224. In accordance with these arrangements, DBNGPT indicates that the forecast of Non Capital Costs has been developed from.

(1) cost estimates made for the purpose of the TSA, and agreed upon by the parties to that agreement;

(2) adjustments to those estimates now recognised as necessary once transition to the new owners and a company structure has been effected;

[30] DBNGPT, Submissions #4, #12, #15, #25.

(3) estimates of pipeline and compressor plant maintenance costs prepared by EECSS staff responsible for maintenance of the DBNGP; and

(4) estimates of fuel gas costs made by forecasting the quantity of gas used in operating and maintaining the DBNGP, and applying the price at which gas is to be purchased, principally from Alinta Sales in accordance with an Agreement for Supply of System Use Gas which becomes operative from 1 July 2005.

225. DBNGPT indicates that the process used to develop cost forecasts was to derive estimates of recurrent and non-recurrent Non Capital Costs for the year 2005 and then:

- escalating the "labour component" of the recurrent costs for 2005 at an annual escalation rate equal to the percentage rate of change in the CPI plus 2 percent, indicated to be consistent with recent observed rates of growth in labour costs of 3 percent in real terms and expected productivity improvements of 1 percent;
- escalating the non-labour component of recurrent costs at an annual escalation rate equal to the rate of change in the CPI; and
- making year-by-year estimates of each of the items of non-recurrent costs.

226. DBNGPT's estimates of recurrent and non-recurrent costs for 2005 are as follows.

DBNGPT Baseline Non Capital Costs – 2005
(nominal $million, dollar values at end of year)

Cost Item	Value
Recurrent costs	
Salaries and wages	4.538
Other employee costs	1.113
Consultants	1.700
Operating and maintenance expenses	7.096
Utilities	0.529
Rent	0.855
Insurance	4.564
Regulatory costs	1.750
Intercompany expenses	11.620
ANS management fee	2.058
DBNGP management company costs	0.721
Allowance for asymmetric risk	0.200
Equity raising costs	1.451
Miscellaneous	0.263
Total	**38.458**
Non recurrent costs	
Fuel gas	20.109
Non recurrent operating and maintenance expenses	3.094
Insurance	0.243
Liquidated damages insurance	0.0
Regulatory costs	0.800
Regulatory review costs	0.800
Total	**25.046**
Total Non Capital Costs	**63.504**

227. DBNGPT has provided explanatory information on other Non Capital Cost line items as follows.

- Equity raising costs: annual cost estimated at 0.224 percent of regulated equity, consistent with an amount allowed by the ACCC in its approval of proposed revisions to the Access Arrangement for the Victorian Gas Transmission System.[31]

- Asymmetric risks: annual cost estimate at $0.2 million (in 2005) for non-insurable risks including extortion and bomb threats, insurer credit risk, employment practices risk, key person risk and uplift liability. The allowance of $0.2 million was determined on the basis of the same value having been allowed by the

[31] Australian Competition and Consumer Commission, 13 November 2002, Final Decision GasNet Australia Access Arrangement Revisions for the Principal Transmission System. p151.

Australian Competition Tribunal in proposed revisions to the Access Arrangement for the Victorian Gas Transmission System.[32]

- Liquidated damages insurance: DBNGPT is required under some contracts with Users to obtain liquidated damages insurance covering the failure to complete pipeline expansions on time. Allowances for this insurance are estimates of insurance costs and are as follows:

DBNGPT Forecast Costs of Liquidated Damages Insurance (nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Insurance cost	0	1.472	3.603	2.160	0.670	1.388

- Fuel gas: DBNGPT has used a model to forecast requirements for fuel gas and other system-use gas taking into account pipeline configurations and throughput, and contracts for the supply of gas. Forecast gas use and costs are as follows.

DBNGPT Forecast Fuel and System-Use Gas (nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Quantity of gas (PJ)	22.53	27.40	47.26	43.86	42.08	44.47
Cost (nominal $million)	20.11	23.19	40.83	38.79	37.88	41.11

- Costs arising from overhauls and maintenance of gas engine alternators, gas turbines and compressors: DBNGPT has indicated that the substantial increase in forecast Non Capital Costs between 2006 and 2007 (31 percent increase) is in part due to requirements for overhauls of these assets, including maintenance costs for additional compressors to be added to the pipeline.

228. As supporting information for a consideration of whether the forecast of Non Capital Costs meets the requirements of section 8.37 of the Code, DBNGPT has provided comparative information on two cost indices for several Australian transmission pipelines:

- Non Capital Costs (excluding cost of fuel gas) per kilometre per unit of gas throughput; and

- Non Capital Costs (excluding cost of fuel gas) per kilometre per compressor station.

[32] Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6,

229. The comparative information provided by DBNGPT is reproduced as follows.

DBNGPT Benchmarked Non Capital Costs 2004

	DBNGP[a]	MSP[b]	PTS [c]	GGP[d]	MAP[e]	ADP[f]
Inputs						
Gas throughput (PJ)	221.0	95.4	224.9	69.0	95.0	16.9
Pipeline length (km)	1,523	1,938	1,434	1,378	1,259	1,513
No. compressor stations	10	3	3	2	8	1
Non Capital Costs excl. fuel gas ($million)	40.85	24.96	18.56	12.71	15.94	8.75
Benchmarks						
Non Capital Costs excl. fuel gas per km per GJ	128	135	58	134	133	342
Non Capital Costs excl. fuel gas per km per compressor station	2,830	4,293	4,314	4,612	1,583	5,785

a. Proposed Non Capital Costs for 2005 expressed in 2004 dollars.
b. Moomba to Sydney Pipeline: not inclusive of fuel gas because this is provided by shippers.
c. GasNet Principal Transmission System (Victoria): Excluding fuel gas costs for Brooklyn compressor station operation to transport gas from Longford to refill Western Underground Storage
d. Goldfields Gas Pipeline: not inclusive of fuel gas because this is provided by shippers.
e. Moomba to Adelaide Pipeline: gas throughput assumed to be 95 PJ per annum, on the basis that MAPS capacity is fully utilised.
f. Amadeus to Darwin Pipeline: not inclusive of fuel gas because this is provided by shippers.

230. DBNGPT indicates that, on each measure, the DBNGP ranked second lowest among the six pipelines compared, providing assurance that the forecasts of Non Capital Costs for the pipeline are reasonable.

231. Under section 8.37 of the Code, the Authority is required to determine whether the forecast Non Capital Costs are costs that would be incurred by a prudent Service Provider, acting efficiently, in accordance with accepted and good industry practice, and to achieve the lowest sustainable cost of delivering the Reference Service.

232. Under section 8.2(e) of the Code, the Authority is also required to be satisfied that any forecasts submitted by DBNGPT, which are required for setting the Reference Tariffs, represent "best estimates arrived at on a reasonable basis".

233. The methodology applied by DBNGPT to derive forecasts of Non Capital Costs has been to establish a cost forecast for the first year of the proposed Access Arrangement Period and then project this forecast into subsequent years on the basis of trends in recurrent costs and specific predictions of non-recurrent costs.

234. The Authority considers that the question of whether this methodology produces a forecast of Non Capital Costs that meets the requirements of section 8.37 of the Code can be considered in terms of:

- the basis of the forecasts of recurrent costs for the first year of the Access Arrangement Period;
- the assumed trends in recurrent costs over the Access Arrangement Period; and

- the basis of the forecasts of non-recurrent costs.

235. These three elements in the methodology used by DBNGPT to derive forecasts of Non Capital Costs are addressed in turn below.

Forecast of 2005 Recurrent Costs

236. DBNGPT has provided supporting information for its forecast of recurrent Non Capital Costs in 2005 in the form of explanation of particular cost line items and a limited comparison of cost indices with other pipelines.

237. Explanatory information on cost line items has been provided only in respect of:

- equity raising costs;
- an allowance for implicit costs of "self-insurance" for certain risks;

238. For both of these cost items, DBNGPT has derived cost forecasts on the basis of precedent regulatory decisions rather than consideration of any factors specific to the DBNGP. The Authority has reviewed the reasons expressed in these regulatory decisions in relation to these cost parameters and is broadly satisfied that these costs are consistent with the requirements of section 8.37 of the Code and that the values ascribed to these costs are not inappropriate.

239. However, these two cost items for which DBNGPT has provided explanatory information account for only a very small part of recurrent Non Capital Costs ($1.65 million of $38.5 million). DBNGPT has provided no explanation of the remainder of the items of forecast recurrent costs, or of the process by which these forecasts were derived. DBNGPT has thus not provided the Authority with any information that informs the Authority's consideration of whether the remainder of the forecast recurrent costs for 2005 meet the requirements of section 8.37 of the Code.

240. The Authority notes that the methodology applied by DBNGPT in deriving its forecast of recurrent Non Capital Costs (establishing costs for a base year and applying a trend) was also applied in deriving forecasts of Non Capital Costs for the Victorian gas distributors.[33] In this case the Essential Services Commission took the actual Non Capital Costs incurred in a single year (2001) as the starting point for consideration of the appropriate forecast in the first year of the proposed Access Arrangement Period (2003). The focus of the assessment of the appropriate forecast was whether there was justification for any "step change" in costs between the two years.

241. The Authority has made a non-mandatory request to DBNGPT for the provision of historical Non Capital Costs for the period 2000 to 2004. DBNGPT has indicated that it is unable to provide this information to the Authority for the reason that DBNGPT does not understand the basis under the Code on which the information was requested or how the information is relevant to the Authority's consideration of forecast Non

[33] Essential Services Commission, October 2002, Review of Gas Access Arrangements Final Decision, page 76.

Capital Costs. DBNGPT has further indicated to the Authority that, as the prior owners of the DBNGP were in a state of financial distress during part of the period 2000 to 2004, the actual operating and maintenance costs for that period were abnormal and cannot be taken as a guide to forecast Non Capital Costs for the period 2005 to 2010.

242. The Authority does not accept this contention of DBNGPT. To the contrary, the Authority considers that information on actual operational activities undertaken in the period 2000 to 2004 and the identification of additional activities (and their associated costs) that should have been, but were not, undertaken in this period for the efficient and sustainable operation of the pipeline would inform a forecast of costs in 2005. While DBNGPT has to date refused to provide the Authority with information on actual Non Capital Costs in the period 2000 to 2004, the Authority will exercise its powers to compulsorily acquire this information prior to issue of its Final Decision on the proposed Access Arrangement.

243. In the absence of information on actual Non Capital Costs or other substantiating information on the forecast of recurrent costs for 2005, the Authority has given consideration to the forecasts of Non Capital Costs used in determination of the Reference Tariff for the period 2000 to 2004. The Authority notes that, while the then Regulator wrote and approved the Access Arrangement for that period (the Current Access Arrangement), the forecast of Non Capital Costs used in the derivation of the Reference Tariff was not materially different to that proposed by the Service Provider in 1999. The Authority does not consider that this forecast was affected by any impending state of financial distress.

244. The forecast of Non Capital Cost made for 2004, expressed in dollar values at 31 December 2005 and in the same cost categories as used by DBNGPT for the 2005 forecast, is as follows.

Forecast Non Capital Costs for 2004, excluding costs of fuel gas[34] ($million at 31 December 2005)

Cost Category	Value
Wages and salaries	11.42
Materials and services	19.82
Total	**31.24**

245. The Authority considers that, in the absence of other supporting information for a cost forecast for 2005, the forecast costs for 2004 provide an appropriate basis for a forecast of recurrent Non Capital Costs for 2005 subject to the following adjustments:

- adjustment of the amount of wages and salaries to $4.54 million as forecast by DBNGPT and addition of the difference to the "materials and services" category, consistent with the initiative of the current owners of the DBNGP for the outsourcing of pipeline operation and maintenance to a contracted entity;

[34] Independent Gas Pipelines Access Regulator Western Australia, 19 December 2003, Access Arrangement Information for the Dampier to Bunbury Natural Gas Pipeline, page 21. Costs expressed in dollar values of December 1999 were converted to dollar values at 1 January 2005 by an inflation factor of 1.18.

- addition to the costs in the material and services category of the costs forecast by DBNGPT for equity raising ($1.451 million) and allowed for in relation to asymmetric risks ($0.200 million);

- for the purposes of financial modelling, adjustment of values to dollar values of 31 December 2004.

246. The forecast of recurrent Non Capital Costs thus derived for 2005 is as follows.

Revised Forecast of Recurrent Non Capital Costs for 2005 ($million at 31 December 2004)

Cost Category	Value
Wages and salaries	4.54
Materials and services	28.36
Total	**32.90**

247. The forecast cost of $32.90 million for 2005 compares with DBNGPT's forecast of recurrent costs for 2005 of $38.46 million. The Authority does not consider that DBNGPT has provided adequate information to justify this step change in costs.

Trends in Recurrent Costs over the Access Arrangement Period

248. DBNGPT has made assumptions about cost trends over the Access Arrangement Period as follows:

- escalating the "labour component" of the recurrent costs for 2005 at an annual escalation rate equal to the percentage rate of change in the CPI plus 2 percent, indicated to be consistent with recent observed rates of growth in labour costs of 3 percent in real terms and expected productivity improvements of 1 percent; and

- escalating the non-labour component of recurrent costs at an annual escalation rate equal to the rate of change in the CPI.

249. The Authority considers that an assumed trend in recurrent Non Capital Costs should reflect cost increases that an efficient Service Provider could reasonably be expected to incur over the Access Arrangement Period as well as productivity gains that an efficient Service Provider could reasonably be expected to achieve.

250. DBNGPT has made separate assumptions about increases in costs of labour and of other costs:

- labour costs are assumed to increase at a rate of 3 percent in real terms; and

- other costs are assumed to remain constant in real terms.

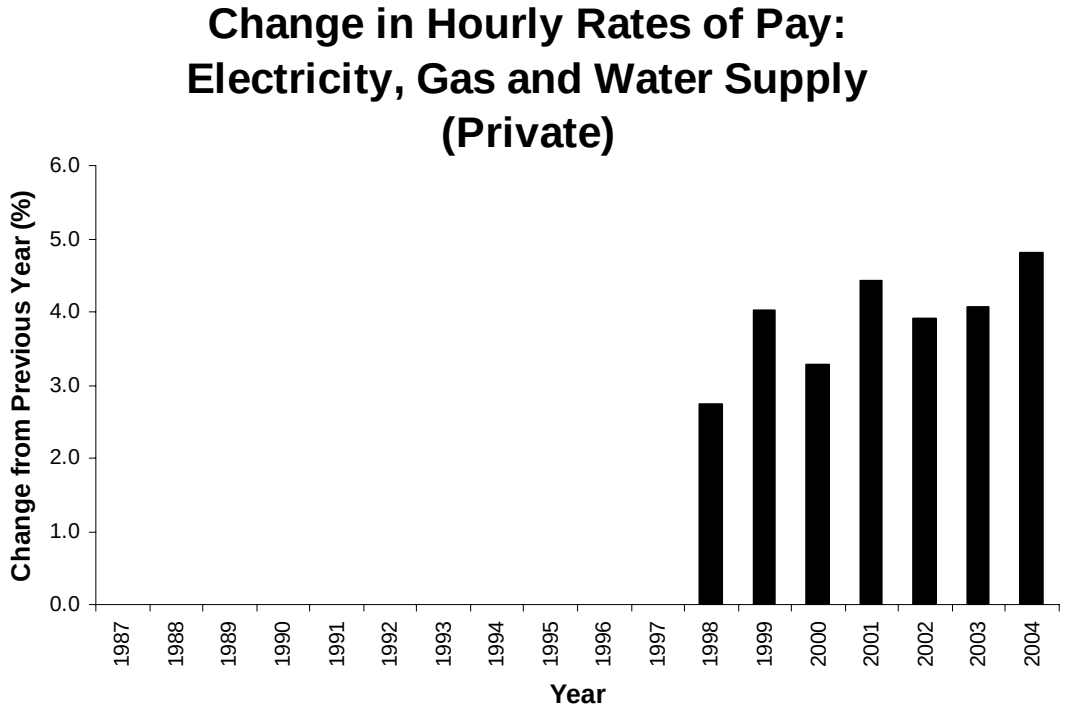
251. In support of its assumption on labour costs, DBNGPT has cited Australian Bureau of Statistics data on historical real increases in labour rates in the electricity, gas and water industries.[35]

[35] DBNGPT Submission #4.

252. DBNGPT has also assumed productivity gains of 1 percent per annum in labour costs, although the basis of this assumption is not stated. No productivity gains have been assumed for other costs.

253. The Authority has examined the assumptions made by DBNGPT in respect of trends in recurrent costs by reference to recent statistics on labour costs and productivity improvements.

254. Labour cost statistics of the Australian Bureau of Statistics for the private-sector electricity, gas and water supply industries are indicated in the following figure.[36] These data indicate increasing nominal labour costs at rates of between 2.8 and 4.8 percent per annum in the period 1998 to 2004 and suggest that DBNGPT's assumed rate of increase in labour costs of 3 percent real (c.5.5 percent nominal) may be marginally higher than is justified by recent observed increases. Given the rising trend in rates of growth in labour costs, the Authority does not, however, consider DBNGPT's assumption to be unreasonable.

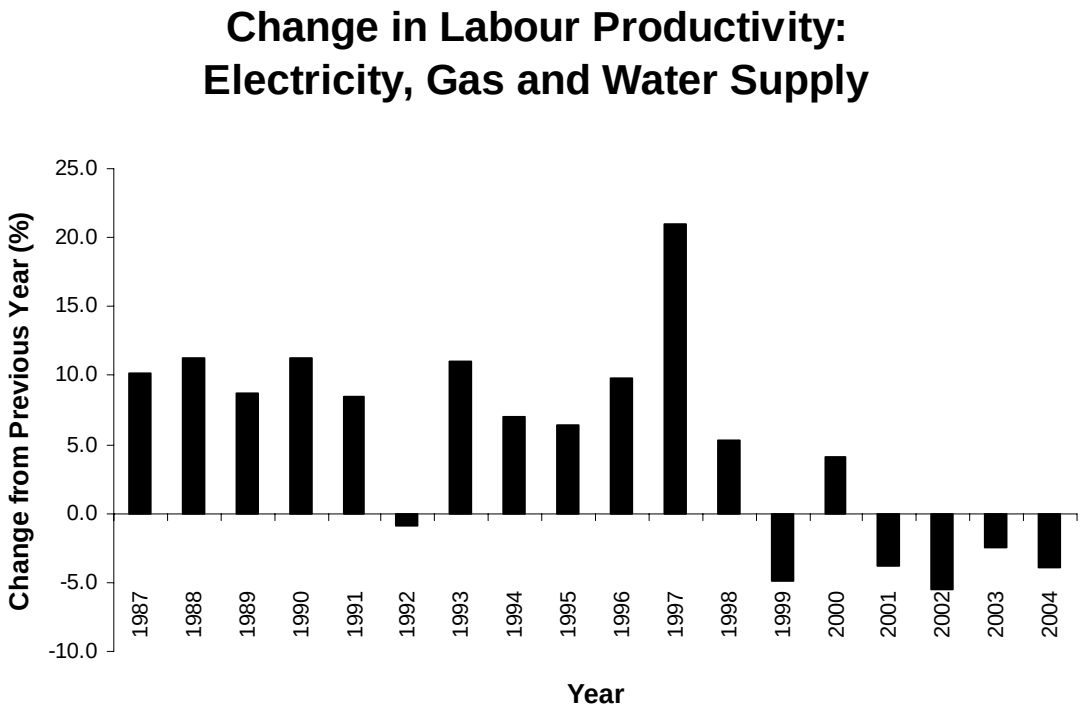


255. Labour productivity statistics of the Australian Bureau of Statistics for the electricity, gas and water supply industries are indicated in the following figure. These data indicate a static or declining labour productivity (measured as gross value added per hour worked) since 1999 after a period of substantial productivity improvements from 1987 to 1998.[37] While these data are not necessarily indicative of the opportunities for productivity improvements in any particular business, they do suggest that the

[36] Australian Bureau of Statistics, Bulletin 5204 Table 25.

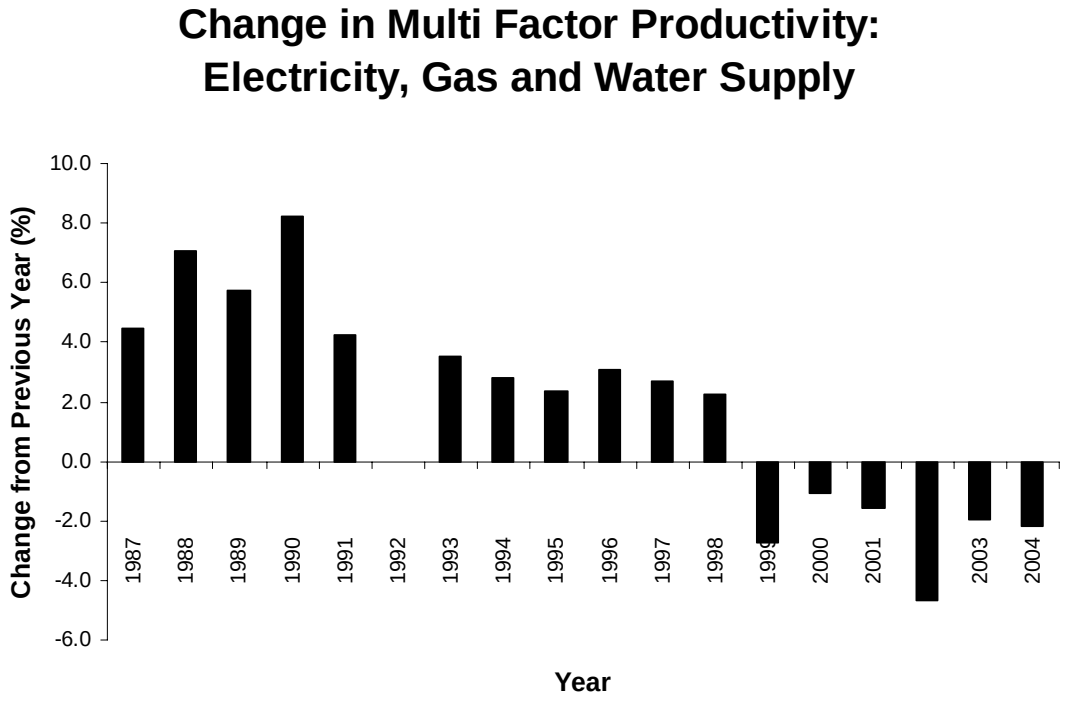
[37] Australian Bureau of Statistics, Bulletin 6345.0 Table 5b.

assumption by DBNGPT of productivity gains of 1 percent per annum is conservatively high by industry sector benchmarks.



256. Multifactor productivity statistics show a similar trend to labour productivity statistics, as shown in the figure below.[38]

[38] Productivity Commission, Industry Sector Productivity, http://www.pc.gov.au/commission/work/productivity/performance/industry.html



257. Given the recent history of productivity changes in the electricity, gas and water supply sector, the Authority does not consider the assumptions made by DBNGPT in respect of trends in productivity growth and costs to be unreasonable.

Non-Recurrent Costs

258. In submissions made to the Authority, DBNGPT has provided forecasts of non recurrent costs for 2005 and limited information on non-recurrent costs for the period 2006 to 2010, as follows.

DBNGPT Forecast Non-Recurrent Non Capital Costs
(nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Fuel and system-use gas	20.11	23.19	40.83	38.79	37.88	41.11
Operating and maintenance						
GEA overhauls			1.66			1.79
Gas turbine overhauls	3.09		7.09	7.33	5.79	
Compressor maintenance			2.14	2.20	2.25	2.31
Insurance	0.24					
Liquidated damages insurance		1.47	3.60	2.16	0.67	1.39
Regulatory costs	0.80					
Regulatory review costs	0.80					
Total	**25.05**	**24.66**	**55.33**	**50.48**	**46.59**	**46.59**

259. The Authority notes that as DBNGPT has not provided complete details of forecast non-recurrent costs, the costs indicated in paragraph 258 may be incomplete. The Authority does not, however, have sufficient information before it to be able to make its own forecast of any omitted costs.

260. A determination of whether the forecasts of non-recurrent costs meet the requirements of section 8.37 of the Code would require a technical assessment of the activities to which the costs relate and the estimates of costs. The Authority accepts that the forecasts of non-recurrent costs meet the requirements of section 8.37, subject to further technical information verifying the estimated costs.

Conclusion on Non Capital Costs

261. For reason of the lack of substantiating information provided by DBNGPT for its forecast of 2005 recurrent Non Capital Costs, the Authority is not satisfied that the forecast of Non Capital Costs used by DBNGPT in its determination of a Reference Tariff meets the requirements of section 8.37 of the Code.

262. The Authority has itself derived a forecast of Non Capital Costs comprising:

- a forecast of recurrent costs as set out in paragraph 246 and escalated in accordance with trends over the Access Arrangement Period as proposed by DBNGPT; and
- a forecast of non-recurrent costs as set out in paragraph 258.

263. The revised forecast of Non Capital Costs thus derived is as follows.

Revised Forecast of Non Capital Costs 2005 to 2010

Year ending 31 December	2005	2006	2007	2008	2009	2010	Total
Nominal $ million, dollar values at end of year							
Wages and salaries	6.51	5.33	10.76	9.86	8.90	7.85	**49.21**
Materials and services	31.32	29.95	38.49	37.55	36.53	35.37	**209.21**
Corporate overheads	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Fuel gas	20.11	23.19	40.83	38.79	37.88	41.11	**201.91**
Total	**57.94**	**58.47**	**90.08**	**86.20**	**83.31**	**84.33**	**460.33**
Real $ million, dollar values at 31 December 2004							
Wages and salaries	6.35	5.07	9.98	8.92	7.85	6.75	**44.91**
Materials and services	30.54	28.48	35.69	33.95	32.21	30.41	**191.28**
Corporate overheads	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Fuel gas	19.61	22.05	37.86	35.07	33.40	35.35	**183.34**
Total	**56.50**	**55.60**	**83.53**	**77.94**	**73.45**	**72.51**	**419.52**

264. The forecast of Non Capital Costs presented by DBNGPT is approximately 110 percent of that made by the Authority. The Authority accepts that its forecast has a range of uncertainty associated with it, and that this range is likely to be larger than for a forecast made by an experienced Service Provider. The Authority is not

satisfied, however, that the range of uncertainty would extend to include the forecast provided by DBNGPT.

265. The Authority expects that DBNGPT will provide a revised forecast of Non Capital Costs after the Authority has issued this Draft Decision. In the event that DBNGPT provides further information, the Authority intends to make the information available for public comment prior to the Authority issuing its Final Decision.

Total Revenue

266. Sections 8.4 and 8.5 of the Code require that the revenue to be generated from the sales (or forecast sales) of all Services over the Access Arrangement Period (the Total Revenue) be determined, or be able to be expressed in terms of, one of three methodologies.

> **Cost of Service**: the Total Revenue is equal to the cost of providing all services (some of which may be the forecast of such costs), and with this cost to be calculated on the basis of:
>
> (a) a return (***Rate of Return***) on the value of the capital assets that form the Covered Pipeline or are otherwise used to provide Services (***Capital Base***);
>
> (b) depreciation of the Capital Base (***Depreciation***); and
>
> (c) the operating, maintenance and other non-capital costs incurred in providing all Services (***Non-Capital Costs***).
>
> **IRR**: The Total Revenue will provide a forecast Internal Rate of Return (IRR) for the Covered Pipeline that is consistent with the principles in sections 8.30 and 8.31. The IRR should be calculated on the basis of a forecast of all costs to be incurred in providing such Services (including capital costs) during the Access Arrangement Period.
>
> The initial value of the Covered Pipeline in the IRR calculation is to be given by the Capital Base at the commencement of the Access Arrangement Period and the assumed residual value of the Covered Pipeline at the end of the Access Arrangement Period (***Residual Value***) should be calculated consistently with the principles in this section 8.
>
> **NPV**: The Total Revenue will provide a forecast Net Present Value (NPV) for the Covered Pipeline equal to zero. The NPV should be calculated on the basis of a forecast of all costs to be incurred in providing such Services (including capital costs) during the Access Arrangement Period, and using a discount rate that would provide the Service Provider with a return consistent with the principles in sections 8.30 and 8.31.
>
> The initial value of the Covered Pipeline in the NPV calculation is to be given by the Capital Base at the commencement of the Access Arrangement Period and the assumed Residual Value at the end of the Access Arrangement Period should be calculated consistently with the principles in this section 8.
>
> The methodology used to calculate the Cost of Service, an IRR or NPV should be in accordance with generally accepted industry practice.
>
> However, the methodology used to calculate the Cost of Service, an IRR or NPV may also allow the Service Provider to retain some or all of the benefits arising from efficiency gains under an Incentive Mechanism. The amount of the benefit will be determined by the Relevant Regulator in the range of between 100% and 0% of the total efficiency gains achieved.

267. Section 8.5A of the Code provides for different methodologies for dealing with the effects of inflation in the Total Revenue and Reference Tariff calculation.

> 8.5A Any of the methodologies described in section 8.4 or permitted under section 8.5, may be applied:

(a) on a nominal basis (under which the Capital Base and Depreciation are expressed in historical cost terms and all other costs and revenues are expressed in current prices and a nominal Rate of Return is allowed);or

(b) on a real basis (under which the Capital Base, Depreciation and all costs and revenues are expressed in constant prices and a real Rate of Return is allowed); or

(c) on any other basis in dealing with the effects of inflation,

provided that the basis used is specified in the Access Arrangement, is approved by the Relevant Regulator and is applied consistently in determining the Total Revenue and Reference Tariffs.

268. Section 8.6 of the Code recognises that a range of values may be attributed to the Total Revenue by the above methodologies. This recognises the manner in which the Rate of Return, Capital Base, Depreciation Schedule and Non Capital Costs may be determined, in each case involving the exercise of the Authority's discretion. Section 8.6 provides that, in order to determine an appropriate value within this range, the Authority may have regard to any financial and operational performance indicators considered by the Authority to be relevant in order to determine the level of costs within the range of feasible outcomes under section 8.4 of the Code that is most consistent with the objectives of section 8.1 of the Code. If the Authority has considered financial and operational performance indicators for the purposes of section 8.6 of the Code, section 8.7 requires the Authority to identify the indicators and provide an explanation of how they have been taken into account.

269. For the Proposed Access Arrangement, DBNGPT has used a Cost of Service methodology for determining Total Revenue. In dealing with the effects of inflation, this methodology has been applied in accordance with a quasi-current cost accounting methodology, under which the Capital Base, Depreciation and all other costs and revenues are expressed in dollars of the day values in each year of the proposed Access Arrangement Period and a return on the Capital Base is calculated by application of a real Rate of Return. The Total Revenue is determined for each year in dollar of the day values. In calculating a Reference Tariff, a Reference Tariff value for 2005 was determined such that the present value of revenue from the Reference Tariff over the Access Arrangement Period (where the Reference Tariff was assumed to be escalated at the rate of inflation) is forecast to be equal to the present value of that part of Total Revenue allocated to the Reference Service, where present values in both cases were calculated with a discount rate equal to a nominal Rate of Return.

270. The derivation of DBNGPT's proposed Total Revenue is summarised as follows.

DBNGPT Proposed Total Revenue
(nominal $million, dollar values at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Return on Assets	122.01	136.73	166.53	166.68	183.67	191.45
Depreciation	46.78	52.65	62.53	64.37	69.65	73.25
Non Capital Costs	63.50	65.95	97.23	93.70	91.34	96.50
Total	**231.79**	**255.32**	**326.29**	**324.75**	**344.66**	**361.20**
Present Value (nominal discount rate of 9.98 percent)	**1,291.42**					

271. The Authority is satisfied that the methodology applied by DBNGPT in calculating Total Revenue, and in dealing with the effects of inflation in the determination of the Reference Tariff, is consistent with the requirements of sections 8.4 and 8.5 of the Code.

272. As indicated earlier in this Draft Decision, the Authority is not satisfied that the values proposed by DBNGPT for the Capital Base, New Facilities Investment and Non Capital Costs are appropriate values under the relevant provisions of the Code. The Authority has itself determined revised values for these cost parameters.

273. Section 8.6 of the Code contemplates that it is possible that uncertainties in each of the cost components of Total Revenue may cause a range of values to be attributed to Total Revenue in which event the Authority is required to determine the value of Total Revenue within this range that is most consistent with the objectives contained in section 8.1.

274. The Authority accepts that, in this instance, consideration of a range in values of Total Revenue is necessitated by uncertainty in the values of forecast New Facilities Investment, Rate of Return, and the forecast Non Capital Costs that would meet the requirements of section 8.37 of the Code.

275. Section 8.1 provides that a Reference Tariff and Reference Tariff Policy (and hence the Total Revenue from which the Reference Tariff is derived) should be designed with a view to achieving the following objectives:

(a) providing the Service Provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the Reference Service over the expected life of the assets used in delivering that Service;

(b) replicating the outcome of a competitive market;

(c) ensuring the safe and reliable operation of the Pipeline;

(d) not distorting investment decisions in Pipeline transportation systems or in upstream and downstream industries;

(e) efficiency in the level and structure of the Reference Tariff; and

(f) providing an incentive to the Service Provider to reduce costs and to develop the market for Reference and other Services.

To the extent that any of these objectives conflict in their application to a particular Reference Tariff determination, the Authority may determine the manner in which they can best be reconciled or which of them should prevail, by reference to the factors set out in section 2.24 of the Code.

276. The objective of 8.1(a) is to give the Service Provider the "opportunity" to earn a "stream of revenue" that recovers the efficient costs over the expected life of the assets used. Accordingly, a value higher in the range of Total Revenue would provide greater assurance that this objective would be met.

277. In the Epic Decision, the Supreme Court held that section 8.1(b) refers to a "workably competitive market", being a market in which past investments and risks taken may provide some justification for prices above the efficient level. However, there is no evidence before the Authority that such circumstances exist in this case so this factor would point to a lower value in the range of Total Revenue, reflecting the efficient cost of Service provision.

278. With respect to section 8.1(c), there is no evidence to suggest that any values within the range of Total Revenue under consideration by the Authority would not enable the safe and reliable operation of the pipeline.

279. The Authority is of the view that the first limb of section 8.1(d) has been adequately addressed in the determination of the Capital Base incoporating New Facilities Investment from the last Access Arrangement Period.

280. The second limb of section 8.1(d) is concerned with not distorting investment decisions in upstream and downstream industries. To the extent that a higher value of Total Revenue risks resulting in a price for pipeline Services that is in excess of efficient costs, this objective would point to lower values within the range of Total Revenue.

281. Section 8.1(e) is concerned with the interests of Users and Prospective Users and would point to a lower value in the range, although the longer term interests of Users and Prospective Users require a level of Total Revenue consistent with motivating investment in expansion of the pipeline.

282. Section 8.1(f) is concerned with provision of incentives to a Service Provider to reduce costs and develop the market for pipeline Services. Such incentives arise from the structure of the Reference Tariff and Incentive Mechanisms in the Reference Tariff Policy, and do not point to any particular value of Total Revenue.

283. Given that the objectives in section 8.1 conflict in their application to the determination of the Total Revenue, the Authority must determine the manner in which they can best be reconciled or which of them should prevail by reference to the factors in section 2.24(a) to (g).

284. Section 2.24(a) is concerned with the Service Provider's legitimate business interests and investment in the pipeline and, in accordance with the objectives of sections 8.1(a) and (d) (first limb), would point to higher values in the range of Total Revenue.

285. Section 2.24(b) relates to firm and binding contractual obligations of the Service Provider. No issue is raised as to the firm and binding contractual obligations of the Service Provider in this case, so section 2.24(b) does not assist in the reconciliation of the section 8.1 objectives.

286. Section 2.24(c) relates to requirements for the safe and reliable operation of the pipeline. For the reasons referred to above in relation to section 8.1(c), section 2.24(c) does not assist in determining an appropriate value for Total Revenue in this case.

287. Section 2.24(d) directs attention to the "economically efficient" operation of a pipeline. This factor is consistent with the objectives of sections 8.1(b), (d) (second limb) and (e) and a lower value of Total Revenue.

288. Section 2.24(e) relates to the public interest, including the public interest in having competition in markets. For the DBNGPT, there is a substantial public interest in expansion of the pipeline. Section 2.24(e) is consistent with the objective of section 8.1(d) (first limb) and a higher value of Total Revenue consistent with ensuring incentives for investment.

289. Section 2.24(f) is concerned with the interests of Users and Prospective Users and would point to a lower value in the range.

290. The Authority has not given consideration to any additional matters under section 2.24(g).

291. After considering the matters in section 2.24 there remains an unresolved tension between the outcomes that would be indicated for Total Revenue by each of the objectives in section 8.1. Accordingly, it is necessary for the Authority to resolve this tension and determine an appropriate value for Total Revenue.

292. The Authority is of the view that ensuring recognition of forecast New Facilities Investment for expansion of the pipeline will be in the interests of the Service Provider under sections 8.1(a) and 2.24(a), the interests of Users and Prospective Users under section 8.1(d), (f) and, consequently, the public interest under section 2.24(e) in meeting the future gas demands of Western Australia. Having taken into account all these considerations, the Authority is satisfied that a value of Total Revenue that incorporates the proposals of DBNGPT for the Rate of Return and New Facilities Investment (subject to corrections made by the Authority as set out above), and a forecast of Non Capital Costs that is substantiated by the actual Non Capital Costs incurred in the last Access Arrangement Period will best achieve the objectives of sections 8.1.

293. As a result, the Authority is of the view that a value of Total Revenue derived from the Rate of Return proposed by DBNGPT together with the Authority's revised values for Non Capital Costs and New Facilities Investment will best achieve the competing objectives in section 8.1 for the Access Arrangement Period.

294. The Authority has not considered financial and operational performance indicators for the purposes of determining a value of Total Revenue under section 8.6 of the Code. DBNGPT has not made any submission that such indicators should be taken into account by the Authority, and the Authority does not have any information before it

that would give reason to take into account the particular financial circumstances of DBNGPT in making a determination on the Proposed Access Arrangement.

295. The Authority has therefore undertaken a determination of Total Revenue with revised values of cost parameters, as follows.

Parameter values in the Authority's determination of Total Revenue (Real $million at 31 December 2004)

Capital Base (at 31 December 2004)	$1,619.77 million					
New Facilities Investment	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	196.92	386.61	6.56	213.20	98.17	7.58
Rate of Return	7.24% real pre-tax					
Depreciation	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	44.19	49.10	57.00	57.22	60.42	61.99
Non Capital Costs	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	56.50	55.60	83.53	77.94	73.45	72.51

296. The derivation of the Authority's revised Total Revenue is summarised as follows.

Value of Total Revenue derived by the Authority (Real $million at 31 December 2004)

Year ending 31 December	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Return on Assets	117.27	128.33	152.77	149.11	160.41	163.14
Depreciation	44.19	49.10	57.00	57.22	60.42	61.99
Non Capital Costs	56.50	55.60	83.53	77.94	73.45	72.51
Total	217.96	233.03	293.30	284.27	294.28	297.64
Present Value (Real discount rate of 7.24 percent)	**1,261.78**					

Cost/Revenue Allocation and Reference Tariff

297. In determining Reference Tariffs, a Service Provider must determine (explicitly or implicitly) the costs or share of costs of pipeline operation that will be recovered from revenues from Reference Services and other Services. Principles for the allocation of costs/revenues between Services are provided in sections 8.38 to 8.43 of the Code.

298. Section 8.38 of the Code requires that Reference Tariffs should be designed to only recover that portion of Total Revenue which includes:

(a) all of the Total Revenue that reflects costs incurred (including capital costs) that are directly attributable to the Reference Service; and

(b) a share of the Total Revenue that reflects costs incurred (including capital costs) that are attributable to providing the Reference Service jointly with other Services, with this share to be determined in accordance with a methodology that meets the objectives set out in section 8.1 of the Code and is otherwise fair and reasonable.

299. Section 8.39 of the Code provides for the Authority to require a different methodology to be used for cost/revenue allocation than may have been proposed by a Service Provider in an Access Arrangement pursuant to section 8.38 of the Code. However, if such a requirement is proposed, the Authority must provide a detailed explanation of the methodology that it requires to be used.

300. Section 8.40 of the Code addresses the allocation of Costs/Revenue between Reference Services and Rebatable Services. A Rebatable Service is one where a portion of any revenue realised from sales of the Service is rebated to Users (either through a reduction in the tariff or through a direct rebate to the relevant User or Users). Under section 10.8 of the Code, a Rebatable Service is a Service where:

(a) there is substantial uncertainty regarding expected future revenue from sales of that Service due to the nature of the Service and/or the market for that Service; and

(b) the nature of the Service and the market for that Service is substantially different to any Reference Service and the market for that Reference Service.

301. If a Reference Service is provided jointly with a Rebatable Service, then all or part of the Total Revenue that would have been recovered from the Rebatable Service under section 8.38 of the Code (if that Service was a Reference Service) may be recovered from the Reference Service provided that an appropriate portion of any revenue realised from sales of any such Rebatable Service is rebated to Users of the Reference Service (either through a reduction in the Reference Tariff or through a direct rebate to the relevant User or Users). The structure of such a rebate mechanism should be determined having regard to the following objectives set out in section 8.40 of the Code:

(a) providing the Service Provider with an incentive to promote the efficient use of capacity, including through the sale of Rebatable Services; and

(b) Users of the Reference Service sharing in the gains from additional sales of Services, including from sales of Rebatable Services.

302. Section 8.41 provides a Service Provider with discretion to adopt alternative approaches to cost/revenue allocation, subject to any approach adopted having substantially the same effect as the approach outlined in sections 8.38 and 8.40 of the Code.

303. Section 8.42 relates to the allocation of costs/revenue between Users. This section requires that, subject to provisions for prudent discounts in section 8.43 of the Code, the Reference Tariff be designed such that the proportion of Total Revenue recovered from actual or forecast sales of a Reference Service to a particular User of that Service is consistent with the principles described in section 8.38 of the Code.

304. Section 8.43 of the Code provides for a Service Provider to give prudent discounts on Reference Tariffs or Equivalent Tariffs for Non-Reference Services in particular circumstances. A User receiving a discount would be paying a proportion of Total Revenue that is less than the proportion that would be paid by the User under the principles of sections 8.38 and 8.40 of the Code. Section 8.43 of the Code provides for such a discount to be given to a User if:

(a) the nature of the market in which a User or Prospective User of a Reference Service or some other Service operates, or the price of alternative fuels available to such a User or Prospective User, is such that the Service, if priced at the nearest Reference Tariff (or, if the Service is not

a Reference Service, at the Equivalent Tariff) would not be used by that User or Prospective User; and

(b) a Reference Tariff (or Equivalent Tariff) calculated without regard to revenues from that User or Prospective User would be greater than the Reference Tariff (or Equivalent Tariff) if calculated having regard to revenues received from that User or Prospective User on the basis that it is served at a price less than the Reference Tariff (or Equivalent Tariff).

305. The effect of section 8.43(b) is to require that a discount may only be provided to a User if the incremental revenue from that User exceeds the incremental cost of providing a Service to that User, and the incremental revenue consequently makes some contribution to the joint costs of providing pipeline Services. The proportion of Total Revenue that comprises the discount may be recovered from other Users of the Reference Service or some other Service or Services in a manner that the Authority is satisfied is fair and reasonable.

306. As described earlier in this Draft Decision in relation to the Services Policy, DBNGPT has proposed only a single Reference Service, the Tf Service, which is a full haul service. For the purposes of determining a Reference Tariff, DBNGPT made two key assumptions of cost allocation:

- all Users of full haul services are Users of the Reference Service; and
- the Reference Tariff is set to recover all of the Total Revenue except for an amount attributed to Part Haul services, this amount being an estimate of the cost of fuel gas used to provide Part Haul Services.

307. DBNGPT's reason for allocation only of costs of fuel gas to provision of Part Haul Services is that the DBNGP has been constructed and expanded to meet the needs of Users of full haul Services and, as such, the only additional cost of provision of Part Haul Services is the cost of incremental use of fuel gas in the provision of the Part Haul services. The value of fuel gas attributed by DBNGPT to provision of Part Haul Services is as follows.

Value of fuel gas attributed by DBNGPT to provision of Part Haul Services (nominal $million at end of year)

Year ending 31 December	2005	2006	2007	2008	2009	2010
Value of fuel gas	3.35	2.76	4.74	3.94	3.69	3.85

308. The Reference Tariff proposed by DBNGPT for the Tf Service comprises two charges:

- a Commodity Tariff, set at a value to recover the cost of fuel gas (net of the cost of fuel gas allocated to Users of Part Haul Services); and
- a Capacity Reservation Tariff, set at a value to recover all other costs.

309. The two charges of the Reference Tariff were specified by DBNGPT for the calendar year 2005, and were calculated on the assumption that the charges would be escalated at 100 percent of the annual rate of change in the Consumer Price Index ("**CPI**").

310. DBNGPT did not allocate any part of Total Revenue to Services other than the Tf Service and Part Haul Services. As such, no part of Total Revenue has been

allocated to Non-Reference Services. DBNGPT has not sought to treat any Non-References Services as Rebatable Services within the meaning of section 8.40 of the Code.

311. The Authority has given consideration to the cost allocation and Reference Tariff proposed by DBNGPT in the context of determinations in this Draft Decision that:

- the Authority is not satisfied that the value of Total Revenue proposed by DBNGPT meets the requirements of the Code and has revised this value; and
- the Proposed Access Arrangement should be amended to include Part Haul and Back Haul Services as Reference Services.

312. The Authority has also given consideration to whether some or all of the Non-Reference Services described by DBNGPT in the Services Policy of the Proposed Access Arrangement should be Rebatable Services within the meaning of section 8.40 of the Code.

313. These matters are addressed in turn below.

Allocation of Total Revenue and Reference Tariffs

314. As a result of the Authority's requirement under this Draft Decision for the Proposed Access Arrangement to be amended to include Part Haul and Back Haul Services as Reference Services, the Authority has determined Reference Tariffs for these Services. While the Authority accepts that DBNGPT may wish to make submissions on the determination of Reference Tariffs (and implicit allocation of costs) for these Services, for the purposes of this Draft Decision the Authority has taken into account the manner in which regulated tariffs for Part Haul Services were determined under the *Dampier to Bunbury Pipeline Regulations 1998* prior to the Access Arrangement for the DBNGP coming into effect in 2004.

315. Clause 35(4) of the *Dampier to Bunbury Pipeline Regulations 1998* provided for determination of tariffs for use of T1 or T2 capacity on a Part Haul basis as follows:

> (4) For T1 capacity or T2 capacity available in the year 1998 or the year 1999, if the service is not a full haul service (whether it is forward-haul or Back Haul), the amounts of the maximum price, the maximum capacity reservation charge, and the maximum commodity charge that apply are the amounts resulting from the formula:
>
> $$F \times \frac{D}{1399}$$
>
> where
>
> F is the amount that would apply if the service were a full haul service;
>
> D is the distance in kilometres of pipeline between the relevant inlet point and –
>
> (a) if the relevant outlet point is a notional gate point – the most distant physical gate point associated for the time being with the notional gate point; or
>
> (b) otherwise, the relevant outlet point.

316. The term "full haul service" was defined in the *Dampier to Bunbury Pipeline Regulations 1998* as:

"full haul service" means a service involving the transport of gas to an outlet point downstream of the compressor station site known as Compressor Station 9.

317. For the purposes of this Draft Decision, the Authority has determined a Reference Tariff for a full haul Reference Service that is in the nature of the T1 Service under the Standard Shipper Contract on the basis that the Reference Tariffs for Part Haul and Back Haul services would be determined in the same manner as set out in section 35(4) of the *Dampier to Bunbury Pipeline Regulations 1998*. In doing so, the Authority has adopted the tariff structure proposed by DBNGPT, being:

- a Commodity Tariff, set to recover the costs of fuel gas; and
- a Capacity Reservation Tariff, set to recover all other costs.

318. The Authority has also determined the full haul Reference Tariff on the basis of the tariff path proposed by DBNGPT – being escalation at 100 percent of the rate of change in the CPI – and the forecasts of demand for full haul, Part Haul and Back Haul services provided by DBNGPT.

319. The tariff path and escalation of tariffs for inflation is addressed in more detail below in relation to tariff variation and Incentive Mechanisms (paragraph 329 and following).

320. The demand forecasts made by DBNGPT are summarised as follows. The Authority notes that the demand forecast for full haul services differs slightly from that provided by DBNGPT in the Access Arrangement Information due to a correction made by the Authority to remove the forecast (of about 1 TJ per day contracted capacity and 0.95 TJ/day throughput) for one User in the Mid-West region from the forecast for the full haul service and include this amount in the forecast for the Part Haul service.

DBNGPT Forecast of Demand for Services

Year ending 31 December	2005	2006	2007	2008	2009	2010
Full Haul						
Contracted capacity (TJ/day)	574.85	614.58	717.97	770.10	787.52	825.35
Throughput (TJ/day)	553.87	590.89	680.98	735.99	752.73	787.44
Part Haul (forward haul)						
Contracted capacity (TJ/day)	85.38	61.09	61.52	60.78	60.78	60.78
Throughput (TJ/day)	59.69	41.90	42.58	42.09	42.09	42.09
Back Haul						
Contracted capacity (TJ/day)	66.08	109.20	112.20	112.20	112.20	112.20
Throughput (TJ/day)	62.65	109.20	112.20	112.20	112.20	112.20

321. Taking into account the Authority's revision of Total Revenue, the full haul Reference Tariff determined by the Authority for 2005 is:

- Capacity Reservation Tariff: $0.9124 / GJ MDQ
- Commodity Tariff: $0.1206 / GJ

Draft Decision Amendment 8

The Proposed Access Arrangement should be amended to include a Reference Tariff for the Reference Service that is of the nature of the "T1 Service" to which the Standard Shipper Contract relates. This Reference Tariff should comprise a Capacity Reservation Tariff and a Commodity Tariff as follows for the calendar year 2005:

Capacity Reservation Tariff: $0.9124/GJ MDQ

Commodity Tariff: $0.1206/GJ

For the years 2006 to 2011, values of the Capacity Reservation Tariff and Commodity Tariff should be determined in accordance with clause 7.11 of the Proposed Access Arrangement.

The Reference Tariff should reflect the following cost parameters.

Capital Base (at 31 December 2004)	$1,619.77 million					
New Facilities Investment	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	196.92	386.61	6.56	213.20	98.17	7.58
Rate of Return	7.24% real pre-tax					
Depreciation	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	44.19	49.10	57.00	57.22	60.42	61.99
Non Capital Costs	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	56.50	55.60	83.53	77.94	73.45	72.51

Draft Decision Amendment 9

The Proposed Access Arrangement should be amended to include a Reference Tariff for a Part Haul and Back Haul Services. The charges of this Reference Tariff should be determined as a proportion of the charges of Reference Tariff for the full haul Reference Service as follows:

$$F \times \frac{D}{1399}$$

where

F is the value of the charge that would apply if the Service were the full haul Reference Service, and

D is the distance in kilometres of pipeline between the relevant Receipt Point and the relevant Delivery Point.

Rebatable Services

322. DBNGPT's Proposed Access Arrangement does not include provision for allocation of costs to Services other than the full haul Reference Service and to Part Haul Services. Nor has DBNGPT proposed that any Non-Reference Services be Rebatable Services within the meaning of section 8.40 of the Code.

323. Submissions from Users of the DBNGP[39] have expressed concern that provisions of the Current Access Arrangement for Rebatable Services have not been carried over into the Proposed Access Arrangement.

324. Under clause 9 of the Current Access Arrangement, revenue from three Non Reference Services (Seasonal Service, Park and Loan Service and Secondary Market Service), as well as any other Service nominated by the Service Provider, comprises Rebatable Revenue. Under a complex formula, an amount of Rebatable Revenue is determined which is distributed between the Service Provider and "Rebate Sharing Shippers" in proportions of 55 percent and 45 percent, respectively.

325. Under section 8.40 of the Code, provision is made for Rebatable Services as a means of avoiding a need to allocate Total Revenue across all Services that may be offered by use of a pipeline. Rather than having to allocate costs on the basis of forecast demand for Services, section 8.40 provides for there to be no allocation of Revenue to some Services, subject to a share of any revenue from sale of these Services being rebated to Users of other Services. Under the definition of a Rebatable Service in section 10.8 of the Code, such an arrangement is contemplated for Services for which:

(a) there is substantial uncertainty regarding expected future revenue from sales of that Service due to the nature of the Service and/or the market for that Service; and

(b) the nature of the Service and the market for that Service is substantially different to any Reference Service and the market for that Reference Service.

326. Section 8.40 also indicates that a rebate mechanism should be determined having regard to two objectives:

(a) providing the Service Provider with an incentive to promote the efficient use of capacity, including through the sale of Rebatable Services; and

(b) Users of the Reference Service sharing in the gains from additional sales of Services, including from sales of Rebatable Services.

327. The Authority has considered the question of whether some of the Non-Reference Services described in the Services Policy should be Rebatable Services within the context of the current circumstances of the DBNGP. The Authority notes that, in the current circumstances of there being capacity constraints on the provision of Services by the DBNGP, there is potentially a substantial benefit to Users and a substantial public benefit in DBNGPT having a strong incentive to offer Services that facilitate the efficient utilisation of Capacity. Such Services would include the Spot Capacity Service, Park and Loan Service and Seasonal Service that seek to utilise Capacity that would otherwise not be available to provide a firm service. The Authority also notes that, as result of there being capacity constraints on the provision of Services by the

[39] CSBP, Western Power.

DBNGP, there is unlikely to be sufficient ability for DBNGPT to provide these Services to an extent that DBNGPT could substantially over-recover costs of pipeline operation.

328. For these reasons, the Authority does not consider the absence of provisions for rebate of revenues from Non Reference Services to be contrary to the objectives of section 8.1 of the Code for a Reference Tariff and Reference Tariff Policy.

Reference Tariff Variation

329. The Code provides for variation in Reference Tariffs within an Access Arrangement Period in two ways:

- variation in Reference Tariffs according to principles such as a predetermined price path or realised cost and sales outcomes for the Service Provider; and
- implementation of an Approved Reference Tariff Variation Method.

330. Provisions of the Code relevant to variation in Reference Tariffs within an Access Arrangement Period are set out below.

331. Section 8.3 of the Code provides for the Service Provider to have discretion as to the manner in which Reference Tariffs vary within an Access Arrangement Period:

> 8.3 Subject to section 8.3A and to the Relevant Regulator being satisfied that it is consistent with the objectives contained in section 8.1, the manner in which a Reference Tariff may vary within an Access Arrangement Period through the implementation of a Reference Tariff Policy is within the discretion of the Service Provider. For example, the Reference Tariff Policy may specify that Reference Tariffs will vary within an Access Arrangement Period through the implementation of:
>
> (a) a Cost of Service Approach;
>
> (b) a Price Path Approach;
>
> (c) a Reference Tariff Control Formula Approach;
>
> (d) a Trigger Event Adjustment Approach; or
>
> (e) any variation or combination of the above.

332. The different approaches are defined in section 10.8 of the Code as follows.

> **Cost of Service Approach** means a Reference Tariff Variation Method whereby initial Reference Tariffs are set on the basis of the anticipated costs of providing the Reference Services and are adjusted continuously in light of actual outcomes (such as sales volumes and actual costs) to ensure that the Reference Tariffs recover the actual costs of providing the Reference Services.
>
> **Reference Tariff Control Formula Approach** means a Reference Tariff Variation Method whereby an initial set of Reference Tariffs may vary over the Access Arrangement Period in accordance with a specified formula or process.
>
> **Price Path Approach** means a Reference Tariff Variation Method whereby Reference Tariffs are determined in advance for the Access Arrangement Period to follow a path or paths over time forecast to deliver a revenue stream, with that price path or paths not being adjusted to account for subsequent events until the commencement of the next Access Arrangement Period.

Trigger Event Adjustment Approach means a Reference Tariff Variation Method whereby Reference Tariffs are varied in the manner specified in a Reference Tariff Policy upon the occurrence of a Specified Event.

333. Sections 8.3A to 8.3H of the Code contain further provisions on implementation of an Approved Reference Tariff Variation Method.

8.3A A Reference Tariff may vary within an Access Arrangement Period only through implementation of the Approved Reference Tariff Variation Method as provided for in sections 8.3B to 8.3H.

8.3B (a) If a Specified Event occurs the Service Provider must, within the time provided for in the Reference Tariff Policy, provide a notice to the Relevant Regulator containing the information set out in section 8.3C.

(b) If the Service Provider otherwise wishes to vary a Reference Tariff in accordance with the Approved Reference Tariff Variation Method, the Service Provider must provide a notice to the Relevant Regulator containing the information set out in section 8.3C.

8.3C The Service Provider's notice under section 8.3B must contain:

(a) the Service Provider's proposed variations to the Reference Tariff and the proposed effective date for those variations; and

(b) an explanation of how the variations proposed are consistent with the Approved Reference Tariff Variation Method contained in the Reference Tariff Policy.

Notwithstanding any other section of the Code, the Relevant Regulator must make public, and must provide the Code Registrar with a copy of, any information provided under paragraphs (a) and (b) above.

8.3D Unless the Relevant Regulator has disallowed the variation under section 8.3E, the Reference Tariff will be varied automatically on and from the later of:

(a) the date specified in a notice from the Service Provider given in accordance with section 8.3B;

(b) (i) if the Reference Tariff Policy specifies a minimum notice period for the variation, the expiry of that period after the date of the notice from the Service Provider given in accordance with section 8.3B; or

(ii) if the Reference Tariff Policy does not specify a minimum notice period for the variation, 35 days after the date of the notice from the Service Provider given in accordance with section 8.3B,

but if, before the end of the relevant period in paragraph (i) or (ii) above, the Relevant Regulator notifies the Service Provider that it requires additional information from the Service Provider, which the Relevant Regulator has reason to believe may assist the Relevant Regulator to determine whether the variations proposed are consistent with the Approved Reference Tariff Variation Method, the relevant period will be extended by the number of days commencing on the day on which the Relevant Regulator gave notice to the Service Provider and ending on the day on which the Relevant Regulator receives the additional information from the Service Provider.

8.3E The Relevant Regulator may, by notice to the Service Provider before the variation is due to come into effect under section 8.3D, disallow a variation of a Reference Tariff. The Relevant Regulator may disallow a variation only if the Relevant Regulator considers, on reasonable grounds, that the proposed variation is inconsistent with, or not permitted under, the Approved Reference Tariff Variation Method. If the Relevant Regulator disallows a variation because it considers that it is inconsistent with, or not permitted under, the Approved Reference Tariff Variation Method, the Relevant Regulator may specify a variation that is consistent with the Approved Reference Tariff Variation Method. Any such variation comes into effect on the date determined in accordance with section 8.3D.

8.3F The Relevant Regulator must publish its reasons for:

(a) allowing a variation of a Reference Tariff (including if the variation is allowed because of the effluxion of time under section 8.3D);

(b) disallowing a variation of a Reference Tariff; or

(c) specifying any variation specified by the Relevant Regulator under section 8.3E,

at the time of allowing, disallowing or specifying that variation.

8.3G If a Specified Event occurs and the Service Provider does not serve a notice on the Relevant Regulator as required by section 8.3B(a), then the Relevant Regulator may itself vary the Reference Tariff concerned but only in accordance with the Approved Reference Tariff Variation Method. Any such variation comes into effect on the date specified in, or determined in accordance with, the Access Arrangement. The Relevant Regulator must publish its reasons for any variation of the Reference Tariff made under this section 8.3G at the time of making that variation.

8.3H The Relevant Regulator may:

(a) on application by the Service Provider, grant extensions to any time period in sections 8.3B to 8.3G that applies to the Service Provider; and

(b) extend any time period in section 8.3G that applies to the Relevant Regulator.

334. Under clause 7.11 of the Proposed Access Arrangement, the Reference Tariff Policy provides for the Reference Tariff to be varied within the Access Arrangement Period only by escalation at 100 percent of the rate of change in the CPI.

335. Submissions have been received from Users[40] contending that the Reference Tariff should only be escalated at 67 percent of the rate of change in the CPI, consistent with provisions of the Current Access Arrangement.

336. The calculation used by DBNGPT for determination of the Reference Tariff, and as used by the Authority in re-determining Reference Tariffs for the purposes of this Draft Decision, derives a value for the Reference Tariff in 2005 on the basis that this tariff will be held constant in real terms over the Access Arrangement Period. In this manner, the Reference Tariff is determined consistent with returning the present value of Total Revenue over the Access Arrangement Period, given forecasts of demand for Services. A change in the tariff path, say to escalation at 67 percent of the rate of change in the CPI, would have the effect of altering the value of the Reference Tariff in 2005 and each subsequent year of the Access Arrangement Period, but not the present value of Total Revenue that is forecast to be recovered.

337. The Authority is therefore of the view that a debate about the relative merits of different tariff escalation rates over the Access Arrangement Period should focus on the merits of the particular tariff paths rather than the escalation rate per se. For example, consideration could be given to tariff paths ("glide paths") that would see the Reference Tariff in the final year of the Access Arrangement Period being of approximately the same magnitude as expected for the first year of the next Access Arrangement Period, with the advantage of avoiding a significant change in the tariff.

[40] Western Power Corporation, Newmont Australia Ltd.

338. For the proposed Access Arrangement Period of 2005 to 2010, the Authority notes that large increases in demand are forecast with associated large values of New Facilities Investment. As the Reference Tariff that will be determined for the first year of the next Access Arrangement Period (starting in 2011) will be highly dependent upon the extent of the changes in demand and level of new investment, the Authority does not consider that it is necessary at this time to be concerned with manipulating the tariff path for the proposed Access Arrangement Period with a view to the value of the Reference Tariff in the next period. The Authority therefore considers the tariff path proposed by DBNGPT for the Reference Tariff to be consistent with the objectives contained in section 8.1 of the Code.

Incentive Mechanisms

339. The Code provides for the Reference Tariff Policy of an Access Arrangement to include an Incentive Mechanism.

340. Sections 8.44 to 8.46 of the Code set out the principles for establishing an Incentive Mechanism within the Reference Tariff Policy and the objectives that the Incentive Mechanism should seek to meet.

341. Section 8.44 of the Code states that a Reference Tariff Policy should, wherever the Relevant Regulator considers appropriate, contain a mechanism that permits the Service Provider to retain all, or a share of any returns to the Service Provider from the sale of a Reference Service during an Access Arrangement Period that exceeds the level of returns expected at the beginning of the Access Arrangement Period (an "**Incentive Mechanism**"), particularly where the additional returns are attributable (at least in part) to the efforts of the Service Provider. Such additional returns may result from, amongst other things, lower Non Capital Costs or greater sales of Services than forecast.

342. Section 8.45 of the Code provides that an Incentive Mechanism may include (but is not limited to) the following:

(a) specifying the Reference Tariff that will apply during each year of the Access Arrangement Period based on forecasts of all relevant variables (and which may assume that the Service Provider can achieve defined efficiency gains) regardless of the realised values for those variables;

(b) specifying a target for revenue from the sale of all Services provided by means of the Covered Pipeline, and specifying that a certain proportion of any revenue received in excess of that target shall be retained by the Service Provider and that the remainder must be used to reduce the Tariffs for all Services provided by means of the Covered Pipeline (or to provide a rebate to Users of the Covered Pipeline); and

(c) a rebate mechanism for Rebatable Services pursuant to section 8.40 that provides for less than a full rebate of revenues from the Rebatable Services to the Users of the Reference Service.

343. Section 8.46 of the Code states that an Incentive Mechanism should be designed with a view to achieving the following objectives:

(a) to provide the Service Provider with an incentive to increase the volume of sales of all Services, but to avoid providing an artificial incentive to favour the sale of one Service over another;

(b) to provide the Service Provider with an incentive to minimise the overall costs attributable to providing those Services, consistent with the safe and reliable provision of such Services;

(c) to provide the Service Provider with an incentive to develop new Services in response to the needs of the market for Services;

(d) to provide the Service Provider with an incentive to undertake only prudent New Facilities Investment and to incur only prudent Non Capital Costs, and for this incentive to be taken into account when determining the prudence of New Facilities Investment and Non Capital Costs for the purposes of sections 8.16(a) and 8.37; and

(e) to ensure that Users and Prospective Users gain from increased efficiency, innovation and volume of sales (but not necessarily in the Access Arrangement Period during which such increased efficiency, innovation or volume of sales occur).

344. As an element of a Reference Tariff Policy, an Incentive Mechanism is also required to meet the objectives of section 8.1 of the Code.

345. Under clauses 7.11 and 7.12 of the Proposed Access Arrangement, the Reference Tariff Policy includes two elements of an Incentive Mechanism:

- the price path approach to the specification of the Reference Tariff; and
- a mechanism whereby a share of any reductions in Non Capital Costs during the Access Arrangement Period, relative to forecast Non Capital Costs, is "carried over" to the Access Arrangement Period commencing on 1 January 2011 (an "efficiency carryover mechanism").

346. The Authority is required to consider whether these Incentive Mechanisms proposed by DBNGPT are consistent with the objectives of section 8.46 of the Code.

347. Under the price path specification of the Reference Tariff, the Service Provider is faced with an incentive to out-perform the forecasts of costs and demand on which the determination of Reference Tariffs is based. This incentive arises from Service Provider capturing the benefits of this out-performance until the end of the Access Arrangement Period, at which time the Reference Tariff is re-set on the basis of costs and demand.

348. The specification of a tariff path for the Access Arrangement Period is consistent with the specification of Reference Tariffs in many Access Arrangements approved under the Code to date. The Authority accepts that a tariff path as an element of an Incentive Mechanism is consistent with the objectives of section 8.46 of the Code inasmuch as it creates incentives for development of the market for Services generally, and for minimisation of costs.

349. The second Incentive Mechanism included in the Proposed Access Arrangement is the efficiency carryover mechanism. This is set out in clause 7.12 of the Proposed Access Arrangement.

350. The efficiency carryover mechanism proposed by DBNGPT extends the incentive properties of the price path form of price control, in terms of incentives to reduce Non Capital Costs below the levels of forecasts used in the determination of Reference Tariffs. Under a purely price path Incentive Mechanism, the Service Provider retains benefits during the Access Arrangement Period from any cost savings that are able to

be made relative to forecasts. The Service Provider does not, however, retain benefits beyond the Access Arrangement Period as the Reference Tariff is re-set on the basis of forecasts of costs, which supposedly incorporate the cost reductions achieved in the previous period.

351. A problem with reliance on a price path form of price control as an Incentive Mechanism to motivate reductions in costs is that, as the Service Provider only retains the benefits of the cost reduction for the remainder of the Access Arrangement Period, the strength of the incentive to reduce costs declines through the Access Arrangement Period. Cost reductions achieved in the first year of the period would produce five years of benefits for the Service Provider, while cost reductions achieved in the second year would produce four years of benefits, and so on. This may even create perverse incentives for a Service Provider to defer initiatives for cost reductions from the last year of an Access Arrangement Period to the first year of the next or, even worse, to engineer higher levels of costs towards the end of an Access Arrangement Period.

352. An efficiency carryover mechanism in the nature of that proposed by DBNGPT counters these perverse incentives by allowing the Service Provider to carry over benefits gained from cost reductions from one regulatory period to the next so that the total period over which the Service Provider is able to retain the benefits of a cost reduction for a pre-determined period from the time that the cost reduction is achieved, regardless of the timing relative to the end of the Access Arrangement Period.

353. There is substantial regulatory precedent for inclusion of efficiency carryover mechanisms in Access Arrangements under the Code, including, for example, Access Arrangements for the Victorian gas distribution networks,[41] the Victorian principal transmission system (GasNet)[42] and AGL Gas Networks in New South Wales.[43] A similar efficiency carryover mechanism is also applied to the Victorian electricity distribution networks.

354. While the efficiency carryover mechanism proposed by DBNGPT is broadly similar to the mechanisms in place for other gas pipelines, it has two distinguishing characteristics as follows.

355. Firstly, the mechanism proposed by DBNGPT is "symmetrical" in that both cost reductions and cost increases relative to forecasts are carried forward. DBNGPT stands to benefit from the carry over of cost reductions (that result in an increase in the value of Total Revenue in the next Access Arrangement Period), but bears a risk of a "negative efficiency carryover" from the carry over of cost increases (that result in a reduction in the value of Total Revenue in the next Access Arrangement Period). Efficiency carryover mechanisms implemented elsewhere have generally not provided for negative efficiency carryovers, although in some instances the regulators in the

[41] Essential Services Commission, 'Review of Gas Access Arrangements', Final Decision, October 2002.

[42] Australian Competition and Consumer Commission, 'Gasnet Australia Access Arrangements Revision for Principal Transmission Systems', Final Decision, November, 2002.

[43] Independent Pricing and Regulatory Tribunal, December 2004, Revised Access Arrangements for AGL Gas Networks (AGLGN): Draft Decision.

relevant jurisdictions have reserved an ability to review this arrangement in the future.[44]

356. The Authority considers that the symmetry in the efficiency mechanism carryover mechanism, while contrary to regulatory precedent, creates incentives for improvements in efficiency by DBNGPT and has the effect of partially sheltering Users from decreases in efficiency. For this reason, the Authority is satisfied that this aspect of the proposed efficiency carryover mechanism is consistent with the objective of section 8.36(b) of the Code.

357. Secondly, the efficiency carryover mechanism proposed by DBNGPT provides for the benefits of cost reductions relative to forecasts (and costs of increases relative to forecasts) to be carried forward for 10 years. Two consequences of this are:

- Users would not benefit from cost reductions (or would not suffer from cost increases) for a period of ten years from the time that the cost decrease or increase occurs; and
- in present value terms, the benefits of cost reductions (or costs of cost increases) are shared between DBNGPT and Users in a ratio of approximately 50:50.

The ten year period of carryover is contrary to general precedent for gas pipelines and electricity distribution systems elsewhere, which is for a carry forward period of only five years, implying a sharing of benefits, in present value terms, between the Service Provider and customers in a ratio of approximately 30:70.

358. The sharing of benefits of efficiency gains between the Service Provider and Users is implicit in the required objectives for an Incentive Mechanism under section 8.46 of the Code. The Code does not, however, provide clear guidance as to what the appropriate division of benefits should be.

359. The Authority recognises that the sharing of benefits of efficiency gains within an efficiency carryover mechanism represents a trade-off between:

- providing incentives for the Service Provider to reduce costs and increase technical efficiency, consistent with the objective of section 8.46(b) of the Code; and
- ensuring that Users benefit from cost reductions and that prices are adjusted to reflect costs so as to increase allocative efficiency, consistent with the objective of section 8.46(e) of the Code.

[44] For example, the Essential Services Commission in its Final Decision on proposed revisions to the Access Arrangements for the Victorian gas distribution networks stated that it may" exercise discretion in determining the appropriate treatment of any negative carryover amount, having regard to the specific circumstances in which the negative amount has arisen" (Essential Services Commission, 'Review of Gas Access Arrangements', Final Decision, October 2002, page 165). A similar stance was also taken by the Essential Services Commission of South Australia in regard to regulation of electricity distribution networks (Essential Services Commission of South Australia, 2003, Electricity Distribution Price Review: Efficiency Carryover Mechanism, Working Conclusions).

360. The Authority recognises that determining the trade-off between these two objectives is largely a matter of judgement. In considering this matter, the Authority has taken into account the analysis of the trade-off undertaken by the Victorian Office of the Regulator General (now the Essential Services Commission) in its 2001 to 2005 price determination for the Victorian electricity distribution systems.[45] Under reasonable assumptions of diminishing efficiency gains with increasing efficiency incentives, the Regulator General determined that an optimal sharing of benefits – that created an incentive for efficiency gain consistent with producing the greatest consumer benefit – would allow the Service Provider to retain less than 50 percent of the benefits.

361. The Authority is also concerned that a 10 year carryover period gives rise to a substantial delay in Users gaining benefits from cost reductions achieved by DBNGPT, and that such a sustained delay is inconsistent with the objective of section 8.1(b) of the Code that the Reference Tariff and Reference Tariff Policy should be designed to replicate the outcomes of a competitive market, even if this objective is interpreted in the sense of a workably competitive market.

362. In view of these matters, the Authority is of the view that a 5 year, rather than 10 year, carryover period in an efficiency carryover mechanism is necessary to satisfy the objectives of sections 8.1 and 8.46 of the Code.

Draft Decision Amendment 10

Clause 7.12(c) of the Proposed Access Arrangement should be amended so that the share of returns to DBNGPT is calculated as follows.

Year	**Share of returns**
2011	$S_{2011} = E_{2006} + E_{2007} + E_{2008} + E_{2009}$
2012	$S_{2012} = E_{2007} + E_{2008} + E_{2009}$
2013	$S_{2013} = E_{2008} + E_{2009}$
2014	$S_{2014} = E_{2009}$
2015	$S_{2015} = 0$

Fixed Principles

363. Section 8.47 of the Code provides for certain principles of the Reference Tariff Policy to be Fixed Principles, meaning that the principles cannot be changed without the agreement of the Service Provider using a specified period (Fixed Period) which may extend beyond the term of the Access Arrangement Period.

364. Section 8.48 of the Code provides that a Fixed Principle may include any Structural Element, which is defined in section 10 of the Code as:

> any principle or methodology that is used in the calculation of a Reference Tariff where that principle or methodology is not a Market Variable Element and has been structured for Reference Tariff making purposes over a longer period than a single Access Arrangement Period, and

[45] Office of the Regulator General, September 2000, Electricity Distribution Price Determination, Volume 1 pp 90 – 94.

> includes the Depreciation Schedule, the financing structure that is assumed for the purposes of section 8.30, and that part of the Rate of Return (calculated pursuant to section 8.30) that exceeds the return that could be earned on an asset that does not bear any market risk.

365. This definition of a Structural Element indicates that a Market Variable Element can not be a Fixed Principle. Market Variable Element is defined in section 10 of the Code as:

> a factor that has a value assumed in the calculation of a Reference Tariff, where the value of that factor will vary with changing market conditions during the Access Arrangement Period or in future Access Arrangement Periods, and includes the sales or forecast sales of Services, any index used to estimate the general price level, real interest rates, Non Capital Cost and any costs in the nature of capital costs.

366. Under clauses 7.6 and 7.13 of the Proposed Access Arrangement, DBNGPT proposes the following fixed principles:

- the methodology of determining the Capital Base as set out in section 7.3 of the Proposed Access Arrangement (paragraph 7.13(a)(i) of the Proposed Access Arrangement);
- the method of determination of the Rate of Return as set out in sections 7.5 and 7.6 of the Proposed Access Arrangement (being the CAPM and an estimate of the cost of debt), and the following values of parameters of the CAPM –
  - market risk premium of 6.00 percent,
  - asset beta of 0.60,
  - debt beta of 0.20,
  - ratio of debt to total assets of 60 percent and
  - value of imputation credits of 50 percent (clause 7.6 and paragraph 7.13(a)(ii) of the Proposed Access Arrangement); and
- a requirement that the Authority (or other Relevant Regulator under the Code) not take into account, in determination of a Reference Tariff after 2011 or in any other functions, the amount by which the revenue earned by DBNGPT in the sale of Services exceeds the revenue that might have been earned had all full haul Services been sold at the Reference Tariff plus revenue from sale of other Services (paragraph 7.13(a)(iii) of the Proposed Access Arrangement).

367. DBNGPT has proposed a Fixed Period extending to 2031.

368. In considering the Fixed Principles proposed by DBNGPT, the Authority is required to determine whether the proposed Fixed Principles are Structural Elements, and to consider the interests of the Service Provider and the interests of Users and Prospective Users.

369. In regard to the methodology for determination of the Capital Base as set out in clause 7.3 of the Proposed Access Arrangement, the Authority notes that the methodology is a roll-forward calculation as contemplated by section 8.9 of the Code. The Authority notes, however, that in the context of the proposed Access Arrangement Period for

2005 to 2010, the methodology does not recognise that the value of the Capital Base calculated for each year, and for the purposes of determining the Reference Tariff, is a notional value based on a *forecast* of New Facilities Investment that is expected to meet the requirements of section 8.16 of the Code. The value of the Capital Base calculated at the commencement of the next Access Arrangement Period would be determined on the basis of *actual* New Facilities Investment that meets the requirements of section 8.16 of the Code, and this value may differ from that determined for the purposes of calculation of a Reference Tariff. The Authority is of the view that establishing the methodology for determination of the Capital Base as a Fixed Principle meets the definition of a Structural Element and is not contrary to the interests of Users and Prospective Users, but that this methodology should distinguish between the *ex ante* determination of the Capital Base for the purposes of determining the Reference Tariff and the *ex post* determination of the Capital Base at the commencement of the next Access Arrangement Period.

Draft Decision Amendment 11

Clause 7.3 of the Proposed Access Arrangement should be amended so as to distinguish between the *ex ante* determination of the Capital Base for the purposes of determining the Reference Tariff (involving consideration of forecast New Facilities Investment considered likely to meet the requirements of section 8.16 of the Code) and the *ex post* determination of the Capital Base at the commencement of the next Access Arrangement Period (involving consideration of actual New Facilities Investment that meets the requirements of section 8.16 of the Code).

370. In regard to the method of determination of the Rate of Return and values of parameters of the CAPM, the Authority notes that the Code explicitly contemplates use of the CAPM for determining the Rate of Return, and also that the definition of a Structural Element explicitly includes the assumed financial structure for the regulated entity (assumed level of gearing) and the part of the rate of return that could be earned on an asset that does not bear any market risk.

371. In the context of calculation of a Rate of Return by the CAPM and in the form of a WACC, the latter would presumably include the equity margin (calculated as the market risk premium multiplied by the equity beta, and corrected for the value of imputation credits) and the debt margin (calculated as a debt risk premium plus any allowance for debt transaction costs). The Regulator is therefore satisfied that both the methodology used by DBNGPT in determining the Rate of Return, and the CAPM parameters proposed by DBNGPT as Fixed Principles, meet the definition of Structural Elements.

372. In assessing whether the methodology used by DBNGPT in determining the Rate of Return, and the CAPM parameters proposed by DBNGPT, may be Fixed Principles, the Authority has considered the interests of DBNGPT and of Users and Prospective Users. While the Authority acknowledges the certainty that the proposed Fixed Principles would provide to DBNGPT in respect of future Access Arrangement Periods, the Authority is of the view that DBNGPT's proposed Fixed Principles relating to the Rate of Return may, at this time, be unreasonably contrary to the interests of Users and Prospective Users. Rate of Return values approved by regulators under the Code (and under other similar regulatory regimes for other infrastructure services) are currently a matter of substantial debate, generally focussed

on levels of risk of regulated entities (as reflected in beta values) and effects of regulatory Rate of Return determinations on investment in pipelines. While the Authority has, to date, approved Access Arrangements embodying Rates of Return in excess of values that may be justified by strict adherence to evidence from capital markets, it is possible that future consideration of methodologies for determining Rates of Return will allow a refinement of regulatory practice. The Authority considers that the Fixed Principles proposed by DBNGPT in relation to the Rate of Return would unreasonably prevent Users and Prospective Users from receiving any benefits that may arise from such refinements.

Draft Decision Amendment 12 The Proposed Access Arrangement should be amended so as to delete sub-clauses 7.6(d) and paragraph 7.13(a)(ii), both relating to the establishment of the methodology for determination of the Rate of Return, and some parameter values in the determination, as Fixed Principles.

373. In regard to the third of the Fixed Principles proposed by DBNGPT, and acting to prevent the Authority taking into account in a future determination any difference between revenues actually earned and revenues that might otherwise have been earned if full haul Services were sold at the Reference Tariff, the Authority notes that this Fixed Principle is consistent with provisions of the Code including:

- section 2.47, which prevents the Authority from approving revisions to an Access Arrangement (or drafting and approving its own revisions to an Access Arrangement) if a provision of the Access Arrangement as revised would, if applied, deprive any person of a contractual right in existence prior to the date the revisions to the Access Arrangement were submitted (or were required to be submitted), other than an Exclusivity Right which arose on or after 30 March 1995; and

- section 2.50, which indicates that nothing in an Access Arrangement except for the Queuing Policy limits the terms and conditions (including tariffs) that can be agreed between a Service Provider and a User or Prospective User.

374. The Authority is therefore satisfied that the Fixed Principle proposed under paragraph 7.13(a)(iii) of the Proposed Access Arrangement is consistent with the definition of a Structural Element and is not unreasonably contrary to the interests of Users or Prospective Users.

Rebate of Charges

375. Clause 7.14 of the Proposed Access Arrangement provides for the rebate of "Charges" only in relation to use of certain Delivery Points and only then in accordance with clause 3 of the Access Contract Terms and Conditions.

376. Clause 3 of the Access Contract Terms and Conditions provides, in certain circumstances of the sharing between users of Receipt Points and Delivery Points, for DBNGPT to make a rebate of a Maintenance Charge for Receipt Points or Delivery Points, where the Maintenance Charge is a charge separate to the Reference Tariff.

377. The Authority notes that clause 7.14 of the Proposed Access Arrangement and the related clause 3 of the Access Contract Terms and Conditions relate specifically to charges separate from the Reference Tariff and that no submissions made to the Authority have indicated concern with these provisions. As such, while this provision of the Reference Tariff Policy has limited relevance to determination of Reference Tariffs, the Authority considers the provision to not be contrary to the requirements of the Code for a Reference Tariff and Reference Tariff Policy.

Terms and Conditions

Terms and Conditions for Reference Services

378. Section 3.6 of the Code requires that:

> 3.6 An Access Arrangement must include the terms and conditions on which the Service Provider will supply each Reference Service. The terms and conditions included must, in the Relevant Regulator's opinion, be reasonable.

379. DBNGPT has provided terms and conditions for the single proposed Reference Service (the Tf Service) as Annexure A of the proposed Access Arrangement: the Access Contract Terms and Conditions.

380. The Authority has indicated in this Draft Decision that the Proposed Access Arrangement should be amended to remove the Tf Service and to include three other Reference Services:

- a Service in the nature of the "T1 Service" to which the Standard Shipper Contract relates;
- a Part Haul Service that is in the nature of the T1 Service to which the Standard Shipper Contract relates; and
- a Back Haul Service that is in the nature of the T1 Service to which the Standard Shipper Contract relates.

381. Given the requirement under this Draft Decision for the Proposed Access Arrangement to be amended to remove the Tf Service, the Authority has not undertaken an assessment of the terms and conditions of this service as proposed by DBNGPT. Rather, the Authority has given consideration to the nature of terms and conditions that should apply to the three Reference Services that are required under this Draft Decision to be included in the Access Arrangement.

382. As indicated by the Authority in relation to the Services Policy of the proposed Access Arrangement (paragraph 53), a mutual willingness of both Users and DBNGPT to enter into contracts under terms as set out in, or substantially based on, the Standard Shipper Contract indicates both that the Service of the nature provided under the Standard Shipper Contract is likely to be sought by a significant part of the market and that DBNGPT is willing and able to provide such a Service.

383. While a number of parties have made submissions to the Authority requesting that the T1 Service be included in the Access Arrangement, there has been no general claim that the terms and conditions set out in the Standard Shipper Contract are

unreasonable, except in relation to gas quality. The Authority therefore considers that, with the exception of terms and conditions relating to gas quality (addressed further below), the terms and conditions for the T1 Service as set out in the Standard Shipper Contract appear, prima facie, to be reasonable within the meaning of section 3.6 of the Code.

384. The Authority therefore is of the view that the Access Arrangement should include terms and conditions for the T1 Service (as a Reference Service) that are substantially the same as the terms and conditions set out in the Standard Shipper Contract, with the exception of the terms and conditions that relate to a gas quality specification (for reasons as set out below).

Draft Decision Amendment 13 The Proposed Access Arrangement should be amended to include terms and conditions for the T1 Service (as a Reference Service) that are substantially the same as the terms and conditions set out in the Standard Shipper Contract, save as otherwise required by this Draft Decision.

385. The Authority similarly is of the view that the Access Arrangement should include terms and conditions for the Part Haul Service and Back Haul Service (as Reference Services) that, to the extent applicable for these Services, are substantially the same as the terms and conditions set out in the Standard Shipper Contract, with the exception of the terms and conditions that relate to a gas quality specification.

Draft Decision Amendment 14 The Proposed Access Arrangement should be amended to include terms and conditions for the Part Haul Service and Back Haul Service (as Reference Services) that, to the extent applicable for these Services, are substantially the same as the terms and conditions set out in the Standard Shipper Contract, save as otherwise required by this Draft Decision.

Gas Quality

386. Several submissions made to the Authority have raised concerns with the gas quality specification set out in the proposed terms and conditions for the Tf Service. While the Authority is requiring under this Draft Decision the removal of the Tf Service from the Access Arrangement, the concerns raised in regard to the gas quality specification relate generally to the gas quality specification that will apply to the Reference Service or Services that will ultimately be included in the Access Arrangement. It is in this context that the Authority has considered the concerns expressed in submissions.

387. Under clause 2.1 of the proposed terms and conditions for the Tf Service, gas supplied by a User at a Receipt Point or delivered to a User (by DBNGPT) at a Delivery Point is required to comply with the "Operating Specification", which is the gas quality specification specified in Item 1 of Schedule 2 of the proposed terms and conditions, as follows.

Component		Receipt Points	Delivery Points
Maximum carbon dioxide (mol %)		3.6	4.0
Maximum inert gases (mol %)		5.5	6.0
Minimum higher heating value (MJ/m^3)		37.3	37.3
Maximum higher heating value (MJ/m^3)		42.3	42.3
Minimum Wobbe Index		47.3	47.3
Maximum Wobbe Index		51.0	51.0
Maximum total sulphur (mg/m^3)	Unodorised	10	10
	Odorised	n/a	20
Maximum Hydrogen Sulphide (mg/m^3)		2	2
Maximum Oxygen (mol %)		0.2	0.2
Maximum Water (mg/m^3)		48	48
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		Below 0 ºC	Below 0 ºC
Maximum radioactive components (Bq/m^3)		600	600

388. The Authority notes that the Operating Specification under the terms of the proposed Tf Service and under the Standard Shipper Contract is the same as that for the Firm Service under the Current Access Arrangement, with the exception of the requirement for "minimum extractable LPGs" that falls away on 1 July 2005 under the Standard Shipper Contract.

389. The terms and conditions for the Tf Service also make provision for the Operating Specification to be changed (either formally or in practical effect) as a consequence of either a change in law that requires DBNGPT to receive gas into the DBNGP with an Operating Specification for one or more components outside the Operating Specifications,[46] or a request from a User.[47] In the latter case, and subject to a range of conditions, DBNGPT is obliged to meet a request from a User for a variation of the gas specification if the variation is within the limits of the "broadest specification" specified in Item 3 of Schedule 2 of the proposed terms and conditions, as follows.

[46] Access Contract Terms and Conditions, clauses 2.8 and 2.9.

[47] Access Contract Terms and Conditions, clause 2.10.

Component		Receipt Points and Delivery Points
Maximum carbon dioxide (mol %)		4.0
Maximum inert gases (mol %)		6.0
Minimum higher heating value (MJ/m^3)		37.3
Maximum higher heating value (MJ/m^3)		42.3
Minimum Wobbe Index		47.3
Maximum Wobbe Index		51.0
Maximum total sulphur (mg/m^3)	Unodorised	10
	Odorised	20
Maximum Hydrogen Sulphide (mg/m^3)		2
Maximum Oxygen (mol %)		0.2
Maximum Water (mg/m^3)		48
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		Below 0 ºC
Maximum radioactive components (Bq/m^3)		600
Minimum extractable LPGs (t/TJ)		n/a

390. In the case of a change in law that requires DBNGPT to receive gas into the DBNGP with an Operating Specification for one or more components outside the Operating Specifications, the obligation of DBNGPT to change the Operating Specification would apply only where the change in gas specification would not be contrary to any contract for supply of gas to the DBNGPT or delivery of gas from the DBNGPT. Further, the fact that the law or the Access Arrangement requires a broader specification does not immediately require DBNGPT to amend all its existing contractual arrangements if there is no available capacity.

391. In the case of a request from a User for a change in gas specification the obligation of DBNGPT to change the Operating Specification would apply only where:

- the change in gas specification would not be contrary to any contract for supply of gas to the DBNGPT or delivery of gas from the DBNGPT;
- the change in gas specification would not materially increase DBNGPT's costs; and
- the change in gas specification would not materially affect the capacity of the DBNGP to transport gas.

392. The Standard Shipper Contract contains the same Operating Specification, with the exception that there is an additional gas quality parameter of "minimum extractable LPGs" for which there is a specification for gas received at Receipt Points, being 1.45 t/TJ until 08.00 hours on 1 July 2005 and zero thereafter. The Standard Shipper Contract also contains the same provisions for the Operating Specification to be changed as a consequence of either a change in law or a request from a User.

393. Several parties have made submissions to the Authority that the gas quality specification for the Reference Service or Services included in the Access Arrangement should conform to a specification known generally as the "Broadest Specification" and originally set out in the *Dampier to Bunbury Pipeline (WA) Regulations 1998*.[48]

394. To place these submissions in context, it is necessary to first review the background to the inclusion of the Broadest Specification in the *Dampier to Bunbury Pipeline (WA) Regulations 1998*.

395. In July 1994, an Industry Forum on gas quality was held in Perth (organised by the Office of Energy) for the purpose of canvassing views of stakeholders on the gas quality specification for the DBNGP. The Forum revealed that there were differences in views in respect of a number of matters relating to gas quality in the DBNGP:

- LPG requirements for transmission in the pipeline;
- maximum concentrations of inert gases (particularly carbon dioxide and nitrogen);
- the ability to co-mingle gas to meet gas quality specifications;
- constraints on changes to the gas quality specification arising from old residential appliances;
- gas specifications of the "Wobbe Index" and "higher heating value".

396. In September 1994, a Standing Committee on Gas Quality was established by the Minister for Energy with the purpose of assisting in the development of a new gas quality specification for the DBNGP and to assist in the resolution of differences in views revealed by the Industry Forum. The Office of Energy coordinated the business of the Standing Committee and provided a report to the Minister for Energy in November 1995.[49]

397. Amongst other things, the Office of Energy recommended to the Minister that actions be undertaken to allow for a future widening of the gas quality specification for the DBNGP. In making this recommendation, the Office of Energy recognised that a widening of the gas quality specification was constrained by terms of existing contracts for gas transmission.

398. The Office of Energy took the view in its report that the widening of the gas quality specification should occur through either the re-negotiation of existing gas supply contracts or after expiry of those contracts. The Office of Energy recommended a wider gas quality specification and recommended that changes be made to the regulations then applying to the DBNGP (the *Gas Transmission Regulations 1994*) so that contractual constraints to the widening of the gas quality specification would be

[48] Apache Energy Limited, Australian Petroleum Production and Exploration Association, BHP Billiton Petroleum Pty Ltd, Newmont Australia Pty Ltd, North West Shelf Gas Joint Venture, Tiwest, WMC, Worsley Alumina Pty Ltd.

[49] Office of Energy Western Australia, November 1995, *Review of the Gas Quality Specification for the Dampier to Bunbury Natural Gas Pipeline Western Australia*.

phased out over time by re-negotiation of pre-existing contracts or as these contracts expired.

399. The result of the recommendations of the Office of Energy was that a new gas quality specification was included in new regulations relating to the DBNGP (the *Dampier to Bunbury Pipeline Regulations 1998*) that were introduced in 1998 in association with the privatisation of the DBNGP. These regulations included an "Operating Specification" for gas quality at Receipt Points and Delivery Points, but also included a wider specification designated the "Broadest Specification". Under provisions of the regulations, the Broadest Specification comprised limits on the extent to which the Operating Specification for the DBNGP could be widened, except in certain special circumstances. The Broadest Specification contained in the 1998 regulations was as follows.

Component		Category A Gas (Receipt Points)	Category B Gas (Delivery Points at or upstream of the WLPG Plant)	Category C Gas (Delivery Points downstream of the WLPG Plant)
Maximum carbon dioxide (mol %)		3.6	4	4
Maximum inert gases (mol %)		6.5	7.0	7.0
Minimum higher heating value (MJ/m^3)		42.3	35.1	35.1
Maximum higher heating value (MJ/m^3)		42.3	42.3	42.3
Minimum Wobbe Index		46.0	46.0	46.0
Maximum Wobbe Index		51.5	51.5	51.5
Maximum total sulphur (mg/m^3)	Unodorised	10	10	10
	Odorised	20	20	20
Maximum Hydrogen Sulphide (mg/m^3)		2	2	2
Maximum Oxygen (mol %)		0.2	0.2	0.2
Maximum Water (mg/m^3)		48	48	48
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		Below 0 ºC	Below 0 ºC	Below 0 ºC
Maximum radioactive components (Bq/m^3)		600	600	600
Minimum extractable LPGs (t/TJ)		Until 08:00 hours on 1 July 2005: 1.45 From 08:00 hours on 1 July 2005: 0:00	n/a	n/a

400. The Authority notes that the "broadest specification" under the terms of the proposed Tf Service and under the Standard Shipper Contract is a more stringent specification than the "Broadest Specification" under the *Dampier to Bunbury Pipeline Regulation 1998*. The broadest specification under the terms of the proposed Tf Service and

under the Standard Shipper Contract has more stringent limits for "maximum inert gases", "minimum higher heating value", "minimum Wobbe index" and "maximum Wobbe index".

401. The *Dampier to Bunbury Pipeline Regulations 1998* have ceased to have effect since an approved Access Arrangement for the DBNGP commenced in January 2004. Since that time, and in the absence of relevant regulations by the Coordinator for Energy, regulatory oversight of the gas quality specification for the DBNGP has fallen to the Authority in the function of approving the Access Arrangement and any revisions to the Access Arrangement, to the extent that a gas quality specification forms part of the terms and conditions for a Reference Service.

402. There are two other important elements in the context of a gas quality specification for the DBNGP:

- gas quality standards for natural gas supplied to a gas end-user through a distribution system or used for domestic purposes in an industrial facility; and
- contractual requirements for the transportation of LPG through the DBNGP.

403. Gas quality standards for natural gas supplied to a gas end-user through a distribution system or used for domestic purposes in an industrial facility were established by the *Gas Standards (Gas Supply and System Safety) Regulations 2000*, under the *Gas Standards Act (1972).* These standards would apply to gas delivered through the Mid-West and South-West Gas Distribution Systems, which receive gas from the DBNGP. The standards established under the regulations are as follows.

Component		Standard
Maximum carbon dioxide (mol %)		n.a.
Maximum inert gases (mol %)		n.a.
Minimum higher heating value (MJ/m^3)		37.0
Maximum higher heating value (MJ/m^3)		42.3
Minimum Wobbe Index		46.5
Maximum Wobbe Index		51.0
Maximum total sulphur (mg/m^3)	Unodorised	n.a.
	Odorised	50
Maximum Hydrogen Sulphide (mg/m^3)		n.a.
Maximum Oxygen (mol %)		n.a.
Maximum Water (mg/m^3)		n.a.
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		n.a.
Maximum radioactive components (Bq/m^3)		n.a.
Minimum extractable LPGs (t/TJ)		n.a.

404. The Authority notes that the gas quality standards established under the *Gas Standards (Gas Supply and System Safety) Regulations 2000* are more stringent (i.e.

narrower) than the Broadest Specification (for Category C gas) established under the *Dampier to Bunbury Pipeline Regulations 1998* (in respect of minimum higher heating value and minimum Wobbe index) but less stringent than the broadest specification of DBNGPT as set out in the proposed terms and conditions for the Tf Service and in the Standard Shipper Contract.

405. The second additional element to the context of the gas quality specification for the DBNGP is the contractual arrangements to supply LPGs to the Wesfarmers LPG plant. Contractual arrangements for the supply of LPGs to the Wesfarmers LPG plant have been supported by the past regulatory requirement for a minimum LPG content of 1.45 tonnes/TJ and the maximum inerts concentration of 5 mole percent in gas delivered to the DBNGP. The earliest opportunity for review of contractual arrangements for the supply of LPGs to the Wesfarmers LPG plant, and hence the earliest opportunity to alter the gas quality standards for LPG content and inerts concentration, is 1 July 2005.

406. As a gas quality specification will form a provision of terms and conditions for a Reference Service under the Access Arrangement, the Authority, in accordance with the requirements of section 3.6 of the Code, must be satisfied that the specification is reasonable.

407. DBNGPT has provided the Authority with explanatory information on the provisions relating to the gas quality specification in the terms and conditions of the proposed Tf Service and the Standard Shipper Contract, as well as the implications for DBNGPT of a move to a broader gas quality specification.[50]

408. As indicated above, several parties have made submissions to the Authority requesting that the Authority require amendment of the Proposed Access Arrangement to include a wider gas quality specification in the terms and conditions of a Reference Service.

409. In general, a wider gas quality specification is favoured by gas producers and some end-users of gas as an energy source for the reason that a wider specification would potentially reduce the costs of gas through expanding the potential sources of supply of gas to the DBNGP and increasing competition between these sources, and reducing gas processing costs.[51] In addition, these parties also set out several reasons why the Authority should require a wider gas quality specification for a Reference Service under the Access Arrangement:

- the introduction of a wider gas quality specification has been anticipated since 1995, and has been expected by gas producers, Users of the DBNGP and end-users of gas to occur on 1 July 2005 with the falling away of the requirement for a minimum concentration of LPGs in gas delivered to the DBNGP;

- the widening of the gas quality specification of the DBNGP would allow alignment with the gas quality specifications for the Goldfields Gas Pipeline,

[50] DBNGPT, Submissions #7, #21.

[51] Apache Energy Limited, Australian Petroleum Production and Exploration Association, BHP Billiton Petroleum Pty Ltd, Newmont Australia Pty Ltd, North West Shelf Gas Joint Venture, Tiwest, WMC.

Parmelia Pipeline and AlintaGas Distribution Systems, thus improving prospects for gas trading and use of the Mondarra gas storage facility;

- the widening of the gas quality specification would alter the specification to be close to a national gas quality standard;
- there are no technical or safety issues preventing adoption of a wider gas quality specification that is the same as the Broadest Specification previously set out in the *Dampier to Bunbury Pipeline Regulations 1998*;
- while a widening of the gas quality specification to the Broadest Specification set out in the *Dampier to Bunbury Pipeline Regulations 1998* would have the effect of reducing the capacity of the pipeline, the effect is relatively small; and
- any resultant reduction in the cost of gas as an energy source would promote the use of gas over other fuels with corresponding reductions in greenhouse gas emissions.

410. Furthermore, parties have also indicated that not implementing the Broadest Specification would be to the financial detriment of the State of Western Australia due to the State receiving lower royalties from condensate, LPG and LNG production than if the Broader Specification were to be introduced. There has not been, however, any submission from the State that this is either the case or that it is a matter about which the State is concerned.

411. A wider gas specification is opposed by some end users of gas as an energy source and end users of gas as a production feedstock.[52] These parties have indicated that a wider gas quality specification – particularly a lower minimum limit on the energy content of gas and a higher allowable concentration of inert gases – will cause additional costs to be incurred by end users of gas through costs of gas pre-treatment where gas is used as a production feedstock or by adverse effects on the use of gas in gas-fired turbines for electricity generation. The parties opposing a widening of the gas quality specification have also made a number of counter arguments against the cited benefits by variously contending that:

- current Users of the DBNGP have just re-negotiated contracts for gas transmission with provisions that make possible a widening of the gas quality specification and there is no necessary role of the Authority in making a determination that displaces these contract provisions;
- a widening of the gas quality specification would require some modification of domestic gas appliances;
- the widening of the gas quality specification was always intended to be subject to further consultation and commercial negotiation amongst interested parties and the Access Arrangement is not the appropriate vehicle for implementing a wider gas quality specification;

[52] Submissions from Alcoa, Alinta Power Services, CSBP.

- the benefits of a wider gas specification in increasing the potential sources of gas for supply to the DBNGP are over-stated, as options currently exist for blending of gas from multiple sources such that the current gas quality specification can be met;

- there is no current need for alignment of gas quality specifications for the DBNGP, Goldfields Gas Pipeline, Parmelia Pipeline and the AlintaGas distribution systems; and

- a widening of the gas quality specification would reduce the Capacity of the DBNGP and increase costs of gas transmission to Users.

412. The Authority has given consideration to the views expressed in submissions, as set out below.

413. Firstly, the Authority notes that there are conflicting views presented in submissions in regard to whether, and the process by which, a wider gas quality specification for the DBNGP would be introduced. The Authority considers that it is clear from the 1995 report of the Office of Energy and from the provisions of the *Dampier to Bunbury Pipeline Regulations 1998* that there has been a clear policy intention of the Government for the gas specification to be widened. In recognition that there were a number of pre-existing contracts that prevented a widening of the gas quality specification without renegotiation of these contracts, the regulations did not impose a wider gas quality specification. Rather, the regulations foreshadowed a widening of the specification, and set out the Broadest Specification, for the purpose of making it clear to the pipeline owner and to Users that the renegotiation of existing contracts or entry into new contracts with a gas quality specification narrower than the Broadest Specification would be at the commercial risk of the parties to these contracts.

414. The Authority is not aware of any gas transmission contracts for the DBNGP that pre-date the 1998 regulations and which have not been subject to renegotiation during or after 1998. As such, the Authority takes the view that no party can reasonably oppose the broadening of the gas quality specification for reason of an erosion of current contractual rights.

415. Secondly, there are conflicting views expressed as to whether a broadening of the gas quality specification would create problems in the operation and/or safety of domestic gas appliances. The Authority has sought advice on this matter from the Director of Energy Safety and, subsequently, the Director of Gas and Emergency Management, of the Department of Consumer and Employment Protection.[53] On the basis of this advice, the Authority is satisfied that the broadening of the gas quality specification in the DBNGP to the Broadest Specification as set out in the Dampier to Bunbury Pipeline Regulations 1998 would not raise operational or safety issues for the use of domestic gas appliances.

416. Thirdly, there are conflicting views expressed as to whether a widening of the gas quality specification would give rise to benefits to consumers of gas through

[53] Letter from the Director of Energy Safety to the Economic Regulation Authority, 23 February 2005; Letter from the Director of Gas and Emergency Management to the Economic Regulation Authority, 19 April 2005.

increasing the possible sources of gas for supply to the DBNGP and increasing competition between gas suppliers. While there does not seem to be any dispute over whether a widening of the gas quality specification would increase the number of possible sources of gas, opponents to a wider specification contend that the claimed benefits of a larger number of possible sources are overstated, as gas from all sources may already be supplied to the DBNGP through arranging for blending of gas from different sources so as to meet gas quality requirements.

417. The Authority does not accept this contention. Blending of gas from multiple sources is only possible if another gas producer supplier provides "better-than-specification" gas in order that parties with a "lower-than-specification" gas can blend the two gas streams. The availability of better-than-specification gas into the future is not assured and consequently the opportunity to blend gas streams is also not assured. In any event, blending of gas streams introduces a number of commercial issues insofar as a provider of better-than-specification gas may object to blending arrangements with suppliers of lower-that-specification without commercial consideration.

418. Fourthly, there are conflicting views expressed as to whether there is a need or benefit in aligning gas quality specifications for the DBNGP, Goldfields Gas Pipeline, Parmelia Pipeline and AlintaGas distribution systems. In this respect, the Authority is of the view that an alignment of gas quality specifications across pipelines is, in principle, desirable for allowing manufacturers of gas-using appliances to produce appliances suitable for a known and widely applied gas standard. The Authority is also of the view that there are benefits of consistent gas quality specifications between the Parmelia Pipeline and DBNGP in allowing the interchange of gas between these pipelines, and to and from the Mondarra gas storage facility.

419. Finally, there are conflicting views on the extent to which the Capacity of the DBNGP would be reduced by a widening of the gas quality specification. The Authority notes in this regard that the effect of the change in gas quality specification on the Capacity of the DBNGP is primarily determined by the change, if any, on the specification for minimum higher heating value. The Authority also notes that this is substantially affected by the required LPG content for gas received into the DBNGP. As a minimum LPG content will not be required after 1 July 2005, the remaining difference in minimum higher heating value between DBNGPT's proposed Operating Specification and either the Broadest Specification of the Dampier to Bunbury Pipeline Regulations 1998 or the broader specification set out by DBNGPT in the Standard Shipper Contract is relatively small. The Authority therefore does not accept that a broadening of the gas quality specification from that proposed by DBNGPT is likely to have a substantial affect on the Capacity of the DBNGPT.

420. The Authority is therefore of the view that it would be unreasonable for the terms and conditions for Reference Services to not include either a wider gas quality specification than the Operating Specification proposed by DBNGPT for the Tf Service, or for the terms and conditions to include a mechanism for a change to a wider gas quality specification that is able to be readily implemented.

421. The context of the Authority's consideration of the gas quality specification is that under this Draft Decision the Authority is requiring that the Access Arrangement include a Reference Service in the nature of the T1 Service to which the Standard Shipper Contract relates, and terms and conditions for this Reference Service that are

substantially the same as terms and conditions set out in the Standard Shipper Contract. In the absence of any contrary requirement of the Authority under this Draft Decision, the Authority presumes that DBNGPT would include in these terms and conditions the gas quality specification currently required under the Standard Shipper Contract – the Operating Specification – and the relevant provisions of the Standard Shipper Contract for a change in the Operating Specification as a consequence of a change in law or a request from a User. The first question addressed by the Authority in respect of the gas quality specification is therefore whether these provisions of the Standard Shipper Contract are unreasonable.

422. As indicated by submissions made to the Authority, some gas producers and end-users of gas as an energy source would regard the provisions of the Standard Shipper Contract that relate to gas quality as unreasonable as the Operating Specification is not a wider specification – either the Broadest Specification established by the *Dampier to Bunbury Pipeline Regulations 1998* or the broadest specification included by DBNGPT in the terms and conditions for the Tf Service and in the terms and conditions under the Standard Shipper Contract.

423. Existing Users are bound by the terms of contracts entered into in late 2004 that require gas quality to comply with the Operating Specification as stated in the Standard Shipper Contract, or as widened in accordance with the provisions of the Standard Shipper Agreement. DBNGPT is also bound by the Operating Specification in terms of its obligation to receive gas into the DBNGP and deliver gas from the DBNGP that meets the Operating Specification. The Standard Shipper Contract makes provision for a change in the Operating Specification, but only as a coordinated exercise that would see the Operating Specification being changed for all Users, made necessary by the co-mingling of gas in the pipeline and the inability to have differing gas qualities delivered to different Users. For a change in the Operating Specification for one User to occur, there must be two preconditions satisfied.

- There must be no shipper with an inconsistent existing contractual specification, that is, the amendment must not cause a material breach by DBNGPT of contractual requirements to receive or deliver gas of a particular quality from or to any other User.

- DBNGPT must actually receive into the DBNGP gas outside the existing Operating Specification but within the broader gas specification (as set out in the Standard Shipper Contract) to such an extent that it is unable to comply with the existing Operating Specifications for a particular Delivery Point. That is, there must be a need for the Operating Specification to change, rather than there being an ability for DBNGPT to receive out of specification gas into the DBNGP while still being able to meet its contractual obligation to deliver gas that meets the Operating Specification.

424. In addition to the requirements for a negotiated settlement of a wider gas quality specification with all Users, DBNGPT may refuse to widen the Operating Specification if this would:

- materially increase DBNGPT's costs; or

- materially adversely affect the capacity of the DBNGPT (expressed in units of energy) to transport gas.

425. The effect of these provisions for a change in the Operating Specification is to allow for the Operating Specification to be changed through a process of commercial negotiation between Users, DBNGPT and – for the reason that Users would be required to change gas specifications in contracts – possibly also some end-users of gas and gas producers.

426. On the basis of information provided to the Authority in submissions and in verbal communications with parties that made submissions, the Authority considers it likely that a widening of the gas quality specification would give rise to substantial benefits to gas producers and a majority of end users of gas, and these benefits would be likely to outweigh the costs to the owners of the DBNGP and those end-users of gas that would be disadvantaged by a wider specification.

427. Notwithstanding the potential net benefit of a widening of the gas quality specification, the Authority considers that the reaching of a commercial settlement will be made difficult by the large number of parties that will need to be party to negotiations and that have differing interests in a widening of the gas quality specification. This may have been a contributing factor to the gas quality specification not having been widened to date, despite the benefits of a wider specification having been identified in 1995 and a wider specification having been foreshadowed in the terms of third-party access to the pipeline since 1998.

428. The Authority has given consideration to the factors of section 2.24 of the Code in addressing the question of whether the Operating Specification as set out in the terms and conditions for the Tf Service and in the Standard Shipper Contract would be a reasonable term under the terms and conditions for Reference Services for the forthcoming Access Arrangement Period. In doing so, the Authority has given particular consideration to the following matters.

- That DBNGPT has a legitimate business interest in maintaining the Operating Specification as set out in the terms and conditions for the Tf Service and in the Standard Shipper Contract for reason that this gas quality specification is consistent with a higher Capacity of the DBNGPT and a widening of the gas quality specification may impose a requirement on DBNGPT to invest in an expansion of Capacity of the DBNGP in order to meet existing contractual obligations.

- A widening of the gas quality specification would potentially be of substantial benefit to many Users and Prospective Users through increasing the number of sources of gas for supply to the DBNGP, increasing competition in the upstream market for gas and reducing costs of gas treatment prior to supply of the DBNGP.

- While some Users of the DBNGPT may incur costs as a result of a widening of the gas quality specification, the consideration given to such costs should be tempered by the fact that a widening of the gas quality specification has been foreshadowed for some ten years, and Users would have or should have taken this into account in contractual arrangements with gas suppliers and in processes for gas use.

- To the extent that introduction of a wider gas quality specification would increase competition in upstream markets for gas and potentially reduce gas prices, there is a public interest in the implementation of a wider specification.

429. Having considered the matters set out section 2.24 of the Code, the Authority considers that the persistence of the current gas quality specification for the DBNGP and the potential for substantial further delay in adoption of a wider gas quality specification is unreasonably contrary to the interests of most pipeline users and gas producers and is contrary to a public interest in expanding the potential sources of supply to the DBNGP. Given these considerations, the Authority takes the view that terms and conditions for a Reference Service that do not incorporate a wider gas quality specification than the current Operating Specification beyond 30 June 2005 would be unreasonable.

430. As indicated above, there are differing wider gas quality specifications that may replace the current Operating Specification for the DBNGP: the Broadest Specification as set out in the *Dampier to Bunbury Pipeline Regulations 1998*, the gas quality standards for natural gas established by the *Gas Standards (Gas Supply and System Safety) Regulations 2000*, and the broadest specification set out in the proposed terms and conditions for the Tf Service in the Proposed Access Arrangement and in the Standard Shipper Contract. For ease of comparison, these different gas quality specifications are set out in a single table in Appendix 2 of this Draft Decision.

431. The Authority recognises that, while the proposal to introduce a wider gas quality specification was initially framed in terms of the Broadest Specification of the *Dampier to Bunbury Pipeline Regulations 1998*, subsequently the introduction of the *Gas Standards Regulations 2000* has imposed more stringent limits to gas quality for some quality parameters for the Mid-West and South-West Gas Distribution Systems. Taking these regulations into account, the Authority therefore considers that there is no practical reason why a wider gas quality specification contemplated for the DBNGP should be any narrower than the more stringent of the standards established by either the Broadest Specification of the *Dampier to Bunbury Pipeline Regulations 1998* or the *Gas Standards Regulations 2000*.

Draft Decision Amendment 15

The Proposed Access Arrangement should be amended so that the terms and conditions for Reference Services include an Operating Specification for gas quality as follows and to apply from the time that the Proposed Access Arrangement comes into effect.

Component		**Receipt Points and Delivery Points**
Maximum carbon dioxide (mol %)		4.0
Maximum inert gases (mol %)		7.0
Minimum higher heating value (MJ/m^3)		37.0
Maximum higher heating value (MJ/m^3)		42.3
Minimum Wobbe Index		46.5
Maximum Wobbe Index		51.0
Maximum total sulphur (mg/m^3)	Unodorised	10
	Odorised	20
Maximum Hydrogen Sulphide (mg/m^3)		2
Maximum Oxygen (mol %)		0.2
Maximum Water (mg/m^3)		48
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		Below 0 ºC
Maximum radioactive components (Bq/m^3)		600
Minimum extractable LPGs (t/TJ)		0

432. The Authority notes that in addition to the matter of a wider gas quality specification, Wesfarmers LPG has submitted that the specification for maximum oxygen content of 0.2 mole percent is higher than design specifications for the Wesfarmers LPG plant and would cause increases in operating costs. The Authority notes, however, that the specification for maximum oxygen content has not been altered in the Proposed Access Arrangement from the current gas quality specification, nor is there any difference between the current gas quality specification and broader gas quality specifications in respect of oxygen content. The Authority therefore takes the view that the specification for the maximum oxygen content of 0.2 mole percent is not unreasonable.

Capacity Management Policy

433. Sections 3.7 and 3.8 of the Code require that an Access Arrangement include a Capacity Management Policy as follows:

> 3.7 An Access Arrangement must include a statement (a ***Capacity Management Policy***) that the Covered Pipeline is either:
>
> (a) a Contract Carriage Pipeline; or
>
> (b) a Market Carriage Pipeline.

> 3.8 The Relevant Regulator must not accept an Access Arrangement which states that the Covered Pipeline is a Market Carriage Pipeline unless the Relevant Minister of each Scheme Participant in whose Jurisdictional Area the Pipeline is wholly or partly located has given notice to the Relevant Regulator permitting the Covered Pipeline to be a Market Carriage Pipeline.

434. Contract Carriage is a system of managing third-party access whereby:

- the Service Provider normally manages its ability to provide Services primarily by requiring Users to use no more than the quantity of Service specified in the Contract;
- Users are normally required to enter into a Contract that specifies a quantity of Service;
- charges for use of a Service are normally based, at least in part, upon the quantity of Service specified in a Contract; and
- a User normally has the ability to trade its right to obtain a Service to another User.

435. Market Carriage is a system of managing third-party access whereby:

- the Service Provider does not normally manage its ability to provide Services primarily by requiring Users to use no more than the quantity of Service specified in a Contract;
- Users are not normally required to enter into a Contract that specifies a quantity of Service;
- charges for use of Services are normally based on actual usage of Services; and
- a User does not normally have the ability to trade its right to obtain a Service to another User.

436. The Current Access Arrangement does not contain a Capacity Management Policy. This was an error of omission in the drafting and approval of the Current Access Arrangement.

437. DBNGPT has not provided a Capacity Management Policy as part of the proposed Access Arrangement, possibly reflecting its omission in the Current Access Arrangement.

438. However, the Code does require an Access Arrangement to include a Capacity Management Policy, and the Authority will require the Proposed Access Arrangement to be amended to this effect before it will be approved. The Authority notes that it is implicit in the Current and Proposed Access Arrangement that the DBNGP is intended to be managed as a Contract Carriage Pipeline. A Capacity Management Policy for the DBNGP requires no more than a statement that the DBNGP is to be managed as a Contract Carriage Pipeline.

Draft Decision Amendment 16

The Proposed Access Arrangement should be amended to include a Capacity Management Policy that indicates that the DBNGP is to be managed as a Contract Carriage Pipeline.

Trading Policy

439. Section 3.9 of the Code requires that an Access Arrangement for a Covered Pipeline that is described in the Access Arrangement as a Contract Carriage Pipeline must include a policy that explains the rights of a User to trade its right to obtain a Service to another person (a "**Trading Policy**").

440. Section 3.10 of the Code requires that the Trading Policy must comply with the following principles.

> 3.10 (a) A User must be permitted to transfer or assign all or part of its Contracted Capacity without the consent of the Service Provider concerned if:
>
> (i) the User's obligations under the contract with the Service Provider remain in full force and effect after the transfer or assignment; and
>
> (ii) the terms of the contract with the Service Provider are not altered as a result of the transfer or assignment (a ***Bare Transfer***).
>
> In these circumstances the Trading Policy may require that the transferee notify the Service Provider prior to utilising the portion of the Contracted Capacity subject to the Bare Transfer and of the nature of the Contracted Capacity subject to the Bare Transfer, but the Trading Policy must not require any other details regarding the transaction to be provided to the Service Provider.
>
> (b) Where commercially and technically reasonable, a User must be permitted to transfer or assign all or part of its Contracted Capacity other than by way of a Bare Transfer with the prior consent of the Service Provider. The Service Provider may withhold its consent only on reasonable commercial or technical grounds and may make its consent subject to conditions only if they are reasonable on commercial and technical grounds. The Trading Policy may specify conditions in advance under which consent will or will not be given and conditions that must be adhered to as a condition of consent being given.
>
> (c) Where commercially and technically reasonable, a User must be permitted to change the Delivery Point or Receipt Point from that specified in any contract for the relevant service with the prior written consent of the Service Provider. The Service Provider may withhold its consent only on reasonable commercial or technical grounds and may make its consent subject to conditions only if they are reasonable on commercial and technical grounds. The Trading Policy may specify conditions in advance under which consent will or will not be given and conditions that must be adhered to as a condition of consent being given.

441. Section 3.11 of the Code states that examples of things that would be reasonable for the purposes of paragraphs 3.10(b) and (c) are:

> 3.11 (a) the Service Provider refusing to agree to a User's request to change its Delivery Point where a reduction in the amount of the service provided to the original Delivery Point will not result in a corresponding increase in the Service Provider's ability to provide that service to the alternative Delivery Point; and

(b) the Service Provider specifying that, as a condition of its agreement to a change in the Delivery Point or Receipt Point, the Service Provider must receive the same amount of revenue it would have received before the change.

442. The Trading Policy of DBNGPT's Proposed Access Arrangement contains similar provisions as the Trading Policy of the Current Access Arrangement with the exception that provisions relating to the "Secondary Market Service" of the Current Access Arrangement have been removed.

443. The Trading Policy of the Proposed Access Arrangement provides for the following.

- Bare Transfers of contracted capacity for the Tf Service or Non-Reference Services in accordance with section 3.10 of the Code.

- Conditional Transfers of contracted capacity for the Tf Service or Non-Reference Services in accordance with the Access Contract Terms and Conditions. The relevant provision of the Access Contract Terms and Conditions appears to be paragraph 19.2(b):

  19.2 Assignment by Shipper

  …

  (b) Subject to Shipper's rights to trade capacity in accordance with the Access Contract, Shipper must not otherwise assign or encumber its right and interest under the Access Contract without obtaining the prior written consent of Operator, which consent shall not be unreasonably withheld.

- Trading of imbalances in accordance with clause 6 of the Access Contract Terms and Conditions. The relevant provision of the Access Contract Terms and Conditions appears to be sub-clause 6.6:

  19.2 Assignment by Shipper

  Shipper may exchange all or part of its accumulated Imbalances with another Shipper, at any time and on terms they may agree, and must give notice in writing of any such exchange to Operator prior to the exchange occurring. On receipt of such written notice Operator shall calculate adjustments in Shipper's accumulated Imbalances to reflect the exchange and notify both shippers of the adjustments by the beginning of the next Day.

- Relocation of Delivery Point MDQ in accordance with clause 3 of the Access Contract Terms and Conditions. The relevant provision of the Access Contract Terms and Conditions appears to be sub-clause 3.10:

  3.10 Relocation of Delivery Point MDQ

  (a) Shipper may by notice in writing to Operator request a relocation of all or any part of its MDQ from an existing Delivery Point to a new delivery point ("Requested Relocation").

  (b) After receiving the request under clause 3.10(a), Operator must assess whether the Requested Relocation is commercially and technically feasible (as reasonably determined by Operator).

  (c) As soon as practicable after completing its assessment under clause 3.10(b), Operator must give notice in writing to Shipper advising whether the Requested Relocation is approved or not. Operator may make its approval

subject to conditions if they are reasonable on commercial and technical grounds (including but not limited to Operational Grounds).

(d) Without limiting clause 3.10(b), Shipper's ability to relocate its Delivery Point MDQ to another delivery point is subject to the rights of Other Shippers with contracted Delivery Point MDQ at that delivery point.

(e) Without limiting clause 3.10(b), in the event Shipper wishes to relocate any part of its Delivery Point MDQ to a delivery point downstream of Shipper's contracted Delivery Point, Shipper acknowledges that the equivalent downstream quantity may be less than the Delivery Point MDQ Shipper seeks to relocate.

444. The Proposed Access Arrangement thus specified the Trading Policy for the DBNGP by reference to the Access Contract Terms and Conditions for the proposed Reference Service, the Tf Service. There are two difficulties with this approach to the specification of the Trading Policy.

445. Firstly, the Code does not limit the application of the Trading Policy to Users with contracts for a Reference Service, but rather the Trading Policy should apply to the pipeline and to Services generally. While this may be achieved by cross-references in the Trading Policy to relevant terms and conditions of a Reference Service (thus indicating that the relevant terms and conditions apply as part of the policy to the pipeline and Services generally), this is not clear.

446. Secondly, as indicated above in this Draft Decision, the Authority will require amendment of the Proposed Access Arrangement to remove the Tf Service as a Reference Service, and include as Reference Services a Service that is of the nature of the full haul Service provided to Users under the Standard Shipper Contract, a Part Haul Service and a Back Haul Service. The Authority will also require amendment of the Proposed Access Arrangement to include terms and conditions for these Reference Services that, to the extent relevant, are substantially the same as terms and conditions set out in the Standard Shipper Contract.

447. In this context, the Authority has given attention to the provisions for the trading of Capacity under the Standard Shipper Contract and notes the existence of the following provisions:

- provision under sub-clause 25.3(a) of the Standard Shipper Contract for Users to trade rights and interests in a manner analogous to a Bare Transfer as required to be permitted under section 3.10(a) of the Code;
- provision under sub-clauses 25.3(b) – (d) and clause 25.4 of the Standard Shipper Contract for Users to trade rights and interests in a manner as required to be permitted under section 3.10(b) of the Code;
- provision under clauses 14.1 to 14.9 of the Standard Shipper Contract for Users to change a Receipt Point and/or Delivery Point in a manner as required to be permitted under section 3.10(c) of the Code.

448. The Authority also notes that clause 9.9 of the Standard Shipper Contract makes provision for Users to trade imbalances. While such provision may be a necessary element of reasonable terms and conditions for a Reference Service, there is no

explicit requirement under the Code for such provision to form part of the Trading Policy of an Access Arrangement.

449. The Authority therefore considers that, for the Trading Policy of the Access Arrangement to meet the requirements of the Code, the Proposed Access Arrangement needs to be amended to include provisions that are substantially the same as provisions set out in clauses 14.1 – 14.9, 25.3 and 25.4 of the Standard Shipper Contract and that these provisions should apply as a policy for the pipeline and for Services generally and not be limited in application to Reference Services.

Draft Decision Amendment 17 The Proposed Access Arrangement should be amended to include, as part of the Trading Policy, provisions that are substantially the same as provisions of clauses 14.1 – 14.9, 25.3 and 25.4 of the Standard Shipper Contract and these provisions should apply as a policy for the pipeline and for Services generally and not be limited in application to Reference Services.

450. There has been one submission from a User of the DBNGP on the Trading Policy, submitting that, for an Access Arrangement to replicate an outcome in a competitive market, there must be a secondary market for capacity.[54] The Authority is of the view that the Code does not require a Service Provider to operate a secondary market, but rather requires provision to be made for the trading of Contracted Capacity to operate when and if there is demand for such a facility. In the Authority's view, the amendments to the Proposed Access Arrangement described above will make sufficient provision for the trading of capacity.

Queuing Policy

451. Section 3.12 of the Code requires that an Access Arrangement must include a policy for determining the priority that a Prospective User has, as against any other Prospective User, to obtain access to Spare Capacity and Developable Capacity (and to seek dispute resolution under section 6 of the Code) where the provision of the Service sought by that Prospective User may impede the ability of the Service Provider to provide a Service that is sought or which may be sought by another Prospective User (a "**Queuing Policy**").

452. Section 3.13 of the Code requires that the Queuing Policy must:

(a) set out sufficient detail to enable Users and Prospective Users to understand in advance how the Queuing Policy will operate;

(b) accommodate, to the extent reasonably possible, the legitimate business interests of the Service Provider and of Users and Prospective Users; and

(c) generate, to the extent reasonably possible, economically efficient outcomes.

453. Section 3.14 of the Code provides that Authority may require the Queuing Policy to deal with any other matter the Authority thinks fit, taking into account the matters listed in section 2.24 of the Code.

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454. DBNGPT has provided a Queuing Policy as clause 5.4 of the Proposed Access Arrangement.

455. The Queuing Policy of the Proposed Access Arrangement is largely the same as that of the Current Access Arrangement, providing for a single queue for all Services (both Reference and Non-Reference Services) and a priority of access in accordance with the time that an "Access Request" is received or deemed to be received by DBNGPT.

456. DBNGPT has made two substantive revisions to the Queuing Policy:

- provisions have been included that make the holding of a position in the queue of an Access Request for a Non-Reference Service contingent upon the completion of negotiation of terms and conditions for the Service, or satisfaction of conditions relating to costs of investigations, within a specified time period (sub-clause 5.4(f) of the Proposed Access Arrangement); and

- the Spot Capacity Service is explicitly excluded from the Queuing Policy (sub-clause 5.4(n) of the Proposed Access Arrangement).

457. The time limits for negotiation of terms and conditions for Non-Reference Services arise under sub-clause 5.4(f) of the Proposed Access Arrangement as follows.

> (f) If an Access Request requires the terms and conditions of the Access Contract to be negotiated between Operator and the Prospective Shipper or is subject to conditions, the Access Request will be entered in the queue with a priority date being the date of receipt of the Access Request by Operator. However, unless:
>
> (i) where Operator notifies Shipper in accordance with section 5.4 of the Code that there is Spare Capacity sufficient to satisfy the Access Request, within 40 Business Days after the date Operator responds to the Prospective Shipper in accordance with section 5.4 of the Code in respect of Access Request; or
>
> (ii) where Operator notifies Shipper in accordance with section 5.4 of the Code that there is not Spare Capacity sufficient to satisfy the Access Request, within 60 Business Days after the date Shipper consents to a plan and allocation of costs for investigations proposed by Operator and referred to in section 5.4 of the Code in respect of Access Request,
>
> either:
>
> (iii) the negotiations are completed and/or the conditions are satisfied; or
>
> (iv) the Prospective Shipper has agreed to amend the Access Request such that it becomes an Access Request for a Reference Service made on the basis of the Access Contract Terms and Conditions,
>
> the Access Request will be removed from the queue and will subsequently be re-entered in the queue with a priority date being the date that negotiations are completed and/or the conditions are, in Operator's opinion, satisfied.

458. Western Power Corporation and CSBP have submitted that there is insufficient requirement on DBNGPT to negotiate terms and conditions in good faith, indicating that while sub-clause 5.3(c) of the Proposed Access Arrangement imposes a requirement on a Prospective User to negotiate terms and conditions of a Non-Reference Service in good faith, there is no corresponding requirement on DBNGPT. The same Users also submitted that the time limits for negotiation of terms and conditions should be extended from 40 days for negotiations of terms and conditions

and 60 days for satisfaction of conditions for investigations of capacity, to 60 and 80 days, respectively.

459. Clause 5.3(c) of the proposed Access Arrangement, relating to the negotiation of terms and conditions for Non-Reference Services reads as follows:

> (c) If an Access Request requires the terms and conditions of the Access Contract to be negotiated between Operator and the Prospective Shipper because the Access Request is:
>
> (i) for a Non-Reference Service; or
>
> (ii) for a Reference Service but the Prospective Shipper has not indicated its acceptance of the Access Contract Terms and Conditions,
>
> the Prospective Shipper must promptly on request by Operator proceed to negotiate in good faith with Operator the terms and conditions on which the Service is to be provided.

460. The Authority concurs with the submissions that this clause imposes an obligation only the Prospective User to negotiate the terms and conditions of a Non Reference Service in good faith. The Authority considers that the time limits for negotiation of terms or satisfaction of conditions set out in sub-clause 5.4(f) of the proposed Access Arrangement should be expressly contingent upon both parties negotiating terms and conditions in good faith. In regard to the time limits imposed on negotiations, the Authority considers that such time limits are reasonable only if timing is suspended in the event that a dispute over terms and conditions of access is referred for arbitration under section 6 of the Code.

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Sub-clause 5.4(f) of the Proposed Access Arrangement should be amended so that the time limits for negotiation of terms or satisfaction of conditions set out in sub-clause 5.4(f) of the Proposed Access Arrangement should be expressly contingent upon both parties negotiating terms and conditions in good faith, and the timing suspended in the event that a dispute over terms and conditions of access is referred for arbitration under section 6 of the Code.

461. The exclusion of the Spot Capacity Service from the Queuing Policy (sub-clause 5.4(n) of the Proposed Access Arrangement) is consistent with the nature of a spot service for Capacity where available capacity is allocated on the basis of price bids rather than a queue.

462. As a general observation on the Queuing Policy, one User of the DBNGP has submitted that the Queuing Policy does not provide sufficient detail to allow a Prospective User to understand how priorities for access will be determined across the range of potential Services. The Authority notes that sub-clause 5.4(b) of the Proposed Access Arrangement indicates that a single queue will be maintained for access to Reference Services and Non-Reference Services. The Authority accepts that this indicates that the queue is one for Capacity regardless of the Service by which the Capacity would be used. As such, the Authority is satisfied that the Queuing Policy adequately describes how the Queuing Policy operates in respect of different Services.

463. Western Power Corporation has submitted that it has a number of concerns with the particular provisions of the Queuing Policy, including:

- too broad a discretion for DBNGPT to find that an Access Request does not comply with requirements and therefore to not place the Access Request in the queue;
- a once-only opportunity for a Prospective User to remedy deficiencies of an Access Request;
- the provisions for DBNGPT to deal with Access Requests out of order of the queue are too vague and subject to DBNGPT's exercise of discretion in regard to *material* difference between Access Requests and whether the interests of a Prospective Shipper are *materially* prejudiced; and
- the provisions for an Access Request in a queue to be amended without losing the place in the queue are too subject to DBNGPT's exercise of discretion in regard to whether the amendment to the Access Request is material.

464. The Authority has reviewed the provisions of the Queuing Policy in relation to which Western Power Corporation has expressed concerns but takes the view that when these provisions are considered in the context of provision of clauses 5.2 and 5.3 of the Proposed Access Arrangement (relating to the submission and assessment of Access Requests and addressed in more detail below, paragraph 488 and following), the interests of the Prospective User are adequately protected by the requirement for DBNGPT to act as a reasonable and prudent pipeline operator.

Extensions/Expansions Policy

465. Section 3.16 of the Code requires that an Access Arrangement include a policy (an "**Extensions/Expansions Policy**") which states:

> (a) the method to be applied to determine whether any extension to, or expansion of the Capacity of, the Covered Pipeline:
>
> (i) should be treated as part of the Covered Pipeline for all purposes under the Code; or
>
> (ii) should not be treated as part of the Covered Pipeline for any purpose under the Code;
>
> (for example, the Extensions/Expansions Policy could provide that the Service Provider may, with the Relevant Regulator's consent, elect at some point in time whether or not an extension or expansion will be part of the Covered Pipeline or will not be part of the Covered Pipeline);
>
> (b) specify how any extension or expansion, which is to be treated as part of the Covered Pipeline, will affect Reference Tariffs (for example, the Extensions/Expansions Policy could provide:
>
> (i) Reference Tariffs will remain unchanged but a Surcharge may be levied on Incremental Users where permitted by sections 8.25 and 8.26 of the Code; or
>
> (ii) specify that a review will be triggered and that the Service Provider must submit revisions to the Access Arrangement pursuant to section 2.28 of the Code);
>
> (c) if the Service Provider agrees to fund New Facilities if certain conditions are met, a description of those New Facilities and the conditions on which the Service Provider will fund the New Facilities.

466. Section 3.16 further provides that the Authority may not require the Extensions/Expansions Policy to state that the Service Provider will fund New Facilities, unless the Service Provider agrees.

467. DBNGPT has provided an Extensions/Expansions Policy as clause 5.4 of the Proposed Access Arrangement.

468. The Extensions/Expansions Policy of the Proposed Access Arrangement is largely the same as that of the Current Access Arrangement with the exceptions that:

- provisions of the Current Access Arrangement (clause 12.1) that set out conditions under which the Service Provider would expand the pipeline have been removed; and
- a new provision has been included in the Extensions/Expansions Policy that sets out a number of factors that the Service Provider may have regard to in considering whether to treat an extension or expansion as part of the Covered Pipeline (clause 11.4 of the Proposed Access Arrangement).

469. One User of the DBNGP has submitted that the Extensions/Expansions Policy of the Proposed Access Arrangement does not provide sufficient information for a Prospective User to predict whether:

- an expansion or extension may or may not take place;
- if it does, then will it be treated as part of the Covered Pipeline;
- whether the Prospective User may be required to make a capital contribution; or
- how any such extension or expansion may affect the tariff.[55]

470. The Authority notes that the Extensions/Expansions Policy of the Proposed Access Arrangement addresses these matters, although not in a definitive manner:

- clause 11.1 of the Proposed Access Arrangement indicates that DBNGPT will expand the Capacity of the Pipeline where it considers that the tests of section 6.22 of the Code have been satisfied (which includes that DBNGPT would not be required to fund part or all of the expansion), or otherwise at the discretion of DBNGPT;
- clauses 11.2 and 11.3 provide for DBNGPT to have discretion over whether an extension, expansion or enhancement of the DBNGP becomes part of the Covered Pipeline, but for DBNGPT to advise the Authority where the decision is made for the extension, expansion or enhancement to not become part of the Covered Pipeline;
- clause 11.6 provides for DBNGPT to seek Surcharges or Capital Contributions from Prospective Users in respect of New Facilities Investment subject to this being in accordance with sections 8.23 to 8.26 of the Code; and
- clause 11.5 indicates that if an extension, expansion or enhancement of the DBNGP becomes part of the Covered Pipeline, then the Reference Tariff will not

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be affected before the next Revisions Commencement Date, unless DBNGPT submits revisions to the Access Arrangement.

471. The Authority is of the view that the Code does not require the Extensions/Expansions Policy to be more explicit or definitive on these matters than proposed, and that these provisions meet the requirements of the Code.

Review and Expiry of the Access Arrangement

472. Section 3.17 of the Code sets out the requirements for an Access Arrangement to specify dates for review of the Access Arrangement:

> 3.17 An Access Arrangement must include:
>
> (a) a date upon which the Service Provider must submit revisions to the Access Arrangement (a ***Revisions Submission Date***); and
>
> (b) a date upon which the next revisions to the Access Arrangement are intended to commence (a ***Revisions Commencement Date***).
>
> …

473. In approving the Revisions Submissions Date and Revisions Commencement Date, the Authority must have regard to the objectives for Reference Tariffs and the Reference Tariff Policy in section 8.1 of the Code. In making a decision on an Access Arrangement (or revisions to an Access Arrangement) and, if considered necessary having had regard to the objectives in section 8.1 of the Code, the Authority may, under section 3.17 of the Code:

(i) require an earlier or later Revisions Submission Date and Revisions Commencement Date than proposed by the Service Provider in its proposed Access Arrangement;

(ii) require that specific major events be defined that trigger an obligation on the Service Provider to submit revisions prior to the Revisions Submission Date.

474. Section 3.18 of the Code provides for an Access Arrangement Period to be of any length; however, if the Access Arrangement Period is more than five years, the Authority must not approve the Access Arrangement without considering whether mechanisms should be included to address the risk of forecasts, on which the terms of the Access Arrangement were based and approved, proving to be incorrect. These mechanisms may include:

(a) requiring the Service Provider to submit revisions to the Access Arrangement prior to the Revisions Submission Date if certain events occur, for example:

  (i) if a Service Provider's profits derived from a Covered Pipeline are outside a specified range or if the value of Services reserved in contracts with Users are outside a specified range;

  (ii) if the type or mix of Services provided by means of a Covered Pipeline changes in a certain way; or

(b) a Service Provider returning some or all revenue or profits in excess of a certain amount to Users, whether in the form of lower charges or some other form.

475. Where a mechanism is included in an Access Arrangement pursuant to section 3.18(a) of the Code, the Authority must investigate no less frequently than once every five years whether a review event identified in the mechanism has occurred.

476. Section 12 of the Proposed Access Arrangement makes provision for a Revisions Submission Date of 1 July 2010 and a Revisions Commencement Date of 1 January 2011. If the Proposed Access Arrangement is approved in the second half of 2005, these dates imply an Access Arrangement Period of up to 5½ years in length.

477. As the Access Arrangement Period is potentially in excess of 5 years, the Authority is required under Section 3.18 of the Code to consider whether mechanisms should be included to address the risk of forecasts on which the terms of the Access Arrangement were based and approved proving to be incorrect.

478. The Authority notes that DBNGPT has provided in the Access Arrangement Information forecasts of contracted Capacity and throughput for the proposed Access Arrangement Period and no parties have raised concerns with these forecasts. Taking this into account, and considering that the proposed Access Arrangement Period may be at most only marginally in excess of 5 years, the Authority does not consider that mechanisms as contemplated by section 3.18 of the Code should be included in the Access Arrangement.

479. The Authority considers that practical experience to date in the assessment of proposed revisions to Access Arrangements indicates that a minimum 9 month period is often necessary to undertake an assessment, making sufficient provision for public consultation. For this reason, the Authority considers that the Revisions Submission Date should be 9 months prior to the Revisions Commencement Date.

Draft Decision Amendment 19 Clause 12.1 of the Proposed Access Arrangement should be amended so that the Revisions Submission Date is 1 April 2010.

Matters Unrelated to Sections 3.1 to 3.20 of the Code

480. Section 2.24 of the Code requires that an Access Arrangement contain the elements and satisfy the principles set out in sections 3.1 to 3.20 of the Code. However, it is open to a Service Provider to address, in an Access Arrangement, matters beyond the requirements set out in those sections of the Code.

481. Pursuant to section 2.24 of the Code, the Authority must not refuse to approve a proposed Access Arrangement solely for the reason that it does not address a matter that sections 3.1 to 3.20 of the Code do not require to be addressed. However, if a proposed Access Arrangement addresses matters in addition to the requirements in sections 3.1 to 3.20 of the Code, then the Authority may consider these matters in its assessment of the proposed Access Arrangement, taking into account the factors listed in section 2.24 of the Code.

482. The Proposed Access Arrangement contains information on a number of matters additional to the elements of an Access Arrangement required by sections 3.1 to 3.20 of the Code. These additional matters include:

- introductory and background information (sections 1, 2 and 3 of the Proposed Access Arrangement);

- specification of the commencement date of the revisions to the Access Arrangement (section 4); and

- the process of making an "Access Request" and of an Access Request being considered and assessed by DBNGPT (section 5).

483. Submissions made to the Authority have raised a number of concerns in relation to these additional matters dealt with in the Proposed Access Arrangement. These submissions are addressed as follows.

Introduction and Background

484. Western Power Corporation has requested in a submission that the Authority give attention to three statements made in the introduction and background to the Proposed Access Arrangement that are potentially contrary to the requirements of the Code:

- the statement in clause 1.3 that "The Access Arrangement sets out the policies and basic terms and conditions applying to third party access …" is misleading by not recognising that the Code requires detailed terms and conditions to be specified for Reference Services;

- the statement in clause 1.5 that "… [if] prospective shippers are unable to conclude negotiations for access, this Access Arrangement contains the terms and conditions for Access to the Reference Service" implies that if negotiations cannot be concluded, that access will only be available on the terms and conditions of the Reference Service and the role of the Arbitrator under section 6 of the Code in determining terms and conditions for other Services is compromised; and

- the provision in section 2.7 for DBNGPT to propose further revisions to the Access Arrangement as a result of any orders made by the Gas Review Board in relation to current appeals against the decision of the Regulator to approve the Current Access Arrangement, which it is submitted is contrary to the role of the Gas Review Board.

485. In regard to the concerns expressed over statements made in clauses 1.3 and 1.5, the Authority does not consider that these provisions have the restricted meanings attributed to them by Western Power Corporation, or that these provisions in any way affect the requirement for the Access Arrangement to comply with the Code or affect the functions of the Arbitrator. Moreover, the Authority notes that the statement that "The Access Arrangement sets out the policies and basic terms and conditions applying to third party access …" is taken from the italicised introduction to section 2 of the Code.

486. In regard to the process by which orders of the Gas Review Board may be incorporated into the Proposed Access Arrangement, the Authority notes that the effect of orders of the Gas Review Board may be to affirm, set aside or vary the Regulator's Decision by which the Current Access Arrangement was approved. The Board does not have jurisdiction in the current appeals before it to make general orders in relation to the current assessment process for revisions to the Access Arrangement, save to the extent that any orders made to set aside or vary the Current Access Arrangement have a flow-on effect to the current process. The Authority also

notes that the Code makes no provision for a Service Provider to amend proposed Revisions to an Access Arrangement once those revisions have been submitted to the Relevant Regulator, save as provided for in sections 2.37A and 2.40 of the Code. However, under section 2.28 of the Code, the Service Provider may at any time submit proposed revisions to the Access Arrangement. As such, the provision of section 2.7 of the proposed Access Arrangement has no practical effect and should be removed. Should a decision of the Board on the Current Access Arrangement be handed down before the Authority's Final Decision, the Authority may, however, decide to seek submissions from DBNGPT and interested parties on the impact of the Board's decision on their submissions on the revisions to the Access Arrangement.

Draft Decision Amendment 20
Section 2.7 of the Proposed Access Arrangement, relating to revision of the Proposed Access Arrangement pursuant to a decision by the Gas Review Board, should be deleted.

Commencement

487. Western Power Corporation has submitted that clauses 4.1 and 4.2 of the Proposed Access Arrangement are unclear as a result of a statement first being made that the revisions to the Access Arrangement have effect on 1 July 2005, but then stating that they have effect on the later of the date of approval of the revisions by the Authority or 1 July 2005. The Authority considers that clauses 4.1 and 4.2 should be amended to make it clear that the revisions will have effect on the later of the date of approval of the revisions by the Authority or 1 July 2005.

Draft Decision Amendment 21
Clauses 4.1 and 4.2 of the Proposed Access Arrangement should be amended to make it clear that the revisions to the Access Arrangement will have effect on the later of the date of approval of the revisions by the Authority or 1 July 2005.

Access Requests

488. Clauses 5.1 to 5.3 of the Proposed Access Arrangement set out provisions relating to Access Requests. Clause 5.4 sets out the Queuing Policy, which is dealt with separately in this Draft Decision.

489. Western Power Corporation has submitted that it has a number of concerns with the process by which Access Requests are made and assessed, which it states is a critical part of the Access Arrangement:

- sub-clause 5.1(b) of the Proposed Access Arrangement makes provision for DBNGPT to require a Prospective User to meet costs incurred by DBNGPT in consultation and investigations prior to an Access Request being submitted, which is not contemplated by the Code and is not limited to costs reasonably incurred;

- sub-clause 5.2(b)(ii), which requires that an Access Request specify a "Commencement Date" for a service that is at least 30 days subsequent to the date

the Access Request is submitted, should include provision for an earlier Commencement Date if this can be accommodated by DBNGPT;

- sub-clause 5.2(b)(v)(A) indicates that variations may be proposed to the terms and conditions of the Reference Service, which is inconsistent with section 5.2(c)(ii)(B) which implies that, where variations are made to the Access Contract Terms and Conditions, the Service becomes a Non-Reference Service;

- reference in clause 5.2(b)(v)(B) and (C), to terms and conditions for the Spot Capacity Service is inconsistent with the Code, as under the Code an Access Arrangement may only include terms and conditions for Reference Services;

- provision under clause 5.2(d) for charges payable under an Access Contract to be *adjusted* by an amount equal to the "Prescribed Fee" payable in respect of the related Access Request should be changed to clearly state that the charges payable would be *reduced* in these circumstances;

- the Prescribed Fee to be paid on lodgement of an Access Request (set at $5000) is excessive and should be reduced;

- provision under sub-clause 5.2(f) for DBNGPT to require payment of an additional Prescribed Fee where an Access Request is amended is unreasonable;

- there should be a requirement under clause 5.3 for DBNGPT to act as a reasonable and prudent pipeline operator in assessing and responding to an Access Request;

- the terms of sub-clause 5.3(d), that sets out the process by which DBNGPT may accept an Access Request, is unreasonable as it is not practically possible for parties to enter into an Access Contract by such means;

- sub-clause 5.3(e), relating to the rejection of an Access Request, should include a requirement, in circumstances where an Access Request is rejected, for the Prospective User to be provided with reasons for the rejection in reasonable detail;

- sub-clause 5.3(e)(i), relating to the rejection of an Access Request in circumstances where the Access Request is incomplete or otherwise does not comply with the requirements for an Access Request, should be limited to circumstances where the relevant deficiency of the Access Request is material;

- sub-clause 5.3(e)(iii), relating to the rejection of an Access Request in circumstances where DBNGPT considers that the Prospective User is not capable of meeting its obligations under the Access Contract, is not acceptable but rather DBNGPT should be obliged to accept the Access Request but given a power to build in reasonable prudential requirements;

- sub-clause 5.3(e)(vii), relating to the rejection of an Access Request in circumstances where the Access Request is a request for substantially the same Service as another Access Request submitted by the Prospective User, is not reasonable; and

- sub-clause 5.3(e)(viii), relating to the rejection of an Access Request in circumstances where DBNGPT does not consider the Access Request to be a bona fide request for access, is open to abuse by DBNGPT.

490. As a general matter arising from Western Power Corporation's submission, the Authority notes that the process by which Access Requests are made and assessed is not "a critical part of an Access Arrangement" in so far as it is not a required element of an Access Arrangement under sections 3.1 to 3.20 of the Code. Indeed, the Code contemplates this process being described not as an element of an Access Arrangement, but rather as part of the Information Package required to be made available by a Service Provider under section 5 of the Code. While the Relevant Regulator under the Code has powers to require changes to an Information Package made available by a Service Provider, this is a function of the Relevant Regulator that is separate from the function of assessment and approval of a proposed Access Arrangement or proposed revisions to an Access Arrangement.

491. Although the Authority has previously allowed Access Arrangements for pipelines in Western Australia to include provision relating to the processes of submitting and assessing Access Requests and charges associated with these processes, the Authority has reconsidered the appropriateness of such matters being dealt with in an Access Arrangement in light of the submissions by Western Power Corporation. On re-examining the relevant provisions of the Code, the Authority is concerned that there is a real issue as to whether it is appropriate for the Access Arrangement to address issues that the Code expressly contemplates will be dealt with in the Information Package.

492. There is also a risk of conflict between the proposed provisions in the Access Arrangement and the express provisions in s.5.4 to s.5.7 of the Code, which set out the circumstances in which costs of an Access Request may be recovered by a Service Provider. In this regard, section 5.5(c) of the Code identifies the extent of reasonable costs that might be recovered. It is to be inferred, as a result of this specific provision, that otherwise there are not to be charges to recover costs raised by the Service Provider in respect of an Access Request. To the extent that specific provisions of the Access Arrangement enable additional costs to be recovered, the Authority is of the view that this would be contrary to the Code.

493. The Code does not prevent the parties from negotiating specific charges for investigations carried out before an Access Request has been submitted, however to deal with such charges in the Access Arrangement would be inconsistent with the express provisions in the Code which appear to the Authority to cover the field of the costs that may be recovered in relation to an Access Request and contemplate that such matters are dealt with in the Information Package.

Draft Decision Amendment 22 The Proposed Access Arrangement should be amended to remove clauses 5.1 to 5.3.

REQUIRED AMENDMENTS

494. Under section 2.35(b) of the Code, the Authority is required, when issuing a Draft Decision that proposes to not approve proposed revisions to an Access Arrangement, to state amendments that would have to be made to the revised Access Arrangement in order for the Authority to approve it. Set out below are the amendments that should be made to the Proposed Access Arrangement in order for the Authority to approve it.

Services Policy

495. The Services Policy of the Proposed Access Arrangement should be amended to remove the Tf Service and to include a Reference Service that is of the nature of the "T1 Service" to which the Standard Shipper Contract relates. The minimum contract term for this Service should be 2 years when it is made available to a Prospective User through the utilisation of Spare Capacity and 15 years when it is made available to a Prospective User through the utilisation of Developable Capacity. (Draft Decision Amendment 1)

496. The Proposed Access Arrangement should be amended so that the definition of Spot Transaction Terms and Conditions explicitly provides for these terms and conditions to be negotiated with Users and Prospective Users, with resort to arbitration in the event of a dispute over terms and conditions. (Draft Decision Amendment 2)

497. The Services Policy of the Proposed Access Arrangement should be amended to indicate that Non-Reference Services that are in the nature of gas transmission Services will be made available subject to availability of Capacity, and other Non-Reference Services will be made available subject to operational availability. (Draft Decision Amendment 3)

498. The Services Policy of the Proposed Access Arrangement should be amended to include descriptions of all Non-Reference Services. (Draft Decision Amendment 4)

499. The Services Policy and Reference Tariff Policy of the Proposed Access Arrangement should be amended as necessary to include a Part Haul Service as a Reference Service. The Part Haul Service should be in the nature of the T1 Service to which the Standard Shipper Contract relates and should have a minimum contract term of 2 years when it is made available to a Prospective User through the utilisation of Spare Capacity and 15 years when it is made available to a Prospective User through the utilisation of Developable Capacity. (Draft Decision Amendment 5)

500. The Services Policy and Reference Tariff Policy of the Proposed Access Arrangement should be amended as necessary to include a Back Haul Service as a Reference Service. The Back Haul Service should be in the nature of the T1 Service to which the Standard Shipper Contract relates and should have a minimum contract term of 2 years when it is made available to a Prospective User through the utilisation of Spare Capacity and 15 years when it is made available to a Prospective User through the utilisation of Developable Capacity. (Draft Decision Amendment 6)

Reference Tariff and Reference Tariff Policy

501. The Proposed Access Arrangement should be amended to include in the Reference Tariff Policy a Redundant Capital mechanism that provides for the disposal value of any compression assets made redundant during the Access Arrangement Period to be removed from the value of the Capital Base at the commencement of the ensuing Access Arrangement Period. (Draft Decision Amendment 7)

502. The Proposed Access Arrangement should be amended to include a Reference Tariff for the Reference Service that is of the nature of the "T1 Service" to which the Standard Shipper Contract relates. This Reference Tariff should comprise a Capacity Reservation Tariff and a Commodity Tariff as follows for the calendar year 2005:

Capacity Reservation Tariff: $0.9124/GJ MDQ

Commodity Tariff: $0.1206/GJ

For the years 2006 to 2011, values of the Capacity Reservation Tariff and Commodity Tariff should be determined in accordance with clause 7.11 of the Proposed Access Arrangement.

Capital Base (at 31 December 2004)	$1,619.77 million					
New Facilities Investment	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	196.92	386.61	6.56	213.20	98.17	7.58
Rate of Return	7.24% real pre-tax					
Depreciation	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	44.19	49.10	57.00	57.22	60.42	61.99
Non Capital Costs	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
	56.50	55.60	83.53	77.94	73.45	72.51

(Draft Decision Amendment 8)

503. The Proposed Access Arrangement should be amended to include a Reference Tariff for a Part Haul and Back Haul Services. The charges of this Reference Tariff should be determined as a proportion of the charges of Reference Tariff for the full haul Reference Service as follows:

$$F \times \frac{D}{1399}$$

where

F is the value of the charge that would apply if the Service were the full haul Reference Service

D is the distance in kilometres of pipeline between the relevant Receipt Point and the relevant Delivery Point. (Draft Decision Amendment 9)

504. Clause 7.12(c) of the Proposed Access Arrangement should be amended so that the share of returns to DBNGPT is calculated as follows. (Draft Decision Amendment 10)

Year	Share of returns
2011	$S_{2011} = E_{2006} + E_{2007} + E_{2008} + E_{2009}$
2012	$S_{2012} = E_{2007} + E_{2008} + E_{2009}$
2013	$S_{2013} = E_{2008} + E_{2009}$
2014	$S_{2014} = E_{2009}$
2015	$S_{2015} = 0$

505. Clause 7.3 of the Proposed Access Arrangement should be amended so as to distinguish between the *ex ante* determination of the Capital Base for the purposes of determining the Reference Tariff (involving consideration of forecast New Facilities Investment considered likely to meet the requirements of section 8.16 of the Code) and the *ex post* determination of the Capital Base at the commencement of the next Access Arrangement Period (involving consideration of actual New Facilities Investment that meets the requirements of section 8.16 of the Code). (Draft Decision Amendment 11)

506. The Proposed Access Arrangement should be amended so as to delete sub-clauses 7.6(d) and paragraph 7.13(a)(ii), both relating to the establishment of the methodology for determination of the Rate of Return, and some parameter values in the determination, as Fixed Principles. (Draft Decision Amendment 12)

Terms and Conditions

507. The Proposed Access Arrangement should be amended to include terms and conditions for the T1 Service (as a Reference Service) that are substantially the same as the terms and conditions set out in the Standard Shipper Contract, save as otherwise required by this Draft Decision. (Draft Decision Amendment 13)

508. The Proposed Access Arrangement should be amended to include terms and conditions for the Part Haul Service and Back Haul Service (as Reference Services) that, to the extent applicable for these Services, are substantially the same as the terms and conditions set out in the Standard Shipper Contract, save as otherwise required by this Draft Decision. (Draft Decision Amendment 14)

509. The Proposed Access Arrangement should be amended so that the terms and conditions for Reference Services include an Operating Specification for gas quality as follows and to apply from the time that the Proposed Access Arrangement comes into effect. (Draft Decision Amendment 15)

Component		Receipt Points and Delivery Points
Maximum carbon dioxide (mol %)		4.0
Maximum inert gases (mol %)		7.0
Minimum higher heating value (MJ/m^3)		37.0
Maximum higher heating value (MJ/m^3)		42.3
Minimum Wobbe Index		46.5
Maximum Wobbe Index		51.0
Maximum total sulphur (mg/m^3)	Unodorised	10
	Odorised	20
Maximum Hydrogen Sulphide (mg/m^3)		2
Maximum Oxygen (mol %)		0.2
Maximum Water (mg/m^3)		48
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		Below 0 ºC
Maximum radioactive components (Bq/m^3)		600
Minimum extractable LPGs (t/TJ)		0

Capacity Management Policy

510. The Proposed Access Arrangement should be amended to include a Capacity Management Policy that indicates that the DBNGP is to be managed as a Contract Carriage Pipeline. (Draft Decision Amendment 16)

Trading Policy

511. The Proposed Access Arrangement should be amended to include, as part of the Trading Policy, provisions that are substantially the same as provisions of clauses 14.1 – 14.9, 25.3 and 25.4 of the Standard Shipper Contract and these provisions should apply as a policy for the pipeline and for Services generally and not be limited in application to Reference Services. (Draft Decision Amendment 17)

Queuing Policy

512. Sub-clause 5.4(f) of the Proposed Access Arrangement should be amended so that the time limits for negotiation of terms or satisfaction of conditions set out in sub-clause 5.4(f) of the Proposed Access Arrangement should be expressly contingent upon both parties negotiating terms and conditions in good faith, and the timing suspended in the event that a dispute over terms and conditions of access is referred for arbitration under section 6 of the Code. (Draft Decision Amendment 18)

Review and Expiry of the Access Arrangement

513. Clause 12.1 of the Proposed Access Arrangement should be amended so that the Revisions Submission Date is 1 April 2010. (Draft Decision Amendment 19)

Matters Unrelated to Sections 3.1 to 3.20 of the Code

514. Section 2.7 of the Proposed Access Arrangement, relating to revision of the Proposed Access Arrangement pursuant to a decision by the Gas Review Board, should be deleted. (Draft Decision Amendment 20)

515. Clauses 4.1 and 4.2 of the Proposed Access Arrangement should be amended to make it clear that the revisions to the Access Arrangement will have effect on the later of the date of approval of the revisions by the Authority or 1 July 2005. (Draft Decision Amendment 21)

516. The Proposed Access Arrangement should be amended to remove clauses 5.1 to 5.3. (Draft Decision Amendment 22)

Appendix 1

Estimation of the Cost of Capital for the DBNGP using the Capital Asset Pricing Model

1. The general approach taken by DBNGPT in its Proposed Access Arrangement in application of the CAPM to estimate a weighted average cost of capital ("**WACC**") is consistent with the approach most commonly used by Service Providers and Regulators in Australia and under the Code. This general approach to estimation has been to derive a target post-tax WACC, and then make adjustments for the net cost of taxation to derive a pre-tax WACC.

2. The CAPM is used to estimate the required nominal post-tax return to the equity share of an asset:

$$R_e = R_f + \beta_e (R_m - R_f)$$

where R_f is the risk-free rate, $(R_m - R_f)$ is the expected risk premium above the risk-free rate for a well-diversified portfolio of equities (R_m), β_e is the measure of the particular equity's relative risk, or its equity beta, and R_e is the required return on that equity.

3. The outcome of this model is an estimate of the required post-tax return to equity. The return required by the other source of financing – debt – can be observed directly from the market for debt finance, and the average of these sources of financing (weighted by the respective shares of debt and equity in the financing of the asset) provides an estimate of the WACC for the asset. That is:

$$WACC = R_e \frac{E}{V} + R_d \frac{D}{V}$$

where $\frac{E}{V}$ and $\frac{D}{V}$ are equity and debt as shares of total assets, V, and R_d is the cost of debt.

4. There are a number of different versions of the post-tax WACC that are derived by transferring one or more of the particular costs or benefits from the cash flows to inclusion in the WACC formula. One popular form is the "Officer" nominal post-tax WACC, which takes account of corporate income tax and the value of franking credits and has the following formula:

$$WACC = R_e \cdot \frac{E}{V} \cdot \frac{1 - t_c}{(1 - t_c(1 - \gamma))} + R_d \cdot \frac{D}{V} \cdot (1 - t_c)$$

where t_c is the corporate tax rate and γ is the value of franking credits created (as a proportion of their face value).

5. Consistent with the WACC formula applied by DBNGPT for the purposes of the Proposed Access Arrangement, and consistent with a view of the Authority that franking credits should be ascribed some value in application of the CAPM (see further discussion of this matter below), the Authority has used the Officer WACC

formula to estimate the WACC for the DBNGP. The various elements and parameters of the CAPM model, the position taken on each by DBNGPT and the views of the Authority on each element are described below.

Risk Free Rate and Inflation Rate

6. Regulatory decisions under the Code in Western Australia and elsewhere in Australia have typically estimated the nominal risk-free rate by calculating the average yield to maturity on 10 year Commonwealth Government Treasury bonds over 20 consecutive trading days. Similarly, the real risk-free rate has been estimated by calculating the average yield to maturity on 10 year Commonwealth Government Indexed Treasury Bonds over the same 20 consecutive trading days. A forecast of inflation over the period has been calculated from the two rates, using the Fischer equation.[56]

7. This approach to the estimation of risk free rates and the inflation rate is not considered by the Authority to be contentious. DBNGPT has itself applied this methodology. While there has been an appeal by a Service Provider against a regulatory decision made under the Code by the Australian Competition and Consumer Commission ("**ACCC**") and in relation to the determination of risk free rates and the inflation rate, this appeal related to whether observations of yields on 10-year or 5-year bonds should be used for the determination rather than the general methodology.[57]

8. Consistent with the methodology applied for the purposes of the Amended Draft Decision, the Authority has derived an estimate of the risk-free rate from averages of bond rates over 20 consecutive trading days to 29 April 2005. The averages of observed rates of return on 10 year government bonds indicate a nominal risk-free rate of 5.45 percent, a real risk-free rate of 2.69 percent and an implied future inflation rate of 2.69 percent.

Market Risk Premium

9. The market risk premium is the average return of the market above the risk free rate. In the context of application of the CAPM to *ex ante* estimate of the cost of capital, it is investors' expected market risk premium that is relevant.

10. DBNGPT has assumed a value of the market risk premium of 6.0 percent, citing estimates of realised market risk premiums in the Australian stock market.

11. In making an assumption about an appropriate value of the market risk premium, the Authority has given consideration to evidence of historically realised market risk premiums and to evidence of investors' expectations of the market risk premium in the future.

12. Australian historical data on the realised market risk premium that have been compiled by Professor Robert Officer are shown in the table below. Further historical

[56] Brealey, R.A., Myers, S.C., Partington, G. and Robinson, D., 2001. *Principles of Corporate Finance* 1st Australian ecition, Roseville, Australia: McGraw–Hill, p 135.

[57] Australian Competition Tribunal, Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6.

data has been presented to the Authority by DBNGPT.[58] These analyses indicate a range of estimates of the realised market risk premium of between 3.4 and 7.7 percent depending upon the historical period over which the analysis is undertaken. More recent measurements suggest that the market risk premium has been lower than in earlier periods, although this decline is not statistically significant.

Historical realised market risk premium in Australia[59]

Time Period	Equity Premium: Returns	Standard Deviation	Standard Error of the Mean
1882-2001	7.19%	16.97%	1.55%
Differing Ending Point			
1882-1950	8.00%	11.11%	1.34%
1882-1970	8.16%	13.70%	1.45%
1882-1990	7.40%	17.33%	1.66%
Different Beginning Point			
1900-2001	7.14%	17.94%	1.78%
1950-2001	6.51%	22.60%	3.13%
1970-2001	3.37%	24.38%	4.31%

13. The Authority does not accept that sole reliance on such evidence is proper in determining an appropriate assumption for the market risk premium, which should be directed at an assumption of the *expected* market risk premium at the current time. The Authority considers that estimates of realised market risk premiums should be considered in the context of numerous factors that suggest a decline in the market risk premium over the last century[60] and analysis that suggests that, internationally, historically realised market risk premiums are likely to be in excess of those currently required or expected by investors.[61] Moreover, the Authority considers that attention should be given to values assumed for the market risk premium by investors and financial analysts at the current time, and to *ex ante* estimates of the market risk premium.

14. Values assumed for the market risk premium at the current time are revealed in a survey of financial market participants cited by the Essential Services Commission, indicating that an average of survey respondents' views on the historical market risk

[58] DBNGPT, 27 January 2005, Dampier to Bunbury Natural Gas Pipeline Submission #4 Reference Tariff Policy and Reference Tariff.

[59] Essential Services Commission, October 2002, Review of Gas Access Arrangements: Final Decision, pp 322 – 336.

[60] These factors are discussed in "The Allen Consulting Group (March 2004), *Review of Studies Comparing International Regulatory Determinations*, Report to the Australian Competition and Consumer Commission".

[61] Dimson, Elroy, Marsh, Paul and Mike Staunton (2000), "Risk and Return in the 20th and 21st Centuries," *Business Strategy Review*, Vol. 11, Issue 2.

premium was 5.87 percent and an average of future expectations of the market risk premium of about 1 percent less.[62]

15. *Ex ante* estimates of the market risk premium have also been made for Australian equity markets using the dividend-growth-model methodology. Estimates made are also below estimates of historically realised market risk premiums, with values ranging between 4.5 percent and 5.9 percent, with an average of 5.4 percent.[63]

16. Taking into account all of the above information, the Authority considers that the value for the market risk premium could reasonably be assumed to be within the range of 5 to 6 percent.

Equity Beta

17. The application of the CAPM requires an equity beta, β_e, to be determined for the DBNGP business. The equity beta value for a business reflects that business' exposure to systematic risk, which relates to that portion of the variance in the return on an asset that arises from market-wide economic factors that affect returns on all assets, and which cannot be avoided by diversifying a portfolio of assets.

18. For a business entity not listed on the stock market, an equity beta is commonly estimated by estimating asset beta and debt beta values from observations of comparable listed entities and re-levering these into an equity beta that is consistent with the assumed capital structure of the entity being examined.

19. DBNGPT has assumed an equity beta value of 1.20 at 60 percent gearing (debt to assets), derived from an assumed asset beta value of 0.6 and debt beta of 0.20. DBNGPT has cited empirical estimates of beta values for comparable entities that suggest a substantially lower value, but assumed a higher value on the basis of the precedent of the past decisions of the Regulator on the Access Arrangement in relation to the Current Access Arrangement for the DBNGP.

20. The Authority has obtained advice on empirical estimates of beta values for comparable entities to gas pipeline companies, indicating an equity beta estimate 0.82, re-levered to be consistent with an assumed gearing level of 60 per cent debt to assets. This beta estimate was very similar to the beta estimate for the set of 12 comparable USA entities of 0.72, estimated using the same methodology and also re-levered to be consistent with an assumed gearing level of 60 per cent debt to assets.

21. The Authority considers that the major Western Australian gas transmission pipelines are at least as exposed to systematic risk as other Australian gas transmission

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[62] Essential Services Commission, October 2002, Review of Gas Access Arrangements: Final Decision, pp332-356, citing Jardine Fleming Capital Partners Limited, (September, 2001) *The Equity Risk Premium – An Australian Perspective*, Trinity Best Practice Committee.

[63] Davis, K., 18 March 1998. The Weighted Average Cost of Capital for the Gas Industry, Report Prepared for: Australian Competition and Consumer Commission and Office of the Regulator General. Lally, M., June 2002, The Cost of Capital Under Dividend Imputation, Prepared for the Australian Competition and Consumer Commission. SFG Consulting, September 2003, Issues in Cost of Capital Estimation. All cited in The Allen Consulting Group (March 2004), *Review of Studies Comparing International Regulatory Determinations*, Report to the Australian Competition and Consumer Commission.

pipelines and distribution systems and therefore accepts an equity beta value of 0.8 at 60 percent gearing as the lower bound of a reasonable range of estimates for the DBNGP.

22. The Authority also considers that as the gas transmission markets for the major transmission pipelines in Western Australia are predominantly markets for supply of gas to mining and mineral processing activities, rather than supply to households and diversified businesses, the Western Australian gas transmission pipelines may be exposed to a greater level of systematic risk than transmission pipelines and distribution systems in the eastern states of Australia. The Authority recognises that there is no firm evidence for such a view. Furthermore, the Authority notes that there are no robust empirical methods for discerning the relative systematic risk of the different Australian pipeline businesses (that is, the systematic risk of one pipeline business compared to another).

23. The Authority has previously applied a subjective assessment of relative systematic risk in its consideration of proposed Access Arrangements for Western Australian Pipelines and has determined appropriate equity beta values for pipelines as follows, in order of supposed increasing systematic risk.

Determinations by the Authority of relative levels of systematic risk and equity beta values for Western Australian gas pipelines[64]

Pipeline[65]	Equity beta value considered appropriate by the Authority (at 60 percent gearing)
Mid West and South West Gas Distribution Systems	1.00
DBNGP	1.20
Parmelia Pipeline	1.33
Tubridgi Pipeline System	1.33
Goldfields Gas Pipeline	1.33

24. The Authority accepts a possibility that, due to the market for gas transmission in the DBNGP being in large part for mineral processing, this pipeline may be exposed to as high or a higher level of systematic risk than other pipelines and distribution systems throughout Australia with a more diversified customer base and a greater share of the market comprising either gas deliveries for domestic consumption. For the purposes of this Draft Decision, the Authority thus considers a reasonable upper bound to be an equity beta value of 1.20.

[64] Determinations include those made prior to January 2004 by the Independent Gas Pipelines Access Regulator.

[65] References to Decisions: Draft Decision on Proposed Revisions to the Access Arrangement for the Mid West and South West gas Distribution Systems (28 February 2005); Final Decision on the Proposed Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline (23 May 2003); Final Decision Proposed Access Arrangement for the Parmelia Pipeline (20 October 2000); Final Decision Proposed Access Arrangement for the Tubridgi Pipeline System (19 October 2001), Amended Draft Decision on the Proposed Access Arrangement for the Goldfields Gas Pipeline (29 July 2004).

Cost of Debt

25. There are three general options for estimating the cost of debt:

- a weighted average of the existing cost of debt of the regulated business;
- the marginal rate at which a comparable company can raise debt finance; and
- a margin over and above the risk free rate for the regulated business or a comparable entity.

26. Regulators in Australia have conventionally presented the cost of debt as a margin over the risk free rate, and have estimated a benchmark margin on the basis of the weighted average cost of debt for a typical debt portfolio. Regulators have also tended recently to consider the debt margin in terms of two components: an interest rate premium over the risk free rate and an allowance for transaction costs incurred in arranging the debt facilities.

27. DBNGPT has made an assumption of the cost of debt consistent with this approach. A debt risk premium of 111 basis points has been assumed, based on a cited average of debt risk premiums for BBB rated bonds as indicated by the Commonwealth Bank of Australia's Spectrum Service (CBA Spectrum). An allowance for transaction costs incurred in arranging debt facilities has been assumed at 25 basis points, based on a determination by the Australian Competition Tribunal.[66]

28. DBNGPT submits that assessment of the debt margin should be undertaken on the basis of a utility business with a BBB credit rating. In support of this submission, DBNGPT has cited Standard & Poor's long-term credit ratings as at October 2004 for Australian Energy businesses AGL (A), Alinta Ltd (BBB), Envestra (BBB) and GasNet Australia (BBB). DBNGPT has also cited a decision of the Australian Competition Tribunal in which the Tribunal determined that the ACCC erred in assessing the debt margin for the Moomba to Sydney Pipeline on the basis of a benchmark credit rating of BBB+ rather than BBB.[67]

29. DBNGPT is correct in its citing of credit ratings for Australian pipeline businesses. More recent (March 2005) ratings, together with financial data on each business, are as follows.

[66] Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6.

[67] Application by East Australian Pipeline Limited [2004] ACompT 8,

Financial data and credit ratings for Australian pipeline businesses[68]

Company	Value of Assets ($million)	Total Debt ($million)	Implied Gearing (%)	Rating
Alinta Ltd	3,437	1,879	55	BBB
AGL	6,574	2,177	33	A
DUET	3,306	2,524	76	BBB-
Envestra Ltd	2,500	1,842	74	BBB
GasNet	961	650	68	BBB

30. In considering these credit ratings, it is necessary to give attention to the financial structure of the businesses and other risk factors taken into account in assigning the ratings. In this regard, the rating of Alinta Ltd recognised risks arising from three major acquisitions in the space of 15 months, including purchase of its 20 percent interest in the DBNGP. The rating assigned to DUET is similarly affected by considerations of risk arising from the purchase of an interest in the DBNGP. It is also notable that DUET, Envestra and GasNet have substantially higher financial gearing than the benchmark assumed for regulatory purposes and a lower level of gearing would in all likelihood be associated with a higher credit rating, all other things being equal. Taking these factors into account, the Authority considers that consideration of the cost of debt for the DBNGP on the basis of an assumed BBB credit rating would be likely to result in an over-estimate of the cost of debt at the assumed capital structure of 60 percent gearing, and that assessment on the basis of a BBB+ is appropriate.

31. The Authority has considered the findings of the Australian Competition Tribunal in relation to the Moomba to Sydney Pipeline but considers that the findings of the Tribunal are specific to the reasoning expressed by the ACCC in its decisions and do not inform a consideration of an appropriate assumption of a credit rating for the DBNGP.

32. The Authority therefore considers that the appropriate benchmark for estimation of the cost of debt is an entity with a BBB+ credit rating and 60 percent gearing (debt to total assets) and has taken into account recent (March 2005) evidence of the cost of debt in Australian bond markets, as follows.

[68] Essential Services Commission, October 2002, Review of Gas Access Arrangements: Final Decision, pp 322 – 336.

Bond spreads for BBB+ rated utility businesses at 15 March 2005[69]

Maturity	CBA Spectrum	CSR	Investa	Snowy Hydro
5 years (at 15 March 2005)	90.5	78.8	92.5	
5 years (20-day average)	91.8	81.5	94.6	
10 years (at 15 March 2005)	97.7			120.3
10 years (20-day average)	98.9			121.4

33. The above evidence indicates yields on corporate bonds rated BBB+ of between about 80 and 95 basis points for five year bonds and 100 to 120 basis points for 10 year bonds.

34. The Authority also notes that the debt premium evident from CBA Spectrum service and recent transactions in Australia may be a high estimate of the cost of debt. The assumption that all debt is raised in the Australian market, which is implicit in the use of a margin produced by the CBA Spectrum or similar service to derive the benchmark debt margin, may be questioned. There is ample evidence that Australian companies are approaching US and European bond markets, and that this is driven primarily by the fact that this provides a lower cost of funds.[70]

35. Taking this evidence into account, the Authority considers a reasonable estimate of the debt margin to allow for the DBNGP may be within the range of 0.9 to 1.1 percentage points.

36. DBNGPT added to the debt margin an amount of 25 basis points as an allowance for transaction costs incurred in arranging the debt facilities. In support of this assumption, DBNGPT has cited a decision of the Australian Competition Tribunal in which the Tribunal determined that the ACCC erred in assessing the debt margin for the GasNet transmission system and should include an allowance of 25 basis points.[71]

37. The Authority has considered the decision of the Australian Competition Tribunal in relation to the GasNet transmission system. In this decision the Tribunal allowed debt issuance costs of 25 basis points. However, the Tribunal did not publish reasons for this allowance and, as such, the Authority is of the view that the Tribunal's decision is of limited assistance in the Authority's consideration of debt issuance costs.

38. The Authority has received advice that a reasonable allowance for debt raising costs, expressed as a mark-up to the debt premium, is between 8 and 12 basis points.[72] On

[69] Standard and Poor's, 22 March 2005, Industry Report Card: Australian Utilities.

[70] For example, Philip Baker, (3 April, 2003) "Why funds want to crash private placement market" Australian Financial Review: "Europe, Asia and, of course, the local market are all available to local corporations — but for competitive pricing and the chance to lock in long term debt, its impossible to bypass the market also known as the US Regulation D market. 'The pricing that these issues go at simply cannot be replicated in most other markets,' says Westpac's head of credit market research, John Lynam." cited by The Allen Consulting Group, *ibid*., p 44.

[71] Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6.

[72] The Allen Consulting Group, *ibid*., p 45.

this basis, the Authority considers that an allowance of between 8 and 12.5 basis points (consistent with substantial regulatory precedent in Australia) is reasonable.

39. With a debt margin of 0.9 to 1.0 percentage points and an allowance for debt raising costs of 0.08 to 0.125 percentage points, the Authority considers that a reasonable estimate of the cost of debt for the DBNGP is 0.98 to 1.225 percentage points above the risk free rate.

Financial Structure

40. An assumption about the proportions of equity and debt in the financing structure of the DBNGP business is necessary to determine a WACC from estimates of the costs of equity and debt.

41. Section 8.31 of the Code states that:

> In general, the weighted average of the return on funds should be calculated by reference to a financing structure that reflects standard industry structures for a going concern and best practice.

42. The implication of this provision of section 8.31 of the Code is that the financial structure assumed in calculating a WACC for a business should not necessarily reflect the actual financial structure of the regulated business, but rather should be in the nature of a benchmark assumption for the gas pipeline industry.

43. To date, regulators under the Code have almost invariably adopted a benchmark assumption for the financial structure of regulated businesses of 60 percent gearing (debt to total assets) that is supported by observed gearing levels for Australian utility companies.[73] DBNGPT has proposed a gearing assumption consistent with this benchmark.

44. Recognising that the Code provides for a benchmark assumption of financial structure to be used in the determination of the Rate of Return, the Authority is of the view that an appropriate assumption for the financial structure is a gearing level of 60 percent debt to total assets, consistent with regulatory precedent and is, if anything, a conservative assumption for the level of gearing of Australian pipeline companies given observed levels of gearing (see paragraph 32, above).

Taxation

45. There have been two broad approaches taken by regulators and regulated companies under the Code to allowing for the costs of taxation in regulated revenue targets: the use of a pre-tax Rate of Return, making an allowance for the cost of taxation by using a higher Rate of Return, and including an allowance for the cost of taxation directly in the cost forecasts used for the determination of Total Revenue.

46. DBNGPT has proposed use of a pre-tax Rate of Return in the determination of Total Revenue for the DBNGP. This is consistent with the approach taken by pipeline Service Providers and the Authority for Access Arrangements for all other Covered Pipelines in Western Australia.

[73] Amended Draft Decision, paragraphs 310 to 314.

47. The CAPM and WACC models generally deliver an estimate of the required after-tax (or "post tax") return to providers of funds. There are two relevant taxation issues in determining a pre-tax WACC: the method that is used to estimate company taxation liabilities associated with regulated activities, and the value of imputation or franking credits.

48. Taking first the method that is used to estimate company taxation liabilities, for the majority of Access Arrangements approved in Australia to date where a pre-tax Rate of Return has been used, a simple transformation of a nominal post-tax WACC to a real pre-tax WACC has been applied, based on one or both of the following transformation methods:

- forward transformation, involving division of the post-tax nominal WACC by 1 - *T*, where *T* is the statutory taxation rate, and then deducting inflation (using the Fisher transformation[74]) to derive the pre-tax real WACC; and

- reverse transformation, involving first deducting inflation from the post-tax nominal WACC, and then grossing up the real post-tax WACC by one minus the statutory taxation rate.

49. More recently, the forward transformation has generally been used, reflecting a view that changes to the company taxation regime in Australia, implemented as of 1 July 2000, are likely to narrow the gap between the statutory and effective tax rates for infrastructure firms in Australia. This transformation methodology has become a de facto standard in estimating pre-tax WACCs and the Authority considers this to be compliant with the Code and does not understand this to be contentious. Consistent with this, DBNGPT has utilised the forward transformation methodology in determination of Rates of Return for the Proposed Access Arrangement.

50. In application of the forward transformation methodology it has been common to use a corporate taxation rate equal to the expected statutory taxation rate for the Access Arrangement Period. Again, the Authority is of the view that this approach complies with the Code and does not envisage this assumption to be contentious.

51. The Authority therefore considers that it is reasonable to adopt the forward transformation methodology to derive a pre-tax WACC, with the taxation rate set at the expected rate of corporate income tax for the period 1 January 2005 to 31 December 2009, which is the rate of 30 percent.

52. The second issue in relation to taxation is the assumption that is made about the value ascribed to imputation or franking credits, which may reduce the effective rate of tax on returns to equity.

53. Franking credits, or imputation credits, are an allowance under the Australian taxation system that permit taxation liabilities of shareholders to be offset by the value of company tax already paid on profits from which the dividend payments are made. The approach for reflecting the value of franking credits that has emerged as standard

[74] $Real\ WACC = \frac{1 + nominal\ WACC}{1 + i} - 1$, where *i* is the inflation rate.

practice is to use a market (equity) risk premium that assumes that Australia has a classical tax system (i.e. no franking credits), then to adjust the WACC or cash-flows directly to reflect the non-cash benefits associated with franking credits. The mechanism used to achieve this – the gamma ("γ") term in the Officer WACC formula – can be interpreted as the value of each franking credit that is created by the firm. The gamma value represents the value of franking credits as a proportion of the face value of that franking credit, and may take a value between 0 and 1. A low gamma implies that shareholders do not obtain much relief from corporate taxation through imputation and therefore require a higher pre-tax rate of return to earn the same effective return on investment, and vice versa.

54. In Australia, regulators under the Code have to date generally adopted a γ value of 50 percent, based on the 1999 study by Hathaway and Officer, which estimates gamma at close to 0.50.[75] DBNGPT has applied an assumption of 50 percent consistent with this regulatory precedent. The Authority notes, however, that the study upon which this regulatory precedent is based has recently been updated by the authors and the estimate of gamma revised to between 0.28 and 0.36.[76]

55. The Authority acknowledges that the appropriate value to be assumed for the value of imputation credits is highly contentious. The principal issues in the debate about the appropriate value for imputation credits are canvassed in the advice from KPMG to GGT on the Rate of Return[77] and also in advice obtained by the Authority in relation to the Rate of Return for the AlintaGas Networks Mid West and South West Gas Distribution Systems.[78] The matters of debate include:

- methodologies for empirical estimation of the value of imputation credits;
- the "identity" of the marginal investor and the interdependency of the assumed value of imputation credits and assumptions as to the market risk premium and beta values, and the need for internal consistency in applying *either* a domestic CAPM model (with the marginal investor being Australian and able to utilise imputation credits) or international CAPM model (with the marginal investor being foreign and unable to utilise imputation credits); and
- inconsistent practice amongst financial practitioners in assumptions as to the value of imputation credits.

The Authority notes the absence of consensus amongst researchers on the appropriate value for gamma in a WACC calculation and of any consistent precedent by financial practitioners. However, the Authority also notes that while many financial practitioners do not ascribe a value to franking credits, these same financial practitioners also generally take a view of the expected market risk premium being

[75] Hathaway, N. and R.R. Officer (1999), *The Value of Imputation Tax Credits*, Unpublished Manuscript, Graduate School of Management, University of Melbourne.

[76] Hathaway, Neville and Officer, Bob (2004), *The Value of Imputation Tax Credits: Update 2004*, Capital Research Pty Ltd, p. 8.

[77] KPMG, November 2004, Goldfields Gas Transmission Pty Ltd: Weighted Average Cost of Capital.

[78] The Allen Consulting Group, May 2004, AlintaGas Networks Revised Access Arrangement: Proposed Rate of Return, Report to the Economic Regulation Authority.

substantially below the value of 6.0 that the Authority has considered as the upper limit of a reasonable range for this parameter. As such, the Authority takes the view that if the reasonable range for the market risk premium is taken as 5.0 to 6.0, then it is unreasonable not to ascribe some value to franking credits. In this regard, while the Authority does not consider that the value of gamma in the CAPM should be valued at the extremes of zero or one, the Authority considers that a reasonable estimate of the value of gamma may lie in the range of 0.3 to 0.6.

Ranges in Parameter Values and Estimated WACC

56. The parameter values (or ranges in values) for the CAPM that the Authority considers may reasonably be applied in consideration of the Rate of Return for the DBNGP are set out in the table below.

Reasonable CAPM parameter values for estimation of the rate of return for the DBNGP

Parameter	Value
Risk free rate (nominal, %)	5.45
Risk free rate (real, %)	2.69
Expected inflation (%)	2.69
Market risk premium (%)	5.0 – 6.0
Equity beta	0.80 – 1.20
Cost of debt margin (%)	0.980 – 1.225
Corporate tax rate (%)*	30
Franking credit value (γ)	0.3 – 0.6
Debt to total assets ratio (%)	60
Equity to total assets ratio (%)	40

57. The ranges in the estimated cost of equity corresponding to the ranges in the values of the CAPM parameters are as follows.

Estimated cost of equity derived from ranges in CAPM parameter values

Cost of Equity (%)	Nominal	Real
Post-Tax	9.5 – 12.7	6.6 – 9.7
Pre-tax	10.7 – 16.0	7.9 – 13.0

58. The ranges in estimated WACC values corresponding to the ranges in the values of the CAPM parameters and ranges in the estimated cost of debt are as follows.

Estimated WACC values derived from ranges in CAPM parameter values

Estimated WACC (%)	Nominal	Real
Post-Tax (Officer)	5.7 – 7.3	2.9 – 4.5
Pre-tax (forward transformation of Officer WACC)	8.2 – 10.4	5.3 – 7.5

Appendix 2

Comparison of Gas Quality Specifications

Component		Current and proposed Operating Specification		Broadest Specification of the Dampier to Bunbury Pipeline Regulations 1998			Gas Standards Regulations 2000	"Broadest specification" of Standard Shipper Contract
		Receipt Points	Delivery Points	Category A Gas (Receipt Points)	Category B Gas (Delivery Points upstream of the WLPG Plant)	Category C Gas (Delivery Points downstream of WLPG Plant)		
Maximum carbon dioxide (mol %)		3.6	4.0	3.6	4	4	n.a.	4.0
Maximum inert gases (mol %)		5.5	6.0	6.5	7.0	7.0	n.a.	6.0
Minimum higher heating value (MJ/m^3)		37.3	37.3	42.3	35.1	35.1	37.0	37.3
Maximum higher heating value (MJ/m^3)		42.3	42.3	42.3	42.3	42.3	42.3	42.3
Minimum Wobbe Index		47.3	47.3	46.0	46.0	46.0	46.5	47.3
Maximum Wobbe Index		51.0	51.0	51.5	51.5	51.5	51.0	51.0
Maximum total sulphur (mg/m^3)	Unodorised	10	10	10	10	10	n.a.	10
	Odorised	n.a	20	20	20	20	50	20
Maximum Hydrogen Sulphide (mg/m^3)		2	2	2	2	2	n.a.	2
Maximum Oxygen (mol %)		0.2	0.2	0.2	0.2	0.2	n.a.	0.2
Maximum Water (mg/m^3)		48	48	48	48	48	n.a.	48
Hydrocarbon dewpoint over the pressure range 2.5 to 8.72 MPa absolute		Below 0 ºC	Below 0 ºC	Below 0 ºC	Below 0 ºC	Below 0 ºC	n.a.	Below 0 ºC
Maximum radioactive components (Bq/m^3)		600	600	600	600	600	n.a.	600
Minimum extractable LPGs (t/TJ)		n.a.	n.a.	Until 08:00 hours on 1 July 2005: 1.45 From 08:00 hours on 1 July 2005: 0:00	n.a	n.a	n.a.	n/a