Draft Decision

Dampier to Bunbury Natural Gas Pipeline

Application for Agreement Under Section 8.21 of the Code – Stage 5 Expansion

Submitted by DBNGP (WA) Transmission Pty Limited

27 April 2006

Economic Regulation Authority
WESTERN AUSTRALIA

A full copy of this document is available from the Economic Regulation Authority website at www.era.wa.gov.au.

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DRAFT DECISION

1. On 22 February 2006, DBNGP (WA) Transmission Pty Limited (DBP) submitted an application to the Economic Regulation Authority (Authority) pursuant to section 8.21 of the *National Third Party Access Code for Natural Gas Pipeline Systems* (Code). DBP's application outlined proposed capital works expenditure, amounting to between $1,457 million and $1,521 million, for the purpose of undertaking the Stage 5 expansion of the Dampier to Bunbury Natural Gas Pipeline (DBNGP). This application sought the Authority's agreement that the proposed level of expenditure would meet the requirements of section 8.16(a) of the Code.

2. The effect of the Authority's agreement under the provisions of section 8.21 of the Code would be to bind the Regulator's decision when the current Access Arrangement is reviewed. The binding of the Regulator's decision would see the agreed New Facilities Investment rolled into the capital base for the DBNGP to the extent that the expenditure was incurred up to the maximum agreed level. The next review of the Access Arrangement for the DBNGP is scheduled to commence on 1 April 2010 and to be completed by 31 December 2010 in time for revised Reference Tariffs to apply from 1 January 2011.

3. As required under the Code, a notice was issued and advertisements were published on 25 February 2006 advising that the section 8.21 application had been lodged by DBP. The notice invited public submissions, with the closing date for these submissions being 4:00 pm on Monday 27 March 2006.

4. Three public submissions were received, as follows:

   - Western Power Corporation – Generation Business Unit
   - Western Power – Retail Business Unit
   - The Australian Pipeline Industry Association Ltd

5. These submissions are available on the ERA website www.era.wa.gov.au.

6. Under the Code, the Authority is required to issue a Draft Decision approving or not approving the proposed application and provide reasons for the decision.

After considering DBP's application and the submissions which were received, pursuant to section 8.21 of the Code, the Authority proposes to agree that the forecast new facilities investment by DBP for its proposed Stage 5 expansion of the DBNGP, based on its preferred development option (Option 3 – Optimisation: Looping and Compression), meets the requirements of section 8.16(a) of the Code up to a maximum capital cost of $1,521 million (dollars at 31 December 2005) , subject to the following conditions:

1 Prior to rolling in the capital cost of the Stage 5 expansion in the capital base of the DBNGP at the time the current Access Arrangement is reviewed, DBP is required to provide an independent audit report to the Authority verifying:

a) the level of actual expenditure incurred on the Stage 5

expansion; and

b) that the capacity provided as a result of the Stage 5 expansion meets or exceeds DBP's stated capacity design criteria for this expansion, being 310 TJ/day of Full Haul T1, 76 TJ/day of Pilbara Part Haul and 35 TJ/day of Mid West Part Haul.

2 DBP is required to include, as part of the above audit, information on the amount of capital expenditure incurred on the Stage 5 expansion which was competitively tendered as compared with that amount of capital expenditure incurred through other arrangements. This information will not affect the inclusion of the Stage 5 capital expenditure into the DBNGP capital base.

3 The capital expenditure verified through the above audit as having been incurred by DBP on the Stage 5 expansion will be escalated by the annual All Capital Cities Consumer Price Index (CPI) to the point in time when this capital expenditure is included in the DBNGP capital base.

4 In the event that appeal proceedings brought by DBP on matters relating to gas quality (Amendment 14 of the Final Decision), which are currently before the Gas Review Board, impact on the current Access Arrangement in a manner which causes revisions to the design parameters for the Stage 5 expansion, the Authority will review the level of expenditure agreed in this decision when that expenditure is included in the DBNGP capital base.

7. In addition, the Authority has noted at paragraph 56 of this Draft Decision that as part of its Final Decision it may give further consideration to whether the Alinta Network Services (ANS) proposed management fee of 3 per cent meets the requirements of section 8.16(a)(i) of the Code.

8. Further to condition 3 above, the process for inclusion of the New Facilities Investment for the Stage 5 expansion into the DBNGP capital base will be as follows:

- At the time of the Access Arrangement review, scheduled for 2010, the actual New Facilities Investment and the forecast depreciation given in the current Access Arrangement (2005-2010) will be taken into account in establishing the opening value of the Capital Base at the beginning of the next Access Arrangement.
- This New Facilities Investment will be converted by the annual All Capital Cities Consumer Price Index (CPI) from the actual expenditure to the dollar value used in the tariff model for the forthcoming revision of the Access Arrangement.
- This is the method used for the calculation of the opening Capital Base of the current Access Arrangement (2005-2010), as described in paragraphs 148 to 198 of the Authority's Final Decision published on 11 November 2005 entitled

Final Decision on the Proposed Revisions to the Access Arrangement to the Dampier to Bunbury Natural Gas Pipeline.

9. The Authority notes that DBP has stated that if there are any material changes to the design parameters for the Stage 5 expansion compared with the information in its application, such changes will be provided to the Authority following the publication of this Draft Decision.

REASONS FOR DECISION

New Facilities Investment Under the Current Access Arrangement

10. The current Access Arrangement is based on information provided by DBP during the assessment period, including forecasts for New Facilities Investment for the period 2005 to 2010. This forecast investment was for Stages 4, 5, 6 and 7 expansions, which were to provide a total of 206 TJ/day of full haul capacity at a cost of $969.5 million, as shown in Table 1 below:

Table 1 Current Access Arrangement for the DBNGP - Approved Forecast New Facilities Investment

Stage	Forecast Investment ($ million 31 Dec 2004)	Additional Full Haul Capacity TJ/d	Forecast New Facilities
4	432.7	96	8 compressors 217 km of looping
5	311.7	55	2 compressors 275 km of looping
6	81.6	17	73 km of looping
7	143.5	38	145 km of looping
Sub total Stages 5, 6 and 7	536.8	110	2 compressors 493 km of looping
Total	969.5	206	10 compressors 710 km of looping

11. The Stage 4 expansion, which was expected to provide an additional 96 TJ/day T1 full haul capacity, is close to completion and is now expected to provide 127 TJ/day of T1 full haul capacity.

12. DBP's application for approval of the significantly upgraded Stage 5 expansion replaces the forecast expenditure previously allowed for, under Stages 5, 6 and 7 expansions, in the current Access Arrangement.

13. In the November 2005 Final Decision[1], at paragraph 203, the Authority noted that the forecast New Facilities Investment (which included the Stage 4 expansion forecast) would not automatically be rolled into the Capital Base. Rather, the Authority proposed assessing whether that investment meets the criteria of section 8.16 of the Code either at the review of the Access Arrangement or at any other time, if asked to do so by DBP, in accordance with section 8.21 of the Code.

14. DBP has not sought the Authority's approval under section 8.21 for the Stage 4 expansion costs of around $430 million. Therefore, it is envisaged that the assessment under section 8.16 of the actual expenditure for Stage 4 and the inclusion of this investment into the capital base will occur when the Access Arrangement is revised. This is scheduled for 2010.

15. On completion of the Stage 5 expansion, the Authority expects DBP to provide the actual pipeline capacities including firm capacity for full haul and part haul (T1 and P1), gas quality used in the capacity calculations and fuel usage equation coefficients for this expansion.

DBP's Section 8.21 Application

Stage 5 Expansion Options

16. DBP's section 8.21 application submitted to the Authority on 22 February 2006 consisted of two documents. These were titled, *Request for Agreement Under Section 8.21 of the Code* (application) and *Submission Supporting Section 8.21 Request* (supporting submission). Confidential and public versions of the two documents were provided. The public versions of these documents are available on the Authority's website (www.era.wa.gov.au).

17. In its application DBP outlined three expansion options for Stage 5. These options are; complete looping (Option 1); mid-line compression (Option 2); and optimisation looping and compression (Option 3). Of the three expansion options identified in its application, DBP has proposed Option 3 (optimisation: looping and compression) as its preferred option. DBP has requested the Authority's agreement to an investment under Option 3 of between $1,457 million (low cost) and $1,521 million (high cost).

18. Under Section 8.21 of the Code, the Authority is required to assess whether the Forecast New Facilities Investment proposed by DBP meets the requirements of Section 8.16(a). DBP's proposed New Facilities Investment is outlined in its application as the Stage 5 expansion under its preferred development option, Option 3 (optimisation: looping and compression).

19. The Authority considers its role under section 8.21 of the Code is to assess whether the forecast cost of DBP's preferred option (Option 3) for the Stage 5 expansion meets the requirements of section 8.16(a) of the Code.

20. The details of the options outlined in DBP's application are shown in Table 2.

[1] Economic Regulation Authority DBNGP Final Decision published 11 November 2005.

Table 2 DBP's Stage 5 Options (Real $million, dollar values at 31 December 2005)

Physical assets of Stage 4 & 5 and estimated cost of Stage 5	Option 1 Complete looping	Option 2 Midline Compression	Option 3 Optimisation: looping and compression
Stage 4 Pipeline looping	217 km	217 km	217 km
Stage 4 Compression	8 Compressors	8 Compressors	8 Compressors
Stage 5 Pipeline looping	1,266 km	908 km	1,169 km
Total Pipeline looping	1,483 km	1,125 km	1,386 km
Number of:			
New Compressor stations	-	9	-
Additional Compressors	1	10	5
Compressor stations being upgraded	9	9	9
Compressor units having active cooling	9	9	5
Compressors replaced	6	6	-
Compressor restaged	14	14	12
Estimated cost of Stage 5	**($ Million)***	**($ Million)***	**($ Million)***
Total	$1,503.0	$1,699.4	$1,457.0 (low)* $1,520.5 (high)*

* A high level breakdown of Option 3 expenditure into the categories of "pipeline" and "compression" is available in Appendix 1.

21. The key elements of DBP's preferred option (Option 3) are:

- 1169 km of 26" looping;
- Compressor stations upgrading for CS1 through CS9;
- Compressor unit active cooling for CS2, CS4, CS6, CS7 and CS9;
- Restaging 12 compressor units (10 units in Mainline North, 2 units at CS10);
- 5 new Compressors (4 @ 10MW 1@ 7MW);
- Project overheads of between $203 million and $207 million, the major components of which are: 3% ANS fee for project management services; contingency provision of less than 10 per cent; and interest costs.

22. DBP's reasons for choosing Option 3 are outlined in paragraphs 7.23 to 7.28 of its supporting submission. Paragraph 7.24 states:

> 7.24 In comparing the options to select the preferred option, DBP has applied the following assessment criteria:
>
> (a) The option that could be designed, constructed and commissioned for the lowest capital cost would be preferred.

(b) To the extent that there was no clear preferred option as a result of the assessment under paragraph (a), the option which required expending the lowest operating costs would be preferred.

(c) The extent to which the configuration could be adjusted in the event that some of the key assumptions for the project were to change.

23. DBP also commented under paragraphs 7.26 of its supporting submission that:

> 7.26 The first option (that is, full looping) was considered to be less preferable to the other option (that is, option 3) because it would require an additional $50m of capital expenditure. In addition, consideration is to be given to the practicalities and the disruption levels associated with the replacement of redundant C505 compressors while maintaining the existing level of transportation service. This option will involve significant shutdowns of the existing compressor units which would result in unprecedented and supply restrictions to shippers on the DBNGP. This is considered by DBP to be unacceptable to shippers.

24. The Authority notes that there were no comments on DBP's above comment on Option 1 in the public submissions received on DBP's application.

25. DBP noted that Option 3 will facilitate low cost expansion when required in the future. Paragraph 7.28 of its supporting submission states:

> 7.28 Furthermore, DBP has developed this option so as to allow low cost expansion when further demand for pipeline capacity materializes by reconfiguring the 3 compressor units in parallel operation [sic] Compressor Stations 1, 3, 5 and 8 to support the new high pressure designed loop to subsequently be operated at pressures [sic] than those of the existing mainline. DBP has been concerned to achieve the lowest sustainable cost option of delivering gas transportation services both in the short run and in the long run.

26. DBP's preferred option (option 3) is expected to provide additional full haul capacity of 310 TJ/day and additional part haul capacity totalling 111 TJ/day. The Authority expects this capacity to be provided as result of the Stage 5 expansion and has made this a condition of its Draft Decision (refer condition 1b), paragraph 6 of this decision).

Gas Quality

27. Future gas quality is an important parameter in the design of the Stage 5 expansion and in the resultant cost. In order to assist in the design for Stage 5, DBP commissioned MJ Kimber Consultants Pty Ltd to provide a report on gas quality issues. DBP has included this report under Attachment 1 of its supporting submission. The report is titled, *Review of Gas Specification for the Dampier to Bunbury Pipeline & Determination of an Appropriate Gas Composition for Design of Stage 5 Expansion* (Kimber Report).

28. The Authority, as part of its assessment prior to approval of the current Access Arrangement, commissioned an independent report from PB Associates titled *Evaluation of the impact of a broader gas specification.* This PB Associates report was released on 2 November 2005 and is available on the ERA web site (www.era.wa.gov.au)

29. Key gas quality parameters affecting pipeline capacity are Higher Heating Value (HHV) and the Wobbe index (WI). Table 3 below provides a summary of HHV's and WI's relevant to consideration of the capacity of the DBNGP.

Table 3 DBNGP Gas Quality

	Minimum HHV MJ/m^3	Minimum WOBBE Index
Pre DBP purchase October 2004 and Stage 4 design	39.3[2]	49.0
November 2005 actual (following cessation of mandatory LPG requirement on 1 July 2005)	38.8[2]	48.6
Kimber Report - Anticipated future average (next 10 years)	38.5[2]	
Kimber Report - Recommendation	37.7[4]	47.9
Current Standard Shipper Contract	37.3	47.3
Current Access Arrangement	37.0	46.5
DBP selected gas quality for Stage 5	37.0	46.5

30. DBP noted in its section 8.21 application, that the Stage 5 expansion is intended to provide additional capacity to compensate for the reduction in capacity due to the change in gas quality since the cessation of the mandatory LPG requirement on 1 July 2005. DBP's application explains that previously capacity, including the Stage 4 expansion, was designed and calculated on the basis of an 'average' gas quality assumed by the owners in 2004.[3]

31. Under paragraph of 6.54 of its supporting submission DBP stated:

> 6.54 Notwithstanding the recommendation from the Kimber Consultants Report, DBP proposes to adopt the "Very Conservative Approach" for gas composition as the basis for designing future expansions of the pipeline.

32. The "Very Conservative Approach", adopted by DBP, is based on the lowest gas quality allowable under the gas quality specification in the current Access Arrangement.[4]

33. The Authority notes that DBP's design criteria for the Stage 5 expansion of a low gas quality that contains no LPG appears to be inconsistent with the capacity reservation to the WLPG plant. If actual gas quality contains LPG, and design parameters assume that there is none, then spare capacity may be expected to be available on the pipeline.

[2] Pages 7, 15 and 21, Attachment 1 of supporting submission (The Kimber Report).

[3] Para 10.3 and 10.4 supporting submission.

[4] Para 6.51(a) supporting submission.

Access Requests

34. DBP's application lists the current Stage 5 Access Requests. These are summarised in Table 4 below:

Table 4 DBP Stage 5 Access Requests

Capacity Request - Type and Status	Full Haul Capacity TJ/ day	Part Haul Capacity TJ/ day
Full Haul Confirmed	172	
Full Haul likely but not confirmed (as at 24/2/2006)	167.5	
Part Haul confirmed plus Part Haul likely but not confirmed		118.92
Total Requests	339.5	118.92
DBP Planned capacity Stage 5	310	111

35. DBP, in its submission, advised that the capacity which would be provided by the Stage 5 expansion is expected to be subject to minor changes as there is uncertainty in the total capacity requirement by shippers and prospective shippers. Section 2.11 of the application stated as follows:

> 2.11 There is uncertainty in the total capacity requirement because a number of the shippers and prospective shippers have indicated that they are unable to contract for the capacity requested until internal approval processes have been completed. This is expected to lead to minor changes in capacity requirements and timing and means that the final capacity requirement supporting the Stage 5 expansion of the DBNGP will not be known with certainty before March 2006, and possibly not until May 2006.

36. It is noted and discussed in the submission from Western Power (Generation Business Unit) that the planned capacity for the Stage 5 expansion does not meet the total capacity of the Access Requests. The Authority anticipates that individual parties seeking capacity would negotiate with DBP to ensure that their future capacity requirements are met through this expansion.

Submissions Received

37. Three public submissions were received in relation to DBP's proposal, as outlined under paragraph 4 of this decision. A brief summary of these submissions is given below.

Western Power Corporation - Retail Business Unit (WPC-RBU)

38. The WPC-RBU submission consisted of one page, with the main points summarised as follows:

a) WPC-RBU expressed general support for the proposed Stage 5 expansion of the DBNGP.

b) This support was qualified on the basis that the Authority needed to be comfortable that the proposed investment offered the best compromise between flexibility for future expansion while minimising the cost of investment in new facilities and that all transportation tariffs would be equitably impacted by the expansion and all standard tariffs would be equivalent.

The Australian Pipeline Industry Association Ltd (APIA)

39. The APIA submission consisted of five pages, with the main points summarised as follows:

- APIA considers that:

  a) The Stage 5 expansion is required to meet the continued requirements of users and that without the expansion there will be significant unmet demand for gas in the WA market.

  b) The benefits of investment in the DBNGP extend beyond shippers using the pipeline to users of the gas bringing the broader public interest into consideration.

  c) The expansion is important for the future economic growth of both WA and Australia and this demonstrates that system-wide benefits would accrue from the project.

- In regard to the tests required under the Code, APIA makes the following points:

  a) Under section 8.16 (a)(i) of the Code the Authority should have regard to the least cost expansion calculated over a term consistent with the economic life of the pipeline asset. APIA also comments that the fact that the new capacity to be provided under Stage 5 is largely contracted demonstrates that the expansion is required and is therefore prudent.

  b) Under section 8.16(a)(ii) of the Code the anticipated incremental revenue test should apply over the life of the pipeline asset. APIA also supports a broad interpretation of the system–wide benefits test and believes that this test should incorporate public interest considerations such as the importance of gas as a source of competitively priced energy leading to growth in the WA economy. APIA also comments that the proposed pipeline expansion will deliver benefits to the whole system including pipeline users, end users and their markets.

Western Power Corporation - Generation Business Unit (WPC-GBU)

40. The WPC-GBU submission consisted of 29 pages. The submission was divided into four parts as follows:

- Part 1 - DBP's Request and the section 8.21 process. Under this part WPC-GBU considers that:

  a) the pipeline expansion should not be delayed but there must be appropriate regulatory scrutiny and the urgency should not result in users paying more than the Code permits;

  b) disclosure of adequate information to permit proper public consultation is required; and

  c) the position with respect to New Facilities Investment incorporated under the current Access Arrangement is unclear in light of the section 8.21 application for the Stage 5 expansion. In addition, the issue of the capacity to be provided through this expansion compared to the level of potential contracts under Stage 5 is also unclear.

- Part 2 – Code principles regarding New Facilities Investment. Under this part WPC-GBU considers that:

  a) any New Facilities Investment which does not satisfy the roll-in tests set out under section 8.16 of the Code should be dealt with by other means such as a surcharge on the incremental users or as speculative investment;

  b) DBP has an incentive to inflate the New Facilities Investment which was incorrectly assessed by the Authority in its Final decision;

  c) section 8.16 requires rigorous scrutiny by the Authority not just an assessment of incentives;

  d) if DBP fails to show that the New Facilities Investment comes within one of the sub-sections 8.16(a)(ii)(A) to (C) then the Authority should reject it; and

  e) a strict application of sub-sections 8.16(a)(ii)(A) to (C) of the Code may result in an outcome in which incremental users pay a surcharge, which the Authority should not disregard.

- Part 3 – The substance of the section 8.16 assessment. Under this part WPC-GBU considers that:

  a) there is insufficient detail in DBP's application to assess whether the New Facilities Investment satisfies section 8.16(a)(i);

  b) on the information available, DBP has failed to demonstrate that it has acted as a prudent operator acting efficiently in accordance with accepted good industry practice to achieve the lowest sustainable cost of providing services;

  c) DBP has not properly addressed the 'economies of scale' test under section 8.17(a) of the Code and has designed its expansion in a manner inconsistent with section 8.17(b) of the Code;

  d) the test under sub-section 8.16(a) (ii)(A) of the Code does not permit a rolling in of New Facilities Investment in a way that would cause all users tariffs to increase;

e) DBP has failed to demonstrate any system-wide benefits that justify higher tariffs for all users under sub-section 8.16(a)(ii)(B);

f) growth of the gas industry is not a system-wide benefit and DBP has failed to provide evidence as to why this should result in a tariff increase for all users;

g) DBP has not provided any evidence in support of any rolling in under sub-section 8.16(a)(ii)(C) of the Code; and

h) the gas quality issue was settled in the current Access Arrangement and should not be reopened here.

- Part 4 – Conditions on any agreement. Under this part WPC-GBU considers that:

  a) to the extent that the Authority proposes to agree under section 8.21 it should impose some conditions on that agreement; and

  b) eight conditions should be imposed on any agreement to DBP's section 8.21 application.

41. In addition to the above submissions, WPC-GBU sent a letter to the Authority, dated 23 March 2006, expressing concern over the lack of information available in DBP's public version of its section 8.21 application to allow interested parties to adequately assess and comment on this application.

42. The Authority has considered WPC-GBU's letter and has assessed that the main area where there may be insufficient information is in relation to the cost details of DBP's three expansion options. DBP has provided the Authority with a reason as to why more detailed cost information could not be provided. This reason is the need to allow a proper tender process to be undertaken for the works program associated with the Stage 5 expansion. If DBP's internal cost estimates were revealed to the public prior to the tender process, bid prices may not be as low as they might otherwise have been in the absence of such information. The Authority has accepted this reasoning and does not, therefore, consider it appropriate for DBP to make public additional information on this matter at this time. However, as part of an audit to verify the level of expenditure incurred prior to including this expenditure in the capital base, the Authority intends identifying the capital expenditure that has been competitively tendered under the Stage 5 expansion as distinct from that which has been sourced by other arrangements.

Code Requirements

43. Section 8.21 of the Code provides:

> 8.21 The Relevant Regulator may at any time at its discretion agree (with or without conditions or limitations) that actual New Facilities Investment by a Service Provider meets, or forecast new Facilities Investment proposed by a Service Provider will meet, the requirements of Section 8.16(a), the effect of which is to bind the Relevant Regulator's decision when the Relevant Regulator considers revisions to an Access Arrangement submitted by the Service Provider. Before giving any agreement under this section 8.21, the Relevant Regulator must conduct public consultation in accordance with the requirements for a proposed revision to the Access Arrangement submitted

under section 2.28. For the avoidance of doubt, if the Relevant Regulator does not agree under this section that the New Facilities Investment meets, or (in the case of forecast New Facilities Investment) will meet, the requirements of section 8.16(a), the Relevant Regulator may consider whether those requirements are met when it considers revisions to an Access Arrangement submitted by the Service Provider.

44. The Code defines 'New Facility' as:

- any extension to, or expansion of the Capacity of, a Covered Pipeline which is to be treated as part of the Covered Pipeline in accordance with the Extensions/Expansions Policy contained in the Access Arrangement for that Covered Pipeline;
- any expansion of the Capacity of a Covered Pipeline required to be installed under section 6.22; and
- any capital asset constructed, developed or acquired to enable the Service Provider to provide Services including, but not limited to, assets required for the purposes of facilitating competition in retail markets for Natural Gas.

45. In determining whether to agree New Facilities Investment under section 8.21 of the Code, the Authority must determine whether the proposed New Facilities Investment will meet the requirements of section 8.16 taking into account section 8.17. These sections are as follows:

> 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 8.22.
>
> 8.17 For the purposes of administering section 8.16(a)(i), the Relevant Regulator must consider:
>
> (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.

46. Anticipated Incremental Revenue is defined in the Code as follows:

> **'**Anticipated Incremental Revenue' means the present value (calculated at the Rate of Return) of the reasonably anticipated future revenue from the sale of Services at the Prevailing Tariffs which would not have been generated without the Incremental Capacity, minus the present value (calculated at the Rate of Return) of the best reasonable forecast of the increase in Non Capital Costs directly attributable to the sale of those Services.

47. 'Services' are defined in the Code as:

> (a) a service provided by means of a Covered Pipeline (or when used in section 1 a service provided by means of a Pipeline) including (without limitation):
>
> (i) haulage services (such as firm haulage, interruptible haulage, spot haulage and backhaul); and
>
> (ii) the right to interconnect with the Covered Pipeline, and
>
> (b) services ancillary to the provision of such services,

48. As noted under paragraph 44 of this decision, the definition of New Facility under the Code includes any capital asset constructed, developed or acquired to enable the Service Provider to provide Services. Based on the definition of Services under the Code (paragraph 47 above), the Authority considers that all the investment proposed by DBP under its Stage 5 expansion meets the requirements under the Code for New Facilities Investment as it falls primarily within the first two categories of the Services definition, with most of this investment being required to provide additional haulage services.

Compliance with Section 8.21 of the Code

49. Under section 8.21 of the Code (refer paragraph 43 of this decision), the Authority is required to determine whether the forecast New facilities Investment meets the requirements of section 8.16(a). Section 8.16(a) of the Code consists of two parts: 8.16(a)(i) and 8.16(a)(ii).

Section 8:16(a)(i) Compliance

50. Under section 8.16(a)(i) of the Code, the first matter that the Authority is required to consider is whether the amount of forecast New Facilities Investment for the Stage 5 expansion of capacity would 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.

Prudent and Efficient Investment

51. DBP set out, in paragraphs 7.62 to 7.83 of its supporting submission, the procurement process that it intends following for its preferred Stage 5 development option (Option 3 – optimisation: looping and compression). This process involves a combination of competitive tendering and alliance contracting.

52. In DBP's supporting submission (paragraph 7.67 and 7.68) it has listed the works associated with Stage 5 which will be undertaken through alliance arrangements for the supply of equipment and services. These paragraphs are as follows:

> 7.67 DBP has, through its Stage 5 project manager, ANS, relationship contracts with:
>
> (a) WorleyParsons, for engineering, procurement and construction management (EPCM) related services;
>
> (b) Solar Turbines, for compressor-related services;
>
> (c) HPS for construction services; and
>
> (d) MetalOne/Mitsubishi for manufacture, coating transport, delivery of pipeline.
>
> 7.68 These relationship contracts, whilst not exclusive, will be essential, not only to ensuring the expansion of capacity at lowest cost. They will also be essential to ensuring timely completion of Stage 5, allowing DBP to make available the additional capacity when it is required by shippers.

53. The Authority notes DBP's reasons for needing to undertake the supply of the equipment and services outlined in paragraph 52 of this decision through alliance or similar contracts.

54. The Authority notes that as DBP is making this expansion available to Users at a tariff different (and understood to be higher) than Reference Tariffs, the willingness of Users to pay this tariff is an indication that the market for gas transmission on the DBNGP finds DBP's proposed Stage 5 expansion acceptable. However, the Authority acknowledges that the Users in some cases may not have any alternative option.

55. The Authority is satisfied that DBP's proposed procurement process for the works required under its preferred Stage 5 development option (Option 3 – optimisation: looping and compression) is likely to be consistent with a prudent Service Provider acting efficiently and in accordance with accepted good industry practice. However, as part of an audit to verify the level of expenditure incurred prior to rolling this expenditure into the capital base, the Authority intends that the capital expenditure competitively tendered under the Stage 5 expansion be separately identified from that which has been sourced by other arrangements. This Draft Decision contains a condition (Condition 2) to this effect.

56. DBP has included an Alinta Network Services (ANS) management fee, amounting to 3 per cent of the total value of the Stage 5 expansion, in its project overhead costs for each of the development options outlined in its application. The issue for the Authority is whether the cost-plus nature of the ANS fee, which appears to exclude any performance or efficiency requirements on ANS's management of the project, and the magnitude of the fee for a project of this size, meets the requirements of section 8.16(a)(i) of the Code. In the absence of any comment on this matter in the public submissions received to date the Authority has, for the purpose of this Draft Decision, accepted that the ANS fee meets the requirements of Section 8.16(a)(i) but may review its position on this matter as part of the Final Decision.

57. DBP has also included a contingency sum in its project overhead costs for each of the development options outlined in its application. The Authority has determined that the inclusion of a contingency sum in the cost estimates is reasonable and that

the amount of the contingency sum is also reasonable when taken as a proportion of the estimated cost of the investment.

58. DBP's application seeks the Authority's agreement to a range of forecast capital costs, from $1,457 million to $1,521 million (a difference of $64 million) for its investment under its preferred Stage 5 development option. However, with contingencies provided for in DBP's cost estimates, the need for the high and low range is not clearly evident based on the information provided.

Lowest Sustainable Cost of Services

59. The second matter which the Authority is required to consider under section 8.16(a)(i) of the Code is whether the amount of forecast New Facilities Investment for the Stage 5 expansion of Capacity would achieve the lowest sustainable cost of providing Services.

60. Based on the Authority's considerations outlined under paragraphs 18 and 19 of this decision, the Authority is satisfied that DBP's preferred Stage 5 development option (Option 3 – optimisation: looping and compression - capital cost range from $1,457 million to $1,521 million) achieves the lowest sustainable cost of providing Services.

Issues to Consider Under Section 8.17

61. The Authority notes that section 8.17 of the Code provides that for the purposes of administering section 8.16(a)(i), the Authority must consider whether the Stage 5 Expansion exhibits economies of scale or scope, the increments in which the expansion is to be implemented and whether the installation of the Stage 5 capacity to meet forecast sales is necessary to achieve the lowest sustainable cost of delivering services.

62. Pipeline expansions on average exhibit declining marginal cost. However, this may involve increases in marginal cost when looping first commences. At some point in expanding capacity marginal costs decline, usually once looping is completed. Nonetheless, the proposed Stage 5 expansion is expected to result in the DBNGP approaching a point along the cost curve where a reduction in marginal cost occurs.

63. While the current proposed Stage 5 expansion (310 TJ/day) does not itself demonstrate economies of scale, following this expansion the pipeline will be close to being fully looped (8 per cent or 121 kilometres short of being fully looped) and further expansions should be possible at reduced marginal cost. These further expansions would result in a completion of the looping of the pipeline and the operation of a dual pipeline system, with higher pressures operating on the looped line (refer paragraph 7.40 in DBP's supporting submission).

64. The Authority is of the view, as discussed under paragraphs 62 and 63 above, that the Stage 5 expansion will result in the DBNGP being expanded in a manner necessary for the achievement of the lowest sustainable cost of delivering services in the future.

65. The Authority is satisfied that the requirements of section 8.17 of the Code have been met in that it has considered those matters outlined under section 8.17 in arriving at its findings in relation to whether DBP's forecast investment, under its preferred Stage 5 expansion option, meets the requirements of section 8.16(a)(i) of the Code.

Conclusion – Requirements Under Section 8.16(a)(i)

66. The Authority concludes that DBP's preferred development option for its proposed Stage 5 expansion of the DBNGP (Option 3 – optimisation: looping and compression) meets the requirements of section 8.16(a)(i) of the Code.

Section 8.16(a)(ii) Compliance

67. Under section 8.16(a)(ii) three conditions are set out. These conditions relate to: anticipated incremental revenue (8.16(a)(ii)(A)), system wide benefits (8.16(a)(ii)(B)) and safety and integrity of services (8.16(a)(ii)(C)). Only one of these conditions is required to be satisfied to meet the requirements of section 8.16(a)(ii).

Provision of information relevant to sections 8.16(a)(ii)(A) and 8.16(a)(ii)(B)

68. In order for the Authority to apply the tests set out in sub-sections 8.16(a)(ii)(A) and 8.16(a)(ii)(B) of the Code, it was necessary to seek further information from DBP. In the course of examining all of the information supplied by DBP some apparent errors were identified. The Authority's analysis of the information provided by DBP in relation to the tests described above is presented below.

69. Under the above definition of Anticipated Incremental Revenue (paragraph 46 of this decision), the test under sub-section 8.16(a)(ii)(A) requires the calculation of the present value of incremental revenue using the appropriate Rate of Return and best reasonable forecasts of Non Capital Costs. This information is used to undertake the tests under sub-sections 8.16(a)(ii)(A) and 8.16(a)(ii)(B).

70. DBP provided the Authority with confidential spreadsheet models to support the results of applying the test under sub-section 8.16(a)(ii)(A) shown in paragraph 8.10 of its supporting submission following a request from the Authority. These models, while being consistent with the Full Haul capacities outlined in DBP's application, excluded the Part Haul capacities which were included in DBP's application.

71. Evaluation by the Authority of DBP's initial models, which supported the figures in the paragraph 8.10 tables of DBP's supporting submission, indicated that a significant amount of information relating to load factors was missing. Western Power's (Generation Business Unit) expressed an inability to reconcile the proposed Stage 5 capacity with the present value of the cumulative annual revenue increment, as a result of apparent errors in DBP's application and supporting submission. The Authority sought clarification and amended models were subsequently provided by DBP. The Authority has remodelled the Anticipated Incremental Revenue test and finds significant differences with that presented by DBP. The Authority's model, with aggregation of user specific information to maintain confidentiality, is presented in Appendix 1 of this Draft Decision.

72. Non Capital costs are a key element of the Anticipated Incremental Revenue test specified in sub-section 8.16(a)(ii)(A) of the Code. The Authority has reviewed the updated confidential forecast cost information provided by DBP and has made its own adjustments to these Non Capital forecast costs. The more significant adjustments are discussed below.

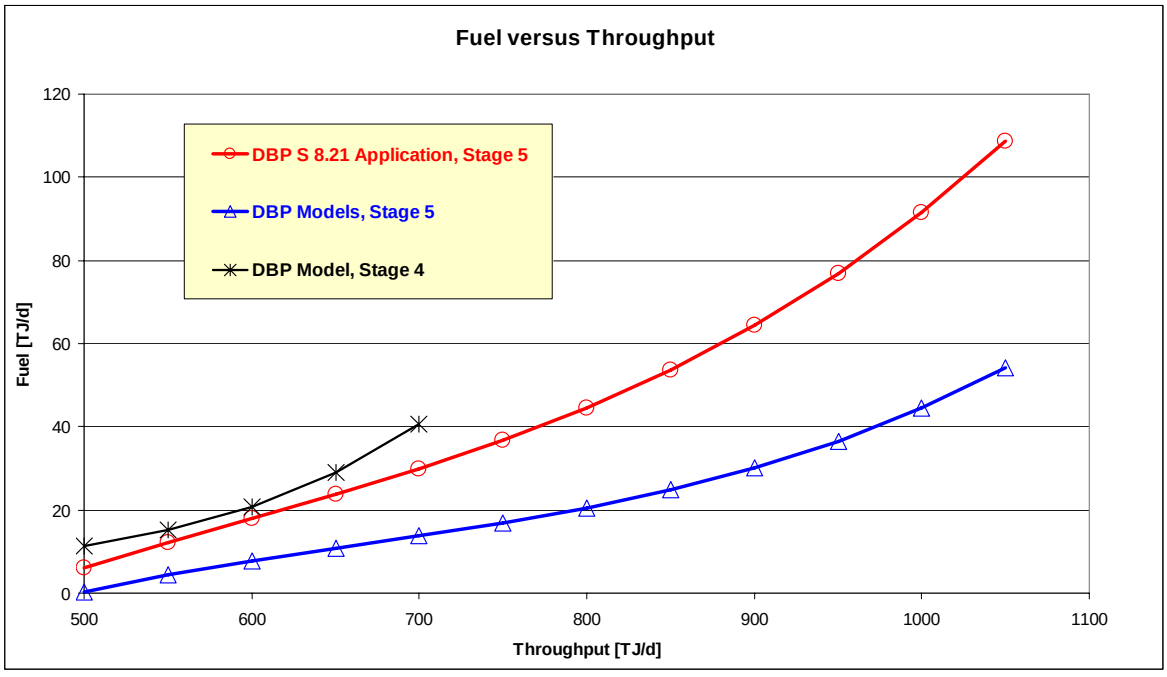
73. Fuel gas forecasts are critical to the modelling of Non Capital costs. Paragraph 8.8 of DBP's supporting submission stated as follows:

8.8 DBP has estimated the change in fuel costs using principles similar to those adopted for calculating the fuel costs used to determine the reference tariff of the revised DBNGP Access Arrangement. The following "fuel curve" was derived for the pipeline once Stage 5 was implemented (FLOW means the estimated throughput):

FUEL(TJ/d) = 0.0000004 x $FLOW^3$ – 0.0007076 x $FLOW^2$ + 0.5318607 x FLOW – 132.8320907,

74. The Authority modelled the above fuel gas usage equation. As a result of this analysis, the Authority identified a very high fuel gas usage which approached 10 per cent of total gas throughput. DBP initially confirmed the equation was correct (letter of 28 February 2006). However, when the models requested by the Authority, as mentioned in paragraphs 70 and 71 of this decision, were subsequently provided (13 March 2006), the Authority noted that the equation set out in paragraph 8.8 of DBP's supporting submission contained apparent errors. Figure 1 below illustrates the Authority's analysis of the relationship between fuel costs and throughput. The curve labelled "DBP Models, Stage 5" in Figure 1 below is the Authority's recalculation of fuel gas requirements (TJ per day) based on the revised information provided by DBP, which is significantly less than that originally submitted by DBP as illustrated in the curve labelled DBP's s8.21 Application Stage 5.

Figure 1 DBNGP Fuel Gas & Throughput



75. DBP's most recent advice is that the fuel gas usage information provided in its initial models, provided on 13 March 2006, is correct. However, DBP claimed the modelled fuel gas curve is commercially confidential and did not agree to the Authority publishing a correction to its published fuel gas curve. The above graph does, however, illustrate the magnitude of the apparent error. The Authority's

public model released as Appendix 1 to this decision, therefore, is limited to disclosing the dollar value of fuel gas without disclosing volumes of fuel gas.[5]

76. In addition to issues concerning fuel gas, the initial models provided by DBP omitted some load factor information for some shippers. When queried on this, DBP provided updated estimates of load factors together with other revisions including correcting "the erroneous indication of contracted capacity exceeding the capacity available on the pipeline".[6] The most recent information provided by DBP gives the corrected anticipated capacities and throughput following the Stage 5 expansion.

77. DBP's initial models assumed all New Facilities Investment being spent in 2008. This has subsequently been revised to provide estimates of this New Facilities Investment spread over the years 2006 to 2009.

78. The Authority's modelling has, therefore, been based on the updated information provided by DBP for the New Facilities Investment spread over the years 2006 to 2009 as noted above. In the case of Non Capital costs, DBP has not provided updated costs to reflect the updated New Facilities Investment information. Therefore, the Authority has used the information provide in DBP's initial models for modelling Non Capital costs. The Authority accepts DBP's revised figures, supplied on 23 March 2006, for capacity and throughput and has therefore modelled the sub-section 8.16(a)(ii)(A) test using this latest information.

79. Forecast Non Capital costs include fuel gas cost. For a given pipeline configuration, fuel gas usage is a direct function of throughput.[7] Therefore, the above revision to load factors, and consequently throughput, significantly affected forecast fuel gas costs. Based on the revised information of 13 March 2006 provided by DBP, the Authority has recalculated the figures presented in paragraph 8.10 of DBP's supporting submission, assuming that all the New Facilities Investment will occur in 2008. The following Table 5 highlights the difference between DBP's and the Authority's methods.

[5] DBP's letter to Authority of 19 April 2006.

[6] DBP's letter to Authority of 21 March 2006, page 3.

[7] Para 8.8 of DBP Submission supporting section 8.21 request.

Table 5 Sub-section 8.16(a)(ii)(A) Test Result Using Original (2008) Timing of New Facilities Investment (paragraph 8.10 of supporting submission)

	DBP Paragraph 8.10 of Supporting Submission (using Stage 4 recalculated tariff)	Authority Recalculated values (using current Access Arrangement tariff and Authority's method of calculation)	Difference
	$ million	$ million	$ million
PV cumulative annual revenue increment			
10 Years	1,012.83	807.27	-205.56
20 Years	1,535.56	1,228.42	-307.14
25 Years	1,687.98	1,351.30	-336.69
PV annual non capital cost increment (at beginning of 2008)			
10 Years	-18.69	34.70	53.39
20 Years	6.00	74.94	68.94
25 Years	19.76	86.67	66.91
Anticipated incremental revenue			
10 Years	1,031.52	772.58	-258.95
20 Years	1,529.56	1,153.49	-376.07
25 Years	1,668.23	1,264.63	-403.60
New facilities investment			
	1,479.14	1,479.14	0.00
Difference			
10 Years	-447.61	-706.56	-258.95
20 Years	50.42	-325.65	-376.07
25 Years	189.09	-214.51	-403.60

80. The Authority has recalculated the Anticipated Incremental Revenue test of sub-section 8.16(a)(ii)(A) of the Code using its method and the updated information on timing of New Facilities Investment provided by DBP. The results are shown in Table 6 below. The detailed calculations are shown in Appendix 1.

81. Table 6 shows the outcome of the calculation used by the Authority to apply the test under sub-section 8.16(a)(ii)(A) of the Code. The Authority used the current Access Arrangement tariff and the Authority's method of calculation assuming that the New Facilities Investment is spread over the years 2006 to 2009 (refer paragraph 78).

Table 6 Sub-section 8.16(a)(ii)(A) Test Result Using Updated (2006-2009) Timing of New Facilities Investment

	2015	2025	2045	2065	2085
Calculation Period Starting at 2006	**10 years**	**20 years**	**40 years**	**60 years**	**80 years**
8.16 Test. New Facility Investment [m$ 31/12/2004]					
PV of Annual Incremental Revenue	596.28	1,017.56	1,331.10	1,408.61	1,427.77
PV of Annual Non Capital Cost	43.00	83.24	113.19	120.60	122.43
Anticipated Incremental Revenue (AIR)	553.29	934.32	1,217.91	1,288.01	1,305.34
New Facility Investment (NFI)	1,479.93	1,479.93	1,479.93	1,479.93	1,479.93
AIR less NFI	-926.64	-545.61	-262.02	-191.92	-174.59

Anticipated Incremental Revenue Test (8.16(a)(ii)(A))

82. The first of the conditions set out under section 8.16(a)(ii), and listed under the sub-section 8.16(a)(ii)(A), is that the Anticipated Incremental Revenue[8] generated by the New Facility exceeds the New Facilities Investment.

83. DBP stated that the proposed New Facilities Investment met the requirements of sub-section 8.16(a)(ii)(A)) of the Code:

> 8.1 DBP has determined the present value of the Anticipated Incremental Revenue from the Stage 5 expansion of the DBNGP, and has found that it exceeds the high end of the range of forecast New Facilities Investment.

84. The Authority is required, under the definition of Anticipated Incremental Revenue, to use an appropriate Rate of Return in order to apply the anticipated incremental revenue test. The Code is not specific about which Rate of Return to use as the discount rate. The current Access Arrangement is based on a Rate of Return of 7.24 per cent (pre-tax real). Given the short period of time that has elapsed since the approval of the current Access Arrangement in December 2005 and DBP's application in late February 2006, the Authority is satisfied that the Rate of Return under the current Access Arrangement is on this occasion appropriate to the

[8] Anticipated Incremental Revenue is defined at paragraph 44 above.

requirements of the test under sub-section 8.16(a)(ii)(A) of the Code and also for the calculation of Reference Tariffs for the purposes of the Authority's assessment under sub-section 8.16(a)(ii)(B) of the Code. DBP has also used this Rate of Return in its calculation.

85. The Code requires the calculation under sub-section 8.16(a)(ii)(A) to be carried out using the Prevailing Tariffs.[9]

86. The Authority's interpretation of the definition of Prevailing Tariffs in the Code is that the Reference Tariffs applicable under the current Access Arrangement should be used as the Prevailing Tariffs.

87. DBP calculated the Prevailing Tariffs on the basis that assumed no expansions after Stage 4. DBP sought to apply the incremental revenue test using a recalculated Stage 4 tariff as the Prevailing Tariff. The Authority does not agree with DBP's approach for the purpose of this test.

88. Under the Authority's interpretation, Prevailing Tariffs include a forecast New Facilities Investment of $536.6 million (dollars of 31 December 2004), Non Capital Costs and 110 TJ/day of incremental capacity (refer Table 1) which is being superseded by DBP's Stage 5 expansion application.

89. DBP's application incorrectly used the Stage 4 and Stage 5 capacity reservation and throughput when calculating the incremental load for Stage 5 under sub-section 8.16(a)(ii)(A) of the Code. Consequently, DBP's calculated Anticipated Incremental Revenue is overstated by the revenue generated by the Stage 4 load. The Authority's calculation uses the Anticipated Incremental Revenue generated only by the Stage 5 expansion. The inclusion of the Stage 4 load (110 TJ/day) by DBP is an apparent error which results in a significant difference between the incremental revenue calculations of DBP and the Authority.

90. WPC-GBU identified a significant inconsistency in DBP's application and concluded either that incremental load was over 400TJ/day or Reference Tariffs used for the present value of the Cumulative Annual Revenue Increment presented in its application must be around $1.30 per GJ. This inconsistency resulted from DBP using the incorrect incremental load as described in paragraph 89.

[9] The Code defines Prevailing Tariffs for a Reference Service to mean the applicable Reference Tariff, and for any other Service, to mean the Equivalent Tariff.

91. Appendix 1 of WPC-GBU makes the following observations.

> 3. Paragraph 8.3 of DBP's Submission indicates the T1 tariff (at 100% load factor) used by DBP for the AIR Test is $0.997038 per GJ (assumed to be in real 31 Dec 2004 $), being the DBP calculated tariff assuming no further expansion after Stage 4. This compares to the determined reference tariff of $1.003021per GJ in the Revised Access Arrangement.
>
> 4. Paragraph 8.5(a) of DBP's Submission states that DBP, in applying the AIR Test has used the Stage 5 capacity forecast of 310 TJ/d.
>
> 5. Either one of these two statements is incorrect or DBP's calculations are in error. This is demonstrated as follows:

	PV of $1 every year	PV Cumulative Annual Revenue Increment	Implied Capacity at 100% LF based upon Para 8.3	Implied Tariff at 100% Load Factor based upon Para 8.5(a)
		$m	TJ/d	$/GJ
10 years	$6.9463	1012.832	400.66	1.29
20 years	$10.3992	1535.561	405.75	1.31
25 years	$11.4059	1687.984	406.66	1.31

Real Discount Rate: 7.24% Pre Tax

[PV = present value]

92. The Authority has recreated WPC-GBU's calculations and the results are similar to the results in the above table provided by WPC-GBU. This outcome demonstrates that DBP's present value of Cumulative Annual Revenue Increments are overstated due to the inclusion of the Stage 4 and Stage 5 revenues instead of only the difference between Stage 4 and Stage 5 revenues, refer to paragraph 89 above.

93. Based on updated information provided by DBP and the assumptions noted above, the Authority has calculated the Anticipated Incremental Revenue test over an 80 year period and compared this with the New Facilities Investment proposed by DBP (Stage 5 expansion – high cost case) as required under sub-section 8.16(a)(ii)(A) of the Code.

94. The Authority's method of calculating the Anticipated Incremental Revenue is based on the following equations:

$$AIR > NFI_{ST5}$$

and

$$AIR = PV(\mathrm{Re}v_{ST5} - \mathrm{Re}v_{TT4}) - PV(Opex_{ST5} - Opex_{ST4})$$

consequently

$$PV(\mathrm{Re}v_{ST5} - \mathrm{Re}v_{TT4}) - PV(Opex_{ST5} - Opex_{ST4}) > NFI_{ST5}$$

or

$$PV(\mathrm{Re}v_{ST5} - \mathrm{Re}v_{TT4}) - PV(Opex_{ST5} - Opex_{ST4}) - NFI_{ST5} > 0$$

where

AIR - Anticipated Incremental Revenue

NFI_{ST5} - Stage 5 Forecast New Facility Investment

PV - Present Value

$\mathrm{Re}v_{ST5}$ - Revenue generated by Stage 5 load and Current Tariffs

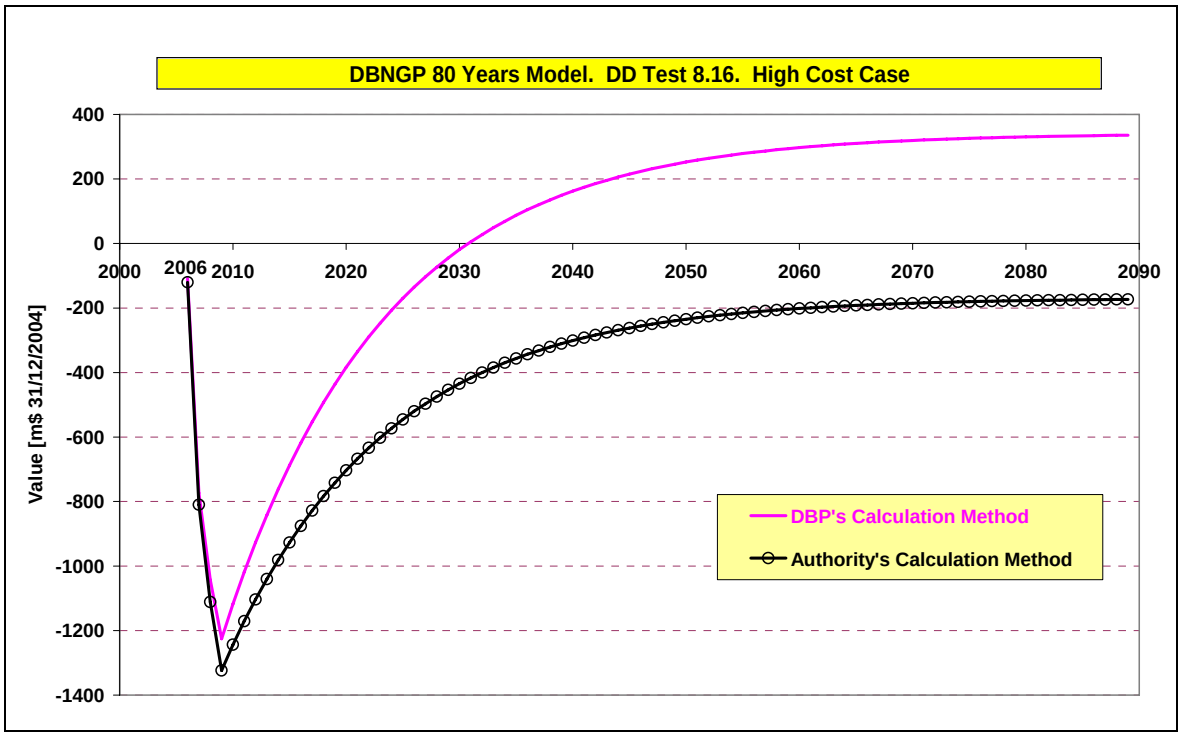
$\mathrm{Re}v_{ST4}$ - Revenue generated by Stage 4 load and Current Tariffs

$Opex_{ST5}$ - Stage 5 Forecast Non Capital Expenses

$Opex_{ST4}$ - Stage 4 Forecast Non Capital Expenses

95. The result of the Authority's calculations is represented in the graph below. Details of the Authority's calculation are contained in Appendix 1.

Figure 2 Sub-section 8.16(a)(ii)(A) Anticipated Incremental Revenue Test Over an 80 Year Period for New Facilities Investment of $1,521 Million



96. The Code is silent on the period over which the 8.16(a)(ii)(A) test is to be applied. Figure 2 shows that, based on the Authority's calculations, DBP's proposed Stage 5 expansion investment fails the Anticipated Incremental Revenue test under sub-section 8.16(a)(ii)(A) of the Code.

97. APIA has commented in its submission that it believes that the test under sub-section 8.16(a)(ii)(A) of the Code should be applied over the economic life of the asset rather than over some shorter period. Under the current Access Arrangement the economic life of the pipeline expansions approved as New Facilities Investment has been set to 70 years for looping and 30 years for compression. The Authority's calculations for the above test used the current Access Arrangement assets economic lives and performed its analysis over a period of 80 years.

Conclusion – Requirements Under Section 8.16(a)(ii)(A)

98. The Authority concludes that DBP's preferred development option for its proposed Stage 5 expansion of the DBNGP (Option 3 – optimisation: looping and compression) does not meet the requirements of sub-section 8.16(a)(ii)(A) of the Code.

System-Wide Benefits (8.16(a)(ii)(B))

99. Paragraph 9.1 of DBP's application states:

> 9.1 If the ERA does not agree that the forecast investment meets the requirements of section 8.16(a)(ii)(A) of the Code (or even if it does so agree), DBP submits that proposed expansion meets the requirements of section 8.16(a)(ii)(B) in that it affords system-wide benefits.

100. Based on DBP's approach outlined above and the Authority's conclusion that the test under sub-section 8.16(a)(ii)(A) of the Code is not passed, the Authority has applied the system-wide benefits test under sub-section 8.16(a)(ii)(B).) of the Code.

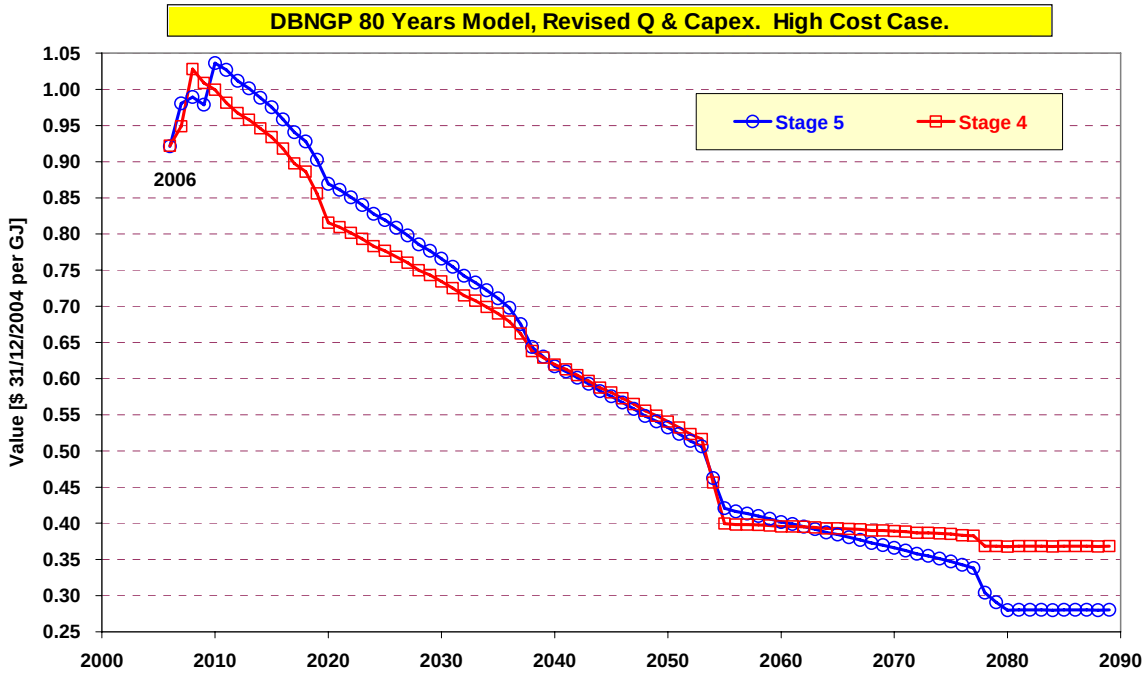
101. The condition set out under sub-section 8.16(a)(ii)(B) of the Code is that the Service Provider and/or Users satisfy the Authority that the New Facility has system-wide benefits that justify the approval of a higher Reference Tariff for all Users.

102. Based on the above, the system-wide benefits test is applied on the assumption that the Reference Tariffs resulting from the Stage 5 expansion, under DBP's application will be higher than the tariffs that would result from completion of the Stage 4 expansion.

103. In order to calculate the Reference Tariffs resulting from the Stage 5 expansion it is necessary to model future tariffs. The Authority has considered two approaches to evaluating future tariffs.

104. The first approach is the Cost of Service Annual Reference Tariff. This tariff is calculated based on the cost of service in any year divided by the load in the same year. Figure 3 shows the result of the cost of service tariff calculation over a period of 80 years. Appendix 1 provides details of the Authority's calculations.

Figure 3 Cost of Service Annual Reference Tariff at a Load Factor of 1



105. It should be noted from Figure 3, that the low tariffs in 2007 and 2009 reflect a difference in the timing of New Facilities Investment and forecast load. From 2010 total New Facilities Investment is taken into account when calculating depreciation and return on assets.

106. Figure 3 shows that the cost of service Reference Tariffs for the Stage 5 expansion exceed the Reference Tariffs that would apply following completion of the Stage 4 expansion. This figure shows that the Stage 5 Reference Tariffs would exceed the Stage 4 Reference Tariffs from 2009 until 2039.

107. An alternative measure of future tariffs is the Discounted Weighted Average Tariff (DWAT). DWAT is calculated as the present value of revenue divided by the present value of load for any given period of time. The DWAT calculation is useful in comparing long term tariffs for different development options.[10] The DWAT calculations are shown in detail in Appendix 1.

108. The Authority considers that the DWAT evaluation provides a better measure of the long term future tariffs than the cost of service tariff evaluation. The DWAT analysis shows that Stage 5 tariffs will exceed those following implementation of Stage 4 by around 2.4 per cent over the long term.

109. Section 9 of DBP's supporting submission, puts forward the view that the Stage 5 expansion meets a broad interpretation of the system-wide benefits test. Paragraph 9.3 of DBP's supporting submission stated:

[10] The value of DWAT calculated over any period of time equals the constant tariff, in real terms, over the same period of time where the present value of the cost of service equals the present value of the future revenue stream.

> 9.3 The following aspects of the above expansion obligations substantiate the system-wide benefits of expansions that are to be undertaken pursuant to these obligations:
>
> (a) All users are entitled to participate in the expansions.
>
> (b) Because the expansions will be to satisfy full haul users, they will enhance the availability of capacity on the entire pipeline, for both full haul and part haul users.
>
> (c) The mechanism by which shippers can require an expansion to be undertaken under the Standard Shipper Contract means that shippers will not be affected by unnecessary delays in accessing additional capacity.
>
> (d) The ability of users and prospective users to access capacity on a certain and timely basis will benefit downstream markets, thereby creating the environment in those markets in which competition can be promoted. [11]

110. DBP also noted the system-wide benefits which would result from the increased capacity under the Stage 5 expansion. Paragraph 9.6 of DBP's supporting submission stated:

> 9.6 While the tariff that will result from the Stage 5 expansion will increase from the tariff forecast following commissioning of Stage 4, the provision of additional capacity from the Stage 5 expansion should result in:
>
> (a) lower cost generation of electricity;
>
> (b) lower cost minerals processing;
>
> (c) access to a wider range of potentially lower cost gas supplies; and
>
> (d) increased security of energy supply in Western Australia. [12]

111. The difference in the tariffs actually paid and Reference Tariffs can cause some confusion. It should be noted that the tariffs paid by DBNGP Users are governed by their contracts (Standard Shipper Contacts) which were renegotiated in October 2004, prior to the change in ownership of the DBNGP. No DBNGP Users are paying the Reference Tariffs approved by the Authority in the current Access Arrangement. However, it is anticipated that from 1 January 2016 Reference Tariffs will apply.[13]

112. The Authority understands that DBP is currently seeking the agreement of Users to a higher contract tariff as a result of the Stage 5 expansion. This is a commercial process in which the Authority is not directly involved. It should be noted that the Authority's modelling excludes any consideration of the tariffs actually paid under the Standard Shipper and Exempt Contracts[14], and is based on the assumption that all Users pay the Reference Tariffs.

113. The three public submissions received all supported the pipeline expansion. Users have also indicated that they consider the Stage 5 expansion necessary by their willingness to contract for it at tariffs which the Authority understands are generally

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[11] Para 9.3 Submission supporting section 8.21 request.

[12] Para 9.6 Submission supporting section 8.21 request.

[13] Para 2.15 of DBP's Application.

[14] Pages 152 - 158 Diversified Utility and Energy Trusts (DUET) Product Disclosure Statement dated 19 November 2004.

above Reference Tariffs levels. This provides market evidence that the Stage 5 expansion is providing benefits for which Users are prepared to pay a price above Reference Tariffs.

114. The APIA submission supported DBP's view that system-wide benefits should be viewed broadly. On pages 3 and 4 of the APIA submission the following statements were made:

> The Code provides no guidance on what constitutes system wide benefits. APIA submits that, in interpreting this part of the Code, ERA should take a broad view of what might be considered to be a system wide benefit. That is, it should take into account the full economic benefits associated with the investment. This will include the benefits accruing to direct users of the pipeline, as well as consumers of gas and the broader public interest.
>
> In previous assessments of this test, the ERA has adopted the view that system-wide benefits are positive externalities resulting from the creation of new facilities, but does not limit them to benefits accruing to users of a pipeline system. This extension has the important implication of bringing the public interest into the consideration of system-wide benefits. APIA believes the ERA is correct in taking a broad view, and considers that, in addition to satisfying the anticipated incremental revenue test, the proposed pipeline investment satisfies the system-wide benefits test due to the benefits the proposed investment will deliver to the whole system including pipeline users, end users and their markets. Furthermore, APIA submits that these benefits would justify the approval of a higher tariff than would otherwise arise without the new expansion.

115. As outlined in paragraphs 31 to 32 of this decision, the Stage 5 expansion has been designed using a very conservative approach to the issue of future gas quality. Should the quality of gas actually delivered into the pipeline be of a higher specification than the gas specification assumed for the Stage 5 design, spare capacity will be available on the pipeline while such a situation prevails. This capacity would be available to Users or Prospective Users under existing or new contracts, including contracts for Reference Services under the Code access regime. DBP has acknowledged that spare capacity may become available on the pipeline in paragraph 2.14 of its application.

116. The Authority has also considered whether the expansion of the capacity of the DBNGP as proposed for Stage 5 will have system-wide benefits through improving reliability in the delivery of Services. DBP has stated in paragraph 9.5 of its supporting submission that without the Stage 5 expansion there would be an increase in the frequency of curtailments of all shippers. Under such circumstances, the Stage 5 expansion would result in system-wide benefits by increasing the reliability of delivering services.

117. The Authority's view on the system-wide benefits of the Stage 5 expansion is consistent with its view on this matter for the expansion forecasts (New Facilities Investment) incorporated under the current Access Arrangement. This view is expressed in paragraph 228 of the Final Decision as follows:

> 228. The Authority considers, 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.

Conclusion – Requirements Under Section 8.16(a)(ii)(B)

118. The Authority concludes that DBP's preferred development option for its proposed Stage 5 expansion of the DBNGP (Option 3 – optimisation: looping and compression) meets the requirements of sub-section 8.16(a)(ii)(B) of the Code.

Safety and Integrity of Services (8.16(a)(ii)(C))

119. The third condition set out under sub-section 8.16(a)(ii)(C) of the Code, is that the New Facility is necessary to maintain the safety, integrity or Contracted Capacity of Services.

120. Paragraph 10.1 of DBP's submission supporting its application states:

> 10.1 To the extent that the Regulator does not consider that the Stage 5 expansion meets the requirements of sections 8.16(a)(ii)(A) or (B), DBP submits that there is part of the proposed New Facilities associated with the Stage 5 expansion which are necessary to maintain the safety, integrity or contracted capacity of Services on the DBNGP such that the requirements of section 8.16(a)(ii)(C) are met.

121. As the Authority has concluded that the proposed Stage 5 expansion of the DBNGP (Option 3 – optimisation: looping and compression) meets the requirements of sub-section 8.16(a)(ii)(B) of the Code it is not necessary for the Authority to apply the test under sub-section 8.16(a)(ii)(C) of the Code.

Summary of Conclusions on Section 8.16(a) Compliance

122. After considering DBP's application and the submissions which were received, pursuant to section 8.21 of the Code, the Authority proposes to agree that the forecast new facilities investment by DBP for its proposed Stage 5 expansion of the DBNGP, based on its preferred development option (Option 3 – Optimisation: Looping and Compression), meets the requirements of section 8.16(a) of the Code up to a maximum capital cost of $1,521 million (dollars at 31 December 2005) , subject to the following conditions:

1) Prior to rolling in the capital cost of the Stage 5 expansion in the capital base of the DBNGP at the time the current Access Arrangement is reviewed, DBP is required to provide an independent audit report to the Authority verifying:
   a) the level of actual expenditure incurred on the Stage 5 expansion; and
   b) that the capacity provided as a result of the Stage 5 expansion meets or exceeds DBP's stated capacity design criteria for this expansion, being 310 TJ/day of Full Haul T1, 76 TJ/day of Pilbara Part Haul and 35 TJ/day of Mid West Part Haul.
2) DBP is required to include, as part of the above audit, information on the amount of capital expenditure incurred on the Stage 5 expansion which was competitively tendered as compared with that amount of capital expenditure incurred through other arrangements. This information will not affect the inclusion of the Stage 5 capital expenditure into the DBNGP capital base.

3) The capital expenditure verified through the above audit as having been incurred by DBP on the Stage 5 expansion will be escalated by the annual All Capital Cities Consumer Price Index (CPI) to the point in time when this capital expenditure is included in the DBNGP capital base.

4) In the event that appeal proceedings brought by DBP on matters relating to gas quality (Amendment 14 of the Final Decision), which are currently before the Gas Review Board, impact on the current Access Arrangement in a manner which causes revisions to the design parameters for the Stage 5 expansion, the Authority will review the level of expenditure agreed in this decision when that expenditure is included in the DBNGP capital base.

123. As the Authority is required to be satisfied that the upper end of the cost range ($1,521 million) submitted by DBP under Option 3 represents an investment by a prudent Service Provider acting efficiently in accordance with accepted good industry practice and to achieve the lowest sustainable cost of providing services, the Authority may review its position on this matter as part of the Final Decision.

Appendix 1 Anticipated Incremental Revenue model (Sub-section 8.16(a)(ii)(A) and Sub-section 8.16(a)(ii)(B))

Page 1 of Appendix 1 is attached to this Draft Decision.

The full version of Appendix 1 is issued as a separate document for the convenience of readers.

DBNGP 80 Years Model. DD Test 8.16. High Cost Case

Ref	2	3	5	7	9
	Full Haul Part Haul and Back Haul		**ST 4 & 5**	**ST 4**	**Variation vs ST 4**
4	**WACC**				
5		Real Pre-tax	7.24%	7.24%	0.00%
6		Nominal Pre-tax	10.18%	10.18%	0.00%
7	**IRR**				
8		Real IRR	7.24%	7.24%	0.00%
9		Nominal IRR	10.18%	10.18%	0.00%
10	**Assets [m$ 31/12/2004]**				
11		Opening Asset Value 31/12/2004	1,618.372	1,618.372	0.00%
12		Closing Asset Value 31/12/2089	2,147.131	2,147.131	0.00%
	Regulatory Revenue = Cost of Service (from 2005 to 2089)				
14	**PV of Cost of Service [m$ 31/12/2004]**				
15		Opex	1,081.475	967.173	11.82%
16		Depreciation	931.667	657.826	41.63%
17		Return on Assets	2,326.528	1,444.913	61.02%
18		Cost of Service	4,339.670	3,069.912	41.36%
19	**PV of Regulatory Revenue [m$ 31/12/2004]**				
20		Opening Asset Value	1,618.372	1,618.372	0.00%
21		Closing Asset Value	-0.567	-0.567	0.00%
22		Opex	1,081.475	967.173	11.82%
23		Capex	1,640.389	484.934	238.27%
24		Net Cash Flow = RR	4,339.670	3,069.912	41.36%
25		**Check 1**	**OK**	**OK**	
26	**PV of Revenue [m$ 31/12/2004]**				
27		Capacity Reservation	3,881.969	2,672.410	45.26%
28		Commodity	457.700	397.502	15.14%
29		Revenue	4,339.670	3,069.912	41.36%
30		**Check 2**	**OK**	**OK**	
	Load, Recalculated Tariff and DWAT				
32	**Full Haul Equivalent Load from 2009 [TJ/day]**				
33		Capacity Reservation	1,065	722	47.54%
34		Commodity	1,032	699	47.50%
35		Load Factor (LF)	0.9689	0.9692	-0.03%
36	**Current Access Arrangement (2005 to 2010) Approved Tariff [$ 31/12/2004 / GJ]**				
37		Capacity Reservation	0.8759		
38		Commodity	0.1004		
39		Tariff at LF = 1	0.9762		
40	**Recalculated (2005 to 2010) Tariff [$ 31/12/2004 / GJ]**				
41		Capacity Reservation	0.8943	0.8766	2.02%
42		Commodity	0.0896	0.1043	-14.14%
43		Tariff at LF = 1	0.9839	0.9809	0.30%
44	**DWAT (from 2006) [$ 31/12/2004 / GJ]**				
45		Capacity Reservation	0.7818	0.7405	5.58%
46		Commodity	0.0962	0.1169	-17.73%
47		Tariff at LF = 1	0.8780	0.8574	2.40%
	Net Cash Flow (from 2005 to 2089)				
49	**PV of Net Cash Flow [m$ 31/12/2004]**				
50		Forecast Revenue	4,339.670	3,069.912	41.36%
51		Opex	1,081.475	967.173	11.82%
52		Capex	1,640.389	484.934	238.27%
53		Operating Revenue	1,617.805	1,617.805	0.00%
54		Opening Asset Value	-1,618.372	-1,618.372	0.00%
55		Closing Asset Value	0.567	0.567	0.00%
56		Net Cash Flow	-	-	
57		**Check 3**	**OK**	**OK**	
	8.16(a)(ii)(A) Test (from 2006 to 2089)				
59	**Test [m$ 31/12/2004]**				
60		PV of Delta Revenue	**1,429.303**		
61		PV of Delta Opex	**122.574**		
62		PV of Anticipated Incremental Revenue	**1,306.728**		
63		Delta Total Capex	**1,479.929**		
64		8.16(a)(i)(A) Test (from 2006), Additional Incremental Revenue less New Facility Investment	**-173.200**		
65		**8.16(a)(ii)(A) Test (from 2006) Check**	**Failed**		