

**Halcrow Pacific Pty Ltd**

in association with

**Zincara Pty Ltd**

March 2011



**Economic Regulation Authority  
of Western Australia**

Dampier to Bunbury Natural Gas Pipeline  
Access Arrangement Review  
- Technical Assessment

Draft Review Report

**Zincara**  
From strategy to action

**Halcrow**

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# **Economic Regulation Authority of Western Australia**

## **Dampier to Bunbury Natural Gas Pipeline Access Arrangement Review**

### **- Technical Assessment**

### **Draft Review Report**

## **Contents Amendment Record**

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## List of Acronyms

DBNGP	Dampier Bunbury Natural Gas Pipeline
FEED	Front End Engineering and Design (Study)
FEL	Front End Loading (Study)
NGL	National Gas Law
NGR	National Gas Rules
SIB	Stay-in-Business (Capital Expenditure)





## Executive Summary

### *Introduction*

The Economic Regulation Authority of Western Australia (ERA or the Authority) is undertaking an assessment of proposed revisions to the access arrangement for the Dampier to Bunbury Natural Gas Pipeline (DBNGP). The assessment is being conducted under the National Gas Law (NGL) and the National Gas Rules (NGR), implemented under the *National Gas Access (WA) Act 2009*.<sup>1</sup>

The original Access Agreement was approved on 30 December 2003.<sup>2</sup> The current Access Arrangement was approved on 15 December 2005. It was revised on 21 November 2006 and again on 26 June 2008.

DBNGP (WA) Transmission submitted a revision proposal for a new Access Agreement on 1 April 2010. The submission includes details of the capital and operating expenditure incurred on the pipeline and associated infrastructure over the period of the previous access arrangement, as well as expenditure forecast for the period 1 January 2011 to 31 December 2015.

The revision proposal submitted by DBNGP (WA) Transmission forms the basis of the assessment being undertaken by the Authority.

### *Scope of Review*

Halcrow Pacific Pty Ltd (Halcrow) has been engaged to provide expert advice to assist the Authority with its assessment of capital and operating expenditure as included in DBP's revision proposal. The assessment is being conducted under the NGL and the NGR, implemented under the *National Gas Access (WA) Act 2009*.

Assessment of expenditure is to be in accordance with the following:

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<sup>1</sup> ERA, *DBNGP Access Arrangement Review – Scope of Work – Technical Consultant*, 9 March 2010.

<sup>2</sup> The original approval was granted by the Western Australian Independent Gas Pipelines Access Regulator. The functions of the Regulator were transferred to the ERA on 1 January 2004 (ERA, *Notice – Final Decision – Dampier to Bunbury Natural Gas Pipeline*, 2 November 2005).

- *Capital Expenditure* – Capital expenditure must conform to the criteria set out in r. 79 of the NGR in order for such expenditure to be rolled into a pipeline’s capital base. Halcrow is required to provide expert advice to assist the Authority with its assessment of DBP’s proposal under r. 79 of the NGR.
- *Operating Expenditure* – Halcrow is required to provide expert advice to assist the Authority with its assessment of DBP’s proposal under r. 91 of the NGR. In particular, Halcrow is required to undertake an assessment of DBP’s operating expenditure to determine whether the proposed operating expenditure would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

### ***Review of Business Systems***

As part of the review of DBP’s forecast capital and operating expenditure Halcrow undertook a high level review of DBP’s planning framework. The business planning frameworks reviewed included:

- the Asset Management Framework;
- the Capital Planning Framework; and
- the Annual Budgeting Process.

The primary objective of reviewing DBP’s systems and processes has been to determine whether they are sufficiently robust and consistent with good industry practice, and likely to facilitate DBP to make informed investment decisions, and to targeted and optimise expenditure such that services can be provided at the lowest sustainable cost.

#### *Asset Management Framework*

DBP’s *Asset Management System Framework* describes the structure used to document the Asset Management Processes for the DBNGP, and it outlines the role of the key documents and how they relate to each other.

The *Asset Management Plan* is the pivotal document within the Asset Management Framework; key inputs to the *Asset Management Plan* are DBP’s strategic objectives, as documented in the *Asset Operating Strategy*, the *Safety Case* and the *Operational Environmental Management Plan*. The *Asset Management Plan* is a key input to the *Asset Capex Plan*, the *Asset Maintenance Plan* (via the *Asset Reliability Management Plan*) and the *Asset Operating Plan*.

This framework provides a robust basis for DBP's capital and maintenance planning processes; on the basis of Halcrow's experience, it is consistent with accepted good industry practice.

#### *Capital Planning Framework*

Capital expenditure related to the DBNGP has been segregated into two (2) components, as follows:

- Expansion Capital Expenditure; and
- Stay-in-Business Capital Expenditure.

Expansion Capital Expenditure comprises expenditure associated with increasing the throughput capacity of the pipeline, whilst Stay-in-Business Capital Expenditure includes all other capital expenditure incurred in conjunction with the ongoing operation of the DBNGP.

Expansion capital expenditure is driven by the requirement for additional pipeline capacity. Planning of an expansion program is an extensive process involving the assessment of options comprising combinations of looping (pipeline duplication) and additional compression. Detailed review of the planning undertaken for DBNGP Expansion program shows that the approach adopted by DBP is consistent with that of a prudent service provider acting efficiently, in accordance with accepted good industry practice.

DBP has a documented Stay-in-Business Planning Process that includes the key elements of capital planning, principally project identification, detailed risk assessment and ranking processes and review of outcomes. The process is rightfully informed by DBP's *Asset Management Plan*, however, there appears to be opportunity for improvement; a detailed asset register that includes updated condition assessment would be an effective tool in developing DBP's capital (and maintenance) programs. The process is underpinned by robust FEED study and cost estimation processes.

#### *Annual Budgeting Process*

On the basis of the overview provided by DBP of its operational budgeting process, Halcrow is generally satisfied that the key elements of best practice operational budgeting are in place. This includes alignment of the budget with strategic objectives, zero based budgeting, structured budget review and approval process, cost tracking and control, and management intervention.

### *Review of Capital Expenditure*

Halcrow’s approach to assessment of the prudence and efficiency of both historical (actual) and forecast capital expenditure has involved reviewing supporting documentation provided by DBP to demonstrate the effective implementation of its planning and implementation processes.

Whilst an extensive amount of information was provided by DBP, it has not in all cases provided clear basis for assessment of the prudence and efficiency of the expenditure. It is anticipated that more extensive use of a project plan/approval form (or other similar instrument) with appropriate references to project justification, relevant FEED studies and cost estimates would enable a more robust assessment of the expenditure.

Halcrow considers the expansion program implemented by DBP, ie. Expansion Stages 4, 5A and 5B, to be consistent with that of a prudent service provider acting efficiently and in accordance with good industry practice. More specifically:

- the program has been properly planned in a manner consistent with that expected of a gas transmission pipeline operator;
- the adopted form of expansion represents the most efficient means of increasing capacity to meet the identified demand;
- the program has been appropriately staged;
- contractor engagement has been market tested, whilst at the same time leveraging the long standing “preferred supplier” arrangement for the provision of compressor related services;
- the expansion works have been constructed to both schedule and budget; and
- the pipeline cost is consistent with expectations.

DBP’s actual/forecast expansion capital expenditure and Halcrow’s recommended NGR Rule 79 compliant expansion capital expenditure are summarised in **Table E.1**. It should, however, be noted that audited costs for Stage 5A and Stage 5B are not yet available; these should ultimately be used as the basis for adjustments to the Capital Base.

DBP’s Stay-in-Business capital expenditure is predominantly related to the replacement or improvement of aging infrastructure to maintain or improve safety and/or to maintain the integrity of the infrastructure and the services it is used to provide, ie. the transmission of gas. On this basis, the majority of Stay-in-Business expenditure is considered to be justified on the basis that it is necessary to maintain and improve the safety of services and/or to maintain the integrity of services, although there are some exceptions.

Halcrow also considers the Stay-in-Business capital program implemented by DBP to be generally consistent with that of a prudent service provider acting efficiently and in accordance with good industry practice. There are, however, some items of forecast expenditure that are not deemed to be so on the basis of the information reviewed.

Consequently, some adjustments to DBP's Stay-in-Business capital expenditure are recommended. DBP's actual/forecast expansion capital expenditure and Halcrow's recommended NGR Rule 79 compliant Stay-in-Business capital expenditure are summarised in **Table E.2**.

### *Review of Operating Expenditure*

Halcrow's approach to the assessment of operating expenditure has involved reviewing actual expenditure from the current Access Arrangement period in order to determine whether it represents an appropriate baseline on which to forecast future operating expenditure.

The review of operating expenditure has been hampered by a lack of information on DBP's historical expenditure, particularly in relation to the key drivers of changes in expenditure since 2005, and a breakdown of expenditure for the years 2005 to 2007.

The absence of historical information has limited Halcrow's ability to undertake a detailed trend analysis of expenditure over the current Access period, and has limited the detailed review of historical expenditure to 2008 onwards. Given the significant increase in operating expenditure since 2005, the absence of historical information has meant that Halcrow has been unable to verify with certainty that operating expenditure over the period 2008 to 2011 represents a suitable baseline from which to forecast future operating expenditure.

Where sufficient data has been provided, DBP's historical operating expenditure has been reviewed in order to develop understanding of whether it constitutes a suitable baseline upon which to forecast future operating expenditure. Where little or insufficient information has been made available, Halcrow has sought to undertake a qualitative assessment of expenditure, relying instead on DBP's business processes (ie. its budgeting processes) in order to gain some form of assurance that the forecast operating expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

Acknowledging the limitations outlined above, if 2008 to 2011 can be shown to be a justified baseline from which to forecast expenditure then Halcrow is generally satisfied DBP's forecast expenditure for 2011 to 2015 period satisfies the requirements of r91 of the NGR. However, there are a number of areas that have been assessed as not meeting the requirements, or where additional information is required to enable an assessment to be made.

On the basis of the information provided by DBP to date, Halcrow recommends the following adjustments to DBP's expenditure:

- Salaries – The absence of historical data has limited Halcrow's ability to assess whether the expenditure on salaries meets all of the criteria specified in r91 of the NGR. However, on the basis of the high level information provided, Halcrow is generally satisfied that recent changes to staffing levels appear to be aligned with the activities required to ensure the prudent operation of the expanded DBNGP. It is noted however that, given the delays to and uncertainty surrounding the Government's CPRS, there may be some scope for DBP to defer [REDACTED]. This is likely to equate to some minor savings, in the order of \$143,000 (\$2009 real) to \$286,000 (\$2009 real) per annum.
- IT expenses – As noted above, due to insufficient justification of the increase in IT expenditure since 2008, Halcrow recommends that the 2008 actual expenditure be used as a baseline for forecast expenditure.
- Repairs and Maintenance – Based on the available information, Halcrow is not satisfied that DBP's forecast Repair and Maintenance expenditure for the period 2011 to 2015 represents that of a prudent operator acting efficiently under the requirements of r91 of the NGR, to achieve the lowest sustainable cost of delivering pipeline services. Halcrow is of the opinion that the 2010 expenditure (adjusted to exclude unplanned maintenance) is more likely to be a suitable baseline on which to forecast expenditure.
- CPRS Costs – Given that the Commonwealth Government deferred the scheme, there is inherent uncertainty surrounding the value and timing of this expenditure. Similarly, while Halcrow notes that the Commonwealth Government has recently committed to the introduction of a carbon pricing framework by 1 July 2012, the details of the tax are still to be confirmed and the necessary legislation is yet to be passed. Halcrow is therefore of the opinion that the forecast expenditure does not, at present, meet the requirements of r91 of the NGR. On this basis, Halcrow recommends that forecast CPRS expenditure be excluded from DBP's operating expenditure forecast, and that should the scheme be implemented sometime in the future, that costs be included as a partial review..

- Compressor overhauls – While Halcrow is satisfied that the expenditure on compressor overhauls (materials) is prudent, DBP has not explained why it has forecast an increase in the cost of compressor overhauls over current levels. As such, Halcrow is not currently satisfied that the allowance included within DBP’s forecasts represents the lowest sustainable cost of delivering pipeline services, and has recommended an adjustment to the expenditure. Halcrow also notes that there is some uncertainty surrounding DBP’s decision to reclassify the expenditure from operating expenditure to capital expenditure.
- Productivity gains – While it is reasonable to expect an efficient service provider would seek to achieve productivity gains over the Access Arrangement period, [REDACTED]. Halcrow is of the opinion that allowances to account for productivity gains should be factored into forecasts of operating expenditure, thereby reflecting the behaviour of a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

**Table E.3** shows DBP’s forecast operating expenditure, together with the Halcrow’s assessment of the expenditure in accordance with r91 of the NGR. It excludes any adjustment for productivity gains, which has not been estimated.



**Table E.1 Actual and Recommended Expansion Capital Expenditure 2005 to 2015**

Expenditure Category	Actual and Recommended Expenditure (\$million)											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<i>\$nominal</i>												
DBP's Actual/Forecast expenditure	0.00	52.70	383.41	611.96	15.05	634.9	50.33	0.00	0.00	0.00	0.00	1,748.35
Halcrow Recommended	0.00	52.70	383.41	611.96	15.05	634.9	50.33	0.00	0.00	0.00	0.00	1,748.35
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>\$real 2009</i>												
DBP's Actual/Forecast expenditure	0.00	57.51	406.14	624.85	15.05	619.41	47.90	0.00	0.00	0.00	0.00	1,770.88
<b>Halcrow Recommended</b>	<b>0.00</b>	<b>57.51</b>	<b>406.14</b>	<b>624.85</b>	<b>15.05</b>	<b>619.41</b>	<b>47.90</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1,770.88</b>
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>

Source: Actual/forecast data (\$nominal) derived from Submission 9 – Justification of Expansion Related Capital Expenditure and Submission 16 - DBNGP 2010-2016 tariff model. Actual/forecast data (\$real) determined by application of escalation indices in Table 3.1 to \$nominal values.

**Table E.2 Actual and Recommended Stay-in-Business Capital Expenditure 2005 to 2015**

Expenditure Category	Actual and Recommended Expenditure (\$million)												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	
<i>\$nominal</i>													
DBP's Actual/Forecast expenditure	0.686	4.070	3.788	5.798	12.784	51.760	23.333	19.355	16.993	16.569	17.320	172.458	
Halcrow Recommended	0.686	4.070	3.788	5.798	12.784	51.760	17.113	15.201	12.830	10.905	13.444	148.380	
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>-6.221</i>	<i>-4.154</i>	<i>-4.164</i>	<i>-5.665</i>	<i>-3.876</i>	<i>-24.079</i>	
<i>\$real 2009</i>													
DBP's Actual/Forecast expenditure	0.782	4.442	4.012	5.920	12.784	50.498	22.209	17.973	15.395	14.645	14.935	163.596	
<b>Halcrow Recommended</b>	<b>0.782</b>	<b>4.442</b>	<b>4.012</b>	<b>5.920</b>	<b>12.784</b>	<b>50.498</b>	<b>16.288</b>	<b>14.116</b>	<b>11.623</b>	<b>9.638</b>	<b>11.593</b>	<b>141.697</b>	
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>-5.921</i>	<i>-3.857</i>	<i>-3.772</i>	<i>-5.007</i>	<i>-3.342</i>	<i>-21.899</i>	

Source: Forecast data (\$real) derived from Submission 11 - Forecast Capital Expenditure, Table 2 and Submission 16 - DBNGP 2010-2016 tariff model. Forecast data (\$nominal) determined by application of escalation indices in Table 3.1 to \$real values.

**Table E.3 Forecast Operating Expenditure – r91 NGR Assessment (\$million 2009)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
DBP Forecast Operating Expenditure – Recurrent				51.497	65.597	63.566	71.975	73.162	73.896	74.985	76.062
Less:											
Salaries adjustment							-0.143	- 0.146	- 0.149	-0.152	-0.155
IT Expenditure adjustment							- 4.507	-4.506	-4.506	- 4.506	- 4.506
Repairs and maintenance adjustment							-1.166	-1.166	- 1.166	- 1.166	-1.167
CPRS adjustment							- 8.383	- 9.065	- 9.288	- 9.855	- 10.399
Total Recurrent Operating Expenditure				51.497	65.597	63.566	57.777	58.278	58.788	59.306	59.835
DBP Forecast Operating Expenditure – Non-Recurrent				17.717	20.908	20.985	29.667	30.796	30.708	33.380	33.807
Less:											
Compressor Overhauls adjustment							-2.206	-2.206	-2.207	-2.206	-2.206
Total Non-Recurrent Operating Expenditure				17.717	20.908	20.985	27.461	28.589	28.502	31.173	31.601
DBP Total Operating Expenditure	68.780	66.396	79.437	69.213	86.505	84.552	101.642	103.957	104.605	108.365	109.870
<b>Total Operating Expenditure - r91 NGR</b>							<b>85.238</b>	<b>86.867</b>	<b>87.289</b>	<b>90.479</b>	<b>91.436</b>

Source: DBP Forecast: Submission 12, Table 2 (all figures indexed to \$2009).

# 1 Introduction

## 1.1 *General*

The Economic Regulation Authority of Western Australia (ERA or the Authority) is undertaking an assessment of proposed revisions to the access arrangement for the Dampier to Bunbury Natural Gas Pipeline (DBNGP). The assessment is being conducted under the National Gas Law (NGL) and the National Gas Rules (NGR), implemented under the *National Gas Access (WA) Act 2009*.<sup>3</sup>

Halcrow Pacific Pty Ltd (Halcrow) has been engaged by the Authority to provide technical services in support of this assessment. In particular, Halcrow is required to provide expert advice to assist the Authority with its assessment of the pipeline owner/operator's proposed access arrangements under the provisions of the NGR.

Halcrow is supported in providing these technical services by Zincara Energy Advisory Services and Ninox Solutions Pty Ltd.

## 1.2 *Background*

The Dampier to Bunbury Natural Gas Pipeline (DBNGP) connects the Carnarvon Basin on Western Australia's North-west Shelf with industrial, commercial and residential customers in Perth and the surrounding region. The pipeline runs from the Burrup Peninsula, near Dampier, to Bunbury in the south-west of the State.<sup>4</sup> The pipeline is owned and operated by DBP Transmission Group (DBP), with DBNGP (WA) Transmission Pty Ltd responsible for operations.

The original Access Agreement was approved on 30 December 2003.<sup>5</sup> The current Access Arrangement was approved on 15 December 2005. It was revised on 21 November 2006 and again on 26 June 2008.

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<sup>3</sup> ERA, *DBNGP Access Arrangement Review – Scope of Work – Technical Consultant*, 9 March 2010.

<sup>4</sup> [www.dbp.net.au](http://www.dbp.net.au)

<sup>5</sup> The original approval was granted by the Western Australian Independent Gas Pipelines Access Regulator. The functions of the Regulator were transferred to the ERA on 1 January 2004 (ERA, *Notice – Final Decision – Dampier to Bunbury Natural Gas Pipeline*, 2 November 2005).

DBNGP (WA) Transmission submitted a revision proposal to the current Access Agreement on 1 April 2010. The submission includes details of the capital and operating expenditure incurred on the pipeline and associated infrastructure over the period of the previous access arrangement, as well as expenditure forecast for the period 1 January 2011 to 31 December 2015.

The revision proposal submitted by DBNGP (WA) Transmission forms the basis of the assessment being undertaken by the Authority.

### 1.3

#### *Scope of Work*

Halcrow has been engaged to provide expert advice to assist the Authority with its assessment of capital and operating expenditure as in DBP's revision proposal. As previously identified, the assessment is being conducted under the National Gas Law (NGL) and the National Gas Rules (NGR), implemented under the *National Gas Access (WA) Act 2009*.

Assessment of expenditure is to be in accordance with the following:

- *Capital Expenditure* – Capital expenditure must conform to the criteria set out in r. 79 of the NGR in order for such expenditure to be rolled into a pipeline's capital base. Halcrow is required to provide expert advice to assist the Authority with its assessment of DBP's proposal under r. 79 of the NGR.
- *Operating Expenditure* – Halcrow is required to provide expert advice to assist the Authority with its assessment of DBP's proposal under r. 91 of the NGR. In particular, Halcrow is required to undertake an assessment of DBP's operating expenditure to determine whether the proposed operating expenditure would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

The detailed scope of work is presented in Appendix A.

### 1.4

#### *Scope of Report*

The aim of this report is to:

- Provide recommendations, for each of the two categories of capital expenditure, as to whether the capital expenditure meets the requirements set out under r. 79(1)(a) and 79(2)(c) of the NGR.
- Provide recommendations in relation to any capital expenditure proposal relating to r. 79(2)(c)(i) and (ii) of the NGR.

- Provide recommendations as to whether DBPs operating expenditure meets the requirements set out under r. 91 of the NGR.

## 1.5

### *Limitations*

This report has been prepared for the Authority by Halcrow for the sole purpose of providing advice on DBP's revision proposal in respect of the above scope of work. This report cannot be relied upon by any other party or for any other purpose.

Halcrow's assessment has been undertaken on the basis of information and material provided by DBP, meetings/discussions held with DBP representatives and information provided by DBP subsequent to those discussions.<sup>6</sup>

Importantly, Halcrow has not undertaken any independent verification of the reliability, accuracy or completeness of the source data and information provided. Therefore, it should not be construed that Halcrow has carried out any form of audit or other verification of the adequacy, completeness, or accuracy of the specific information provided by DBP.

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<sup>6</sup> Information provided to Halcrow for the purposes of this review has been specifically identified in **Section 2**.

## 2 DBP Submission

DBP's proposal submission in respect of the *DBNGP Revised Access Arrangement* comprises the following documentation:

- Proposed Revised Access Arrangement; and
- Proposed Revised Access Arrangement Information.

It is understood that these documents contain the information that the *National Gas Access (WA) Act 2009* requires them to include to enable them to be approved by the Authority.

A number of additional submissions, which address identified key issues, have been provided in support of the Proposed Revised Access Arrangement and to address the categories of information requested in the Regulatory Information Notice issued by the Authority. These include the following:

1. Background Information;
2. Access Arrangement and Access Arrangement Information Compliance Checklist;
3. Pipeline Services;
4. Basis for Total Revenue;
5. Terms and Conditions Justification;<sup>7</sup>
6. Explanation of Queuing Requirements;
7. Capacity and Throughput Forecast;
8. Rate of Return;
9. Justification of Actual Expansion Capital Expenditure (2005-2010);
10. Actual Stay-in-Business Capital Expenditure (2005-2010) Justification and Forecast Stay-in-Business Capital Expenditure (2011 to 2015);
11. Forecast Capital Expenditure (2011 to 2015); and
12. Actual Operational Expenditure and Forecast Capital Expenditure.

In addition to the above submissions, DBP provided an additional two submissions in response to Halcrow's *Issues Report/Request for Information*, dated May 2010. These were:

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<sup>7</sup> It is noted that Halcrow has not received copies of Submission 5 and Submission 6 at the time of preparing this report.

14. Response to Halcrow Pacific Issues Report/Request of Information, dated 15 June 2010; and
17. Response to Halcrow Pacific Issues Report/Request of Information, dated 25 June 2010.

DBP provided three additional submissions in response to Halcrow's *Follow-up Request for Information*, dated July 2010, as follows:

18. Response to Halcrow Pacific Issues Report/Request of Information, dated 18 July 2010;
23. Response to Halcrow Pacific Issues Report/Request of Information, dated 21 July 2010; and
24. Response to Halcrow Pacific Issues Report/Request of Information, dated 23 July 2010.

Halcrow was also provided with a copy of Submission 16 – DBNGP 2010-2015 Tariff Model @ 12 July 2010 – WORKING COPY (MS Excel spreadsheet).

Halcrow has not been provided with any submissions prepared by DBP other than those specifically identified above; the information presented in these submissions is the basis upon which Halcrow has undertaken its review.



## 3 Review Methodology

### 3.1 *National Gas Rules*

#### 3.1.1 *Rule 79 – Capital Expenditure*

Halcrow has been requested by the Authority to provide recommendations, for each of the two categories<sup>8</sup> of capital expenditure, as to whether the capital expenditure meets the requirements set out under r. 79(1)(a) of the NGR, and to provide advice in relation to any capital expenditure proposal relating to r. 79(2)(c)(i) and (ii) of the NGR.

Rule 79 of the NGR outlines new capital expenditure criteria, as follows (italics used to identify those sections which are the subject of this review):

#### **79 New capital expenditure criteria**

- (1) *Conforming capital expenditure is capital expenditure that conforms with the following criteria:*
  - (a) *the capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;*
  - (b) the capital expenditure must be justifiable on a ground stated in subrule (2).
- (2) Capital expenditure is justifiable if:
  - (a) the overall economic value of the expenditure is positive; or
  - (b) the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capital expenditure; or
  - (c) *the capital expenditure is necessary:*
    - (i) *to maintain and improve the safety of services; or*
    - (ii) *to maintain the integrity of services; or*
    - (iii) to comply with a regulatory obligation or requirement; or
    - (iv) to maintain the service provider's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred (as distinct from projected demand that is dependent on an expansion of pipeline capacity); or

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<sup>8</sup> Expansion and Stay-in-Business capital expenditure.

- (d) the capital expenditure is an aggregate amount divisible into 2 parts, one referable to incremental services and the other referable to a purpose referred to in paragraph (c), and the former is justifiable under paragraph (b) and the latter under paragraph (c).
- (3) In deciding whether the overall economic value of capital expenditure is positive, consideration is to be given only to economic value directly accruing to the service provider, gas producers, users and end users.
- (4) In determining the present value of expected incremental revenue:
  - (a) a tariff will be assumed for incremental services based on (or extrapolated from) prevailing reference tariffs or an estimate of the reference tariffs that would have been set for comparable services if those services had been reference services; and
  - (b) incremental revenue will be taken to be the gross revenue to be derived from the incremental services less incremental operating expenditure for the incremental services; and
  - (c) a discount rate is to be used equal to the rate of return implicit in the reference tariff.
- (5) If capital expenditure made during an access arrangement period conforms, in part, with the criteria laid down in this rule, the capital expenditure is, to that extent, to be regarded as conforming capital expenditure.
- (6) The AER's discretion under this rule is limited.<sup>9</sup>

### 3.1.2

#### *Rule 91 – Operating Expenditure*

Halcrow has been requested by the Authority to provide recommendations as to whether DBPs operating expenditure meets the requirements set out under r. 91 of the NGR.

#### **91 Criteria governing operating expenditure**

- (1) Operating expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.
- (2) The AER's discretion under this rule is limited.<sup>10</sup>

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<sup>9</sup> The Authority's discretion in relation to this rule is limited, as detailed in NGR r. 40(2).

<sup>10</sup> The Authority's discretion in relation to this rule is limited, as detailed in NGR r. 40(2).

## **3.2** *Assessment of Capital and Operating Expenditure*

### **3.2.1** *General*

The following sections provide an overview of the approach that has been adopted to assess capital and operating expenditure in accordance with the above National Gas Rules.

### **3.2.2** *Assessment of Prudence*

The assessment of whether capital or operating expenditure is “*such as would be incurred by a **prudent service provider***” has been split into a number of key tasks.

The first key task has involved the review and assessment of whether DBP has in place an effective and robust planning framework. Effective and robust planning frameworks provide the context and strategic direction for capital and operational planning, and enable an organisation to demonstrate that its investment decisions have been **prudent** and appropriately targeted.

An effective planning framework typically includes the following key elements:

- provides detail on how an organisation aims to achieve its strategic, legislative or regulatory objectives and manage its key risks (ie. transparent and robust principles that ensure alignment between strategic objectives and investment priorities);
- identifies drivers for investment, including trigger points;
- defines the process, principles and accountabilities for developing the capital and operating plans, and provides transparent and robust principles to ensure alignment between strategic objectives and investment priorities, incorporating customer and stakeholder requirements;
- provides a reasoned method of allocating expenditure and prioritising programs/projects, thereby optimising the selection and delivery of the capital and operating expenditure programs;
- incorporates approval processes and allows for sufficient monitoring and reporting against budget/implementation plans; and
- reflects operating environment and service requirements.

Halcrow’s review of DBP’s planning framework has involved assessing whether the above key elements can be identified.

The second key task in the assessment of **prudence** has involved testing whether DBP has been able to demonstrate the rigour with which the framework is applied throughout the organisation. This has involved a more detailed review of a selection of historical and proposed expenditure and projects.

The prudence test has considered the following:

- the basis (driver) for the investment and any links to NGR r. 79(2)(c);
- the outputs (and benefits) associated with each project or expenditure program;
- the methods by which capital projects were identified and developed including the application of any risk based processes used to prioritise the project; and
- the planning and design processes used to develop the project, and evidence of options considered and design development.

The test of prudence has only taken into account the information that was known, or should have reasonably been known, at the time the decision to invest was made.

### 3.2.3

#### *Test of Efficiency*

Efficiency in the delivery of services, such as the delivery of pipeline services, has two key dimensions:<sup>11</sup>

- Allocative efficiency – the efficiency with which resources are allocated to the right ‘mix’ and level of activities; and
- Technical (or productive) efficiency – the efficiency with which a given activity is being delivered with a given set of resources (eg. labour and capital).

A robust planning framework (incorporating effective prioritisation processes) will help to ensure that resources are allocated to the right ‘mix’ of activities/projects (ie. allocative efficiency).

The test of technical (or productive) efficiency considers:

- whether the costs reflect those that would normally be expected to occur in a competitive environment, ie. consider methods of procurement, forms of contract, economies of scale (any bundling of projects, etc); and
- whether there is evidence of project cost controls and management intervention as appropriate.

In undertaking the assessment of expenditure, Halcrow has sought to determine the following:

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<sup>11</sup> Definitions adapted from: Office of Financial Management (1997), *Efficiency Progress in the New South Wales Government*; SunWater (2005), *Tier 1 Working Paper No. 8, Benchmarking Principles*; and Productivity Commission (2009), *The Approach to Performance Measurement*.

- how DBP sought to maximise the value of its investment (eg. whether the design has been optimised via value management/engineering to ensure the best solution is adopted, etc);
- how the project or expenditure was, or is to be, delivered – consider the procurement method, and the form of contract;
- the actual expenditure versus budgeted spend (including that previously assumed for pricing purposes), and evidence that the investment will achieve the lowest sustainable cost of providing services;
- the reasons for any variances in proposed (budgeted) and actual expenditure;
- the current stage of the design development (as this will provide an indication of the likely accuracy of any cost estimates);
- the cost estimation methodology, including the estimating process, key cost components, assumptions and unit rates;
- assumptions surrounding the application of contingencies and escalating factors;
- the method by which project risk has been factored into the cost estimates;
- the allocation of overheads/indirect costs; and
- the procurement strategy.

#### 3.2.4

##### *Accepted good industry practice*

The assessment of whether expenditure has been incurred in accordance with good industry practice considers whether the methods of procurement are compatible with those adopted by other organisations in the industry, as well as the forms of contract (profit margins, pain/gain share agreements, etc) adopted. There is some overlap with the test for prudence.

#### 3.2.5

##### *Lowest sustainable cost of providing services*

This assessment considers what evidence there is to demonstrate that the service provider has undertaken some form of assessment to confirm that investment will achieve the lowest sustainable cost of providing services.

### 3.3

#### *Indexation*

Throughout this report, all expenditure has been reported in \$nominal and \$2009 real unless otherwise stated. Historical expenditure has been indexed to 31 December 2009 using CPI All index Perth. Forecast expenditure has been adjusted to 31 December 2009 using DBP's nominated index, ie. 2.5 percent per annum. An assessment of DBP's inflation index is outside the scope of this review.

Adopted indices are as shown in **Table 3.1**.

**Table 3.1 CPI Indices used in this report<sup>12</sup>**

CPI Index										
2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
149.00	155.50	160.20	166.20	169.70	173.94	178.29	182.75	187.32	192.00	196.80

### 3.4

#### ***Reporting of Financial Data***

Although DBP's financial systems are designed to report expenditure on a financial year basis, it has opted to prepare its proposal submission with respect to the *DBNGP Revised Access Arrangement* on a calendar year basis. Halcrow understands that the expenditure for a given financial year has been halved and split equally over the relevant calendar years. In Halcrow's view, in some instances, particularly the review of operating expenditure, this has reduced the transparency of the data.

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<sup>12</sup> DBP, Submission 16 (MSExcel spreadsheet model): *DBNGP 2010 - 2015 - DBP submission 16 - tariff model @ 12 July 2010 - WORKING COPY.xls*, "CAPEX" Worksheet.

**Contents from sections 4,5,and 6 have been redacted.**

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## 7 Conclusions

### 7.1 *Overview*

Halcrow's review of DBP's capital and operating expenditure has been principally based on information provided by DBP in response to formal information requests. Halcrow has also conducted interviews/discussions with DBP representatives in order to gain a further understanding of the adopted planning approach and the justification for the proposed levels of investment.

The review has, to some extent, been hampered by the timing of the information provision, and in the case of operating expenditure, the limited extent of information that DBP has been able to provide. Nonetheless, Halcrow has been able to undertake extensive analysis, the outcomes of which is summarised in the following sections.

### 7.2 *Capital Expenditure*

#### 7.2.1 *General*

Halcrow's approach to assessment of the prudence and efficiency of both historical (actual) and forecast capital expenditure has involved reviewing supporting documentation provided by DBP to demonstrate the effective implementation of its planning and implementation processes.

Whilst an extensive amount of information was provided by DBP, it has not in all cases provided clear basis for assessment of the prudence and efficiency of the expenditure. For example, fully completed *DBP Non Expansion Capital Expenditure Approval Forms* were provided in only one or two cases. It is anticipated that more extensive use of this (or other similar instrument) with appropriate references to project justification, relevant FEED studies and cost estimates would enable a more robust assessment of the expenditure.

Ideally, some form of project plan that outlines the justification, scope and estimated cost should be provided for each line item in the capital program as soon as the project has been identified. It is acknowledged that, in the initial stages of planning, the information will be of a very preliminary nature; nonetheless, recording even the most basic of details provides a basis for the transparent development of both the individual project plan and the overall capital program.



## 7.2.2

### *Expansion Capital Expenditure*

Halcrow considers the expansion program implemented by DBP, ie. Expansion Stages 4, 5A and 5B, to be prudent and efficient in accordance with good industry practice. More specifically:

- the program has been properly planned in a manner consistent with that expected of a gas transmission pipeline operator;
- the adopted form of expansion represents the most efficient means of increasing capacity to meet the identified demand;
- the program has been appropriately staged;
- contractor engagement has been market tested, whilst at the same time leveraging the long standing “preferred supplier” arrangement for the provision of compressor related services;
- the expansion works have been constructed to both schedule and budget; and
- the pipeline cost is consistent with expectations.

DBP’s actual/forecast expansion capital expenditure and Halcrow’s recommended NGR Rule 79 compliant expansion capital expenditure are summarised in **Table 7.1**. It should, however, be noted that audited costs for Stage 5A and Stage 5B are not yet available; these should ultimately be used as the basis for adjustments to the Capital Base.

## 7.2.3

### *Stay-in-Business Capital Expenditure*

DBP’s Stay-in-Business capital expenditure is predominantly related to the replacement or improvement of aging infrastructure to maintain or improve safety and/or to maintain the integrity of the infrastructure and the services it is used to provide, ie. the transmission of gas. On this basis, the majority of Stay-in-Business expenditure is considered to be justified in accordance with NGR Rule 79(2)(c)(i) and/or (ii), although there are some exceptions.

Halcrow also considers the Stay-in-Business capital program implemented by DBP to be generally prudent and efficient in accordance with good industry practice. There are, however, some items of forecast expenditure that are not deemed to be prudent and/or efficient on the basis of the information reviewed.

Consequently, some adjustments to DBP’s Stay-in-Business capital expenditure are recommended. DBP’s actual/forecast expansion capital expenditure and Halcrow’s recommended NGR Rule 79 compliant Stay-in-Business capital expenditure are summarised in **Table 7.2**.

### 7.3 *Operating Expenditure*

Halcrow's approach to the assessment of operating expenditure has involved reviewing actual expenditure from the current Access Arrangement period in order to determine whether it represents an appropriate baseline on which to forecast future operating expenditure.

The review of operating expenditure has been hampered by a lack of information on DBP's historical expenditure, particularly in relation to the key drivers of changes in expenditure since 2005, and a breakdown of expenditure for the years 2005 to 2007.

The absence of historical information has limited Halcrow's ability to undertake a detailed trend analysis of expenditure over the current Access period, and has limited the detailed review of historical expenditure to 2008 onwards. Given the significant increase in operating expenditure since 2005, the absence of historical information has meant that Halcrow has been unable to verify with certainty that operating expenditure over the period 2008 to 2011 represents a suitable baseline from which to forecast future operating expenditure.

Where sufficient data has been provided, DBP's historical operating expenditure has been reviewed in order to develop understanding of whether it constitutes a suitable baseline upon which to forecast future operating expenditure. Where little or insufficient information has been made available, Halcrow has sought to undertake a qualitative assessment of expenditure, relying instead on DBP's business processes (ie its budgeting processes) in order to gain some form of assurance that the forecast operating expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

Acknowledging the limitations outlined above, if 2008 to 2011 can be shown to be a justified baseline from which to forecast expenditure then Halcrow is generally satisfied DBP's forecast expenditure for 2011 to 2015 period satisfies the requirements of r91 of the NGR. However, there are a number of areas that have been assessed as not meeting the requirements, or where additional information is required to enable an assessment to be made. These are identified in the following paragraphs:

*Additional information required to enable assessment/ assessment to be reviewed*

- IT Expenses – Due to the various but different explanations provided by DBP in relation to the significant increase in IT expenditure since 2008, Halcrow has been unable to develop a clear understanding of what factors have actually driven the increase, or whether the expenditure is that of a prudent service provider, acting efficiently in accordance with accepted good industry practice to achieve the lowest sustainable costs of delivering pipeline services. As such, Halcrow recommends that the 2008 actual expenditure be used as a baseline for forecast expenditure. In order to make a final assessment of IT expenditure, Halcrow requires additional information of the new scheme of charges agreed with ██████ in 2009, together with clarification of what has driven the increase in IT expenditure since 2008. In addition, further clarification is required of how DBP obtains assurance that it is getting value for money from ██████ in the provision of IT services, and confirmation is required of whether any alternative supply options were considered before agreeing the scheme of charges with ██████.
- Consulting Fees – In the absence of historical information on consulting fees, it has not been possible to confirm whether the expenditure budgeted for 2011 represents a justified baseline on which to forecast future expenditure on consulting fees. As such, Halcrow is presently unable to confirm that the quantum of the proposed expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.
- Repairs and maintenance (surveillance) – While Halcrow requested a breakdown of the surveillance operating expenditure forecast, this has not been provided. As such, it has not been possible to confirm that DBP's expenditure forecast is consistent with DBP's stated surveillance regime. A breakdown of the budgeted surveillance expenditure is required in sufficient detail to enable verification of the expenditure against the stated surveillance regime and the contracted schedule of rates.
- Self insurance – DBP has not provided any information to enable the assessment of self insurance, and Halcrow is unable to provide comment on this element of DBP's forecast operating expenditure.
- OSA Charges – There is some uncertainty surrounding whether the OSA charge has been double counted in 2009 as documentation from DBP appears to indicate that it has been reported in operating expenditure and capital expenditure.

- Utilities rates and taxes – Halcrow understands that DBP is currently in consultation with Department for Planning and Infrastructure in relation to the Access Right Charges payable, and that subject to negotiations, these rates may be adjusted. Given the possibility that the fee payable to DPI may change, Halcrow recommends that this element of operating expenditure be reviewed again, prior to the finalisation of the revisions to the Access Arrangement.
- Fuel gas – While Halcrow is satisfied that the fuel gas forecast is consistent with DBP’s forecast throughput, further evidence is required to support the change for transient behaviour. In addition, Halcrow notes that DBP has agreed with ██████ to allow ██████ to supply its own fuel gas for the amount that relates to the transportation of its contracted capacity. However, DBP’s forecasts of operating expenditure have been estimated on the basis that this fuel gas is to be purchased by DBP. DBP has assumed that the purchase price for this fuel is that paid by ██████ under the previous agreement with DBP. DBP has indicated that while the expenditure on fuel gas includes an allowance for expenditure that will not be incurred, its revenue stream has been adjusted to account for this arrangement. While Halcrow has not sought to confirm what adjustments DBP has made to its forecast revenue, it notes the ERA may seek to confirm this.

*Recommended adjustments to operating expenditure*

- Salaries – The absence of historical data has limited Halcrow’s ability to assess whether the expenditure on salaries meets all of the criteria specified in r91 of the NGR. However, on the basis of the high level information provided, Halcrow is generally satisfied that recent changes to staffing levels appear to be aligned with the activities required to ensure the prudent operation of the expanded DBNGP. It is noted however that, given the delays to and uncertainty surrounding the Government’s CPRS, there may be some scope for DBP to defer ██████. This is likely to equate to some minor savings, in the order of \$143,000 to \$286,000 per annum.
- IT – As noted above, due to insufficient justification of the increase in IT expenditure since 2008, Halcrow recommends that the 2008 actual expenditure be used as a baseline for forecast expenditure.
- Repairs and Maintenance - Based on the available information, Halcrow is not satisfied that DBP’s forecast Repair and Maintenance expenditure for the period 2011 to 2015 represents that of a prudent operator acting efficiently under the requirements of r91 of the NGR, to achieve the lowest sustainable cost of delivering pipeline services. Halcrow is of the opinion that the 2010

expenditure (adjusted to exclude unplanned maintenance) is more likely to be a suitable baseline on which to forecast expenditure.

- CPRS Costs – Given that the Commonwealth Government deferred the scheme, there is inherent uncertainty surrounding the value and timing of this expenditure. Similarly, while Halcrow notes that the Commonwealth Government has recently committed to the introduction of a carbon pricing framework by 1 July 2012, the details of the tax are still to be confirmed and the necessary legislation is yet to be passed. Halcrow is therefore of the opinion that the forecast expenditure does not, at present, meet the requirements of r91 of the NGR. On this basis, Halcrow recommends that forecast CPRS expenditure be excluded from DBP’s operating expenditure forecast, and that should the scheme be implemented sometime in the future, that costs be included as a partial review..
- Compressor overhauls – While Halcrow is satisfied that the expenditure on compressor overhauls (materials) is prudent, DBP has not explained why it has forecast an increase in the cost of compressor overhauls over current levels. As such, Halcrow is not currently satisfied that the allowance included within DBP’s forecasts represents the lowest sustainable cost of delivering pipeline services, and has recommended an adjustment to the expenditure. Halcrow also notes that there is some uncertainty surrounding DBP’s decision to reclassify the expenditure from capital expenditure to operating expenditure.
- Productivity gains – While it is reasonable to expect an efficient service provider would seek to achieve productivity gains over the Access Arrangement period, [REDACTED]. Halcrow is of the opinion that allowances to account for productivity gains should be factored into forecasts of operating expenditure, thereby reflecting the behaviour of a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

**Table 7.3** shows DBP’s forecast operating expenditure, together with the Halcrow’s assessment of the expenditure in accordance with r91 of the NGR. It excludes any adjustment for productivity gains, which has not been estimated.

**Table 7.1 Actual and Recommended Expansion Capital Expenditure 2005 to 2015**

Expenditure Category	Actual and Recommended Expenditure (\$million)												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	
<i><b>\$nominal</b></i>													
DBP's Actual/Forecast expenditure	0.00	52.70	383.41	611.96	15.05	634.9	50.33	0.00	0.00	0.00	0.00	1,748.35	
Halcrow Recommended	0.00	52.70	383.41	611.96	15.05	634.9	50.33	0.00	0.00	0.00	0.00	1,748.35	
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	
<i><b>\$real 2009</b></i>													
DBP's Actual/Forecast expenditure	0.00	57.51	406.14	624.85	15.05	619.41	47.90	0.00	0.00	0.00	0.00	1,770.88	
Halcrow Recommended	0.00	57.51	406.14	624.85	15.05	619.41	47.90	0.00	0.00	0.00	0.00	1,770.88	
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	

Source: Actual/forecast data (\$nominal) derived from Submission 9 – Justification of Expansion Related Capital Expenditure and Submission 16 - DBNGP 2010-2016 tariff model. Actual/forecast data (\$real) determined by application of escalation indices in Table 3.1 to \$nominal values.

**Table 7.2 Actual and Recommended Stay-in-Business Capital Expenditure 2005 to 2015**

Expenditure Category	Actual and Recommended Expenditure (\$million)												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	
<i><b>\$nominal</b></i>													
DBP's Actual/Forecast expenditure	0.686	4.070	3.788	5.798	12.784	51.760	23.333	19.355	16.993	16.569	17.320	172.458	
Halcrow Recommended	0.686	4.070	3.788	5.798	12.784	51.760	17.113	15.201	12.830	10.905	13.444	148.380	
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>-6.221</i>	<i>-4.154</i>	<i>-4.164</i>	<i>-5.665</i>	<i>-3.876</i>	<i>-24.079</i>	
<i><b>\$real 2009</b></i>													
DBP's Actual/Forecast expenditure	0.782	4.442	4.012	5.920	12.784	50.498	22.209	17.973	15.395	14.645	14.935	163.596	
Halcrow Recommended	0.782	4.442	4.012	5.920	12.784	50.498	16.288	14.116	11.623	9.638	11.593	141.697	
<i>Variance</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>-5.921</i>	<i>-3.857</i>	<i>-3.772</i>	<i>-5.007</i>	<i>-3.342</i>	<i>-21.899</i>	

Source: Forecast data (\$real) derived from Submission 11 - Forecast Capital Expenditure, Table 2 and Submission 16 - DBNGP 2010-2016 tariff model. Forecast data (\$nominal) determined by application of escalation indices in Table 3.1 to \$real values.

**Table 7.3 Forecast Operating Expenditure – r91 NGR Assessment (\$million 2009)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
DBP Forecast Operating Expenditure – Recurrent				51.497	65.597	63.566	71.975	73.162	73.896	74.985	76.062
Less:											
Salaries adjustment							-0.143	- 0.146	- 0.149	-0.152	-0.155
IT Expenditure adjustment							- 4.507	-4.506	-4.506	- 4.506	- 4.506
Repairs and maintenance adjustment							-1.166	-1.166	- 1.166	- 1.166	-1.167
CPRS adjustment							- 8.383	- 9.065	- 9.288	- 9.855	- 10.399
Total Recurrent Operating Expenditure				51.497	65.597	63.566	57.777	58.278	58.788	59.306	59.835
DBP Forecast Operating Expenditure – Non-Recurrent				17.717	20.908	20.985	29.667	30.796	30.708	33.380	33.807
Less:											
Compressor Overhauls adjustment							-2.206	-2.206	-2.207	-2.206	-2.206
Total Non-Recurrent Operating Expenditure				17.717	20.908	20.985	27.461	28.589	28.502	31.173	31.601
DBP Total Operating Expenditure	68.780	66.396	79.437	69.213	86.505	84.552	101.642	103.957	104.605	108.365	109.870
<b>Total Operating Expenditure - r91 NGR</b>							<b>85.238</b>	<b>86.867</b>	<b>87.289</b>	<b>90.479</b>	<b>91.436</b>

Source: DBP Forecast - Submission 23 Attachment 6.1 Table 1. Figures indexed to \$2009 real using indices in Table 3.1.



## Appendix A Scope of Work

The scope of works for this review was set down in two ERA documents, as follows:

- the scope for the review of capital expenditure was set out in a letter from the ERA to Halcrow; *DBNGP Access Arrangement Review – Scope of Work – Technical Consultant*, dated 9 March 2010; and
- the scope of works for the review of operating expenditure was set out in an addendum to the letter dated 9 March 2010, in an email from the ERA, *Addendum to scope of work – DBNGP Access Arrangement Review – Halcrow*, dated 6 April 2010.

Extracts from the two documents are provided below.

## Tasks

The consultant is required to provide expert advice to assist the Authority with its assessment of Dampier Bunbury Pipeline's (DBP) proposal under r. 79 of the NGR. Capital expenditure must conform to the criteria set out in this rule in order for such expenditure to be rolled into a pipeline's opening capital base.

R. 79(1)(a) requires the capital expenditure to be "such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services".

### i) Assessment of Service Provider's Revision Proposal

The consultant is required to undertake separate assessments of DBP's capital expenditure under the following two categories:

- Category 1 - capital expenditure which has been or will be incurred on the pipeline and associated infrastructure over the period of the previous access arrangement (1 January 2005 to 31 December 2010).
- Category 2 - capital expenditure which is forecast to be undertaken on the pipeline and associated infrastructure over the period of the new access arrangement (1 January 2011 to 31 December 2015).

This assessment is required to determine whether the capital expenditure proposed by the service provider should be rolled into the capital base in accordance with r. 79(1)(a) and 79(2)(c).

The consultant is also required to provide advice regarding any proposal by the service provider to include capital under the tests set out in r. 79(2)(c)(i) and (ii) of the NGR, which deal with capital expenditure required for safety or service integrity reasons.

In providing the above advice, the consultant will be required to assess the capital expenditure as set out in the service provider's proposal, taking into account:

- information provided in the service provider's access arrangement, access arrangement information and supporting information;
- any additional information provided by the service provider to the Authority subsequent to making its submission;
- the consultant's previous experience and knowledge gained from work undertaken on pipelines of a similar nature;
- relevant project cost information specific to the type and geographic location of the capital expenditure undertaken or proposed to be undertaken on the DBNGP;
- the reasonableness and appropriateness of any assumptions made by the service provider in its calculations; and
- any matters that, in the opinion of the consultant, may warrant further investigation by the Authority and/or explanation from the service provider including specifying any additional information that may be needed to facilitate the assessment.

In addition the consultant may be required to:

- liaise directly with other consultants appointed by the Authority to undertake tasks in relation to the access arrangement review; and
- participate in meetings with the Authority, the service provider and/or other interested parties in relation to the proposed revisions.

### **Addendum Tasks**

In addition to the scope of work dated 9 March 2010, the consultant is required to provide expert advice to assist the Authority with its assessment of Dampier Bunbury Pipeline's (DBP) proposal under rule 91 of the National Gas Rules. In particular, the consultant is required to undertake an assessment of DBP's operating expenditure to determine whether the operating expenditure would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve lowest sustainable cost of delivering pipeline services.

Note: the deliverables of this task should be considered in relation to, and as part of, tasks (i) to (vii) of the original scope of works (for example, the task (ii) preliminary technical report should also contain recommendations as to whether DBP's operating expenditure meets the requirements set out under rule 91).

To assist Halcrow in preparing a revised/updated proposal, the Secretariat can provide the following information on DBP's revisions submission that was received on 1 April:

- In its access arrangement information, DBP has provided 5 yrs worth of historic operating expenditure data (2005 to 2010), and 5 yrs worth of forecast operating expenditure (2011 to 2015).
- Forecast operating expenditure is categorised into six categories (wages & salaries; non-field expenditure; field expenditure; government charges; reactive maintenance; and fuel gas).
- DBP has indicated that it will provide a number of supporting submissions in addition to its revisions submission (i.e. the revised access arrangement and access arrangement information), including a submission on "actual operational expenditure and forecast operational expenditure".



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