Halcrow Pacific Pty Ltd

in association with

Zincara Pty Ltd

October 2011

Economic Regulation Authority of Western Australia

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

Supplementary 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

Supplementary Report

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Prepared by	Checked by	Authorised by
2	0	Draft Report	31 August 2011	ET/JOS	JOS	JOS
3	0	Final Report	12 September 2011	ET/JOS	JOS	JOS
4	0	Final Report – Public Version	13 September 2011	ET/JOS	JOS	JOS
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List of Acronyms

DBNGP	Dampier Bunbury Natural Gas Pipeline
FEED	Front End Engineering and Design (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*.

In December 2010, Halcrow provided a preliminary technical report to the ERA containing recommendations in respect of whether the capital expenditure meets the requirements set out under r.79(1)(a), r79(2)(c)(i) and (ii) of the NGR, and whether operating expenditure meets the requirements set out under r.91 of the NGR. This report was provided as input to the ERA's *Draft Decision* (Round 1).

The ERA is currently undertaking an assessment of proposed revisions in the Amended Proposed Revised Access Arrangement submitted by DBNGP (WA) Transmission Pty Ltd (DBP) on 18 April 2011.

DBP has provided further information of a technical nature in respect of forecast capital expenditure (DBP Submission 53) and historical and forecast operating expenditure (DBP Submission 54).

Scope of Review

Having regard to Halcrow's preliminary technical report, the ERA *Draft Decision*, and DBP additional submissions, Halcrow has been engaged by the Authority to review DBP Submissions 53 and 54 and provide a supplementary report, identifying any changes to its findings and conclusions, together with the reasons for these changes.

Halcrow is required to review DBP Submissions 53 and 54 and provide advice as to whether, and in what manner, any of the information provided changes conclusions drawn in the previous report, specifically:

- Review submission 53 (and all attachments to this submission) and advise whether the information presented in this submission provides reason to change the findings and conclusions made in the original report. Reasons should be provided as to why the additional information does or does not provide reason to change the findings and conclusions.
- Review submission 54 (and attachments 1, 2, 3 and 4 to this submission) and advise whether the information presented in this submission provides reason to change the findings and conclusions made in the original report. Reasons should be provided as to why the additional information does or does not provide reason to change the findings and conclusions.
- Provide a supplementary report on its findings.

Review of Capital Expenditure

General

Halcrow has undertaken an assessment of the additional information provided by DBP in respect of its forecast Stay-in-Business Capital Expenditure program and has made a number of adjustments to its previous recommendations.

An assessment has also been made in respect of revised expenditure forecasts for 2010 and 2011, principally involving carry forward of Capital Works in Progress (CWIP) expenditure. Additional projects that had not previously been identified have also been assessed.

Updated Findings in respect of SIB Program

On the basis of this supplementary assessment, a reduction of some $19.858 million ($nominal) or $18.089 million ($real 2009) in the five year program, as presented in DBP's Original Access Arrangement Proposal, is recommended.

In summary, changes to Halcrow's previous recommendations have comprised:

- revisions to the forecast timing of expenditure for four (4) items; in each case rescheduling was previously recommended;
- increases to expenditure on three (3) items amounting to a total of $1.565 million over the forecast period;
- removal of expenditure of $0.800 million on one (1) item to eliminate double counting (expenditure now claimed as CWIP expenditure); and
- assessment that expenditure (amounting to a total of $2.005 million over the forecast period) in respect of three (3) items has now been justified.

DBP's actual/forecast Stay-in-Business capital expenditure and Halcrow's recommended NGR Rule 79 compliant Stay-in-Business capital expenditure are summarised in **Table E.1**.

Findings in respect of Amended Capital Expenditure Proposal

A review of DBP's listing of CWIP expenditure reveals that, from an overall perspective, CWIP expenditure (particularly large expenditure items) is generally aligned to the expenditure forecasts for 2010 as shown in the Original Access Arrangement Proposal. There are also several items of expenditure that appear to be early expenditure in respect of projects/activities programmed for implementation in 2011 and/or beyond.

On this basis, it appears appropriate that CWIP Stay-in-Business expenditure amounting to \$28.219 million (\$nominal) or \$26.859 million (\$real 2009) is recorded as being incurred in 2011. This amount is in addition to that forecast in the Original Access Arrangement Proposal to be incurred in 2011, however, should be offset against the Stay-in-Business capital expenditure recommended in the *Draft Technical Review Report* for 2010. The recommended level of prudent and efficient Stay-in-Business expenditure for 2010 should be revised to \$23.541 million (\$nominal) or \$23.639 million (\$real 2009).

A review of the additional projects that had not previously been identified has led to recommendation that that expenditure amounting to \$1.409 million (\$nominal) or \$1.341 million (\$real 2009) associated with a further six (6) projects (all expenditure is forecast to be incurred in 2011) is justified. A reduction of the amounts forecast by DBP is recommended.

DBP's forecast CWIP and additional Stay-in-Business capital expenditure and Halcrow's recommended NGR Rule 79 compliant CWIP and additional Stay-in-Business capital expenditure to be recorded in 2011 are summarised in **Table E.2**.

Review of Operating Expenditure

Halcrow has undertaken an assessment of the additional information provided by DBP in respect of its forecast Operating Expenditure and has made a number of adjustments to its previous recommendations. On the basis of the information now available, Halcrow has made the following findings:

- Consulting Costs –DBP has provided justification for a level of expenditure that is marginally in excess of its forecasts for the period 2011 to 2015. It is noted, however, that there remains an unjustified discrepancy when compared to the actual expenditure reported in 2010.
- Entertainment Expenses – DBP has provided a breakdown of its forecast costs, which Halcrow assesses as being reasonable.
- IT Costs – DBP has provided more detailed justification for its IT expenditure forecasts, together with an explanation for the significant movement in recorded actual costs between 2008 and 2009. Halcrow's recommendation in respect of the prudent and efficient level of expenditure has been adjusted accordingly.
- Repairs and Maintenance Costs – DBP contends that, in view of the growth in its asset base and the increased number of items of rotating equipment and valves, increases in forecast expenditure are justified. Halcrow has, however, assessed that on the basis that no additional quantitative information has been provided to justify the increased costs, there is no basis to change its previous recommendations.
- CPRS Costs – whilst Halcrow notes that current Government intent is to introduce a carbon tax regime from July 2012, it also notes that neither the introduction nor any other detail (including price) has yet been confirmed. Halcrow is of the opinion that a reference tariff variation mechanism may be a more appropriate approach to dealing with such costs, if and when they are incurred. Consequently, Halcrow has made no change to its previous recommendations, which include an adjustment to the allowance in respect of salaries, to exclude costs associated with the introduction of a carbon tax.
- Self Insurance – on the basis that no relevant information has been provided to Halcrow for review, there is no basis to change the previous recommendations, ie. Halcrow is unable to comment in respect of DBP's forecast self insurance costs.
- Compressor Overhauls – DBP has provided more detailed information in respect of the cost of compressor overhauls. On the basis of this information, Halcrow has revised its recommendations in respect of this item of expenditure.
- Regulatory Expenses – although Halcrow notes the Authority's assessment, as new (qualitative) supporting information has been provided in relation to the forecast regulatory expenses, Halcrow remains satisfied that the expenditure is prudent and efficient.
- Fuel Gas – DBP has provided additional detailed information to justify its forecast increase in the transient fuel allowance, and therefore the forecast costs for fuel gas.

- Utilities, Rates and Taxes – as DBP has been unable to provide any additional information in respect of this expenditure item (specifically in relation to its Access Rights Charges), no change to Halcrow's findings in respect of this item is proposed.

It is noted that Halcrow's further assessment of operating expenditure has been made against the forecast expenditure proposed in DBP's Original Access Arrangement Proposal (as clarified by Submission 12). Halcrow has not had sight of DBP's Amended Access Arrangement Proposal, so has been unable to comment in respect of any changes to its forecasts presented therein.

On the basis of this supplementary assessment, a reduction of some $59.018 million ($2009 real) in the five (5) year program is proposed. The proposed adjustments are summarised in **Table E.3**.

Table E.1 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
$nominal												
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	17.164	15.647	13.143	13.127	13.791	151.759
Variance	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-6.169*	*-3.708*	*-3.850*	*-3.443*	*-3.529*	*-20.699*
$real 2009												
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	16.337	14.530	11.907	11.602	11.892	144.707
Variance	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-5.872*	*-3.443*	*-3.488*	*-3.043*	*-3.043*	*-18.889*

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 the *Draft Technical Review Report* to $real values.

Table E.2 Forecast and Recommended CWIP and Additional 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
$nominal												
DBP's Proposed/Forecast expenditure							36.247					36.247
Halcrow Recommended							33.365					33.365
Variance							*-2.882*					*-2.882*
$real 2009												
DBP's Proposed/Forecast expenditure							34.500					34.500
Halcrow Recommended							31.757					31.757
Variance							*-2.743*					*-2.743*

Source: Forecast data ($nominal) derived from Submission 53 – Roll Forward of the Capital Base, pgs 22-27. Forecast data ($real) determined by application of escalation indices in Table 3.1 of the *Draft Technical Review Report* to $nominal 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[1]							-0.143	- 0.146	- 0.149	-0.152	-0.155
IT Expenditure adjustment							-	-	-	-	-
Repairs and maintenance adjustment[2]							-1.166	-1.166	- 1.166	- 1.166	-1.167
CPRS adjustment[2]							- 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							-1.090	-1.090	-1.091	-1.090	-1.090
Total Non-Recurrent Operating Expenditure				17.717	20.908	20.985	28.577	29.705	29.618	32.289	32.717
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
Total Operating Expenditure - r91 NGR							**90.860**	**92.489**	**92.911**	**96.101**	**97.059**

Source: DBP Forecast – Submission 23, Attachment 6.1, Table 1. Figures indexed to $2009 real using indices in Table 3.1 of the *Draft Technical Review Report*.

Note: [1] Expenditure adjustment based on Original Assessment (refer *Draft Technical Review Report*); no further assessment made as part of Supplementary Review.

[2] Further assessment made as part of Supplementary Review, however, no change to expenditure adjustment recommended.

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*.[1]

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.

In December 2010, Halcrow provided a preliminary technical report[2],[3] to the ERA containing recommendations in respect of whether the capital expenditure meets the requirements set out under r.79(1)(a), r79(2)(c)(i) and (ii) of the NGR, and whether operating expenditure meets the requirements set out under r.91 of the NGR. This report was provided as input to the ERA's *Draft Decision* (Round 1). [4]

The ERA is currently undertaking an assessment of proposed revisions in the Amended Proposed Revised Access Arrangement submitted by DBNGP (WA) Transmission Pty Ltd (DBP) on 18 April 2011.

DBP has provided further information of a technical nature in respect of forecast capital expenditure (DBP Submission 53) and historical and forecast operating expenditure (DBP Submission 54).

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[1] ERA, *DBNGP Access Arrangement Review – Scope of Work – Technical Consultant*, 9 March 2010.

[2] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Preliminary Draft Review Report, (Issue 3, Rev 0)*, 15 December 2010.

[3] In March 2011, Halcrow provided an updated report, which incorporated a number of editorial changes to the December 2010 version; the revised report was issued as: Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011.

[4] ERA, *Draft Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline; Submitted by DBNGP (WA) Transmission Pty Ltd*, 14 March 2011.

Having regard to Halcrow's preliminary technical report, the ERA *Draft Decision*, and DBP additional submissions, Halcrow has been engaged by the Authority to review Submissions 53 and 54 and provide a supplementary report, identifying any changes to its findings and conclusions, together with the reasons for these changes.

Halcrow is supported in providing these technical services by Zincara Energy Advisory Services.

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.[5] 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.[6] The current Access Arrangement was approved on 15 December 2005. It was revised on 21 November 2006 and again on 26 June 2008.

The ERA is currently undertaking an assessment of proposed revisions in the amended revised access arrangement submitted 18 April 2011 by DBNGP (WA) Transmission Pty Ltd (DBP).

1.3 Scope of Work

Halcrow is required to review DBP Submissions 53 and 54 and provide advice as to whether, and in what manner, any of the information provided changes conclusions drawn in the previous report, specifically:

[5] www.dbp.net.au

[6] 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).

- Review submission 53 (and all attachments to this submission) and advise whether the information presented in this submission provides reason to change the findings and conclusions made in the original report. Reasons should be provided as to why the additional information does or does not provide reason to change the findings and conclusions.
- Review submission 54 (and attachments 1, 2, 3 and 4 to this submission) and advise whether the information presented in this submission provides reason to change the findings and conclusions made in the original report. Reasons should be provided as to why the additional information does or does not provide reason to change the findings and conclusions.
- Provide a supplementary report on its findings.

1.4 Scope of Report

The aim of this supplementary report is to outline Halcrow's assessment of the additional information provided by DBP in Submissions 53 and 54, identifying any changes to its previous findings and conclusions, together with the reasons for these changes.

2 DBP Submission

As previously mentioned, the following submissions, made by DBP in support of its Amended Proposed Access Arrangement, have been provided for the purposes of this Supplementary Review:

- DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011; and
- DBP, *Submission 54: Operating Expenditure*, 20 May 2011.

Halcrow has also made reference to DBP documents referenced in its *Draft Technical Review Report*.[7]

[7] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011.

3 Review of Capital Expenditure

3.1 *Overview*

In its Submission 53, DBP has provided the following in respect of the roll forward of its Capital Base:

- comments in response to elements of the ERA's *Draft Decision*;
- additional information in respect of specific forecast Stay-in-Business capital expenditure;
- information in respect of forecast Stay-in-Business capital expenditure included in its Amended Access Arrangement Proposal that was not included in its Proposed Revised Access Arrangement; and
- information in respect of its capital contributions.

With the exception of the information in respect of capital contributions, Halcrow has assessed the additional information in order to determine whether it changes the findings and conclusions of its original review as documented in the *Draft Technical Review Report*.[8]

3.2 *Review of Additional Information in respect of SIB Program*

3.2.1 *Overview*

DBP has provided additional information in respect of all forecast Stay-in-Business projects where adjustments to either the quantum and or timing of expenditure were previously recommended. Halcrow's assessment of the additional information provided is presented in the following sections.

3.2.2 *LM500 Compressor Units Decommissioning*

3.2.2.1 Original Assessment

This project comprises a FEED study to assess the scope and cost for removal of the five (5) LM500 turbine compressor units that were installed on the DBNGP in 1982. DBP has advised that the units are close to becoming obsolete.

[8] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011.

Halcrow assessed that the proposed expenditure is prudent and that the amount is reasonable for what is likely to be a reasonably significant study. The timing of the expenditure, proposed in the first year of the forecast period, was, however, questioned on the basis that no further expenditure (even a nominal allowance) for decommissioning and removal of the existing compressors was included in the five year forecast period. Halcrow recommended that the expenditure be deferred to later in the forecast period (ie. 2014), which will enable the outputs of the study to inform the development of DBP's submission for the next Access Arrangement.

3.2.2.2 Additional Information

DBP has submitted further information in respect if this proposed project. In summary:

- The LM500 compressor units remain part of the asset base over the next five years. It is being considered as to whether they should be decommissioned and removed from service in the following period.
- The main purposes of the FEED study during the forecast period is to engineer the shift of the LM500 units from on-line to mothballed state where they are mechanically isolated from the gas process but continue to share common critical control equipment with other machines (ie. they remain part of system redundancy and therefore reliability) until they are removed and totally decommissioned from service.
- The isolation and eventual removal of the LM500 units needs to be carefully considered, specifically as to whether to move to a mothballed state as opposed to an operational state so that the reliability of the compressor station is not compromised.

3.2.2.3 Final Assessment

The additional information provided by DBP indicates that the FEED study is effectively to assess the mode of operation to be adopted in respect of the LM500 compressors during the next five years, ie. prior to potential decommissioning in the following period. Information previously available indicated that the FEED study was principally to assess the scope and cost for removal of the units.

Whilst it remains that there is no forecast capital expenditure in respect of the LM500 units within the forecast period, it is likely that any expenditure involved in moving the units from an operational to a mothballed state will be operational in nature.

On the basis of the additional information now provided, Halcrow now considers the timing of the expenditure to be justified.

3.2.3 *Replacement of PVC Oil Waste Piping*

3.2.3.1 Original Assessment

This project involves the replacement of PVC piping that conveys oily waste wash down water from older compressor/turbine units to an underground oil tank. The PVC pipe is reported to be deteriorating due to exposure to the sun, which increases the risk of pipe failure and resultant environmental and/or safety incidents.

Halcrow did not consider the quantum of the allowance to be reasonable, and in the absence of further detail, recommended that the forecast expenditure be reduced, with replacement at units installed in 1991, 1997 and 2000, ie. thirteen (13) units.

3.2.3.2 Additional Information

DBP has revised its estimate of the forecast expenditure and considers the amount recommended by Halcrow to be a reasonable estimate of the forecast costs. DBP expects to incur the expenditure in 2011.

3.2.3.3 Final Assessment

Halcrow's initial recommendation is confirmed.

3.2.4 *CS6 Exhaust Replacement*

3.2.4.1 Original Assessment

This project involves the replacement of the exhaust system on a turbine at Compressor Station CS6. DBP reports that due to normal wear and tear, the system has reached the end of its useful life.

At the time of the original assessment, no specific details of the nature and extent of the work to be undertaken had been provided. Whilst it appeared prudent that the proposed work be undertaken, given the associated risks as nominated by DBP, it was unclear why it has not been scheduled until 2014.

Furthermore, on the basis of the information provided, Halcrow was not able to make an assessment as to the efficiency of the forecast expenditure. In the absence of more detailed information regarding the scope of the work, Halcrow assessed that the expenditure could not be considered efficient.

3.2.4.2 Additional Information

DBP has now provided additional information indicating that the estimated cost of replacing the exhaust system was based on the actual cost of replacement of a similar turbine exhaust system at Compressor Station CS9 in 2004. At the time, the work was commissioned in accordance with DBP's procurement procedures, which include a competitive tendering process.

DBP has also advised that an assessment of remaining useful life, based on inspections of the equipment, indicates that replacement is required in 2014.

3.2.4.3 Final Assessment

In view of the additional information provided by DBP, Halcrow now considers the proposed expenditure to be efficient given that the estimated cost is based on actual tendered costs for similar work. Notwithstanding the previously identified risks, Halcrow also accepts that the proposed timing of the works is appropriate on the basis that an assessment of remaining life has been undertaken, presumably taking into account the identified risks.

3.2.5 Standardisation of PLC and HMI Logic

3.2.5.1 Original Assessment

This project involves standardisation of turbine/compressor control logic across all Solar turbines. DBP reports that control system logic was not consistently applied during the Stage 4, 4, 5A and 5B expansion projects, which has resulted in the use of different parameters in the controllers.

Whilst at the time of the original review it was acknowledged that there are benefits in maintaining consistency of control logic, and that the proposed expenditure did not appear excessive for the proposed work, Halcrow questioned whether the proposed standardisation would not be implemented in conjunction with the control system upgrades also proposed (*Replacement of Compressor Control (CS2, CS4 and CS7)* and *Replacement of Compressor Control at CS10*) as part of the forecast SIB Capital Expenditure program.

In the absence of information, Halcrow did not consider this expenditure to be justified on the basis that it should be carried out in conjunction with the proposed control system upgrades.

3.2.5.2 Additional Information

DBP has provided clarification that this project relates to the standardisation of control software used in conjunction with Solar compressor/turbine units. This software was supplied in conjunction with compressor/turbine units installed during various stages of pipeline expansion.

The control system upgrade projects referenced by Halcrow, however, involve the replacement of control systems which are now becoming obsolete. Accordingly, the scope of work is unrelated; it relates to assets of different functionality and involves different vendors.

3.2.5.3 Final Assessment

The clarification provided by DBP justifies the separate consideration of this project to standardise turbine/compressor control logic across all Solar turbines. Halcrow accepts that different (most up-to-date) versions of software will have been installed with equipment at various stages of expansion and, as noted as part of the original assessment, acknowledges that there are benefits in maintaining consistency of control logic.

Halcrow's now assesses that the proposed expenditure is both prudent and efficient.

3.2.6 Underground Pipework at Compressor Stations

3.2.6.1 Original Assessment

This project involves the refurbishment of coating on underground pipework at Compressor Stations. DBP reports that, due to the effects of high gas temperature and stray currents, coating on pipework installed in 1984, 1991 and 1997 has deteriorated to the point that the cathodic protection systems are no longer effective.

Halcrow considered this ongoing program to be prudent, however, given the reported cost of refurbishing pipework at three (3) compressor stations (CS3, CS5 and CS8), assessed that the forecast expenditure to complete the work at an additional six (6) compressor stations was excessive.

3.2.6.2 Additional Information

DBP has provided additional information including:

- Details of the total length of pipework, the length of pipework actually replaced/refurbished and the cost incurred at each of Compressor Stations CS3, CS5 and CS8. This information indicated that the average cost of completing the work amounted to $3,515 per metre of below ground pipework.
- Details of the total length of pipework at each compressor station together with an estimated 'worst case' cost which was based on the assumption that all pipework will require replacement/refurbishment at a unit cost of $3,515 per metre.

- Advice that its estimation of cost is based on an assumption that 70 percent of pipework would require repair; also noting that 80 percent of pipework required repair at Compressor Station CS3.

3.2.6.3 Final Assessment

Halcrow has analysed the additional information provided by DBP, specifically the information included in the tables at Items 2.37 and 2.39 of its Submission.[9] On the basis of Halcrow's analysis:

- the average cost of $3,515 per metre to complete the replacement/refurbishment work was confirmed; and
- the actual proportion of pipework replaced/refurbished at Compressor Stations CS3, CS5 and CS8 was found to be 40 percent of total length (63.0 percent, 27.2 percent and 26.5 percent respectively at each of the stations).

It is also noted that the work at Compressor Stations CS5 and CS8 has apparently been completed ahead of the planned refurbishment dates identified in the table at Item 2.39 of DBP's Submission.

On this basis, Halcrow has assessed a total expenditure less than that proposed by DBP to be justified in respect of the six (6) compressor stations. Adjustment of the annual allowance over the five (5) year forecast period is recommended.

3.2.7 Replacement of CS2 Bore Water Line Pipework

3.2.7.1 Original Assessment

This project involves the replacement of connecting pipework from the bore at Compressor Station CS2. DBP reports that the existing pipework has reached the end of its life expectancy.

In the absence of more detailed information regarding the scope of the work (which was not requested), Halcrow was unable to fully assess the efficiency of the forecast expenditure. Notwithstanding, Halcrow made an assessment (based on experience) that the forecast expenditure was excessive and proposed a reduction for this work, which was considered prudent.

[9] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011.

3.2.7.2 Additional Information

DBP has revisited its estimate of the forecast expenditure and considers the amount recommended by Halcrow to be a reasonable estimate of the forecast costs. DBP expects to incur the expenditure in 2011.

3.2.7.3 Final Assessment

Halcrow's initial recommendation is confirmed.

3.2.8 Installation of Gas Chromatographs

3.2.8.1 Original Assessment

This project involves a FEED study to assess and develop a strategy for the location and installation of Gas Chromatographs on the DBNGP, followed by installation of the Gas Chromatographs. DBP reports that, as the DBNGP has expanded, there is a need for better real time gas quality data for metering and billing purposes.

In the absence of any further information, Halcrow assessed that the forecast expenditure for the FEED study was excessive when compared to the forecast expenditure for installation. The allowance for installation of the units was considered to be a prudent and efficient investment.

3.2.8.2 Additional Information

DBP has provided additional information in respect of the proposed FEED study, outlining the complexity of the issue which requires extensive detailed modelling to determine the optimum location of the proposed gas chromatographs given the multiple sources of gas of differing qualities. Support is required from specialist US consultants, who are familiar with flow mixing processes, to compliment DBP's internal modelling capabilities.

3.2.8.3 Final Assessment

On the basis of DBP's explanation of the complexity of the modelling analysis required as part of the FEED study, the proposed expenditure is deemed to be both prudent and efficient. Halcrow's recommendation has been adjusted accordingly.

3.2.9 Relocate Microwave Batteries to Hut

3.2.9.1 Original Assessment

This project involves relocation of microwave batteries from a stand alone external cabinet to inside the communications hut. DBP reports that relocation will increase the life expectancy of the batteries.

The forecast expenditure comprises an allowance for both the FEED study and implementation, however, Halcrow noted that the scope of the work in respect to the number of sites involved had not been identified.

Halcrow questioned the need to undertake the FEED study some three (3) years prior to commencement of resulting installation works, given the relatively minor nature of the work, and recommended that the FEED study be delayed until 2014.

3.2.9.2 Additional Information

DBP has provided additional information outlining/reiterating its business planning approach and noting that major works are to be planned and costed at least two (2) years in advance of implementation.

DBP also indicated that the outcomes of this FEED study are required to inform another planned FEED study to review AC Power requirements at all Main Line Valve (MLV) and meter stations to determine if the Gas Engine Alternators (GEAs) that are due for replacement in the next five (5) years can be phased out by relying on more reliable Closed Circuit Vapour Turbines (CCVTs). An increase in battery capacity may be required if GEAs are to be phased out.

DBP also advised that the proposed battery relocation is required at all repeater sites from MLV7 to MLV80, a total of twenty one (21) sites.

3.2.9.3 Final Assessment

Halcrow notes the requirements of DBP's business planning process, however, the need to undertake the FEED study three (3) years in advance of work implementation remains unjustified, particularly given the relatively minor nature of the work.

The FEED study to review AC Power requirements at all main line valve (MLV) and meter stations is not (or does not appear to be) included in the list of forecast Stay-in-Business capital projects for the period 2011 to 2015. Accordingly, Halcrow is unable to assess coordination of the timing of the two studies.

On the basis of further assessment, Halcrow recommends an adjustment to the proposed timing of the FEED study.

3.2.10 Structural Analysis of Microwave Towers (R3, R4, R7 and R9)

3.2.10.1 Original Assessment

This project involves structural analysis of towers at Microwave repeater station sites R3, R4, R7 and R9, and development of a plan for their upgrade. DBP reports that the tower structures are reaching the end of their design life.

Halcrow assessed that, even assuming that the towers were installed at the time of original pipeline construction (ie. 1984), the life of the tower structures would still be considerably less than the expected minimum typical design life of 50 years. On this basis, the forecast expenditure was not considered to be prudent.

3.2.10.2 Additional Information

DBP has revisited its forecast and no longer intends to proceed with this project.

3.2.10.3 Final Assessment

Halcrow's initial recommendation is confirmed.

3.2.11 Structural Upgrade of Microwave Towers (R21, R10 and R11)

3.2.11.1 Original Assessment

This project involves the structural upgrade of towers at Microwave repeater station sites R21, R10 and R11. DBP reports that the tower structures are reaching the end of their design life.

As discussed in **Section 3.2.10.1**, Halcrow assessed that the life of the tower structures is still considerably less than the typical design life for such structures. On this basis, the forecast expenditure was not considered to be prudent.

3.2.11.2 Additional Information

DBP has revisited its forecast and no longer intends to proceed with this project.

3.2.11.3 Final Assessment

Halcrow's initial recommendation is confirmed.

3.2.12 Upgrade Solar Panels at SPUR Sites

3.2.12.1 Original Assessment

This project involves a FEED study to assess the work required to replace solar panels at SPUR sites, and the subsequent installation work. DBP reports that a number of the solar panels at these sites have reached the end of their design life and require replacement.

Reported life expectancies of solar panels are variable, but something in the order of 15 to 20 years is not uncommon. On this basis, it is considered reasonable that some panel replacement may be appropriate. DBP has not, however, quantified the work to be undertaken, ie. it has not provided an estimate of the number of panels to be replaced.

In the absence of any further information (which was not requested), Halcrow assessed that the forecast expenditure, which comprises allowances for the FEED study and the upgrade works (to be implemented over three (3) years), appears reasonable. The need to undertake the FEED study two (2) years in advance of the commencement of installation works was, however, questioned and a deferment of expenditure recommended.

3.2.12.2 Additional Information

DBP has provided additional information outlining/reiterating its business planning approach and noting its perceived benefits of the time allocation between planning and implementation. It also noted that solar panels at MLV34 have sustained extensive damage that has resulted in constant power problems at the site over recent years; this provides further justification for the proposed timing.

3.2.12.3 Final Assessment

Halcrow notes the requirements of DBP's business planning process and now accepts that the originally proposed timing for the FEED study is prudent. Halcrow's original recommendation is adjusted accordingly.

3.2.13 Replacement of CCVT

3.2.13.1 Original Assessment

This project involves the replacement of Closed Circuit Vapour Turbines (CCVTs) at Main Line Valve (MLV) sites. DBP reports that the existing units have become obsolete and require replacement.

Information provided by DBP[10] indicates that the project involves the replacement of nine (9) failed CCVTs, with a further ten (10) units to be replaced as part of Expansion Stage 5B project. Implementation was scheduled predominantly in 2010, with minimal carry over to 2011. A review of the historical Stay-in-Business Capital Expenditure indicated that approximately 82 percent was expended in 2010, leaving approximately 18 percent to carry over.

[10] DBP, *Submission 17: Response to Halcrow Pacific Issues Report/Request for Information*, 25 June 2010, pg28 and DBP, *DBP Non Expansion Capital Expenditure Approval Form* for DBP Project Number: 2200013, *Replacement of CCVT's at MLV Sites*, (undated).

Accordingly, Halcrow assessed that the expenditure forecast to be incurred during 2011, 2012 and 2013, is significantly in excess of the remainder of the estimated cost of the work. A reduction of the forecast expenditure, to the estimated carry over amount, was recommended.

3.2.13.2 Additional Information

DBP indicates that it has revisited its forecast and proposed a refinement in its Amended Access Arrangement Proposal. Its justification, which is generally in line with the information previously assessed, is presented.

In summary, eighteen (18) CCVTs have been replaced with project completion achieved in April 2011. One further CCVT will be replaced in 2011 and 2012.

Replacement of the CCVTs was managed in two (2) packages:

- *Part 1* – replacement of CCVTs that coincide with Loop MLVs as well as existing MLVs were managed as part of the Stage 5B Expansion program; expenditure was included with that of the Stage 5B Expansion project; and
- *Part 2* – replacement of CCVTs that do not coincide with Loop MLVs were funded from the Stay-in-Business process.

DBP indicates that, in its Amended Access Arrangement Proposal it has provided allowance for expenditure in respect of the SIB element of the project, which reflects the amount incurred up to 31 December 201, but which had not been capitalised at that time. It further notes that it has not included an amount for remaining costs that have been incurred since 31 December 2010; it intends to address these costs at the time it submits its proposed revisions for the access arrangement which are due to commence on 1 January 2016.

3.2.13.3 Final Assessment

DBP's contention, as outlined in its Submission,[11] is confusing. At Item 2.73, it indicates that "*Neither Halcrow nor the ERA provide reasons as to why both the amount incurred in 2010 and the amount of expenditure forecast to be incurred in 2011 are not conforming capital expenditure.*" This is contrary to the inference included in the statement at Item 2.72.

[11] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011.

In its *Draft Technical Review Report*,[12] Halcrow provided the following recommendations:

- Expenditure incurred in respect of the Stage 5B Expansion project (as for other stages of the expansion program) was prudent and efficient, in accordance with good industry practice.[13]
- The total expenditure incurred in respect of Stay-in-Business projects for the period 2005 to 2010, which included allowance for CCVT replacement in 2010, was prudent and efficient, in accordance with good industry practice.[14]
- An amount, being the difference between the estimated project cost and the expenditure incurred in 2010, was recommended as being prudent and efficient.

However, on the basis of the additional information provided by DBP, a further adjustment is required. Whilst Halcrow maintains its previous assessment that this expenditure is conformant, given that DBP now proposes to record the expenditure as CWIP expenditure to be incurred in 2011 (refer also to **Section 3.3**), the allowance is removed from this element of the assessment to avoid double counting. Adjustment of the expenditure previously approved as part of the 2010 Stay-in-Business capital expenditure is also required.

On the basis of the discussion outlined above, Halcrow has revised its previous recommendation.

3.2.14 Kwinana Junction DR Site

3.2.14.1 Original Assessment

This project involves a FEED study to assess the relocation of the Disaster Recovery System from the existing Head Office to the Kwinana Junction site, and the subsequent relocation. DBP reports that it is planning to relocate its Head Office from the existing location to Jandakot, and that relocation of the Disaster Recovery System will also be required.

Whilst Halcrow assessed the forecast expenditure, which includes allowances for both a FEED study and the relocation works, to be reasonable, the need to undertake the FEED study two (2) years prior to commencement of resulting

[12] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011.

[13] Ibid, pg60.

[14] Ibid, pg82.

undertake the FEED study two (2) years prior to commencement of resulting installation works was questioned. Deferment of the FEED study until 2014 was recommended.

3.2.14.2 Additional Information

DBP has reiterated that need to undertake the FEED study in 2012 rather than 2013, and referenced its business planning approach in support of this contention.

3.2.14.3 Final Assessment

Halcrow acknowledges the requirements of DBP's business planning process, and accepts DBP's proposed timing for the FEED study as being appropriate.

Halcrow's recommendation is adjusted accordingly.

3.2.15 Upgrade of DBNGP Security

3.2.15.1 Original Assessment

This project involves upgrade of physical security provisions at sites that were previously remote. DBP reports that this need has arisen due to the "spread" of previously remote sites.

Halcrow assessed that, in the absence of further information, the nature of the upgrade was not apparent. Accordingly, the forecast expenditure is not considered justified.

3.2.15.2 Additional Information

DBP has now advised that the expenditure relates to the implementation of a new locking system to all sites on the DBNGP. The issuing of keys has been controlled through a register, however, with ownership of the DBNGP changing on a number of occasions and keys being issued to a significant number of vendors and contractors, particularly during the recent expansion works, many keys have not been returned (have become uncontrolled) and the key register has become unreliable.

Furthermore, the DBNGP has now been placed on the nationally significant infrastructure register by ASIO. ASIO recommended that the key and locking arrangements of the DBNGP be tightened so as to reduce the security risk.

Accordingly, the progressive introduction of a new locking system that enables keys to be 'deactivated' should they be issued to personnel but not returned has been proposed across all sites.

3.2.15.3 Final Assessment

On the basis of the details of scope now provided, the upgrade works are considered to be prudent. Whilst details of the actual number of locking systems that are to be replaced, or the basis of the cost estimate, have not been provided, the forecast expenditure is considered to be of an appropriate order.

Accordingly, Halcrow has assessed that the proposed expenditure is prudent and efficient.

Whilst it may be more appropriate to spread the expenditure across the five (5) year forecast period to reflect the proposed 'progressive' installation, DBP's proposed timing (expenditure in 2011 and 2014) is accepted.

3.2.16 SCADA Upgrade

3.2.16.1 Original Assessment

DBP advised[15] that expenditure in respect of the SCADA upgrade project has been incorrectly forecast. The correct total was expected to be incurred in 2010.[16]

Consequently, the forecast expenditure for this item was excluded.

3.2.16.2 Additional Information

DBP confirms that it had previously advised of an error in respect of expenditure proposed for this work in its original Revised Access Arrangement Proposal. DBP indicates that it has now included a revised expenditure allowance in its Amended Access Arrangement Proposal on the basis that, in accordance with its audited financial statements, the expenditure had not yet been entered into DBP's asset register.

DBP has advised that, in order to ensure that DBP's figures align with its statutory reports, the capital expenditure for this project will be treated as conforming capital expenditure in 2011.

3.2.16.3 Final Assessment

Halcrow notes that expenditure in respect of the SCADA Upgrade was included as part of the Stay-in-Business program for the period 2005 to 2010. The whole of

[15] DBP, *Submission 24: Response to Halcrow Pacific Issues Report/Request for Information*, 23 July 2010, pg17.

[16] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, Section 5.9.6.7.

this program was assessed as being prudent and efficient, in accordance with good industry practice.[17]

Accordingly, and in order to maintain consistency in Halcrow's reporting, the previous recommendation is confirmed.

3.2.17 *New and Replacement Laptops*

3.2.17.1 Original Assessment

This project involves the provision of laptops for staff, including the provision of additional laptops for new staff and replacement of existing units for existing staff. DBP reports that this is an ongoing requirement and forecast an annual allowance over the forecast period.

Halcrow's original assessment was based on information presented in the 2010-2011 IT Service Plan,[18] which identified that replacement of a total of 45 laptops and 28 desktops is proposed.

The nominated unit cost was deemed appropriate, however, an additional allowance, assumed to relate to the "roll out" of the new equipment, was considered excessive. A reduction in the total unit cost was recommended.

Halcrow assessed that the number of units proposed for inclusion on a 3 year rolling replacement program appears justified on the basis of an assessment of the number of staff in various roles. The likely need for additional units allocated to maintenance roles and specific sites was acknowledged.

Halcrow recommended an adjusted unit allowance for replacement of the 73 units on a 3 year rolling basis which it considered to represent a prudent and efficient level of expenditure in respect to this item.

3.2.17.2 Additional Information

DBP agrees that Halcrow's assumption fairing respect of the unit cost of computer replacement is fair. It notes, however, that DBP has approximately 200 staff, and that many of its employees require more than one laptop or desktop for dedicated purposes. Additionally, a desktop computer is maintained at each compressor station for visiting personnel. Its current asset register reflects 276 machines.

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[17] Ibid, pg82.

[18] DBP, *DBP IT Services Plan 2010-2011; IT Services provided by WestNet Infrastructure Group*, Version 0.17, 27 May 2010, pg54.

Based on 276 computers requiring replacement over five (5) years, total expenditure would be in excess of the amount proposed over the forecast period. DBP also notes that best practice would involve replacement of computers every two (2) to three (3) years.

Accordingly, DBP maintains that the proposed expenditure is prudent and potentially too conservative.

3.2.17.3 Final Assessment

Halcrow maintains that it considers the recommended allowance over the forecast period to represent a prudent and efficient level of expenditure for the replacement of 73 units as identified in the 2010-2011 IT Service Plan (although offered in support of its proposed expenditure,[19] DBP did indicate at interview that the 2009-2010 and 2010-2011 IT Service Plans did not accurately reflect its IT Strategy, as acknowledged in Halcrow's *Follow-up Request for Information*).[20]

Halcrow has not had sight of DBP's asset register and is consequently unable to verify the number of computer units recorded therein. The following comments are, however, provided:

- it seems unlikely that all staff would be allocated a computer;
- it is acknowledged that some staff will be allocated more than one computer;
- it is acknowledged that there will be a computer located at each compressor station; and
- whilst it is acknowledged that DBP's asset register may reflect 276 machines, the question arises as to whether all are in active use such that they require regular replacement.

Furthermore, as identified in the *Draft Technical Review Report*,[21] Halcrow agrees that replacement every three (3) years is appropriate.

Given the inconsistency with the information presented in 2010-2011 IT Service Plan, Halcrow has made an alternative assessment which acknowledges that replacement of additional computers in excess of those nominated in the

[19] DBP, *Submission 14: Response to Halcrow Pacific Issues Report/Request for Information*, 15 June 2010.

[20] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Follow-up Request for Information*, (Issue 1, Rev 1), July 2010

[21] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, Section 5.9.6.10.

IT Services Plan may be required. As noted in Halcrow's original assessment,[22] proposed staffing levels for 2011 amount to approximately 205 FTEs. Of these, some 86 FTEs are in Executive, Finance and Administration, System Design and Operations, Corporate Services and Commercial roles which would be expected to require allocation of a PC, and there are likely to be additional units allocated to maintenance roles and specific sites.

On this basis, the following is assumed in respect of the number of computers requiring rolling replacement:

- 86 units – allocated to staff in Executive, Finance and Administration, System Design and Operations, Corporate Services and Commercial roles;
- 16 units – second computers allocated to 50 percent of System Design and Operations staff (those considered most likely to require additional units for specialist activities);
- 30 units – allocated on the basis of 25 percent of maintenance staff (nominally one per work crew); and
- 10 units – allocated to each of the ten (10) compressor stations.

On this basis, Halcrow recommends a level of expenditure which it considers to be prudent and efficient for replacing 142 units on a rolling 3 year replacement program.

3.2.18 New Vehicles

3.2.18.1 Original Assessment

This expenditure item involves the purchase of new vehicles. DBP makes reference to its Vehicle Replacement Policy[23] which outlines DBP's standard approach to vehicle management and sets guidelines for vehicle specification.

In the absence of justification for the provision of additional new vehicles (in excess of those that may be provided in conjunction with the Expansion Capital Program), the need for the additional new vehicles was questioned and the proposed expenditure was not considered prudent.

[22] Ibid.

[23] DBP, *Guidelines For Vehicle Management and Vehicle Purchasing*, Document No: DBP PR 0001, Rev 3, 18 September 2009.

3.2.18.2 Additional Information

DBP has advised that the new vehicles are not required as a result of Expansion Capital Program; they relate to additional requirements of the team involved in managing meter stations and are required due to the increased number of outlet points and inlet points that have been and are being added to the DBNGP system.

The forecast expenditure allows for the purchase of standard 4WD utilities with tray for holding of tools and equipment, fully fitted in accordance with DBP's Safety Requirements.

3.2.18.3 Final Assessment

On the basis of the information provided, specifically that the vehicles are not required as a direct result of the Expansion Capital Program, Halcrow now considers that the expenditure is both prudent and efficient.

3.2.19 Payments under Operating Services Agreement (OSA)

3.2.19.1 Original Assessment

DBP's forecast Stay-in-Business capital expenditure, as reported in the Submission 16,[24] includes an allowance under the "Other" expenditure category for payments to be made in accordance with the *Operating Services Agreement* (OSA). This allowance is for $2,255,000 ($real 2009) each year and amounts to $11,275,000 ($real 2009) over the four (4) year forecast period.

A review of the *Operating Services Agreement*[25] revealed that under its provisions, DBP is obligated to pay Alinta Asset Management (now WestNet Energy Services (WestNet)) a Project Management Retainer Fee of $2,000,000 (indexed to CPI) per annum so as to ensure that WestNet "*provides the necessary personnel, corporate systems and procedures to maintain an ongoing capability to provide Project Management Services irrespective of whether an Additional Capacity Expansion is being planned [sic] or undertaken*".[26]

Halcrow indicated that it is not aware of other instances in which a service provider has committed to payment of a retainer fee of such quantum. Halcrow is (anecdotally) aware that retainer fees are paid in some instances, however, these are understood to be at least an order of magnitude less. Furthermore, it is

[24] DBP, Submission 16 (MSExcel spreadsheet model): *DBNGP 2010 - 2015 - DBP submission 16 - tariff model @ 12 July 2010 - WORKING COPY.xls*, "SIB CAPEX data" Worksheet.

[25] Blake Dawson, *Amended and Restated Operating Services Agreement*, dated 10 February 2009 between DBNGP (WA) Nominees Pty Ltd, DBNGP (WA) Nominees Pty Ltd and Alinta Asset Management Pty Ltd.

[26] Ibid., Clause 7.5.

understood that the more usual arrangement is that payment for actual services is initially offset against the retainer fee until the cost of services exceeds the value of the retainer fee.

The following comments are provided in respect of basis upon which the retainer fee is incurred, ie. to ensure that ongoing capability to provide services is maintained:

- DBP has acknowledged that, at the time that the OSA was renegotiated in 2009, "…*there was a likelihood that the continual expansion program that had been undertaken since 2005 would not continue beyond Stage 5B*";[27] This would appear to limit the need to secure access to ongoing capability;
- Whilst DBP contends that it is "… *important to pay a fee that incentivised the project manager to pay certain individuals to remain on "standby" to commence any further project, should it materialise …. This is particularly relevant given the contractual obligations to deliver additional capacity in a given time* …",[28] it is acknowledged that the labour market outlook in Western Australia for the period 2008 to 2020 showed an initial decline in demand over a few years with rapid growth set to resume in the early part of the next decade; nonetheless, it is expected that the whilst the services secured via the retainer fee would be of a specialist nature, such services could be secured from elsewhere in a timely manner should the demand arise and resources are not locally available; and
- To provide some context, $2,000,000 per annum (ignoring the impact of escalation) equates to some 200 person weeks @ $250 per hour, ie. 4-4.5 full time persons.

Whilst it is apparent that that DBP is contractually obligated to payment of the Project Management Retainer Fee, Halcrow did not consider this expenditure to be prudent or efficient.

Halcrow assessed that the payment of a fee for the provision of Project Management Services is in accordance with industry practice. Halcrow indicated that, on the basis of discussions with DBP, it was understood that such allowance is included in the actual costs and forecast expenditure reported in DBP's Submissions, although this has not been specifically transparent.

[27] DBP, *Submission 18: Response to Halcrow Pacific Issues Report/Request for Information*, 18 July 2010, pg37.

[28] Ibid.

3.2.19.2 Additional Information

DBP has outlined its position (principally restating previously submitted information) in support of the retainer fee, focussing its response on its perception of the three (3) reasons for disallowing the expenditure, as follows:

- that DBP has not provided information that satisfies the ERA that the payment of the retainer fee is necessary to be able to contract for project management services within the required timeframes for an expansion of the DBNGP;
- that the retainer fee is not a genuine fee for service or facility to be provided by WestNet; and
- the retainer fee is not consistent with the prudence and efficiency requirements of the Rule 79(1) of the NGR.

In summary, DBP's contention is as follows:

- the retainer fee is necessary to be able to contract project management services within the required time frame (ie. potentially within 30 months from the date that an access request is made) for implementation of an expansion of the DBNGP;
- the retainer fee would be significantly smaller than the additional costs likely to be incurred in bringing a new project management team up to speed with the requirements of an expansion project for the DBNGP;
- at the time that the OSA was renegotiated, it was unlikely that the continual expansion program would continue beyond Stage 5B; consequently, it was considered important to:
  - ensure that the project manager maintained the relevant personnel with the corporate knowledge and understanding of the pipeline and its operations until any transitioning issues could be dealt with; and
  - secure the project management services by ensuring specific individuals could remain 'on standby' to commence any further project, should it materialise in time to complete a business case and allow an investment decision to be made by the DBP Board; and
- the retainer fee is efficient because it covers an expansive range of services provided by WestNet (under the OSA) in relation to capacity expansions and capital works.

3.2.19.3 Final Assessment

Halcrow confirms its initial recommendation.

3.3 *Amended Capital Expenditure Proposal*

3.3.1 *Overview*

DBP has advised[29] that its Amended Access Arrangement Proposal contains values for forecast capital expenditure in 2010 and 2011 that differ from values that were included in its Original Access Arrangement Proposal for those respective years. The key reasons for this change are reported to be:

- Aligns expenditure such that it is reconcilable to DBP's annual and half yearly audited financial statements (as per the ERA's *Draft Decision*); and
- DBP now has an accurate record of actual expenditure incurred in the 2010 calendar year (the Original Access Arrangement Proposal was based on an estimate of expenditure that would be incurred in that year).

DBP has also advised[30] that, in respect of its Amended Access Arrangement Proposal:

- Items of expenditure reported for the year 2010 include:
  - Expenditure incurred in 2010 for assets which were entered into its asset register in 2010; and
  - Expenditure recorded as having been incurred in 2009, but for which the assets had not been recorded in the asset register by 31 December 2009.
- Items of expenditure for 2011 include:
  - Expenditure recorded as having been incurred in 2010, but for which the assets had not been recorded in the asset register by 31 December 2010; and
  - Expenditure which is forecast to be incurred in 2011 and for which the assets will be recorded into the asset register in 2011.

DBP has provided a listing[31] of expenditure that was recorded as Capital Works in Progress (CWIP) as at 31 December 2010. It also notes[32] that it has identified a number of projects in respect of which expenditure was incurred in 2010 but was not included in the Original Access Arrangement Proposal, however, has now been included in the Amended Access Arrangement Proposal.

[29] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011, pg21.

[30] Ibid.

[31] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011, pgs 22 & 23.

[32] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011, pg23.

Halcrow has not been provided with a copy of DBP's Amended Access Arrangement Proposal, and more specifically, has not had visibility of the proposed adjustments to forecast capital expenditure in 2010 and 2011. Notwithstanding, Halcrow has undertaken a review of the CWIP listing to assess alignment of the projects recorded therein with the list of projects and levels of expenditure previously identified in Original Access Arrangement Proposal and supporting information[33] as having expenditure in 2010.

Halcrow has also undertaken a review of the projects, as identified by DBP, that were not included in the Original Access Arrangement Proposal (refer **Section 3.4**).

3.3.2 *Assessment of CWIP Listing*

DBP has provided summary details of CWIP expenditure that was incurred in 2010, but will be recorded as expenditure in 2011 following inclusion of the respective assets in its asset register. These amounts are summarised, by expenditure category, in **Table 3.1**. Also shown in **Table 3.1** is a summary of the capital expenditure to have been incurred in 2010 as shown in Original Access Arrangement Proposal and supporting information.

[33] DBP, *Submission 9: Justification of Expansion Related Capital Expenditure*, 14 April 2010 and DBP, *Submission 10: Actual Stay-in-Business Capital Expenditure (2005 to 2010)*, 1 April 2010.

Table 3.1 Summary of CWIP Expenditure as at 31 December 2010 ($million nominal)

Expenditure Designation	CWIP Expenditure as at 31 December 2010	CWIP Expenditure to be recorded in 2011	2010 Capital Expenditure as shown in Original AA Proposal
Stage 5A			
Compressor Stations	6.995	6.995	
Meter Stations	4.978	4.978	
Pipeline	0.000	0.000	
Other	1.742	1.742	14.00
Total	*13.715*	*13.715*	*14.00*
Stage 5B			
Compressor Stations	12.270	12.270	155.00
Meter Stations	26.558	26.558	
Pipeline	0.000	0.000	450.00
Other	3.372	3.372	15.90
Total	*42.200*	*42.200*	*620.90*
Stay-in-Business			
Compressor Stations	2.420	2.420	
Meter Stations	0.089	0.089	
Pipeline	3.503	3.503	
Other	29.384	29.384	
Total	*35.396*	*35.396*	*51.760*

Sources: CWIP Values from Submission 53 – Roll Forward of the Capital Base, pg 22.

Original AA Proposal expenditure for Stage 5A from Submission 9 – Justification of Expansion Related Capital Expenditure, pg49.

Original AA Proposal expenditure for Stage 5B from Submission 9 – Justification of Expansion Related Capital Expenditure, pg92.

Original AA Proposal expenditure for SIB Capital Expenditure from Submission 10 - Actual Stay-in-Business Capital Expenditure (2005 to 2010), pg14.

The following comments are provided:

- In respect of Stage 5A capital expenditure, it is noted that:
  - the total recorded CWIP expenditure as at 31 December 2010 ($13.715 million ($nominal)) is near to, but does not exceed the 2010 capital expenditure ($14.00 million ($nominal)) included in the Original Access Arrangement Proposal; and
  - the allocation of expenditure by category (ie. compressor stations, meter stations, pipeline and other) varies between the CWIP records and the Original Access Arrangement Proposal; the later identified all 2010 expenditure as “other”.
- In respect of Stage 5B capital expenditure, it is noted that:
  - the total recorded CWIP expenditure as at 31 December 2010 ($42.20 million ($nominal)) amounts to approximately 7 percent of the 2010 capital expenditure ($620.90 million ($nominal)) included in the Original Access Arrangement Proposal; and
  - the allocation of expenditure by category (ie. compressor stations, meter stations, pipeline and other) again varies between the CWIP records and the Original Access Arrangement Proposal; the primary variance is that the CWIP expenditure includes allocation to “meter stations”, for which expenditure was not previously allocated.
- In respect of Stay-in-Business capital expenditure, it is noted that:
  - the total recorded CWIP expenditure as at 31 December 2010 ($35.396 million ($nominal)) amounts to approximately 68 percent of the 2010 capital expenditure ($51.760 million ($nominal)) included in the Original Access Arrangement Proposal;
  - historical (2005-2010) Stay-in-Business expenditure included in the Original Access Arrangement Proposal was not allocated by category; accordingly, a comparison of the allocation cannot be made; and
  - a more detailed assessment is presented in **Section 3.3.3**.

3.3.3 Assessment of Stay-in-Business CWIP Listing

DBP has provided a detailed listing of Stay-in-Business CWIP expenditure that was incurred in 2010, but will be recorded as expenditure in 2011.[34] As previously noted, Halcrow has undertaken a review of the CWIP listing to assess alignment of the projects recorded therein with the list of projects and levels of expenditure that were forecast in the Original Access Arrangement Proposal to be incurred in 2010. This review has also involved the identification of expenditure that was forecast in

[34] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011, pgs 22 & 23.

the Original Access Arrangement Proposal to be incurred in 2011, but which was actually incurred in 2010.

It is noted that alignment of expenditure items has been dependent upon/limited by consistency of expenditure item descriptions. The CWIP expenditure listing provided by DBP is shown in more detail and, as a consequence, it has been difficult in some cases to align the expenditure items to the breakdown of forecast expenditure shown in the Original Access Arrangement Proposal.

Whilst it has not been possible to align all CWIP expenditure to items identified in the breakdown of forecast Stay-in-Business capital expenditure as shown in the Original Access Arrangement Proposal for 2010, the following observations can be made:

- from an overall perspective, it appears that CWIP expenditure (particularly large expenditure items) is generally aligned to the expenditure forecasts for 2010 as identified in the Original Access Arrangement Proposal;
- whilst in same cases (based on the assumed alignment of expenditure items) there appears to have been expenditure in excess of the forecast presented in the Original Access Arrangement Proposal, this is to be expected in the normal execution of business and the amounts are not deemed to be excessive;
- there are two (2) items which appear to capture 'management of change' related costs incurred in FY2008 and FY2009; on the basis of the item descriptions, Halcrow questions why this expenditure is not being 'taken up' until 2011;
- there are five (5) items which appear to be early expenditure in respect of projects/activities programmed for implementation in 2011 and/or beyond; and
- where CWIP expenditure items have not been aligned to either the 2010 or 2011 forecast expenditure, the item descriptions generally indicate that the expenditure relates to works that would normally be expected in respect of a gas transmission pipeline, and are similar to items of expenditure forecast to occur during the period 2011 to 2015.

3.4 Review of Additional SIB Projects

3.4.1 Overview

As previously noted (refer **Section 3.3.1**), DBP has identified a number of projects in respect of which expenditure was incurred in 2010 and which was not included in the Original Access Arrangement Proposal. These items of expenditure have now been included in the Amended Access Arrangement Proposal.

A total of seven (7) specific projects have been identified,[35] six (6) of which DBP has indicated require justification under Rule 79 of the NGR. Halcrow's review of the prudence and efficiency of these additional projects is presented in the following sections.

Halcrow notes that the identified additional projects are included in the list of CWIP projects as at 31 December 2010. Accordingly, it has been interpreted that the associated expenditure will be deemed to be incurred in 2011.

3.4.2 CS2/2, 4/2 and 7/2 Replacement of Turbine Air Inlet Filters

This project involves the installation of replacement turbine air inlet housing at Compressor Stations CS2 Unit 2, CS4 Unit 2 and CS7 Unit 2. Purchase of the equipment has been separately acquired (refer **Section 3.4.3**).

Replacement of the equipment is required as the existing installations have been subject to corrosion.

A budget allowance, to be expended in 2010 and 2011, has been approved in accordance with DBP's approval processes. Approximately 2.5 percent had been incurred as at 31 December 2010, with the balance to be incurred during 2011.

The forecast expenditure is considered prudent. Whilst information regarding the basis of the cost estimate has not been provided, it equates to approximately 33 percent of the equipment purchase cost (refer **Section 3.4.3**); this is considered reasonable.

Accordingly, Halcrow considers the expenditure to be both prudent and efficient.

[35] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011, pg24.

3.4.3 *Replacement of Stage 3ATurbine Air Inlet Filters*

This project involves the purchase of equipment for the replacement of Stage 3A turbine air inlet housing at Compressor Stations CS2 Unit 2, CS4 Unit 2 and CS7 Unit 2. Installation of the equipment has been separately assessed (refer **Section 3.4.2**).

Replacement of the equipment is required as the existing installations are subject to continuing deterioration due to corrosion.

The equipment to be purchased in each case comprises complete new turbine air inlet filter assembly including stainless steel ducting. The units are a replication of the Stage 4 turbine air inlet filters, which therefore provides standardisation across the fleet of Solar Mars 100 gas turbine and will lead to efficiencies in respect of spare parts inventory and maintenance.

A budget allowance, to be expended principally in 2010, has been approved in accordance with DBP's approval processes. The project has reached practical completion; costs incurred are approximately 2 percent in excess of the approved budget.

The forecast expenditure is considered prudent (on the basis that it is required to maintain and improve the safety of services and maintain the integrity of services), however, given the absence of any information demonstrating approval of expenditure in excess of the approved budget, the budgeted amount is deemed to represent the efficient cost (a purchase order number is identified on the copy of the approval form provided; it is assumed that the equipment was purchased in accordance with DBP's procurement procedures).[36]

It is noted, however, that although identified in Submission 53 as an additional (not previously identified) item of expenditure, this project was included in the list of SIB capital projects[37] that were originally forecast (in the Original Access Arrangement Proposal) to incur expenditure during 2011. The expenditure now proposed should be adjusted by the amount previously assessed to be prudent and efficient[38] to avoid double counting.

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[36] DBP, *DBP Non Expansion Capital Expenditure Approval Form*, DBP Project No 032027, approved 8 December 2009.

[37] DBP, *Submission 11: Forecast Capital Expenditure, 14 April 2010* presented SIB capital expenditure proposals under the Original Access Arrangement Proposal.

[38] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, Section 5.9.3.23.

3.4.4 *Development of a Design Basis of Air Compressors (CS2, 4 and 7)*

This project involves the conduct of a FEED study to assess upgrade of the Solar Mars 100 turbine controls at Compressor Stations CS2 Unit 2, CS4 Unit 2 and CS7 Unit 2. The existing control units are now considered obsolete and are no longer supported by the manufacturer.

A budget allowance, to be expended principally in 2009, was approved in accordance with DBP's approval processes. The project has reached practical completion; costs incurred amount to approximately 87 percent of approved budget.

It appears that this FEED study relates to work to be undertaken in 2011 and 2012, which has previously been assessed to be prudent and efficient.[39] Accordingly, the expenditure is assessed to be both prudent and efficient.

3.4.5 *Intelligent Pigging*

This project relates to the Intelligent Pigging of the DBNGP and associated laterals. The scope of the project includes:

- preparation of the pipeline including alignment of all MLVs and testing and of launchers and receivers, pig signals and confirmation of all offtakes, LOR plugs and EOL status with Loop tie-ins; and
- the calling of tender for an intelligent pigging contractor and required pre planning.

The second part of this project involves utilising data collected to assess the integrity of the pipeline and sections of defects that have to be excavated for baseline work, defect growth assessments and future predictive packaging of defects to inform DBP's dig up program over the next 10 years.

At Item 3.32 of its Submission,[40] DBP indicates that a budget has been approved (in accordance with DBP's approval procedures), and that costs incurred to date amount to approximately 38 percent of the approved amount. Reference to the 'Date Range for Expenditure' section of the Expenditure Approval Form,[41] however, suggests that a significantly larger amount, to be incurred over the period July 2010 to June 2011, may have been approved.

[39] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, Section 5.9.3.4.

[40] DBP, *Submission 53: Roll Forward of the Capital Base*, 20 May 2011.

[41] DBP, *DBP Non Expansion Capital Expenditure Approval Form*, DBP Project No 310230, approved 13 October 2010.

It is therefore not clear as to the intended scope of the proposed work and the associated expenditure forecast. In the absence of clarification, Halcrow has assessed efficiency on the basis that the amount proposed by DBP, to be incurred during 2010 and 2011, represents the cost of the initial preparatory phases of the project.

Intelligent Pigging is a requirement under the provisions of AS 2885 *Pipelines – Gas and liquid petroleum*, and is therefore considered prudent.

3.4.6 Upgrade of Communication System North of Karratha

Whilst DBP has identified this project, it notes that expenditure to date for this project is negligible. DBP is not seeking to have this project included in its forecast of capital expenditure.

3.4.7 Electronic Notice Boards

This project involves the provision of electronic notice boards for use in the distribution of Safety alerts, bulletins, KPI's and general safety information in a timely and efficient manner to all personnel and visitors. The notice boards provide a range of business benefits, including the ability to introduce video conferencing. Video conferencing has the potential to reduce costs in respect of travel (including a reduction in travel incidents).

Notice boards are to be installed at ten (10) compressor stations and at the facilities at the Esplanade and Jandakot (two (2) boards each). Expenditure was approved in December 2009; actual expenditure equating to 92 percent of the approved amount has been incurred. Some 60 percent of the cost relates to procurement of materials (the notice boards); it is assumed that this will be carried out in accordance with DBP's procurement processes.

The proposed expenditure is considered to be both prudent and efficient.

3.4.8 ProMaster Express Automated Purchase Card System

This project involves the purchase and implementation of ProMaster Express, an automated expense management system for DBP purchase cards, expense reimbursement claims and travel (kilometres) reimbursement. The system will be used to replace manual spreadsheet based processes with both short and long term savings expected.

Expenditure was approved April 2010. The project has now been completed at an actual cost 36 percent in excess of budget.

The expenditure is considered to be both prudent and efficient.

3.5 Summary of Findings

3.5.1 General

Halcrow has undertaken an assessment of the additional information provided by DBP in respect of its forecast Stay-in-Business Capital Expenditure program and has made a number of adjustments to its previous recommendations.

An assessment has also been made in respect of revised expenditure forecasts for 2010 and 2011, principally involving carry forward of Capital Works in Progress (CWIP) expenditure. Additional projects that had not previously been identified have also been assessed.

3.5.2 Updated Findings in respect of SIB Program

On the basis of this supplementary assessment, a reduction of some $19.858 million ($nominal) or $18.089 million ($real 2009) in the five year program, as presented in DBP's Original Access Arrangement Proposal, is recommended. This reduction is shown in **Table 3.2** ($nominal) and **Table 3.3** ($real 2009).

In summary, changes to Halcrow's previous recommendations have comprised:

- revisions to the forecast timing of expenditure for four (4) items; in each case rescheduling was previously recommended;
- increases to expenditure on three (3) items amounting to a total of $1.565 million over the forecast period;
- removal of expenditure of $0.800 million on one (1) item to eliminate double counting (expenditure now claimed as CWIP expenditure); and
- assessment that expenditure (amounting to a total of $2.005 million over the forecast period) in respect of three (3) items has now been justified.

DBP's actual/forecast Stay-in-Business capital expenditure and Halcrow's recommended NGR Rule 79 compliant Stay-in-Business capital expenditure are summarised in **Table 3.4**; changes from Halcrow's original assessment are again shown shaded.

Table 3.2 Forecast and Recommended Stay-in-Business capital expenditure – 2011 to 2015 ($million nominal)

Expenditure Category	Forecast and Recommended Expenditure ($million nominal)					
	2011	2012	2013	2014	2015	Total
DBP Proposed						
Pipeline	5.705	4.684	5.193	0.696	0.945	17.224
Compression	10.870	9.038	4.283	5.227	9.057	38.475
Metering	0.336	0.523	2.931	3.004	0.180	6.973
Other	6.422	5.110	4.586	7.643	7.138	30.899
Total Proposed	*23.333*	*19.355*	*16.993*	*16.569*	*17.320*	*93.571*
Halcrow Recommended						
Pipeline	4.376	4.146	4.592	0.583	0.829	14.526
Compression	9.582	8.317	3.543	4.469	8.280	34.191
Metering	0.336	0.523	2.931	3.004	0.180	6.973
Other	2.870	2.662	2.077	5.071	4.502	17.183
Total Recommended	*17.164*	*15.647*	*13.143*	*13.127*	*13.791*	*72.872*
Variance (Recommended – Forecast)						
Pipeline	-1.329	-0.538	-0.602	-0.113	-0.116	-2.698
Compression	-1.288	-0.722	-0.740	-0.758	-0.777	-4.285
Metering						
Other	-3.552	-2.448	-2.509	-2.572	-2.636	-13.716
Total Variance	*-6.169*	*-3.708*	*-3.850*	*-3.443*	*-3.529*	*-20.699*
Percentage Variance	-26.4%	-19.2%	-22.7%	-20.8%	-20.4%	-22.1%

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

Note: DBP Proposed (Forecast) Expenditure is as presented in its Original Access Arrangement Proposal and supporting documentation. It does not reflect adjustments incorporated into its Amended Access Arrangement Proposal.

Table 3.3 Forecast and Recommended Stay-in-Business capital expenditure – 2011 to 2015 ($million 2009)

Expenditure Category	Forecast and Recommended Expenditure ($million 2009)					
	2011	2012	2013	2014	2015	Total
DBP Proposed						
Pipeline	5.430	4.350	4.705	0.615	0.815	15.915
Compression	10.346	8.393	3.880	4.620	7.810	35.049
Metering	0.320	0.485	2.655	2.655	0.155	6.270
Other	6.113	4.745	4.155	6.755	6.155	27.923
Total Proposed	*22.209*	*17.973*	*15.395*	*14.645*	*14.935*	*85.157*
Halcrow Recommended						
Pipeline	4.165	3.850	4.160	0.515	0.715	13.405
Compression	9.120	7.723	3.210	3.950	7.140	31.143
Metering	0.320	0.485	2.655	2.655	0.155	6.270
Other	2.732	2.472	1.882	4.482	3.882	15.450
Total Recommended	*16.337*	*14.530*	*11.907*	*11.602*	*11.892*	*66.268*
Variance (Recommended – Forecast)						
Pipeline	-1.265	-0.500	-0.545	-0.100	-0.100	-2.510
Compression	-1.226	-0.670	-0.670	-0.670	-0.670	-3.906
Metering						
Other	-3.381	-2.273	-2.273	-2.273	-2.273	-12.473
Total Variance	*-5.872*	*-3.443*	*-3.488*	*-3.043*	*-3.043*	*-18.889*
Percentage Variance	-26.4%	-19.2%	-22.7%	-20.8%	-20.4%	-22.2%

Source: Forecast data ($real) derived from Submission 11 - Forecast Capital Expenditure, Table 2 and Submission 16 - DBNGP 2010-2016 tariff model.

Note: DBP Proposed (Forecast) Expenditure is as presented in its Original Access Arrangement Proposal and supporting documentation. It does not reflect adjustments incorporated into its Amended Access Arrangement Proposal.

Table 3.4 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
$nominal												
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	17.164	15.647	13.143	13.127	13.791	151.759
Variance	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-6.169*	*-3.708*	*-3.850*	*-3.443*	*-3.529*	*-20.699*
$real 2009												
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	16.337	14.530	11.907	11.602	11.892	144.707
Variance	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-5.872*	*-3.443*	*-3.488*	*-3.043*	*-3.043*	*-18.889*

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 of the *Draft Technical Review Report* to $real values.

Note: DBP Proposed (Forecast) Expenditure is as presented in its Original Access Arrangement Proposal and supporting documentation. It does not reflect adjustments incorporated into its Amended Access Arrangement Proposal.

3.5.3 *Findings in respect of Amended Capital Expenditure Proposal*

3.5.3.1 Review of CWIP Expenditure

DBP has provided a detailed listing of CWIP expenditure as at 30 December 2010.[42] Halcrow has endeavoured to assess alignment of the projects recorded therein with the list of projects and levels of expenditure that was originally forecast to be incurred in 2010. The assessment has also involved the identification of expenditure originally forecast for 2011 that may have been incurred in 2010.

Whilst it has not been possible to align all CWIP expenditure to items identified in the breakdown of forecast Stay-in-Business capital expenditure as shown in the Original Access Arrangement Proposal for 2010, it appears from an overall perspective that CWIP expenditure (particularly large expenditure items) is generally aligned. Whilst there appear to be some deviations, these are not deemed to be significant.

Several items of CWIP expenditure which appear to be early expenditure in respect of projects/activities programmed for implementation in 2011 and/or beyond have been identified. Adjustment of the assessed level of prudent and efficient forecast Stay-in-Business capital expenditure is required to reflect this.

On the basis of this review, it appears appropriate that CWIP Stay-in-Business expenditure amounting to $28.219 million ($nominal) or $26.859 million ($real 2009) is recorded as being incurred in 2011. This amount is in addition to that forecast in the Original Access Arrangement Proposal to be incurred in 2011 that has now been assessed as prudent and efficient, however, should be offset against the Stay-in-Business capital expenditure recommended in the *Draft Technical Review Report* for 2010.

3.5.3.2 Review of Additional SIB Projects

In respect of the additional projects that had not previously been identified, Halcrow's assessment has led to recommendation that expenditure amounting to $1.409 million ($nominal) or $1.341 million ($real 2009) associated with a further six (6) projects (all expenditure is forecast to be incurred in 2011) is justified. A reduction of the amounts forecast by DBP is recommended, principally in relation to a project that had, in fact, been identified under the Original Access Arrangement Proposal.

[42] Capital Works in Progress (CWIP) expenditure that was incurred in 2010, but which DBP proposes to record as expenditure in 2011.

It is noted that some expenditure associated with the additional projects was incurred in 2010. Forecast and recommended CWIP Stay-in-Business expenditure has been revised accordingly.

3.5.3.3 Summary of CWIP and Additional SIB Projects Assessment

Halcrow's recommended adjustments in respect of the CWIP expenditure identified by DBP (as at 30 December 2010) and the additional Stay-in-Business projects are shown in **Table 3.5** ($nominal) and **Table 3.6** ($real 2009).

DBP's forecast CWIP and additional Stay-in-Business capital expenditure and Halcrow's recommended NGR Rule 79 compliant CWIP and additional Stay-in-Business capital expenditure to be recorded in 2011 are summarised in **Table 3.7**.

It is noted that Stay-in-Business expenditure to be incurred in 2010 that was previously recommended as being prudent and efficient[43] should be adjusted to reflect the amount of CWIP Stay-in-Business expenditure that is to be carried forward and recorded as being incurred in 2011. An adjustment of $28.219 million ($nominal) or $26.859 million ($real 2009) is recommended; the level of prudent and efficient Stay-in-Business expenditure as assessed on the basis of the Original Access Arrangement Proposal should be revised to $23.541 million ($nominal) or $23.639 million ($real 2009).

[43] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, Section 5.8.9.

Table 3.5 Proposed and Recommended CWIP and Additional Stay-in-Business capital expenditure – 2011 to 2015 ($million nominal)

Expenditure Category	Forecast and Recommended Expenditure ($million nominal)					
	2011	2012	2013	2014	2015	Total
DBP Proposed						
Pipeline	3.713					3.713
Compression	3.061					3.061
Metering	0.089					0.089
Other	29.384					29.384
Total Proposed	*36.247*					*36.247*
Halcrow Recommended						
Pipeline	3.713					3.713
Compression	1.052					1.052
Metering	0.089					0.089
Other	28.512					28.512
Total Recommended	*33.365*					*33.365*
Variance (Recommended – Forecast)						
Pipeline						
Compression	-2.010					-2.010
Metering						
Other	-0.872					-0.872
Total Variance	*-2.882*					*-2.882*
Percentage Variance	-7.9%	-	-	-	-	-7.9%

Source: Forecast data ($nominal) derived from Submission 53 – Roll Forward of the Capital Base, pgs 22-27.

Table 3.6 Proposed and Recommended CWIP and Additional Stay-in-Business capital expenditure – 2011 to 2015 ($million 2009)

Expenditure Category	Forecast and Recommended Expenditure ($million 2009)					
	2011	2012	2013	2014	2015	Total
DBP Proposed						
Pipeline	3.534					3.534
Compression	2.914					2.914
Metering	0.084					0.084
Other	27.968					27.968
Total Proposed	*34.500*					*34.500*
Halcrow Recommended						
Pipeline	3.534					3.534
Compression	1.001					1.001
Metering	0.084					0.084
Other	27.138					27.138
Total Recommended	*31.757*					*31.757*
Variance (Recommended – Forecast)						
Pipeline						
Compression	-1.913					-1.913
Metering						
Other	-0.830					-0.830
Total Variance	*-2.743*					*-2.743*
Percentage Variance	-7.9%	-	-	-	-	-7.9%

Source: Forecast data ($nominal) derived from Submission 53 – Roll Forward of the Capital Base, pgs 22-27. Forecast data ($real) determined by application of escalation indices in Table 3.1 of the *Draft Technical Review Report* to $nominal values.

Table 3.7 Proposed and Recommended CWIP and Additional 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
$nominal												
DBP's Proposed/Forecast expenditure							36.247					36.247
Halcrow Recommended							33.365					33.365
Variance							*-2.882*					*-2.882*
$real 2009												
DBP's Proposed/Forecast expenditure							34.500					34.500
Halcrow Recommended							31.757					31.757
Variance							*-2.743*					*-2.743*

Source: Forecast data ($nominal) derived from Submission 53 – Roll Forward of the Capital Base, pgs 22-27. Forecast data ($real) determined by application of escalation indices in Table 3.1 of the *Draft Technical Review Report* to $nominal values.

4 Review of Operating Expenditure

4.1 Overview

In its Submission 54, DBP has provided the following in respect of its Operating Expenditure:

- comments in response to elements of the ERA's *Draft Decision*;
- comments in respect of contractual incentives for DBP to be efficient and prudent with regard to operating expenditure;
- comments in respect of operating expenditure associated with the BEP Lease;
- additional information in respect of the prudence and efficiency of certain actual operating expenditure in the 2005 to 2010 Access Arrangement period;
- information in respect of independent audit of actual operating expenditure;
- additional information in respect of the prudence and efficiency of proposed operating expenditure in the 2011 to 2015 Access Arrangement period; and
- differences in proposed operating expenditure between DBP's Original Access Arrangement Proposal and its Revised Access Arrangement Proposal.

Halcrow has assessed the additional information in respect of the prudence and efficiency of operating expenditure in order to determine whether it changes the findings and conclusions of its original review as documented in the *Draft Technical Review Report*.[44]

4.2 Consulting Costs

4.2.1 Original Assessment

In the *Draft Technical Review Report*, Halcrow noted that DBP's expenditure on 'Consulting' has increased significantly since 2008(approximately 67 percent increase from 2008 to 2010). The increase was primarily driven by a doubling of 'consultant fees'. DBP has forecast that expenditure will fall in 2011, and remain steady at this level to 2015 (ie. it has forecast no real increase in expenditure).[45]

[44] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011.

[45] Ibid, pg180.

Whilst Halcrow was satisfied that some of the consulting expenditure satisfies the criteria specified in r91 of the NGR in that it 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, the absence of historical information on 'consultant fees' meant that it was not possible to confirm whether this element of 'consulting' expenditure represents a justified baseline on which to forecast future expenditure.

Whilst not able to confirm that all elements of 'consulting' expenditure were justified, Halcrow did not recommend any adjustment to the forecast for the 2011 to 2015 period.

4.2.2 *Additional Information*

In Submission 54, DBP has indicated that "*consultants costs are prudent because they were derived from a bottoms up budgeting process controlled by DBP and using a cost categorization approach consistently across all divisions, where each division identified the external consultants required to undertake the activities of the division that were outlined in the annual business plan.*"[46] In respect of the increase in costs over 2008, DBP has indicated that the 2008 expenditure on consulting costs "*did not include all consultants engaged by DBP or its manager, whereas the 2009 amount did.*"[47] It noted also that it is not possible to undertake a like for like comparison between 2008 and 2009 due to the different way that the asset manager allocated the costs in 2008, as compared to the way DBP allocates the costs.

DBP has provided a breakdown of its 2009/10 budgeted consulting expenditure (a breakdown of actual expenditure has not been provided).

4.2.3 *Final Assessment*

Halcrow has reviewed the breakdown provided by DBP in respect of its budgeted consulting costs for 2009/10 and is of the view that the identified activities appear to be appropriate and the costs of the order expected. Assuming that DBP's budget expenditure for 2009/10 is representative of its actual expenditure in 2009, there remains a discrepancy of approximately 15 percent when compared to the reported expenditure.

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[46] DBP, *Submission 54: Operating Expenditure*, 20 May 2011, pg9.

[47] Ibid, pg9.

Given that 'consulting' expenditure is forecast to reduce to less than the amount budgeted for 2009/2010 from 2011 onwards, no change is recommended for the 2011 to 2015 period.

4.3 Entertainment Expenses

4.3.1 Original Assessment

In Halcrow's *Draft Technical Review Report*, it was noted that forecast entertainment expenses account for approximately 0.2 percent of DBP's recurrent operating expenditure. Given the immaterial nature of the expenditure, a detailed review of the expenses was not undertaken.[48]

4.3.2 Additional Information

DBP has provided a breakdown of the annual allowance in respect of entertainment expenses and has noted that the increase in expenditure between calendar years 2009 and 2010 was result of an increase in the total number of DBP staff and the alternative allocation of costs in 2009.

4.3.3 Final Assessment

DBP has not proposed any changes to its forecast Entertainment Expenses, and the identified costs appear reasonable. Halcrow's finding in relation to Entertainment Expenses is therefore unchanged.

4.4 IT Costs

4.4.1 Original Assessment

Whilst DBP provided various but different explanations in relation to the significant increase in IT expenditure since 2008, Halcrow was unable to develop a clear understanding of what factors have actually driven the increase, or whether the expenditure could be considered prudent or efficient. On that basis, Halcrow recommended that the 2008 actual expenditure be used as a baseline for forecast expenditure.

Halcrow also indicated that, in order to make a final assessment of IT expenditure, additional information was required in respect of the new scheme of charges agreed with WestNet in 2009, together with clarification of what has driven the increase in IT expenditure since 2008. In addition, further clarification was required of how DBP obtains assurance that it is getting value for money from

[48] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, pg187.

WestNet in the provision of IT services, together with confirmation as to whether any alternative supply options were considered before agreeing the scheme of charges with WestNet.

4.4.2 *Additional Information*

DBP has advised that a number of significant events have led to increased IT related operational expenditure. These include:

- The transition of the *Operating Services Agreement* (OSA) from Alinta to WestNet, which had the following impacts:
  - the reduction in size of the service provider has led to a reduction in 'economies of scale' benefits;
  - it became clear that Alinta's charge-back model was inadequate and that DBP had been undercharged; WestNet's charges (which are pass through only under the OSA) more effectively capture the actual costs; and
  - WestNet provides significantly more reliable services (representing industry best practice) than previously provided.
- Separation of Ownership and Licence costs – as a result of the separation of ownership between DBP and its IT service provider, DBP must now pay for all of its software licensing costs. Given the substantially reduced user base (in comparison to Alinta), this has attracted increased unit licensing costs. Increased use of products such as Citrix (remote computing) and Google Earth Pro (vehicle GPS tracking) in support of improved work and safety practices has also led to increased costs.
- Business wide Maximo deployment – following the upgrade of the Maximo asset management software in 2008, there was a major 'roll-out' of the use of Maximo. This has attracted increased licence costs and annual support costs.

DBP has also provided detailed justification for its IT expenditure, which comprises:

- Operational Usage Fee;[49]
- Capital Usage Fee or 'Shared Use Fee';[50] and
- Other DBP IT costs (principally including licence and annual support fees).[51]

[49] DBP, *Submission 54: Operating Expenditure*, 20 May 2011, Attachment 1.

[50] Ibid, Attachment 2.

[51] Ibid, pg14.

DBP submits that this represents the basis of its forecast expenditure for the period 2011 to 2015.

4.4.3 *Final Assessment*

On the basis of the additional information provided, Halcrow is of the view that DBP has provided explanation of the movement in costs from those incurred in 2008. Accepting that it was necessary for WestNet to take over the provision of services from Alinta, the justification for the additional costs looks reasonable, although it is noted that the costs do not appear to have been market tested.

In respect of the forecast expenditure for the period 2011 to 2015, the methodology adopted to estimate the costs appear to be robust; on this basis the costs can be assessed to be reasonable.

Accordingly, Halcrow now considers that DBP's forecast expenditure for the period 2011 to 2015 to be prudent and efficient.

4.5 Repairs and Maintenance Costs

4.5.1 *Original Assessment*

Halcrow noted that for the period 2011 to 2015, expenditure on 'reactive maintenance' is separately forecast from 'repairs and maintenance' expenditure. Furthermore, it noted that whilst a small increase in repairs and maintenance expenditure over 2010 levels would be expected to take account of the commissioning of the Stage 5B expansion program, the forecast 27 percent increase is not justified.

Based on the available information, Halcrow was 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. Halcrow was 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.

4.5.2 *Additional Information*

DBP contends that the significant rotating equipment and valves introduced during the expansion program (Stages 4, 5A and 5B) are high maintenance assets that will attract increased maintenance costs. Furthermore, the increase in costs since 2009 has resulted from the significant growth in DBP's asset base, from 20,000 assets listed in 2008 to 33,000 assets in 38,000 locations.

DBP contends that as Stage 5B expansion is still being completed, the true baseline cost of maintaining the DBNGP and associated laterals will not be known until the 20011/12 financial year has ended.

4.5.3 *Final Assessment*

Whilst, as noted Halcrow in its original assessment, it is acknowledged that there may be a small increase in repair and maintenance costs following the full commissioning of the Stage 5B expansion, the proposed 27 percent increase is deemed excessive. DBP has provided no additional quantitative information to link the additional assets to maintenance activities; consequently, there is no further justification for the forecast additional costs.

On the basis that no additional quantitative information has been provided to justify the additional costs, Halcrow's original recommendation remains unchanged.

4.6 CPRS Costs

4.6.1 *Original Assessment*

In the *Draft Technical Review Report*, Halcrow recommended that the forecast Carbon Pollution Reduction Scheme (CPRS) expenditure be excluded from DBP's operating expenditure forecast on the basis that the Commonwealth Government had deferred the scheme.

It is noted that, in its *Draft Decision*,[52] the Authority has proposed alternative mechanisms for cost recovery in respect of CPRS expenditure in the future.

4.6.2 *Additional Information*

DBP notes that, at or around the time of issue of the ERA's *Draft Decision*, the current Commonwealth Government has reaffirmed its stated policy to introduce a price on carbon from July 2012. On this basis, DBP contends that allowance for CPRS costs should be included as part of its forecast operating expenditure.

Accordingly, DBP advises that, in its Amended Access Arrangement Proposal, it has included an amount for the carbon tax regime. DBP has adopted (in its view) conservative assumptions in respect of the cost to be incurred, ie. that the tax will be set at a rate of $20 per tonne and that the price will be fixed for the remainder of the 2011 to 2015 access arrangement period.

[52] ERA, *Draft Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline; Submitted by DBNGP (WA) Transmission Pty Ltd*, 14 March 2011, pgs224 & 225.

4.6.3 *Final Assessment*

Noting the Government's recent announcement of its intention to table a carbon tax regime from July 2012, Halcrow is satisfied that inclusion of costs associated with the carbon tax are such as would be incurred by a prudent service provider acting efficiently. Halcrow has not, however, had sight of the Amended Access Arrangement Proposal and, consequently, is unable to comment on the allowances made therein.

Halcrow notes that, whilst the introduction of a carbon tax is stated Government policy, neither its introduction nor any other detail (including price) has yet been confirmed.

Given that any variation in the price set may result in a variation from the assumptions underpinning DBP's estimates, Halcrow's view is that incorporation of a reference tariff variation mechanism for a pass through of CPRS costs, if and when such costs are incurred, may be the most appropriate approach. Accordingly, Halcrow does not propose any adjustment to its original recommendation to exclude costs associated with the introduction of a carbon tax, which includes an adjustment to the allowance in respect of salaries.

4.7 Self Insurance

4.7.1 *Original Assessment*

Halcrow assessed that DBP had not provided any information to enable the assessment of self insurance, and it was therefore unable to provide comment on this element of DBP's forecast operating expenditure.

4.7.2 *Additional Information*

DBP has not provided any additional information (beyond that previously provided to Halcrow) in respect of self insurance in its Submission.

4.7.3 *Final Assessment*

On the basis that no relevant information has been provided to Halcrow for review, its findings remain unchanged from those presented in the *Draft Technical Review Report*, ie. Halcrow is unable to comment in respect of DBP's forecast self insurance costs.

4.8 Compressor Overhaul Costs

4.8.1 *Original Assessment*

Whilst Halcrow was satisfied that the expenditure on compressor overhauls (materials) is prudent, DBP had not explained why it had forecast an increase in the cost of compressor overhauls over current levels. Accordingly, Halcrow was not satisfied that the allowance included within DBP's forecasts represents the lowest sustainable cost of delivering pipeline services, and recommended an adjustment to the expenditure.

Halcrow also noted that there was some uncertainty surrounding DBP's decision to reclassify the expenditure from capital expenditure to operating expenditure.

4.8.2 *Additional Information*

DBP has provided costing information in respect to the two primary makes of compressor that will be overhauled during the 2011 to 2015 period.

DBP noted that the cost of overhaul includes not only the cost of equipment acquisition, but also transportation, site works and other associated costs, a breakdown of which is included in its Submission.

4.8.3 *Final Assessment*

DBP has twenty seven (27) compressor units located at ten (10) compressor stations. Given that two (2) units were overhauled in 2009/10 and that mothballing of a further five (5) units is proposed, the forecast expenditure for the 2011 to 2015 period should be based on the cost of overhauling the remaining units, all of which are Solar Mars units that attract lower overhaul costs.

Allowing for the proposed the annual cost amounts to $7.476 million (3No x $2.492 million).

Accordingly, Halcrow now considers an allowance based on refurbishment of three (3) units per year, excluding internal labour costs (which are separately accounted), for the period 2011 to 2015 to be prudent and efficient.

4.9 Regulatory Expenses

4.9.1 *Original Assessment*

DBP's forecast of non-recurrent expenditure includes an annual allowance for 'regulatory expenses' for 2011 to 2013, followed by a significant increase in 2014 and 2015.

In the *Draft Technical Review Report*, Halcrow indicated that it was satisfied that the forecast regulatory expenses reported in Submission 12 "*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.*"[53]

4.9.2 *Additional Information*

DBP notes that, in its *Draft Decision*,[54] the ERA reduced the proposed forecast costs (in total) to an amount which is approximately in line with DBP's forecast cost of regulatory review costs.

DBP contends that the Authority's assessment fails to take into account the circumstances surrounding the access arrangement revisions for the 2016 to 2020 period, which it indicates will require significant additional justification and additional time to review and respond to submissions, given the anticipated higher level of interest from stakeholders.

Furthermore, DBP indicates that it has already incurred actual costs in excess of those it had foreshadowed in it Original Access Arrangement Proposal in respect of the current access arrangement review.

4.9.3 *Final Assessment*

Although Halcrow notes the Authority's assessment, as new (qualitative) supporting information has been provided in relation to regulatory expenses, Halcrow's assessment remains unchanged from that that presented in the *Draft Technical Review Report.*

4.10 Fuel Gas

4.10.1 *Original Assessment*

Whilst Halcrow was satisfied that the fuel gas forecast is consistent with DBP's forecast throughput, it assessed that further evidence was required to support the change for transient behaviour. In addition, Halcrow noted that DBP has agreed with one Shipper to allow it to supply its own fuel gas for the amount that relates to the transportation of its contracted capacity. DBP's forecasts of operating expenditure have, however, been estimated on the basis that this fuel gas is to be

[53] Halcrow, *Dampier Bunbury Natural Gas Pipeline Access Arrangement Review – Technical Assessment; Draft Review Report, (Issue 4, Rev 0)*, 11 March 2011, pg219-220.

[54] ERA, *Draft Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline; Submitted by DBNGP (WA) Transmission Pty Ltd*, 14 March 2011, pg231.

purchased by DBP. DBP had assumed that the purchase price for this fuel is that paid by the Shipper under a previous agreement with DBP.

DBP had indicated that, whilst forecast 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. Whilst Halcrow did not seek to confirm what adjustments DBP has made to is forecast revenue, it noted that the ERA may seek to confirm this aspect.

Whilst not able to confirm that the assumed increase in the transient fuel allowance was justified, Halcrow did not recommend any adjustment to the forecast for the 2011 to 2015 period.

4.10.2 *Additional Information*

DBP has provided additional detailed information to justify its forecast increase in the transient fuel allowance.

4.10.3 *Final Assessment*

On the basis of the additional justification provided, Halcrow is satisfied that the 10 percent transient gas allowance can be considered prudent and efficient; accordingly, it is recommended that no adjustment to the forecast expenditure in respect of fuel gas be made.

Halcrow's comment in respect of revenue offsets to account for Shipper supplied fuel gas remains.

4.11 Utilities, Rates & Taxes

4.11.1 *Original Assessment*

Halcrow noted its understanding that DBP is in consultation with the 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 recommended that this element of operating expenditure be reviewed again prior to the finalisation of the revisions to the Access Arrangement.

4.11.2 *Additional Information*

DBP reiterated its previous advice that it was currently negotiating with the Office of Energy on fees under the DBNGP Access Right, however, it has based its expenditure forecast on invoices received from the Lands Access Minister. It also noted that it has written to the Office of Energy requesting that the Government promptly make a decision in respect of the amount of charges payable; a response dated 28 April 2011 indicated that the matter is currently with the Minister whose decision will not be available in time for DBP to meet the ERA's timing required for a decision.

4.11.3 *Final Assessment*

As no new information has been provided in relation to utilities, rates and taxes, Halcrow's findings remain unchanged from those presented in the *Draft Technical Review Report.*

4.12 Summary of Findings

Halcrow has undertaken an assessment of the additional information provided by DBP in respect of its forecast Operating Expenditure and has made a number of adjustments to its previous recommendations. On the basis of the information now available, Halcrow has made the following findings:

- Consulting Costs – whilst no adjustment was previously recommended, DBP has provided justification for a level of expenditure that is marginally in excess of its forecasts for the period 2011 to 2015; accordingly no change is recommended for this period. It is noted, however, that there remains an unjustified discrepancy when compared to the actual expenditure reported in 2010.
- Entertainment Expenses – DBP has provided a breakdown of its forecast costs, which Halcrow assesses as being reasonable. No change to Halcrow's findings in respect of this item is proposed.
- IT Costs – DBP has provided more detailed justification for its IT expenditure forecasts, together with an explanation for the significant movement in recorded actual costs between 2008 and 2009. Halcrow's recommendation in respect of the prudent and efficient level of expenditure has been adjusted accordingly.
- Repairs and Maintenance Costs – DBP contends that, in view of the growth in its asset base and the increased number of items of rotating equipment and valves, increases in forecast expenditure are justified. Halcrow has, however, assessed that on the basis that no additional quantitative information has been provided to justify the increased costs, there is no basis to change its previous recommendations.

- CPRS Costs – whilst Halcrow notes that current Government intent is to introduce a carbon tax regime from July 2012, it also notes that neither the introduction nor any other detail (including price) has yet been confirmed. Halcrow is of the opinion that a reference tariff variation mechanism may be a more appropriate approach to dealing with such costs, if and when they are incurred. Consequently, Halcrow has made no change to its previous recommendations, which include an adjustment to the allowance in respect of salaries, to exclude costs associated with the introduction of a carbon tax.
- Self Insurance – on the basis that no relevant information has been provided to Halcrow for review, there is no basis to change the previous recommendations, ie. Halcrow is unable to comment in respect of DBP's forecast self insurance costs.
- Compressor Overhauls – DBP has provided more detailed information in respect of the cost of compressor overhauls. On the basis of this information, Halcrow has revised its recommendations in respect of this item of expenditure.
- Regulatory Expenses – although Halcrow notes the Authority's assessment, as new (qualitative) supporting information has been provided in relation to the forecast regulatory expenses, Halcrow's remains satisfied that the expenditure is prudent and efficient.
- Fuel Gas – whilst no adjustment was previously recommended by Halcrow, DBP has provided additional detailed information to justify its forecast increase in the transient fuel allowance, and therefore the forecast costs for fuel gas. No change to Halcrow's findings in respect of this item is proposed.
- Utilities, Rates and Taxes – as DBP has been unable to provide any additional information in respect of this expenditure item (specifically in relation to its Access Rights Charges), no change to Halcrow's findings in respect of this item is proposed.

It is noted that Halcrow's further assessment of operating expenditure has been made against the forecast expenditure proposed in DBP's Original Access Arrangement Proposal (as clarified by Submission 12). Halcrow has not had sight of DBP's Amended Access Arrangement Proposal, so has been unable to comment in respect of any changes to its forecasts presented therein.

On the basis of this supplementary assessment, a reduction of some \$59.018 million (\$2009 real) in the five (5) year program is proposed. The proposed adjustments are summarised in **Table 4.1**; changes from Halcrow's original assessment are shaded.

Table 4.1 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(1)							-0.143	- 0.146	- 0.149	-0.152	-0.155
IT Expenditure adjustment							-	-	-	-	-
Repairs and maintenance adjustment(2)							-1.166	-1.166	- 1.166	- 1.166	-1.167
CPRS adjustment(2)							- 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							-1.090	-1.090	-1.091	-1.090	-1.090
Total Non-Recurrent Operating Expenditure				17.717	20.908	20.985	28.577	29.705	29.618	32.289	32.717
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
Total Operating Expenditure - r91 NGR (Final Recommended)							**90.860**	**92.489**	**92.911**	**96.101**	**97.059**
Total Operating Expenditure - r91 NGR (Original Recommended)							85.238	86.867	87.289	90.479	91.436
Difference (Original to Final Recommended)							5.623	5.622	5.622	5.622	5.622

Source: DBP Forecast – Submission 23, Attachment 6.1, Table 1. Figures indexed to $2009 real using indices in Table 3.1 of the *Draft Technical Review Report*.

Note: (1) Expenditure adjustment based on Original Assessment (refer *Draft Technical Review Report*); no further assessment made as part of Supplementary Review.

(2) Further assessment made as part of Supplementary Review, however, no change to expenditure adjustment recommended.

5 Conclusions

5.1 *Overview*

Halcrow's supplementary review of DBP's capital and operating expenditure has been based on information presented in its Submissions 53 and 54, made in response to the ERA's *Draft Decision*.

A summary of Halcrow's findings in respect of the additional information provided is presented in the following sections.

5.2 *Capital Expenditure*

5.2.1 *General*

Halcrow has undertaken an assessment of the additional information provided by DBP in respect of its forecast Stay-in-Business Capital Expenditure program and has made a number of adjustments to its previous recommendations.

An assessment has also been made in respect of revised expenditure forecasts for 2010 and 2011, principally involving carry forward of Capital Works in Progress (CWIP) expenditure. Additional projects that had not previously been identified have also been assessed.

5.2.2 *Updated Findings in respect of SIB Program*

On the basis of this supplementary assessment, a reduction of some $19.858 million ($nominal) or $18.089 million ($real 2009) in the five year program, as presented in DBP's Original Access Arrangement Proposal, is recommended.

In summary, changes to Halcrow's previous recommendations have comprised:

- revisions to the forecast timing of expenditure for four (4) items; in each case rescheduling was previously recommended;
- increases to expenditure on three (3) items amounting to a total of $1.565 million over the forecast period;
- removal of expenditure of $0.800 million on one (1) item to eliminate double counting (expenditure now claimed as CWIP expenditure); and
- assessment that expenditure (amounting to a total of $2.005 million over the forecast period) in respect of three (3) items has now been justified.

DBP's actual/forecast Stay-in-Business capital expenditure and Halcrow's recommended NGR Rule 79 compliant Stay-in-Business capital expenditure are summarised in **Table 5.1**; changes from Halcrow's original assessment are shown shaded.

5.2.3 *Findings in respect of Amended Capital Expenditure Proposal*

A review of DBP's listing of CWIP expenditure reveals that, from an overall perspective, CWIP expenditure (particularly large expenditure items) is generally aligned to the expenditure forecasts for 2010 as shown in the Original Access Arrangement Proposal. There are also several items of expenditure that appear to be early expenditure in respect of projects/activities programmed for implementation in 2011 and/or beyond.

On this basis, it appears appropriate that CWIP Stay-in-Business expenditure amounting to $28.219 million ($nominal) or $26.859 million ($real 2009) is recorded as being incurred in 2011. This amount is in addition to that forecast in the Original Access Arrangement Proposal to be incurred in 2011 that has now been assessed as prudent and efficient, however, should be offset against the Stay-in-Business capital expenditure recommended in the *Draft Technical Review Report* for 2010. The recommended level of prudent and efficient Stay-in-Business expenditure for 2010, as assessed on the basis of the Original Access Arrangement Proposal, should be revised to $23.541 million ($nominal) or $23.639 million ($real 2009).

A review of the additional projects that had not previously been identified has led to recommendation that that expenditure amounting to $1.409 million ($nominal) or $1.341 million ($real 2009) associated with a further six (6) projects (all expenditure is forecast to be incurred in 2011) is justified. A reduction of the amounts forecast by DBP is recommended, principally in relation to a project that had, in fact, been identified under the Original Access Arrangement Proposal.

DBP's forecast CWIP and additional Stay-in-Business capital expenditure and Halcrow's recommended NGR Rule 79 compliant CWIP and additional Stay-in-Business capital expenditure to be recorded in 2011 are summarised in **Table 5.2**.

5.3 *Operating Expenditure*

Halcrow has undertaken an assessment of the additional information provided by DBP in respect of its forecast Operating Expenditure and has made a number of adjustments to its previous recommendations. On the basis of the information now available, Halcrow has made the following findings:

- Consulting Costs – whilst no adjustment was previously recommended, DBP has provided justification for a level of expenditure that is marginally in excess of its forecasts for the period 2011 to 2015; accordingly no change is recommended for this period. It is noted, however, that there remains an unjustified discrepancy when compared to the actual expenditure reported in 2010.
- Entertainment Expenses – DBP has provided a breakdown of its forecast costs, which Halcrow assesses as being reasonable. No change to Halcrow's findings in respect of this item is proposed.
- IT Costs – DBP has provided more detailed justification for its IT expenditure forecasts, together with an explanation for the significant movement in recorded actual costs between 2008 and 2009. Halcrow's recommendation in respect of the prudent and efficient level of expenditure has been adjusted accordingly.
- Repairs and Maintenance Costs – DBP contends that, in view of the growth in its asset base and the increased number of items of rotating equipment and valves, increases in forecast expenditure are justified. Halcrow has, however, assessed that on the basis that no additional quantitative information has been provided to justify the increased costs, there is no basis to change its previous recommendations.
- CPRS Costs – whilst Halcrow notes that current Government intent is to introduce a carbon tax regime from July 2012, it also notes that neither the introduction nor any other detail (including price) has yet been confirmed. Halcrow is of the opinion that a reference tariff variation mechanism may be a more appropriate approach to dealing with such costs, if and when they are incurred. Consequently, Halcrow has made no change to its previous recommendations, which include an adjustment to the allowance in respect of salaries, to exclude costs associated with the introduction of a carbon tax.
- Self Insurance – on the basis that no relevant information has been provided to Halcrow for review, there is no basis to change the previous recommendations, ie. Halcrow is unable to comment in respect of DBP's forecast self insurance costs.
- Compressor Overhauls – DBP has provided more detailed information in respect of the cost of compressor overhauls. On the basis of this information, Halcrow has revised its recommendations in respect of this item of expenditure.
- Regulatory Expenses – although Halcrow notes the Authority's assessment, as new (qualitative) supporting information has been provided in relation to the forecast regulatory expenses, Halcrow's remains satisfied that the expenditure is prudent and efficient.

- Fuel Gas – whilst no adjustment was previously recommended by Halcrow, DBP has provided additional detailed information to justify its forecast increase in the transient fuel allowance, and therefore the forecast costs for fuel gas. No change to Halcrow's findings in respect of this item is proposed.
- Utilities, Rates and Taxes – as DBP has been unable to provide any additional information in respect of this expenditure item (specifically in relation to its Access Rights Charges), no change to Halcrow's findings in respect of this item is proposed.

It is noted that Halcrow's further assessment of operating expenditure has been made against the forecast expenditure proposed in DBP's Original Access Arrangement Proposal (as clarified by Submission 12). Halcrow has not had sight of DBP's Amended Access Arrangement Proposal, so has been unable to comment in respect of any changes to its forecasts presented therein.

On the basis of this supplementary assessment, a reduction of some $59.018 million ($2009 real) in the five (5) year program is proposed. The proposed adjustments are summarised in **Table 5.3**; changes from Halcrow's original assessment are shaded.

Table 5.1 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**
$nominal												
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	17.164	15.647	13.143	13.127	13.791	151.759
Variance	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-6.169*	*-3.708*	*-3.850*	*-3.443*	*-3.529*	*-20.699*
$real 2009												
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	16.337	14.530	11.907	11.602	11.892	144.707
Variance	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-5.872*	*-3.443*	*-3.488*	*-3.043*	*-3.043*	*-18.889*

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 the *Draft Technical Review Report* to $real values.

Table 5.2 Proposed and Recommended CWIP and Additional 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
$nominal												
DBP's Proposed/Forecast expenditure							36.247					36.247
Halcrow Recommended							33.365					33.365
Variance							*-2.882*					*-2.882*
$real 2009												
DBP's Proposed/Forecast expenditure							34.500					34.500
Halcrow Recommended							31.757					31.757
Variance							*-2.743*					*-2.743*

Source: Forecast data ($nominal) derived from Submission 53 – Roll Forward of the Capital Base, pgs 22-27. Forecast data ($real) determined by application of escalation indices in Table 3.1 of the *Draft Technical Review Report* to $nominal values.

Table 5.3 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(1)							-0.143	- 0.146	- 0.149	-0.152	-0.155
IT Expenditure adjustment							-	-	-	-	-
Repairs and maintenance adjustment(2)							-1.166	-1.166	- 1.166	- 1.166	-1.167
CPRS adjustment(2)							- 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							-1.090	-1.090	-1.091	-1.090	-1.090
Total Non-Recurrent Operating Expenditure				17.717	20.908	20.985	28.577	29.705	29.618	32.289	32.717
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
Total Operating Expenditure - r91 NGR							**90.860**	**92.489**	**92.911**	**96.101**	**97.059**

Source: DBP Forecast – Submission 23, Attachment 6.1, Table 1. Figures indexed to $2009 real using indices in Table 3.1 of the *Draft Technical Review Report*.

Note: (1) Expenditure adjustment based on Original Assessment (refer *Draft Technical Review Report*); no further assessment made as part of Supplementary Review.

(2) Further assessment made as part of Supplementary Review, however, no change to expenditure adjustment recommended.

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