



**SUBMISSION 17: Response to Halcrow Pacific Issues
Report / Request of Information**



Date Submitted: 25 June 2010

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TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	GENERAL INFORMATION REQUESTED.....	3
3.	HISTORICAL CAPITAL EXPENDITURE	6
4.	STAY-IN-BUSINESS EXPENDITURE (2005 TO 2010).....	8
5.	FORECAST CAPITAL EXPENDITURE	17
6.	STAY-IN-BUSINESS CAPITAL EXPENDITURE (2011 TO 2015).....	18
7.	HISTORICAL OPERATING EXPENDITURE	30
8.	FORECAST OPERATING EXPENDITURE	33
9.	CONFIDENTIALITY.....	37

1. INTRODUCTION

- 1.1. On Friday 4 June 2010, the Economic Regulation Authority (**ERA**) issued DBP with an Information Request (**Information Request**) to assist in the assessment of the proposed revisions to the Access Arrangement. DBP has been provided with two documents outlining the Information Request's requirements:
 - (a) Report prepared by ERA consultants Halcrow Pacific Pty Ltd (**Halcrow Report**); and
 - (b) DBP's confidential tariff model with highlighted areas indicating requests for further information.
- 1.2. The ERA asked DBP to provide a response by Tuesday 15 June 2010 and advised that Halcrow Pacific intend to meet with DBP management during the week commencing 21 June 2010, now currently planned to commence 5 July 2010.
- 1.3. DBP, during phone conference on Wednesday 9 June, advised the ERA that in the time provided, 6 working days, it will not be possible to provide everything that has been requested. Given the above issues, we think it would be more appropriate that:
 - (a) the ERA provide us with more time to clarify the issues with the Information Request;
 - (b) allow more time for the information to be provided before a meeting is held with Halcrow and DBP;
 - (c) defer the meetings with Halcrow by at least a fortnight so that most of the information can be provided before hand.
- 1.4. DBP provided the ERA with a submission on Tuesday 15 June containing informing it was able to bring together within that timeframe. This submission is supplementary to the initial submission (14).
- 1.5. This submission will detail DBP's response to the Information Request. DBP will endeavour to provide all relevant and reasonable materials requested in the Information Request as soon as practicable. Where information is still to be provided it is stated in this submission.
- 1.6. The remaining information required as part of the tariff model is provided to the ERA in an updated MSEXcel file, a copy of which is appended to this submission.
- 1.7. As advised in the initial submission of 15 June, there are a number of overarching concerns DBP has with the nature and type of information being requested. These concerns are outlined in section 2 of submission 14.
- 1.8. The sections of this submission that follow section 2 are structured using the same structure used in the Halcrow Report. That is:
 - (a) Section 2 deals with the general information in item 1
 - (b) Section 3 deals with the Historical capital Expenditure information sought in item 2
 - (c) Section 4 deals with the Stay-in-Business Capital Expenditure information sought in item 3
 - (d) Section 5 deals with the Forecast Capital Expenditure information sought in item 4
 - (e) Section 6 deals with the Stay-in-business Capital expenditure (2011 to 2015) information sought in item 5

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- (f) Section 7 deals with the Historical Operating Expenditure information sought in item 6

2. GENERAL INFORMATION REQUESTED

- 2.1. The Halcrow report has outlined some general information which it requires, as outlined in the following table.
- 2.2. DBP has shaded out items that have already been responded to in submission 14.

Item	Description	Comment
1	General	
1.1	Please provide a copy of the Asset Management Plan	To get an understanding of the asset management strategy adopted by DBP including the infrastructure replacement strategy.
1.2	Please provide a copy of the Safety Case.	To get an understanding of the safety regime.
1.3	Please provide a copy of the capitalisation policy.	To understand what is capitalised versus operating expenditure.
1.4	Please explain how DBP has entered into an Alliance arrangement with a service provider.	To get an understanding of how DBP has gone to the market to put into place an Alliance arrangement.
1.5	Please provide a copy of the IT strategy document for both the current period and the forecast period.	To get an understanding of the IT strategy for the \$█ adopted by DBP including the replacement plan and the adoption of new technology.
1.6	Please provide details of the costing methodology adopted for the 2010 capital expenditure and the rationale justifying the projects.	To understand how the 2010 capital projects have been derived and costed (It is acknowledged that this request could be covered in the Asset Management Plan).
1.7	Please provide details of the costing methodology adopted for the 2011 to 2015 capital expenditure and the rationale justifying the projects.	To understand how the 2011 to 2015 capital projects have been derived and costed (It is acknowledged that this request could be covered in the Asset Management Plan).
1.8	Please provide details of the pipeline modelling used in determining the pipeline augmentation required and the timing of the augmentation.	To get an appreciation of the methodology used to determine the extent and timing of the augmentation.
1.9	Please provide the inflation factors that have been used in the forecast capital.	To be able to convert the costs to real dollars (\$)

Response to 1.5 – IT Strategy

- 2.3. As explained in Section 5 of Submission 1 (Background Information), DBP explains that following negotiations in 2008, after acquisition of Alinta by consortium in 2007, between DBP, AAM and Prime, the parties agreed on a structure to allow for the removal of AAM as a party to the OSA, a novation of the OSA by AAM and a change of control of the asset manager to occur. This occurred in the following steps:
- On 10 February 2009, the OSA was amended to provide for the resumption by DBP of most of the services AAM provided under the OSA;
 - On May 2009, AAM novated its rights and obligations under the OSA to an entity known as WestNet Energy Services Pty Ltd. At that, WestNet Energy Services Pty Ltd (WNES) was wholly owned by AAM; and
 - Immediately following the step above, AAM's shares in WNES were transferred to WestNet Energy Pty Ltd, so that WNES became, indirectly, a 100% wholly owned subsidiary of Prime.
- 2.4. This structure had the following effects:
- A Transition Agreement was executed on 20 January 2009 by DBP, AAM and WNES, which provides (in summary), for the following:

- (i) The resumption by DBP of the responsibility for a range of services relating to the operation and maintenance of the DBNGP AAM provided under the OSA (defined as Resumed Services);
 - (ii) The transition of employment of staff from AAM to DBP to enable the Resumed Services to be provided by DBP. For practical reasons, the staff were initially seconded to DBP by AAM and commenced employment with DBP on 1 April 2009;
 - (iii) The transfer of assets, contracts, software licences and databases required to enable DBP to resume responsibility for the Resumed Services; and
 - (iv) The consent by DBP to the novation of AAM's right's and obligations under the OSA by AAM to WNES and the change of control of WNES from AAM to WNE.
- 2.5. The OSA was amended on 10 February 2009 to reflect the fact that DBP had taken responsibility for Resumed Services and to outline the arrangements for the provision by AAM of the Resumed Services. A copy of the amended and restated OSA has already been provided as attachment 5 to Submission 1.
- 2.6. Schedule 2 of the amended OSA (attachment 5 of Submission 1) outlines the principles for IT Services under the amended OSA.
- 2.7. Additionally, DBP provides the Service Level Agreement (SLA) with WestNet Energy (attachment 1.5 c SLA WESTNET ENERGY). The SLA further outlines IT service provision from Westnet Energy to DBP
- 2.8. As explained above DBP has internalised a number of IT functions. DBP currently has four separate ICT functions operating within the business:
 - (a) SCADA and closely related equipment and systems
 - (b) Microwave and ancillary communications BT Phone. Satellite, mobiles
 - (c) ICT Service Manager
 - (d) ROS Terminals, IDS, Firewalls, Data Warehouse for SCADA
- 2.9. DBP has already provided the following documents in response to request 1.5:
 - (a) DBP's 2009-2010 IT Service Plan was provided as attachment *1.5 a 2009-10 DBP IT Service Plan Final v0.15*. DBP's IT strategy is outlined in Section 4 of the document; and
 - (b) DBP's IT Service Plan for 2010 - 2011 was provided as attachment *1.5 b DBP IT Service Plan 2010-2011 merged v15(signed).v17.doc*. DBP's IT strategy is outlined in Section 4 of the document.
- 2.10. In addition, DBP's IT Strategy for 2007 to 2011 is provided as attachment 1.5 b IT Strategy 2007-2011 (final draft).pdf
- 2.11. It should also be noted that, although WestNet is currently obligated to provide DBP with some IT services until 2013, DBP is currently examining the future of IT service provision for its' business. A number of options are being considered including, maintaining the status quo, transferring to another service provider, completely in-sourcing ICT functions or a multi-sourcing strategy.
- 2.12. Each option will be considered in terms of the benefits and weaknesses and any special features that it might have.

Response to 1.6 & 1.7 – Costing Methodology

2.13. In submission 14, DBP has already provided the following:

- (a) Costing methodology as part of DBP's overall project review process. DBP's Project Review Committee (PRC) is responsible for considering and recommending all stay-in-business capital expenditure and capital expenditure projects to the board. As part of that process there is a detailed identification and costing of projects. The following documents describe the functions of the PRC and the relevant business process relevant to project costing methodology.
- (b) DBP's SIB business process map it provided as attachment 1.6 b *SIB Business Process.pdf*
- (c) DBP SIB project review and approval process is managed by a Project Review Committee. Its responsibilities and activities are outlined in the committee charter (*attachment 1.6 b PRC Charter_Final.pdf*)
- (d) A presentation outlining the PRC guide provides further context to the committee and DBP's business process (*attachment 1.6 d DBNGP Minor Project Review 2009.ppt*)

2.14. In addition to that already provided, DBP submits its' project cost estimation guidelines (*attachment 1.6 e Project Estimating Guidelines.doc*).

2.15. The attached guidelines provide important context to the methodology DBP has used to scope and cost planned works. Further explanation will be provided at the proposed workshops.

3. HISTORICAL CAPITAL EXPENDITURE

3.1. The Halcrow report has outlined specific and general information which it requires for the actual capital expenditure incurred in the period 2005 to 2010, as outlined in the following table.

3.2. DBP has shaded out items that have already been responded in an earlier submission.

Item	Description	Comment
2	Expansion Capital Expenditure (2005 to 2010)	
2.1	Please provide the actual gas quality reading since 2005.	To understand the impact of the actual versus minimum specified gas quality.
2.2	In <i>Submission 9</i> , section 9.4, DBP advised that it has used a different ledger for recording different actual expenditure. What is the difference in to the previous ledger that makes it difficult to reconcile the information provided to the ERA in 2005.	To be able to make comparison of the actual versus forecast provided in 2005.
2.3	In <i>Submission 9</i> , section 9.10, in respect to the FEED study, DBP indicated that the cost included both internal and external feed consultant cost. Please provide supporting information to show that the internal cost has not also been included in the operating cost or in the overheads.	To ensure that there is no double counting in the capital project cost.
2.4	In <i>Submission 9</i> , section 9.18, DBP indicated that duty is payable at 5% of the cost of pipe. Please provide supporting information that shows that DBP is required to pay the duty.	To justify the cost of the purchase of the pipes.
2.5	<i>Submission 9</i> , section 9.19 states that interest costs during construction have been included. Please provide a spreadsheet showing how the interest charges have been included in the construction costs.	To understand the impact of the interest charges on the construction costs.
2.6	<i>Submission 9</i> , section 10.38 discusses how the effect of HHV and Wobbe index experienced since 2005 has impacted on DBNGP capacity and DBP's ability to meet its existing contractual obligations. Please provide information on the variability of the HHV and Wobbe index and the impact on DBP's ability to meet its contractual obligations. Please detail the number of incidents that have occurred. Please indicate whether DBP has incurred additional costs as a result of this issue.	To understand the impact of HHV and Wobbe index on DBP expansion program.
2.7	<i>Submission 9</i> , section 11.10 states that increased electric power generation capability will be required and, as such, existing gas engine alternators have to be replaced. Please advise whether the existing units have been disposed of or sold. If sold please indicate the sell price of these items.	Understand the materiality of the sale of the alternators.
2.8	Additional data to support <i>Submission 9</i> , Attachment 12 Audit Report Capex Stage 5A is requested.	Attachment 12 is a table – are there any BDO Audit Reports or documents to support the figures?
2.9	Is there a document covering Stage 5B Looping - Design Basis?	It is understood that the Stage 5B design was closely based on Stage 5A.
2.10	Is there a document covering Stage 5B Compression - Design Basis?	It is understood that the Stage 5B design was closely based on Stage 5A.
2.11	Explanation of <i>Submission 9</i> , Attachment 15 - Stage 5 Technical Review, 29 June 2006 is required.	Capacity figures, stages, scope of work appear to be different to other documentation?
2.12	Please provide financial audit report for the expenditure for Stage 5B for the current period.	
2.13	Please explain what is included in the DBP overhead cost and the AAM margin costs on overheads in the	Understand what is included in the overheads and margin.

	table in section 11.12	
2.14	In <i>Submission 9</i> , section 17.13(b), DBP states that it has informal supporting information from a number of reputable consulting firms that the project management fees are in accordance with accepted industry practice; and in section 17.13(d) say that recent market information (publicly available) shows (i) that it is accepted industry practice for project management fees to be included into contracts for infrastructure construction, and (ii) that the 3% fee compares favourably with other fees payable in similar circumstances. Please make this information available for review.	To provide an improved understanding of these fees and their applicability to the capital programs.

Response to 2.2 – Project Ledgers

- 3.3. DBP is in the process of collating this information and is working with its project manager and will be made available as soon as possible.

Response to 2.3 – Consultant Costs

- 3.4. DBP is in the process of collating this information and is working with its project manager and will be made available as soon as possible.

Response to 2.4 - Duty

- 3.5. Duty costs were originally assumed in project budgets as evidenced by Submission 9. However, after the commencement for each project DBP was granted exemptions to the Duty in each case except for small amounts which can be evidenced by specific duty reconciliations.
- 3.6. The Duty fee is not reflected in actuals and can be further discussed at the proposed workshops.
- 3.7. Additionally, DBP is in the process of collating information and will be made available as soon as possible.

Response to 2.7 - GEAs

- 3.8. DBP is in the process of collating this information and is working with its project manager and will be made available as soon as possible.

Response to 2.11 – Stage 5 Technical Review

- 3.9. DBP has proposed to explain differences in documentation specifically, submission 9 attachment 15 – stage 5 Technical Review 29 June 2006, in an out of session phone conference during week commencing 21 June.
- 3.10. If required further explanation can be provided during the July workshops.

Response to 2.13 – Overhead Costs

- 3.11. DBP is in the process of collating this information and is working with its project manager and will be made available as soon as possible.

4. STAY-IN-BUSINESS EXPENDITURE (2005 TO 2010)

4.1. The Halcrow report has outlined specific and general information which it requires for the stay-in-business expenditure incurred in the period 2005 to 2010, as outlined in the following table.

Item	Description	Comment
3	Stay-in-Business Capital Expenditure (2005 to 2010)	
3.1	Computers – ██████████ \$██████ in 2007; please provide details of the \$██████ (eg. design, procurement, installation, overheads etc) and the business case.	To understand the different components of the costs for the relocation of the control room.
3.2	Motor Vehicles – Please provide a copy of the vehicle replacement policy and outline the types of vehicles included in the cost category.	To get an appreciation of the frequency of vehicle replacement.
3.3	SCADA – Please provide a copy of the SCADA strategy prepared in 2006.	To understand the justification for the upgrade.
3.4	SCADA – In 2010, there is a cost of \$██████ please provide details of the project scope, details of the cost and business case.	Explanation in <i>Submission 10</i> is not clear in respect to what is proposed for 2010.
3.5	CCTV – Please provide scope of works, details of the cost of \$██████ in 2010 and the business case for the project.	No details of the project were provided in <i>Submission 10</i> .
3.6	Software – Please provide the scope of works, details of the cost of \$██████ in 2010 and the business case for the Maximo project	Project was only shown as Corporate system in <i>Submission 10</i> .
3.7	Compression – Please provide a copy of the replacement philosophy adopted for compressors.	To get an understanding of the frequency of replacement.
3.8	Compression – CS6/2 Nuova Pignone Low Pressure Turbine replacement at a cost of \$██████ in 2009. Please provide scope of works, details of costs and business case.	To understand the scope of works and the cost.
3.9	Compression – CS2/2 Solar Mars 100 cost \$██████ in 2009. Please provide scope of works, details of costs and business case.	To understand the scope of works and the cost.
3.10	Compression – CS8/2 Solar Mars 100 cost \$██████ in 2009. Please provide scope of works, details of costs and business case.	To understand the scope of works and the cost.
3.11	Compression – Please provide scope of works, details of the cost of \$13.1m in 2010 and the business case for the projects.	No details of the project were provided in <i>Submission 10</i> .
3.12	Microwave – Please provide scope of works, details of the cost of \$██████ in 2010 and the business case.	To understand the scope of works and the cost.
3.13	DBNGP Signage – Please provide scope of works, details of the cost of \$██████ in 2010 and the business case.	To understand the scope of works and the cost.
3.14	Compressor Station Pipework – Please provide scope of works, details of the cost of \$██████ in 2010 and the business case for the project/s.	To understand the scope of works and the cost.
3.15	Transition Costs – Please provide scope of works, details of the cost of \$██████ in 2010 and the business case for the project/s.	To understand the scope of works and the cost.
3.16	Coating and Earthing Replacement – Please provide scope of works, details of the cost of \$██████ in 2010 and the business case for the project/s.	To understand the scope of works and the cost.

4.2. DBP provides the following in respect to the items in the table that it has been able to collate in the time available. It is still in the process of collating material for the remaining items which will be provided when they come to hand.

Response to 3.1 - Computers

4.3. DBP provided the following project justification in its initial submission of 15 June:

- (a) The GHD House lease expired at the end of August 2006 with only one extension available, a three year option for both levels 5 & 7.
- (b) With the lease expiry comes a requirement to determine the most suitable risk mitigation strategy for the control centre. As there is only a three year option available on accommodation, the condition of supporting infrastructure and accommodation requirements for the control centre are required to be considered together with other DBP operation and project requirements over this time.
- (c) Following review of the GHD House facility, it was proposed to refurbish and/or replace equipment which is at end-of-life (EOL) or has a high potential for failure within the control facility at the same time bring the control centre in line with present industry standards.
- (d) The proposal supported the relocation of the GHD House control centre to a purpose built facility within the Allendale II building which that the time was being fitted out. This would leave the existing facility to be used as a functional operations and commercial Disaster Recovery ('DR') site as opposed to the existing Jandakot back up facility that services as an operational only DR site.
- (e) Any hardware or equipment that was owned by DBP, and identified for relocation was to remain the property of DBP within the new facility and was not included within the business case.
- (f) The following risks were identified for the existing DBNGP Control Room at GHD House and its operational up at Jandakot:
 - (i) The telecommunications infrastructure is at EOL and has no inbuilt redundancy
 - (ii) Some equipment is outside of the manufacturer's technical support.
 - (iii) The voice communications design for the control centre operators is no longer suitable for a modern command and control facility that supports the DBNGP with growth generated by STX4 and 5A. This is due to the number of single points of failure embedded into the design.
 - (iv) Not all the equipment can be replaced due to age, service status or condition. The UPS currently supporting the control room is currently operating well beyond its rated capacity.
 - (v) Furthermore, due to the design of the cabling infrastructure an lack of redundancy, the UPS unit is not able to be removed from service without exposing the infrastructure to further significant risk.
 - (vi) The Jandakot DR site is a back up for operational purposes only and does not support any of the commercial systems managed at the main control room. The same DR site's telephony connectivity requires upgrade.
 - (vii) The Jandakot DR site is not able to be provisioned with Telco fibre optic cable at that point in time to implement industry standard DR connectivity as there is none available within 3-5km from the site.

4.4. In addition to that already provided, a budget was prepared for the project with a total forecast expenditure of \$ [REDACTED]. The project was undertaken as a shared infrastructure project with [REDACTED] [REDACTED] DBP's was portion, as indicated below, was forecast to be \$1,278,025.

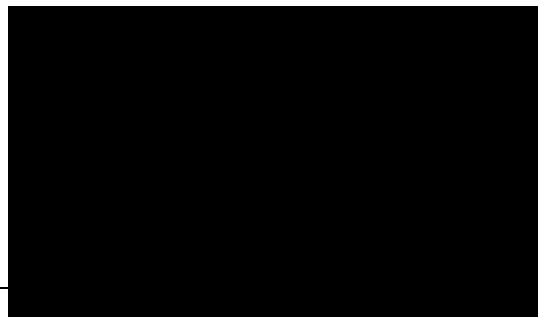
Cost item	Total Expenditure	DBP Share
Enhancement lighting for control room General operations office fit-out SCADA comm's and staging room fit-out Operations relocation costs TSCC lockers Raised floor in Control & Communications rooms Air-conditioning upgrade to base building for Control Centre and staging room Air-conditioning upgrade to base building for computer room and SCADA comms 3 Layered security system Smoke & water detection in U/F Acoustic treatment for control centre & ICC/EMR Data & UPS circuits for ICC/EMR area Control area desks Control filing and storage joinery ICC/EMR joinery & furniture Coordination room shift chairs UPS support & backup supplies to various locations - 60%-40% split C&C vs Alinta Generator - 60%/40% split C&C vs Alinta Redundant Fibre Connectivity including hardware and internal and external cabling Data & UPS circuits for NTCC & SCADA area C&C specialist and project manager Additional white goods for control area TSCC room & EMR fit-out Discovery project for SCADA equipment Fire suppression system Coordination centre communications system (BT) SCADA workstation hardware Software enhancements for NTCC, EMR & crisis rooms AV requirements for EMR & coordination room		

DDS, PAPL & PSTN line costs

19" SCADA flat screen monitors

Staff, backfill & project costs - C&C activities

Total



4.5. DBP has advised (in submission 10) that the actual expense of its share in the project in 2007 was \$1,317,070.53.

Response to 3.2 – Motor Vehicles

4.6. DBP provides its guidelines for vehicle management and purchasing (attachment 3.2 *Vehicle Procedure DBP-PR-0001 (6) (25.07.08).doc*)

Response to 3.3 SCADA Strategy

4.7. DBP in response to request 3.3 provides the 2006 SCADA strategy documentation (attachment 3.3 a *IPSA Final Strategy Report _V5 3.pdf*)

Response to 3.4 – SCADA

4.8. The DBNGP was supervised by a Telvent OASyS 5.2.2UX SCADA system. This system was commissioned in 1999, with the application remaining largely unchanged since that time. A Telvent historian was being used for data archiving however the capacity of that historian was limited.

4.9. The Telvent platform at the time was supported by TUSC, however the hardware platform was deemed to be at the end of life and support dependent on arrangements with a third party supplier.

4.10. It was for these reasons the system was replaced by a new OASyS DNA 7.5 system.

4.11. DBP provides the following attachments which further describe the SCADA project;

- (a) 3.4 a SCADA Functional Design Spec V0.3.pdf
- (b) 3.4 b Gas Suite Functional Design Spec V0.1.pdf

4.12. DBP provides the following Monte Carlo cost analysis demonstrating expected costs:

SCADA UPGRADE

	Baseline	P50	P85	P50	P85	P50 Contingency	P85 Contingency
Server Hardware							
Client hardware							
Network, Communications and Peripherals							
SCADA Licenses							
Gas Appl Licenses							
Third Party Licenses							
Documentation							
Training							
Warranty							
Project Admin and Services							
Custom Engineering							
Internal Cost							
Total							

4.13. DBP advised (in submission 10) that the actual expense of the project in 2010 was \$3,584,892.00.

Response to 3.5 – CCVT

4.14. The aim of this project is to supply 8 +1 off CCVT's to replace failed CCVT's to ensure reliable power supply for the sites with failed units.

4.15. In total DBP had 19 obsolete CCVTs. 10 units were replaced as part of Stage 5B expansion project, the remaining 9 units are included in this project budget.

4.16. Reliable Power supply at MLV sites is crucial for:

- (a) The operation and control of MLVs,
- (b) Providing TSCC with SCADA visibility of the site, and
- (c) Powering the communications network along the pipeline to ensure less downtime and greater communication reliability.

4.17. DBP provides the FEED study prepared for this project in attachment 3.5 a FEED CCVT Replacement_20112008

4.18. The estimated over all cost for was \$4,339,436 outlined in the table below.

Description	\$\$\$
EPCM (Inc EOP labor)	
Materials	
Installation & Commissioning	
Fire and Gas	
Misc. Project Cost	
Total:	

4.19. DBP advised (in submission 10) that the actual expense of the project during 2010 was \$3,567,000.00.

Response to 3.6 – Software (Maximo)

4.20. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 3.7 - Compression

4.21. In response to request 3.6 DBP refers to the Asset and Maintenance Plans already provided as part of request 1.1.

4.22. DBP management can provide further information in the proposed workshops regarding replacement philosophy adopting in regards to compressors.

Response to 3.8 - Compression

4.23. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 3.9 - Compression

4.24. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 3.10 - Compression

4.25. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 3.11- Compression

4.26. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 3.12- Microwave

4.27. DBP provided the following project justification in its initial submission of 15 June:

- (a) The telecommunications network for the Dampier to Bunbury Natural Gas Pipeline (DBNGP) was an analogue microwave radio system. The microwave network was aging and subject to faults and failures. The telecommunication network carries all the SCADA information relating to compression controls and status, valve controls

and status and monitoring of the gas flows throughout the pipeline as well as telephony (voice) traffic, data and mobile radio traffic for the pipeline system.

- (b) Western Power had indicated that they intend to cease providing maintenance services on the old microwave radio system at the end of December 2007.
- (c) During the first quarter of 2006, Gibson Quai – AAS Pty Ltd was commissioned to carry out a study on the options for replacement of the existing microwave radio system and prepared a report with a number of recommendations on the way forward. The replacement of the old analogue microwave system with a new digital microwave system was identified as the lowest cost and possibly easiest to implement solution.
- (d) Tenders were called in December 2006 for the design, supply, installation and commissioning of a replacement Microwave Communications System inclusive of a VHF Radio System on a Lump Sum basis.
- (e) The tendering process together with the Monte Carlo Cost Risk Analysis process allowed the total project budget to be established.
- (f) The project was executed and coordinated in line with the Stage 5A project schedule.

4.28. Eight bids were received in response to Invitation to Bid for replacement of the Karratha to Perth microwave radio system.

4.29. Three organisations offered an Optic Fibre solution with the remainder offering a microwave radio solution.

4.30. All optical fibre solutions proposed by bidders were rejected because;

- (a) they are dependent on State Government approvals
- (b) the solution could not be delivered in the required timeframe
- (c) the offer was subject to capital contributions from Government and/or potential anchor tenants.

4.31. DBP provide the system upgrade design documentation including scope of work (attachment 3.12 AlintaDBNGP_MWDesign22112006_C)

4.32. DBP provides the following planned budget information:

	Baseline	P50	P85
EPCM			
Contract			
Worley Non Labor			
AAM			
Total			

4.33. DBP advised (in submission 10) that the actual expense of the project during 2010 was \$15,438,465.00.

Response to 3.13 – DBNGP Signage

4.34. DBP is in the process of collating this information which will be made available as soon as possible.

4.35. DBP advised (in submission 10) that the actual expense of the project during 2010 was \$1,073,713.00.

Response to 3.14 – Compressor Station Pipework

4.36. DBP provided the following project justification in its initial submission of 15 June:

- (a) The condition of the underground pipeline on the DBNGP is monitored via cathodic protection (CP) surveys and Direct Current Voltage Gradient (DCVG) surveys. However, the condition of the underground pipe work in compressor stations cannot be determined in the same manner due to the vast number of other underground systems in the vicinity. A dig up program of under ground pipe work was stated to verify the condition of the coating systems.
- (b) The project is to maintain an acceptable level of inspection of underground pipework.

4.37. In addition to that already provided, DBP provides the following planned budget information:

Description	Project Budget
Contracted Employees	[REDACTED]
Internal Labour	
Materials	
Travel & Accommodation	
Total	

4.38. DBP advised (in submission 10) that the actual expense of the project during 2010 was \$1,500,000.00 for the purposes of filing the proposed revisions to the access arrangement in 1 April 2010.

Response to 3.15 - Transition Costs

4.39. This project involves transition of certain DBNGP services from Alinta Asset Management (AAM)/WestNet Infrastructure Group (WNG)/WestNet Energy (WNE) to DBP requiring amendments to the OSA and the novation by AAM of its rights under the OSA to BBI.

4.40. The principles guiding the transition were as follows:

- (a) DBP to assume full responsibility for all DBNGP functions with the exception of expansion related project management services and IT/IS services;
- (b) WNG, either directly or through WNE will provide project management services for all expansion related capital works, with DBP having responsibility for managing SIB and minor capital works; and
- (c) WNG to continue to provide IT/IS services under services standards to be set out in the amended and restated OSA, with a view to reaching agreement on a stand-alone service arrangement outside the OSA and with a nominal 5 year term.

4.41. The key outcomes of the transition agreement were:

- (a) The transfer of approximately 170 positions to DBP in total;
- (b) Responsibility for existing non-DBNGP operations and maintenance services contracts currently performed by WNE for other gas pipelines to be transferred to DBP;
- (c) Work group rearrangement within Allendale II to accommodate DBP staff in spaces separate from WNG/WNE staff but in areas to be determined based on the space currently occupied on levels 6 and 7; and
- (d) A simplified IT transition with the objective of transferring all DBNGP and relevant third party asset data to DBP, with data retained by WNE being limited to that required to fulfil its remaining obligations under the OSA.

4.42. DBP advised (in submission 10) that the actual expense of the project during 2010 was \$1,177,501.00.

Response to 3.16 – Coating and Earthing Replacement

4.43. DBP provided the following project justification in its initial submission of 15 June:

- (a) To investigate the performance and status of the existing earthing grids in compressor stations from electrical and materials view points and come up with a proposal for new earthing grids to fulfil the safety requirements in future.
- (b) The original earthing grids in compressor stations being of zinc ribbons and galvanised steel had shown wide range of materials deterioration. The effects of corrosion were quite obvious with reference to extensive dig up and coating renovation programs in compressor stations 3, 5 and 8 in previous years.
- (c) The new study was to take into consideration take into consideration:
 - (i) The suitability of the existing earthing grids for their design purposes, ie electrical resistance to remote earth with particular attention to earthing islands.
 - (ii) At provision of distributed magnesium anodes within and around a compressor station to protect the new zinc grids.
 - (iii) A progressive plan to replace the earthing grids according to the results of earthing resistance measurements.

4.44. DBP advised (in submission 10) that the actual expense of the project during 2010 was \$2,073,131.00.

5. FORECAST CAPITAL EXPENDITURE

- 5.1. The Halcrow report has outlined specific and general information which it requires for the forecast capital expenditure, as outlined in the following table.
- 5.2. DBP was unable to prepare the required information outlined by Halcrow in the time available. DBP is currently finalising the response and will be provided to the ERA as soon as practicable.

Item	Description	Comment
4	Expansion Capital Expenditure (2011 to 2015)	
4.1	Pipeline – Please provide details of the scope of works.	To understand the extent of work and expenditure required to complete Stage 5B.
4.2	Compression – Please provide details of the scope of works.	To understand the extent of work and expenditure required to complete Stage 5B.
4.3	Other – Please provide details of the scope of works.	To understand the extent of work and expenditure required to complete Stage 5B.

- 5.3. DBP is in the process of collating this information which will be made available as soon as possible.

6. STAY-IN-BUSINESS CAPITAL EXPENDITURE (2011 TO 2015)

6.1. The Halcrow report has outlined specific and general information which it requires for the stay-in-business capital expenditure incurred in the period (2011 to 2014), as outlined in the following table.

Item	Description	Comment
5	Stay-in-Business Capital Expenditure (2011 to 2015)	
5.1	Compressor Stations – Replacement of compressor control at CS2, 4 & 7 at a cost of \$█ in 2011 and \$█ in 2012. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.2	Compressor Stations – Replacement of compressor control at CS10 to cost \$█ in 2012. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.3	Compressor Stations – Replacement of station PLC 5 at ACS sites and CS10 \$█ in 2011. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.4	Compressor Stations – CS6 NP exhaust replacement \$█ in 2014. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.5	Compressor Stations – Underground pipework at compressor station at \$█ per annum. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.6	Compressor Stations – Replace compressor station copper earthing (CS1, 5 & 8) at \$█ per annum from 2011 to 2013. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.7	Compressor Stations – Replacement of stage 3A turbine air inlet filters cost \$█ in 2011. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.8	Compressor Stations – Upgrade of compressor station costs \$█ in 2015. Please provide scope (age of building, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.9	Compressor Stations – GEA overhaul costs \$█ per annum. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.
5.10	Meter Stations – Flow computer upgrades cost \$█ in 2012 and \$█ in 2013 and 2014. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived.	To understand the scope of works and the costing methodology.

5.11	Pipeline – South West Communication Upgrade cost \$█████ per annum from 2011 to 2013. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived. Please clarify what is meant by “changes in the associated assets”.	To understand the scope of works and the costing methodology.
5.12	Pipeline – Replacement of CCVT cost \$█████ in 2011, \$█████ in 2012 and \$█████ in 2013. Please provide scope (age of equipment, work carried out internal/external) and details of the cost including how they have been derived. Please clarify the difference between the project in 2010 as compared to what is proposed from 2011 to 2013.	To understand the scope of works, the costing methodology and the difference between work in 2010 as compared to the forecast period.
5.13	Other – Jandakot office construction. Please provide details of cost including how they have been derived. Please detail if there are any cost savings as a result of the move.	To understand the benefit in the move, costing methodology and any cost savings.
5.14	Other – SCADA upgrade of \$█████ in 2011. Please provide details of the project, the cost and how it has been derived. Please clarify the difference in the project in 2010 and 2011.	To understand the scope of works and the costing methodology.
5.15	Other – Please provide the IT strategy that determines the requirements of: <ul style="list-style-type: none"> ▪ ICT (SAP, Maximo, CRS) replacement and the proposed timing; and ▪ Lap top replacement and the proposed timing. Also provide details of the costs and how they have been derived. 	To understand the scope of works, the justification and the costing methodology.
5.16	Other – Replacement vehicles cost \$█████ per annum; consistent with item 3.2 please provide details of the number, types of vehicles to be replaced and the costs per vehicle.	To understand the scope of works, the justification and the costing methodology.
5.17	Other – Software licences cost \$█████ per annum. Please detail how this provision has been derived and what type of licences they cover.	To understand the scope of works, the justification and the costing methodology.
5.18	Other – Management of change; please provide details of what type of changes have been provision for and how the costs of \$█████ per annum has been derived.	To understand the scope of works, the justification and the costing methodology.

6.2. DBP provides the following in respect to the items in the table that it has been able to collate in the time available. It is still in the process of collating material for the remaining items which will be provided when they come to hand.

Response to 5.1 – Compressor stations CS2, 4 & 7

6.3. DBP provided the following project justification in its initial submission of 15 June:

- (a) Upgrade existing Allen Bradley PLC 5/80 based system to Allen Bradley Contrologix5000 based system.
- (b) Upgrade of Fuel system to PECC based electrical actuator type system.
- (c) Upgrade of actuator system for IGV and Bleed valve.
- (d) Condition monitoring instrumentation upgrade
- (e) Installation & commissioning.
- (f) Age of Equipment: The station control system installed during the Stage 3 expansion project in the year 1990-1991.

- (g) Cost was derived based on the feed study carried out with [REDACTED] (control system supplier) and [REDACTED] (Field E&I Contractor).

6.4. DBP provides the following results from Monte Carlo cost analysis:

Description	Baseline	P	P50	P85	P50%	P85%	P50 Contingency	P85 Contingency
DBP								
Engineering (Plexal) - CS2,4,7								
Materials								
Solar Installation (USD exchange rate \$0.90/AUD)								
Total								

Response to 5.2 – Compressor Station

- 6.5. The project scope includes replacing existing relay based control system to Allen Bradley Contrologix PLC based control system at CS10/U1, CS10/U2.
- 6.6. The existing control system is a relay based hardwired system. This system is of the late 80's generation. There is no technical support from Solar and it is very difficult to fault find due to the obsolete hard wire system. Also Solar has introduced their control optimisation in their new Contrologix based control system which is not possible in the existing control system.
- 6.7. This replacement will remove the obsolete system and provide reliability of operation with new control system.
- 6.8. Project deliverables include:
 - (a) Replacement of existing Relay based hardwired control system to AB PLC Contrologic based control system supplied by Solar;
 - (b) Replacement of existing actuator of IGV, Bleed and Fuel valve with electrically operated PECC actuators; and
 - (c) Standardisation of control philosophy in line with Stage 4 and ACS Control system Upgrade project.
- 6.9. DBP provides the following results from Monte Carlo cost analysis:

CS10 Control System Upgrade

Note this is per unit cost

Description	Baseline	P50	P85	P50%	P85%	P50 Contingency	P85 Contingency
Engineering (Plexal)							
Solar							
Solar Installation							
Freight							
Total							

Response to 5.3 - Compressor Stations Cs1, 3, 5, 8 and 10

- 6.10. Upgrade existing Allen Bradley PLC 5/25 based system to Allen Bradley Contrologix5000 or GE RX3i based control system at CS01, CS03, Cs05, Cs08 and CS10.
- 6.11. Allen Bradley PLC 5 is now obsolete. There is no vendor support for the product. The system was installed & commissioned in early 90s. The replacement of this obsolete system will help in achieving reliability of operation and reduce maintenance costs.
- 6.12. The station control system installed during the Stage 3 expansion project in the year 1990-1991.
- 6.13. The cost was derived based on a feed study carried out by Motherwell.
- 6.14. DBP attaches the following FEED studies:
 - (a) 5.3 a CS01 Feed study report
 - (b) 5.3 b cs03 feed study report
 - (c) 5.3 c cs05 feed study report
 - (d) 5.3 d cs08 feed study report
 - (e) 5.3 e CS10 Feed study report
- 6.15. DBP provides the following results from Monte Carlo cost analysis:

Description	Baseline	P50	P85	P50 %	P85%	P50 Contingency	P85 Contingency
DBP Overall Project Cost							
Motherwell Option 2 (CS1)							
Motherwell Option 2 (CS3)							
Motherwell Option 2 (CS5)							
Motherwell Option 2 (CS8)							
Motherwell Option 1 (CS10)							
Materials Option 2 (CS1)							
Materials Option 2 (CS3)							
Materials Option 2 (CS5)							
Materials Option 2 (CS8)							
Material Option 1 (CS10)							
Freight (CS1)							
Freight (CS3)							
Freight (CS5)							
Freight (CS8)							
Freight (CS10)							
Travel and accommodation (CS1)							
Travel and accommodation (CS3)							
Travel and accommodation (CS5)							
Travel and accommodation (CS8)							
Travel and accommodation (CS10)							
Total							

Response to 5.4 – Compressor Station NP exhaust Replacement

- 6.16. A Magnetic Particle inspection was conducted by an NDT specialist on accessible external welds at CS06 Nuovo Pignone Turbine Exhaust between the 23rd and 25th March 2009. A total of 37 linear indications were detected ranging from 2 – 170 mm’s in length. The areas highlighted indicate where the majority of defects were found. A full report is expected from MJ Engineering in the near future.
- 6.17. The steel patches welded to the structure were fitted as a temporary measure to support and strengthen circumferential cracks found some time ago. Initial findings reveal very poor

quality weld condition holding the patches to the structure - 90% of the stitch welds are porous and cracked.

- 6.18. Unit 2 was operational with gas flowing. Structural debris falling from height had the potential to impact and damage the adjacent discharge pipeline, surrounding buildings and/or personnel working in the vicinity.
- 6.19. This type of event would have a severe impact with unacceptable consequences in terms of injury to personnel, substantial cost, interruption to the supply of gas, uncontrolled release of gas to the environment and damage to reputation.

Response to 5.5 – Compressor Stations

- 6.20. The scope included investigation of performance and status of the existing earthing grids in compressor stations from electrical and materials view points and come up with a proposal for new earthing grids to fulfil the safety requirements in future.
- 6.21. The original earthing grids in compressor stations consist of zinc ribbons and galvanised steel have shown wide range of material deterioration. The effects of corrosion are quite obvious with reference to extensive dig up and coating renovation programs in compressor stations 3, 5 and 8 in recent years. Copper grids though good in terms of electrical performance, are not compatible to the cathodic protection of the pipeline. Decoupling devices provide the isolation of copper form the pipe, however, to police this has proved not practical.
- 6.22. The new study should take into consideration: The suitability of the existing earthing grids for their design purposes, i.e. electrical resistance to remote earth with particular attention to earthing islands. The study should also look at provision of distributed magnesium anodes within and around a compressor station to protect the new zinc grids. The study should also look at a progressive plan to replace the earthing grids according to the results of earthing resistance measurements.
- 6.23. DBP provides the following results from Monte Carlo cost analysis:

Facility & Pipeline	Baseline	P50	P85
TCC Sandblasting, Painting and Coating G.P.R Corrosion Protection KT- Excavation and reinstate pipe line and earthing grid AAM Costing, supervision, PTW holder NDT of any defects found (PNDT)			
Total			

Response to 5.6 – Compressor Stations

- 6.24. The scope included investigation of performance and status of the existing earthing grids in compressor stations from electrical and materials view points and come up with a proposal for new earthing grids to fulfil the safety requirements in future.
- 6.25. The original earthing grids in compressor stations consist of zinc ribbons and galvanised steel have shown wide range of material deterioration. The effects of corrosion are quite obvious with reference to extensive dig up and coating renovation programs in compressor stations 1, 5 and 8 in recent years. Copper grids though good in terms of electrical performance, are not compatible to the cathodic protection of the pipeline. Decoupling

devices provide the isolation of copper from the pipe, however, to police this has proved not practical.

6.26. The new study should take into consideration: The suitability of the existing earthing grids for their design purposes, i.e. electrical resistance to remote earth with particular attention to earthing islands. The study should also look at provision of distributed magnesium anodes within and around a compressor station to protect the new zinc grids. The study should also look at a progressive plan to replace the earthing grids according to the results of earthing resistance measurements.

6.27. DBP provides the following results from Monte Carlo cost analysis:

Facility & Pipeline	Baseline	P50	P85	P50	P85	P85
TCC Sandblasting, Painting and Coating						
G.P.R Corrosion Protection						
KT- Excavation and reinstate pipe line and earthing grid						
AAM Costing, supervision, PTW holder						
NDT of any defects found (PNDT)						
Total						

Response to 5.7 – Compressor Stations

6.28. Replacement of the Stage 3A Turbine Air Inlet Filter Housing at Compressor Stations 2 unit 2 , 4 unit 2 & 7 unit 2.

6.29. The existing turbine air inlet filter housings are corroding badly and the existing static filters are susceptible to overloading and have ruptured several times.

6.30. To Purchase a complete new Turbine air inlet filter assembly including ducting in stainless steel, the units are a replication of the stage 4 turbine air inlet filters and as such offer standardisation across our fleet of Solar Mars 100 gas turbine and efficiencies in terms of commonality of spare parts and maintenance.

Response to 5.8 – Compressor Stations

6.31. Upgrade and refurbishment of all the original buildings on compressor stations from compressor station 1 to 10

6.32. Most of the accommodation, control room, workshop and store / battery rooms has been in use for more than 15 years. Due to the normal wear and tear, affects of the harsh environment and the obligation to provide safe and healthy environment for employees, these buildings would need to be refurbished in the near future. Target date is 2015.

6.33. Project deliverable include

- (a) Externals paint and repair
- (b) Roof and gutter repairs as required.

- (c) External door / window repairs
- (d) Interior flooring repairs / replacement
- (e) Internal / external painting of building
- (f) Furniture and curtain replacement
- (g) Access ways to and from buildings

6.34. DBP provides the following cost information:

GL Account	Description	\$ \$ \$
74405	Contracted Employees	
72200	Consultants	
74000	Internal Labor	
73100	Materials	
73680	Travel & Accommodation	
Total:		

Response to 5.9 – Compressor Stations

6.35. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 5.10 – Meter Stations

6.36. DBP provided the following project justification in its initial submission of 15 June:

- (a) Forty metering stations using the Bristol Babcock DPC33XX flow computer were obsolete. Additionally, these metering installations had a number of problems in regards to the obsolescent flow computer hardware. The primary problem was the maintainability of the sites. The site was made extremely difficult to maintain due to the following problems:
 - (i) There are too many systems (in varying stages of commission) involved with convoluted wiring in between
 - (ii) The power distribution is convoluted and unclear to follow
 - (iii) There are too many schematics containing crumbs of vital information (most are still hand mark ups)
 - (iv) The majority of the wires are labelled only with the number of the terminal they wire to,(making the information unusable for fault finding as the numbers differ on either side of the wire and they are not unique to the loop)
 - (v) The second problem is the reliance on obsolete, inefficient and low accurate Intrinsically Safe barriers.
- (b) At the time it was recommended to:
 - (i) Have an IS conformance review conducted by DBP and for all metering sites to be upgraded.
 - (ii) Replace the existing 24 V DC distribution within the metering panel, with a centralised 24 V DC distribution pan. The pan would then contain isolating circuit breakers for all 24 V DC systems within the metering panel. All

existing 24 V DC distribution drawings for the metering panel were to be cancelled and replaced by a single schematic diagram of the pan.

- (iii) Replace all intermediate wiring between the IS barriers and the flow computers with premade terminal blocks on DIN rail to be batch installed on site. This replaced the existing inadequate wire labelling, reduce installation time and cater for the new 24 V DC supply to the IS barriers.
- (iv) Removal of mimic panel and replace with a simple indication/control board. The board to include standard valve control/indication switches/LEDs plus the metering alarm / warning indication that is commonly seen at MLV stations.
- (v) All critical systems requiring 240 V AC to be removed / replaced with 24 V DC systems making the 24 V DC to 240 V AC inverters obsolete. A 240 V AC supply from the 240 V AC distribution board is to be made available to the metering panel for the anti condensation heaters and GPO.

6.37. For further information DBP provides the FEED study completed for this project (attachment 5.10 FEED 5968-REP-001)

6.38. In additional to that already provided, DBP provides the following results from Monte Carlo cost analysis:

Description	Baseline	P50	P85	P50%	P85%	P50 Contingency	P85 Contingency
Projects							
Metering							
SCADA							
Communications							
Commercial							
Maintenance							
Engineering							
Fabrication							
Electrical							
Total							

Response to 5.11 - Pipeline

6.39. The existing Southern Communications system for the Perth to Bunbury section of the DBNGP employs equipment which is in excess of 25 years old and experiencing age related failures. Such failures impact on the ability to deliver gas.

6.40. In August 2009, DBP commissioned [redacted] to carry out a review and provide expert advice on the way forward for the Southern Communications.

6.41. The telecommunications transmission systems' primary purpose is to transport Supervisory Control and Data Acquisition (SCADA) information for management of the delivery of gas.

6.42. [redacted] advised the total implementation cost was \$12.2M and the NPV cost over 20 years is \$13.5M, based on a 3 year staged delivery.

6.43. The recommended solution proposes provision of a DBP-owned microwave radio system via DBP sites Kwinana Junction and Keysbrook, then to existing Western Power sites Lake

Clifton and Mornington with DBP having site access and owning accommodation. The link from Allendale 2 to Kwinana Junction is proposed to be via leased optic fibre with geographic diversity. The capacity of the microwave radio and leased fibre is protected 1+1 155 Mbit/s SDH. A spur link to Compressor Station 10 will also be 155 Mbit/s capacity.

- 6.44. To achieve suitable radio propagation performance, a 45 metre tower at Kwinana Junction and a 70 metre tower at Keysbrook MLV142 site must be built. DBP will seek approval from Western Power and structural assessment to mount 4 new antennas on Lake Clifton tower, and an initial 2 new antennas on Mornington tower, with potential for 2 additional antennas in future.
- 6.45. 20 metre poles are required at backbone extension sites Compressor Station 10 and Clifton Road (MLV 156, 157), and at 4 city PAV sites (Caversham, Forrestfield, Forrestdale, Baldivis) requiring confirmation through detailed design. Field confirmation that there are no local obstructions impacting chosen pole height is also required at several country locations.
- 6.46. New shelters and power supplies are required at Lake Clifton and Mornington, with removal of the old shelter at Lake Clifton. The existing shelter at Keysbrook can be refurbished and used in the upgrade. New power supplies are required at Kwinana Junction and Clifton Road. Smaller shelters and power facilities are required at Pinjarra Town and EOL10.
- 6.47. Due to the current latch design, an alternative gate with an improved access track is required at Western Power sites Lake Clifton and Mornington to allow independent site access.
- 6.48. New Polled Access Valve (PAV) radios will be installed and links redirected to the Gngangara, Kwinana Junction, Keysbrook, Lake Clifton and Mornington aggregation sites.
- 6.49. 13 Metering Sites and higher data demand PAV sites (8 in the Kwinana Industrial Estate and 5 in the country) require high frequency radio equipment (8.1 GHz, 13 GHz, 23 GHz and 38 GHz) to achieve required bandwidth within the ACMA constraints as the southern system is geographically in a radio high density spectrum area.
- 6.50. Kwinana Junction is geographically well positioned as the main aggregation site for the city Polled Access Valve (PAV) radios, has adequate space for a new tower, and the existing large brick building has adequate space for additional electronic equipment. This will allow DBP to vacate Western Power's Douglas Road site.
- 6.51. The Keysbrook tower is required to achieve suitable radio propagation performance and high availability design to Kwinana Junction to the north and to Lake Clifton to the south. The future Mandurah Offtake site was examined as an alternative to Keysbrook for the tower location. Mandurah Offtake was found to require a similar height tower to that at Keysbrook, but the site poses a greater risk of nearby land development according to DBP land management staff.
- 6.52. The Kwinana Industrial Estate pilot cable network should also be replaced by a PAV radio network with Kwinana Junction as the hub.
- 6.53. DBP provided the following results from Monte Carlo cost analysis:

Description	Baseline	P50	P85	P50 %	P85%	P50 Contingency	P85 Contingency
Project Management							
Douglas Road							
Kwinana Junction							
Keysbrook							
Lake Clifton							
Serpentine							
Mornington							
Clifton Road							
Project Spares							
CS10							
Replace pilot cables with PAV radios							
Replace country PAV radios, re-point as necessary							
MVR							
Total							
Jandakot - Optional Upgrade for Yr 3							
Total incl Jandakot							

Response to 5.12 - Pipeline

- 6.54. The aim of this project is to supply 8 +1 off CCVT’s to replace failed CCVT’s as of date. This will ensure reliable power supply for the sites with failed CCVT’s
- 6.55. In total we have 19 obsolete CCVT’s, 10 of these will be replaced as part of Stage 5B project scope, the originally purchased 8 units were part of the initial SIB project scope, remainder 1 is now included in this revised project budget.
- 6.56. Reliable Power supply at MLV sites is crucial for:
 - (a) The operation and control of MLVs,
 - (b) Providing TSCC with SCADA visibility of the site, and
 - (c) Powering the comms network along the pipeline to ensure less downtime and greater comms reliability
- 6.57. DBP provides the following cost information:

Description	\$\$\$
EPCM (Inc EOP labor)	
Materials	
Installation & Commissioning	
Fire and Gas	
Misc. Project Cost	
Total:	

Response to 5.13 - Other

6.58. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 5.14 - Other

6.59. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 5.15- Other

6.60. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 5.16 - Other

6.61. DBP refers to the vehicle replacement policy provided in DBP's response to request 3.2.

Response to 5.17- Other

6.62. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 5.18- Other

6.63. DBP is in the process of collating this information which will be made available as soon as possible.

7. HISTORICAL OPERATING EXPENDITURE

7.1. The Halcrow report has outlined specific and general information which it requires for the historical operating expenditure, as outlined in the following table.

7.2. DBP has shaded out items that have already been responded in an earlier submission.

Item	Description	Comment
6	Historical Operating Expenditure (2005 to 2010)	
6.1	A breakdown of historical operating expenditure on the same basis as provided for forecast expenditure (refer Table 2 in <i>Submission 12</i>).	To understand the detailed makeup of the historical operating expenditure and thereby confirm the baseline level of operating expenditure.
6.2	A comparison of actual operating expenditure to the proposed operating expenditure as identified in the (existing) 2005 Access Arrangement. The comparison should preferably be presented on the same basis (ie. breakdown) as provided for forecast expenditure (refer Table 2 in <i>Submission 12</i>).	To understand the detailed makeup of the historical operating expenditure and changes from the expenditure forecast in the 2005 Access Arrangement.
6.3	Details demonstrating the correlation between changes in operating expenditure and the growth of DBP's asset portfolio (inventory) on an annual basis over the period from 2005 to 2010.	To understand the operating and maintenance costs attracted by each item of infrastructure.
6.4	Correlation of historical staffing levels with operations and maintenance activities.	To enable allocation of staffing costs to specific activities.
6.5	Clarification as to the correct timeframe over which the growth in DBNGP assets has been assessed in <i>Submission 12</i> , section 6.4 [it is noted that the text and Table 5 caption refer to the period 1999 to 2009/10, whilst the table header row shows 2004 and 2009/10].	To clarify the rate of asset growth.
6.6	Details of adopted/assumed inflationary factors and the net impact over the period 2005 to 2010 [it is noted that <i>Submission 12</i> provides a discussion of the impact of inflation over the period 1999 to 2009, with a further adjustment to 2010 for the adopted factors (unless the references to 1999 in sections 6.5 and 6.7 are errors)].	To understand DBP's submission in respect to the impact of inflation on historical operating costs.
6.7	Documentation demonstrating the proposed fee increases under the Access Right, including the timeframe under which they will become applicable.	To understand the breakdown of the "Utility Rates and Taxes" expenditure category.
6.8	Details of a risk assessment or business case that underpins the need to increase aerial surveillance of the DBNGP pipeline corridor, together with details of scope and cost of surveillance activities both prior and subsequent to the increased surveillance frequency.	To understand the basis for and magnitude of surveillance cost increases.
6.9	Clarification of the timing when cost sharing of the microwave maintenance costs ceased.	To understand that impact of changes to microwave maintenance arrangements on operating expenditure.
6.10	Details of the need to install a new microwave system, including assessment of options taking into account whole of life (including maintenance) costs [it is noted in <i>Submission 12</i> that maintenance costs are higher than for the previous system].	To understand that impact of changes to microwave maintenance arrangements on operating expenditure.
6.11	Details of the additional costs incurred by engineering consultancies, including details of the nature of the work undertaken, the associated costs and justification for the increased activity.	To understand the significance and impact of the increased expenditure.

6.12	Details of the reasons for the increased Information Technology Costs including changes to the Operating Services Agreement and details as to whether alternative supply options were considered.	To understand the impact of changes to the Operating Services Agreement.
6.13	Details of the increased obligations that have resulted in increased Audit Costs.	To understand the impact of changing regulatory obligations.
6.14	Identification of the categories (refer Table 2 in <i>Submission 12</i>) to which Information Technology and Audit costs have been allocated.	To understand the compilation of expenditure categories.
6.15	Details of the correlation between calculated (forecast) and actual quantities of fuel gas used during the current Access Arrangement period.	To confirm the veracity of the fuel gas forecasting model.
6.16	Details of actual self insurance events during the current Access Arrangement period, including details of associated costs.	To understand the nature and extent of self insurance events.

Response to 6.2 - Opex Comparison

7.3. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 6.3 - Asset Growth

7.4. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 6.4 – Historical Staffing Levels

7.5. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 6.5 - Correction

7.6. DBP confirms that the period is as indicated in the table. The header 2004 – 2009-2010 should be considered an error.

Response to 6.6 – Correction

7.7. Paragraphs 6.5 and 6.7 of Submission 12 should be considered as errors as identified by Halcrow. DBP refers Halcrow to paragraph 6.9 for the purposes of labour escalation and DBP's response to request 1.9 advising that forecast values have been calculated using an inflation factor of 2.5%.

Response to 6.9 - Microwave

7.8. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 6.10 – Microwave upgrade

7.9. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 6.11 – Engineering Consultancies

7.10. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 6.13 – Audit costs

7.11. DBP, Halcrow and ERA discussed the difficulty in aligning increased obligations with cost in the business during a phone conference at 18 June 2010. DBP welcomes further discussion during the proposed workshops.

Response to 6.14 – IT and Audit Cost Categories

7.12. In response to request 6.14 Halcrow seeks clarification as how where both Information Technology and Audit costs are allocated in table 2 of submission 12.

7.13. DBP's table 2 of submission 12 has a cost category IT Expense which includes Information Technology Expenses.

7.14. Audit costs have been included in Consulting, other than costs associated with internal audit functions carried out by the business.

7.15. DBP welcomes further discussion with Halcrow during the proposed workshops if required.

8. FORECAST OPERATING EXPENDITURE

- 8.1. The Halcrow report has outlined specific and general information which it requires for the historical operating expenditure, as outlined in the following table.
- 8.2. DBP is still in the process of collating material for the remaining items which will be provided when they come to hand.

Item	Description	Comment
7	Forecast Operating Expenditure (2011 to 2015)	
7.1	In <i>Submission 12</i> , DBP has used the term “operator” in the same context as DBP. Clarification is required as to which entity operates the pipeline; if not DBP, details of the relationship between the parties are required.	To understand how operation and maintenance of the pipeline is administered.
7.2	Detailed breakdown of proposed expenditure by activity, preferably in MSExcel (or similar) format to enable detailed analysis, together with spreadsheet models (which detail key assumptions and methods) used to determine forecast operating expenditure [it is noted that DBP has advised that all budgets are “zero” based].	To understand how DBP has derived its forecast operating expenditure and how it relates to the historical operating expenditure.
7.3	A copy of the Safety Case and any further correspondence with Western Australia’s Safety and Technical Regulator in relation to its assessment of the Safety Case, which is likely to have an impact on operating expenditure.	To provide details of the changes to the Safety Case, as required by the Western Australian Government.
7.4	Details of the increased compliance obligations that will need to be included in the Safety Case, and the resultant impact on Operating Expenditure.	To understand the impact of regulatory obligations and related changes on operating costs.
7.5	Asset Management Plan/Maintenance Plans (both routine and reactive) for all items of infrastructure, showing proposed maintenance activities and associated costs on an annual basis.	To understand basis of operating and maintenance costs allocated to each item of infrastructure.
7.6	A copy of DBP’s Audit Schedule, including identification of all Mandatory Audits. The scope and timing of all audits should be identified.	To understand the impact of regulatory obligations on operating costs.
7.7	Correlation of forecast staffing levels with operations and maintenance activities.	To enable allocation of staffing costs to specific activities.
7.8	Details of the calculation of labour costs and the basis of the assumed 2 percent labour cost escalation rate.	To confirm justification for the adopted labour cost escalation rate.
7.9	Details of DBP’s assessment of risk and the basis for the agreements with Alcoa in respect to the supply of Fuel Gas. When is it expected that Alcoa will be supplying its own fuel gas and what will the impact be on the quantity of fuel gas forecast in the Access Arrangement?	To understand the cost of mitigating risks associated with the System Use Gas Agreement.
7.10	Documentation supporting the adopted weighted fuel gas cost (\$█/GJ.in 2011 rising to \$█/GJ in 2015).	To justify the adopted cost of fuel gas.
7.11	Details of DBP’s assumptions in respect to “hardening of the insurance market in the upcoming period”, including comparison with actual insurance premiums paid during the period 2005 to 2010 and assumptions in respect to the increased asset portfolio.	To understand how the forecast insurance costs have been derived.

7.12	Details of the self insurance risks demonstrating the quantification of the potential risk and the mitigation measures implemented (or planned to be implemented) in respect to uninsured risks, together with details of the associated costs.	To understand how the forecast self insurance costs have been derived.
7.13	Assumptions made in respect to forecast operating costs relating to Climate Change Reform, specifically the Carbon Pollution Reduction Scheme, and the impact of the Government's decision to defer implementation of the scheme on DBP's forecast operating expenditure.	To understand the impact to changes in Climate Change policy on forecast operating expenditure.
7.14	Details of basis adopted for forecasting compressor overhaul costs, including assumptions in respect to the number of units to be overhauled and the timing of such overhauls. If overhaul costs are incurred in foreign currency, provide details of assumptions made in respect to currency exchange rates used for in estimating overhaul cost.	To understand how compressor overhaul costs have been derived.
7.15	Details of proposed non-recurrent expenditure, eg. DCVG surveys, ILI pigging and heater inspections, including details of the cost derivation and justification for the timing of activities.	To understand the impact of non-recurrent activities on operating expenditure.
7.16	Records of unplanned repairs and maintenance activities, including costs, given that historical performance has been used as the basis for estimating forecast expenditure (refer <i>Submission 12</i> , Section 6.50).	To understand the basis upon which reactive maintenance costs have been derived.

Response to 7.1 - Operator

8.3. DBP and the term 'Operator' is used interchangeably and is to be assumed to be the same entity.

Response to 7.2 – Operating Expenditure

8.4. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 7.3 - Safety Case

8.5. The Safety Case has already been provided as part of Submission 14.

Response to 7.4 - Impact of increased compliance

8.6. DBP, Halcrow and ERA discussed the difficulty in aligning increased obligations with cost in the business during a phone conference at 18 June 2010. DBP welcomes further discussion during the proposed workshops.

Response to 7.5 – Asset Management and Maintenance Plans

8.7. The Asset Management and Maintenance Plans has already been provided as part of Submission 14.

Response to 7.6 – Audit plan

8.8. In response to 7.6, DBP provides a copy of the 2009 Audit Plan attached as 7.6 a DBP 2009 Strategic Audit Plan Final 281108

Response to 7.7 – Staffing levels

- 8.9. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 7.8 – Labour escalation

- 8.10. DBP confirms its approach to labour escalation is outlined in Submission 12 from paragraph 6.9 to 6.14.
- 8.11. For the purposes of the proposed tariff model DBP escalated the labour cost proportion of the operational expenditure at the Real Average Weekly Earnings (2%) obtained from the Australian Bureau of Statistics (provided in figure 1 of Submission 12) above the increase in CPI.
- 8.12. DBP welcomes further discussion at the proposed workshops.

Response to 7.9 – SUG Risks

- 8.13. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 7.10 – Fuel Gas Costs

- 8.14. DBP is in the process of collating this information which will be made available as soon as possible.

Response to 7.11 – Insurance Market

- 8.15. DBP provides a internal memorandum summarising broker reports on the insurance market (attachment 7.11 Insurance market summary 2010.pdf)

Response to 7.12 – Self Insurance

- 1.12. DBP's position in regards to self insurance is outlined in Submission 12.

Response to 7.13 – Climate Change

- 8.16. DBP assumptions and modelling regarding CO2 emissions can be demonstrated at the proposed workshops with Halcrow.
- 8.17. Additional assumptions regarding forecast operating expenditure relating to climate change reform is covered in submission 12 paragraphs 6.35 to 6.44.
- 8.18. DBP acknowledges that the Federal Governments' policy has changed since filing documentation with the ERA at 1 April 2010 and need to be addressed in proposed tariff model.

Response to 7.14 – Compressor Overhauls

- 8.19. In response to request 7.12, assumptions made in respect to forecast compressor overhauls are 3 overhauls a year at \$3 million each. DBP welcomes further discussion at the proposed workshops with Halcrow.

Response to 7.15 – Non Recurrent activities

8.20. Please refer to the Asset Management Plan already in Submission 14.

Response to 7.16 – Reactive Maintenance

8.21. DBP is in the process of collating this information which will be made available as soon as possible.

9. CONFIDENTIALITY

