



**DBNGP (WA) Transmission Pty Limited
Revised Proposed
Access Arrangement 2016-2020 for the
Dampier to Bunbury Natural Gas Pipeline**

Addendum to

**Review of Technical Aspects of the
Proposed Access Arrangement**

PUBLIC

Report to

**Economic Regulation Authority of Western
Australia**

By Energy Market Consulting associates

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This addendum report has been prepared to assist the Economic Regulation Authority (ERA) with its assessment of DBNGP (WA) Transmission Pty Ltd's revised Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline, for the period from 2016 to 2020 (AA4), in accordance with the National Gas Law (NGL) and the National Gas Rules (NGR).

It is an addendum to the EMCa Report, Review of Technical Aspects of the Proposed Access Arrangement, December 2015 prepared for the ERA.

This report relies on information provided to EMCa by the ERA and by DBNGP (WA) Transmission Pty Ltd up until 16 May 2016. EMCa disclaims liability for any errors or omissions, for the validity of information provided to EMCa by other parties, for the use of any information in this report by any party other than the ERA and for the use of this report for any purpose other than the intended purpose.

In particular, this report is not intended to be used to support business cases or business investment decisions nor is this report intended to be read as an interpretation of the application of the NGR or other legal instruments. EMCa's opinions in this report include considerations of materiality to the requirements of the ERA and opinions stated or inferred in this report should be read in relation to this over-arching purpose.

Some numbers in this report may differ from those shown in DBNGP (WA) Transmission Pty Ltd's Access Arrangement Information (AAI) or other documents due to rounding.

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About EMCa

Energy Market Consulting associates (EMCa) is a niche firm, established in 2002 and specialising in the policy, strategy, implementation and operation of energy markets and related network management, access and regulatory arrangements. EMCa combines senior energy economic and regulatory management consulting experience with the experience of senior managers with engineering/technical backgrounds in the electricity and gas sectors.

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1 Introduction

1.1 Purpose and scope of this report

1. In December 2015 the Economic Regulation Authority (ERA) published its Draft Decision for the revised access arrangement (AA) proposal for the Dampier to Bunbury Natural Gas Pipeline (DBNGP) which covered the period 1 January 2016 to 31 December 2020 (AA4). To assist with its assessment, the ERA engaged EMCa to review and provide technical advice on certain aspects of DBNGP (WA) Transmission Pty Ltd's (DBP's) initial proposal. We refer to that report as our Technical Report¹.
2. In accordance with its responsibilities under the National Gas Law (NGL) and the National Gas Rules (NGR), the ERA is currently reviewing DBP's response to the Draft Decision.
3. To assist with its assessment of DBP's revised AA4 proposal, the ERA engaged EMCa to provide this Addendum to our Technical Report. This Addendum Report addresses specific issues that the ERA's Secretariat has identified in DBP's response to the Draft Decision namely:
 - All elements of capital expenditure (capex) for the third and fourth AA periods which the ERA rejected in the Draft Decision and that DBP, in its response to the Draft Decision, still considers should be included;
 - All elements of AA3 and AA4 which were not included in DBP's original proposal, including new capital expenditure that DBP has described as enhancement capital and has proposed in the AA4 period, and actual expenditure costs as opposed to some forecast capital expenditure costs for the AA3 period; and
 - The methodology used for applying across the board cost reductions to projects that have not been evaluated based on being part of the same cost category as projects

¹ A description of the scope of the technical assessment can be found in section 1.3 of EMCa's Technical Report: Review of Technical Aspects of the Proposed Access Arrangement, December 2015
<https://www.erawa.com.au/cproot/14129/2/EMCa%20Report%20%E2%80%93%20Review%20of%20Technical%20Aspects%20of%20the%20Proposed%20Access%20Arrangement.pdf>

that have cost reductions recommended and which have been individually evaluated.

1.2 Data sources

4. DBP provided a large number of documents in response to the ERA's Draft Decision. We have examined relevant documents which DBP submitted to the ERA along with its revised AA4 submission and some further documents that DBP provided in response to our information requests. These documents are referenced directly where they are relevant to our updated findings.

1.3 Rounding of numbers and real conversion

5. Consistent with the approach in our Technical Report²:
 - Numerical totals in tables may not present as being equivalent to the sum of the individual numbers due to the effects of rounding
 - This Addendum Report refers to real dollars (December 2015 base) unless denoted otherwise. Specifically:
 - Historical costs presented by DBP in its amended submission in nominal terms have been inflated to real terms using the inflation assumptions DBP has used in this amended submission.
 - Forecast costs (where presented by DBP in nominal terms) have been deflated to real terms using the inflation rates that DBP has used in its respective submissions, i.e.:
 - nominal forecasts that DBP has presented in its initial submission have been deflated using its initial inflation assumptions, and
 - nominal forecasts it has presented in its amended submission have been deflated using its amended inflation assumptions.
6. We have relied on DBP's aggregate expenditure forecasts³, which it has presented in real terms, as definitively representing its proposed expenditure allowances. However, DBP has submitted information on specific projects in nominal terms and, for auditability purposes, where we discuss these projects we have referred to these nominal costs in our report.

1.4 Our qualifications

7. The credentials of the authors of this report are summarised in Appendix A of this Addendum Report.

² Details of the approach used for rounding and real conversion can be found in EMCa report, Review of Technical Aspects of the Proposed Access Arrangement, December 2015, section 1.5

³ For example, DBP's forecast SIB capex requirements are presented in real terms (e.g. in Submission 53, Table 1). However in its supporting information for each project, DBP presents its proposed project expenditure in nominal terms and, where we have quoted project expenditures, we have done so in nominal terms for auditability back to DBP's project submissions.

2 AA3 conforming capex

2.1 Governance, expenditure forecasting and performance

2.1.1 Recap of the findings in our Technical Report

8. In forming our view on the conforming expenditure that DBP proposed in its initial proposal, we reviewed DBP's governance framework with the emphasis on the policies, processes, procedures and key documents that it has in place to (i) develop projects and programs of work, (ii) approve individual projects of work in the context of the business's portfolio of work and (iii) manage the delivery of approved work.
9. On the basis of the information provided by DBP, we were satisfied that the majority of the work proposed by DBP would address a legitimate business need but we also identified systemic issues that principally related to the volume, timing and cost of DBP's incurred and forecast expenditure.
10. With a small number of significant exceptions, whilst we assessed DBP's documented business frameworks, processes and procedures to be consistent with good industry practice, from the information provided to us at that time, there appeared to be significant gaps in the application of these procedures in practice, including:
 - It appeared that DBP had taken a conservative approach to the application of its risk framework, with a large proportion of its proposed projects deemed to be 'mandatory'. We considered that, on the balance of probability, there was a proportion of the proposed expenditure that could be prudently deferred;
 - DBP's capital project reporting, at least for regulatory control purposes, was difficult to follow. This made assessment unnecessarily difficult by introducing project scope and expenditure uncertainty. It appeared that DBP uses a similar project structure in its capital governance process and we considered this was likely to increase the risk of inadequate monitoring and control of scope, schedule and budget;
 - Whilst DBP has a top-down review process to challenge the bottom-up forecast, we did not see evidence that the proposed work had been optimised across the portfolio

(e.g. by aggregating the diverse and multitudinous work packages on an asset basis to provide more efficient delivery);

- Business case documentation, as presented, did not appear to follow DBP's own guidelines and appeared deficient when compared with industry practice, including risk assessment; options analysis; delivery approach, and cost estimation.
- DBP management appeared to be mostly focused on satisfying gas transportation contract performance requirements and licence obligations. It had a large number of plant performance and maintenance performance indicators designed around supply reliability and fuel use (the major operating expense). DBP's single KPI provided to us to support its proposed expenditure was forecast vs actual annual opex, which in our view was not adequate.

2.1.2 DBP's Revised Proposal

DBP's overarching response

11. DBP's interpretation of EMCa's findings in its Technical Report is that:
 - *'EMCa and consequentially the ERA, has repeatedly identified concerns with the limited information provided to support DBP's proposal that SIB expenditure was prudent and efficient and delivered at least costs.'*⁴
 - *'The ERA and EMCa also identified a key concern that there was a lack of (or poor quality) documentation made available to them that demonstrated that DBP was able to ensure there was adequate monitoring by it of cost, resourcing, schedule and scope of both individual projects and the overall SIB annual programs during AA3.'*⁵
12. DBP maintains that it was unreasonable for EMCa (and the ERA) *'to reach an adverse finding on prudence and efficiency based on the unavailability of documentation that could not, and does not, exist.'*⁶ Further, DBP *'does not agree that there is a systemic failure of DBP's systems and processes to ensure the adequate monitoring by it of cost, resourcing, schedule and scope of both individual projects and the overall SIB annual programs during AA3.'*⁷
13. With its Revised Access Arrangement proposal DBP presents new and updated information to support its claims that it (i) does monitor and track each project on a weekly, monthly and yearly basis and to differing groups within the organisation with differing levels of responsibility and authority, and (ii) does have a sound governance arrangement which has been applied throughout the AA3 period.⁸ DBP identifies the various documents used to support its governance framework and provides samples of them⁹, including: "Traffic Light" reporting for all projects; Project risk ranking list; PRC monthly report on aggregate expenditure for month and YTD; Annual SIB presentation to PRC and Board, and a presentation comparing actual annual expenditure with the approved annual SIB budget.

⁴ DBP, Submission 53 - CONFIDENTIAL • Sub 53 Opening Capital Base_Final_Amended, paragraph 6.16

⁵ *Ibid*, paragraph 6.17

⁶ *Ibid*, paragraph 6.20

⁷ *Ibid*, paragraph 6.21

⁸ *Ibid*, paragraph 6.22

⁹ *Ibid*, Tables 14 and 15 and Appendix E

DBP's response to specific EMCa issues

14. In section 7 of its Submission 53 report, DBP has provided responses to each of the 'gaps' in the application of its governance procedures that we described in section 6.3.2 of our Technical Report. We consider the responses DBP has provided in section 2.2, referring also to the supplementary project-level information provided by DBP in its Revised Proposal.

2.1.3 EMCa's revised assessment

15. We have reviewed the new and updated information on AA3 conforming capex in DBP's Revised Proposal. In our view DBP has now provided comprehensive and adequate responses to our initial findings, including by providing documented evidence of the application of good governance and management practice that was not evident in the information provided in our initial assessment. DBP has therefore adequately addressed our concerns regarding systemic issues with its governance framework and processes as applied to this expenditure. Specifically:
- DBP has explained the derivation and application of its risk framework, including its application to its 'top-down' prioritisation of its capex program. It is apparent that whilst DBP's board has a relatively low risk tolerance as evidenced by its risk ratings and assessed risk, DBP has adequately described how it manages the tension between its obligations and efficient expenditure at a portfolio level¹⁰; and
 - DBP has provided evidence that in practice its operational capital reporting process is more comprehensive and logical than was evident from the information provided in its Initial Proposal.¹¹ Whilst its project management framework has room for improvement¹² we consider that it is adequate and that DBP has demonstrated that it manages its projects adequately. Through the project-specific information it has reconciled the previously confusing and seemingly inconsistent scope and expenditure on what were previously presented as a disjointed set of multiple projects across multiple years and regulatory periods.
16. In regards to DBP's claim that it was unreasonable for EMCa (and the ERA) 'to reach an adverse finding on prudence and efficiency based on the unavailability of documentation that could not, and does not, exist',¹³ we respond that we are only able to undertake our review based on the information provided by the regulated entity. We apply our infrastructure management experience of good industry practice to assess the adequacy of the subject entity's processes, procedures and its application of them. We went to considerable effort in our initial assessment of DBP's proposed Access Arrangement to obtain additional information where the initially-provided information was inadequate to demonstrate prudence and efficiency in the context of the NGR, through our submission of 35 Information Requests. Our findings were based on the evidence provided by DBP at that time. DBP has subsequently provided supporting information which it appears did exist and was available to it and which has been helpful in addressing our concerns. This is

¹⁰ *Ibid*, paragraphs 7:53 – 7:58

¹¹ *Ibid*, paragraphs 7:12 – 7:28

¹² As reported by an external audit of its Project Management Methodology (*Ibid*, paragraphs 7:13 – 7:36)

¹³ *Ibid*, paragraph 6.20

consistent with the process which affords DBP the opportunity to respond to the ERA's Draft Decision.

2.2 Stay In Business capex projects¹⁴

2.2.1 Recap of the findings in our Technical Report

17. In our initial assessment of DBP's AA3 capex proposal, the large number of project summaries (411) precluded assessing them all and the fractured nature of the information made it very difficult to understand what was being spent to resolve a particular issue, why it was being spent, how much was forecast to be spent, what was actually spent and whether the project objectives had been achieved. We considered that these factors indicated a lack of cohesive understanding that would likely hamper DBP's own understanding of and ability to adequately manage its project portfolio.
18. As discussed in section 2.1 in our Technical Report, we assessed the 15 largest AA3 SIB capex projects (based on expenditure) and our finding was that only three of the fifteen projects satisfied the requirements of NGR Rule 74(2).¹⁵ We have reconsidered our findings based on the new and updated information provided by DBP in its Revised Proposal for the other 12 projects, as discussed in section 2.2.2.
19. We have also reviewed the new and updated information provided by DBP for 'Subsequent Costs'. Our revised assessment of Subsequent Costs is detailed in in Section 2.3

2.2.2 Consideration of sample projects and systemic issues taking account of new information from DBP

20. In our initial review we concluded that \$56.72m (75%) of the \$75.23m total expenditure for sample projects reviewed satisfied the prudent service provider test. This assessment reflected that we considered DBP had not always provided adequate information to support its claims that it had completed a prudent scope of work and had undertaken it efficiently. We summarised our findings under seven headings. Individual sample projects that we reviewed did not necessarily exhibit all of the issues.
21. DBP has responded to each of these findings in two ways: (i) in submission 53, Appendix B, by providing project summaries¹⁶ which address the specific issues that we had with specific projects, and (ii) in Submission 53, section 7, commenting on the seven systemic issues under several headings (which we have aggregated into four, below) referring not only to the project documentation, but to other sources of evidence to address EMCa's concerns with the information provided in its initial Proposal.
22. For one of the categories - *Business need* - we were generally satisfied in our initial report that despite some inadequacies in DBP's primary documents, the sample projects were based on sufficiently compelling business needs. We therefore do not comment further on

¹⁴ This section 2.2 covers SIB projects only. Our review of DBP's proposed SIB Subsequent Costs capex is in section 2.3. DBP has also claimed an allowance in its opening capital base for an increase in value of linepack, which EMCa did not review.

¹⁵ Appendix A of our Technical Report

¹⁶ Submission 53, Appendix B, Attachments B3-B12, B14-B15

this issue in this section. We have considered new and updated information from DBP under the four sub-sections below.

Primary documents

23. Our key concern with assessing expenditure proposed for the sample projects was the apparently incomplete set of information. For example, business case documentation did not appear to follow DBP's own procedures (which, as discussed elsewhere, appeared adequate, if properly applied).

24. In its Revised Proposal, DBP acknowledged that EMCa's finding was an issue also identified by an independent auditor:

*'EMCa referred to documentation not being provided when it was required by the PMM and documentation being unsigned. These were also issues considered and assessed during the audit of the project management office and subject to recommended improvement actions.'*¹⁷

*'DBP recognises that not all of the documentation required by the PMM are produced in practice which has contributed to some of the issues outlined by EMCa. Since the implementation of the PMM framework, DBP has been continually refining the framework to ensure that the system is designed and recognised as improving the efficiency and prudence of managing and implementing projects.'*¹⁸

25. DBP goes on to say that although all projects may not have a full suite of documents that are 100% compliant with DBP's project management procedure, this is typically because the project manager has judged the requirements are not necessary (i.e. taking into account the project characteristics):

*'DBP submits that the absence of this information expressly stated in the business case does not, of itself, demonstrate inefficiency and imprudence in relation to DBP's stay in business projects for AA3. The assessment is undertaken – it is just that it isn't recorded in a particular document'*¹⁹;

26. In short, DBP contends that the issues outlined by EMCa in relation to the supporting documentation is insufficient to determine that the expenditure was not prudent or efficient. We have reviewed the relevant new and updated information in Submission 53,²⁰ including the supplementary project information that DBP has provided for the sample projects (in Appendix B). We remain of the view that good industry practice requires business cases to be presented for approval to proceed with a summary of all the information necessary to make the decision including at least summaries of the risk assessment, options analysis, delivery approach and basis for the cost estimation with references to the source documents, if primary analysis is undertaken elsewhere. This is reflected in DBP's own business case procedure and instructions, but it does not follow its own process. However, DBP has adequately mitigated our concerns with the 'missing or inadequate' information in its business cases by: (i) acknowledging gaps in its own processes, (ii) explaining that for SIB projects the FEED studies are the documents in which options are considered (although only for large projects), (iii) explaining that timing is typically considered not in the

¹⁷ DBP, Submission 53 - CONFIDENTIAL • Sub 53 Opening Capital Base_Final_Amended, paragraph 7.29

¹⁸ *Ibid*, paragraph 7.15

¹⁹ *Ibid*, paragraph 7.50

²⁰ *Ibid*, paragraphs 7.11-7.40

options analysis but in the risk-based portfolio prioritisation process, and (iv) reconciling/providing the disparate/missing information in the additional information provided for the sample projects.

In summary, whilst DBP's original documentation, as provided, was not in our view adequate to support its project expenditure, the 'explanatory notes' which reconcile the apparently disparate sources of project documentation do now provide a sufficient base on which to assess the project expenditure justification.

Options analysis

27. In our Technical Report we stated that there was insufficient evidence that DBP had adequately considered alternatives to the recommended solution for each project need. Given the nature of SIB projects, we expected to see a robust examination of alternative timing of the work, cognisant of the low-to-medium risk ranking that appeared to be prevalent in DBP's portfolio risk documentation.
28. In its Revised Proposal, DBP did not agree that the absence of robust options analysis was an indicator of unjustified expenditure, primarily because (i) for most SIB project, options are limited to like-for-like replacement, and (ii) where a timing option is not explicitly identified, it is implicitly considered in the risk assessment framework and investment prioritisation process:

*'SIB projects are assessed based on balancing DBP's obligations and operational requirements with allocating financial capital efficiently. The risk management framework informs this process by facilitating a relative assessment of projects across a number of criteria, which are not all financial.'*²¹

29. We have reviewed the new and updated information DBP has provided in its Revised Proposal, particularly the information in Appendix B on each of the sample projects in relation to the options considered. The additional information supports DBP's contentions that it had considered alternatives and that the timing of the work (for example) is examined in the context of relative risk and delivery capability. We therefore consider that DBP's new and updated information satisfactorily mitigates the issues we found with the original documentation.

Procurement and efficiently delivered cost

30. In our Technical Report, we described that the lack of detail in DBP's business cases undermined our confidence that DBP rigorously pursued all legitimate avenues to deliver projects at an efficient cost. In our view, reference to 'following a procurement policy' was not sufficient to confirm that the 'best approach' was followed. Typically, we consider evidence that a competitive tender approach based on a stable and well-defined scope of work to deliver expensive and/or complex projects is a sound basis for securing an efficient price. Alternatives to competitive tenders can be cost effective, but in our view, need to be well-justified. In our experience, good industry practice requires a robust business case which explains the delivery strategy, the delivery options considered and the reasons for the selected approach, especially for large/complex projects. Typically, this was not evident in the documentation we assessed.
31. In its Revised Proposal, DBP did not agree with EMCa's findings, explaining that:

²¹ *Ibid*, paragraph 7.62

*'DBP's business cases do not detail the intended procurement practice to be used. At the stage of a project's progress, when a business case is prepared, there is inadequate information available to enable a detailed procurement strategy to be prepared for the relevant project. Rather, the business case is prepared and considered on the basis that the procurement and purchasing policy will be adhered to.'*²²

32. DBP advises in its Revised Proposal that a procurement strategy is developed for each project in the project implementation plan for each project, and that it adheres to a tender procedure and a preferred vendor procedure as part of the procurement and purchasing policy:

*'The tender procedure outlines the responsibilities of the requesting department to determine the most appropriate method of tendering to ensure the highest level of competition, particularly where there is limited knowledge of the capacity of the market place'²³.....The preferred vendor procedure recognises that a tailored business relationship with a preferred vendor can generate business performance greater than that achieved individually.'*²⁴

33. We have reviewed the new and updated information DBP has provided in its Revised Proposal, particularly in section 7²⁵ and the information in Appendix B for each of the sample projects in relation to the procurement approach taken. The additional information supports DBP's contentions that it had considered alternative approaches to achieve the best delivered cost possible. We therefore consider that DBP's new and updated information satisfactorily addresses the issues we found with the original documentation.

Delivered scope

34. In our Technical Report we advised that it was difficult to discern from the information provided what scope of work has been delivered for the reported expenditure. Again, our uncertainty was caused by the disparate and confusing project information initially provided by DBP.
35. In its Revised Proposal, DBP does not agree with EMCa's findings. It asserts that it has a comprehensive approach to managing projects,²⁶ and it provides in its supplementary project information (per Appendix B attachments), a year-by-year reconciliation of what was delivered in the AA3 period and the cost breakdown.
36. We have reviewed the new and updated information DBP has provided in its Revised Proposal, particularly the project-specific information in Appendix B. The additional information clarifies for us what was and was not delivered for the nominated expenditure in AA3 (and this in turn assists with understanding the scope of work for the projects that are continuing into the AA4 period). The information provided indicates why project timing and scope was adjusted (e.g. delayed or advanced). We therefore consider that the DBP's new and updated information satisfactorily addresses the issues we found with the original documentation.

²² *Ibid*, paragraph 7.79

²³ *Ibid*, paragraph 7.87

²⁴ *Ibid*, paragraph 7.89

²⁵ *Ibid*, paragraphs 7.77-7.96

²⁶ *Ibid*, paragraphs 7.97-7.98

2.2.3 AA3 projects not sampled

37. Based on our reassessment of the sampled projects and information that mitigates our concerns regarding systemic issues, we consider that it is reasonable to consider that capex incurred on projects that we did not review within our sample also meet the requirements of the NGR. Accordingly, we consider that such capex can be considered to be Conforming Capex in accordance with the NGR.

2.2.4 Conclusions on AA3 project expenditure (other than Subsequent Costs)

38. As discussed in our Technical Report, the primary issue we faced at that time in assessing the prudence and efficiency of DBP's proposed AA3 conforming SIB capex was the unstructured, incomplete and apparently inconsistent documentation provided for individual projects.
39. DBP has now provided comprehensive responses to address our concerns regarding the level of documentation provided to support expenditure proposed for the sample projects. It has assisted with navigating the approach and documentation provided in order to understand how DBP applies its governance and project management frameworks in practice.
40. Through a combination of the explanations provided in the main body of DBP's submission 53 section 7 (and referenced documents in Appendix E) *and* the supplementary project information provided in the attachments to Appendix B, we now consider that the AA3 SIB project capex submitted by DBP (including adjustments to account for actual 2015 expenditure) satisfies rules 79 (1) and (2) and rule 74(2).

2.3 Subsequent costs

2.3.1 DBP's Revised Proposal

41. In its Original AA Proposal, DBP proposed [REDACTED] (nominal)²⁷ of expenditure which related to the SIB capex categorised as 'Subsequent Costs'. The ERA disallowed all subsequent capex reported for AA3. Its decision was consistent with EMCa's advice.
42. DBP does not accept the ERA's decision and has re-submitted [REDACTED]²⁸ of Subsequent Costs as part of its revised AA3 submission²⁹.
43. Our assessment and recommendations to disallow Subsequent Costs can be found in section 6.3.2 of our Technical Report³⁰. In summary, we accepted DBP's rationale for changing the approach to how it reports Subsequent Costs. However, we considered that DBP had received an operating expenditure allowance from the Authority in its Final

²⁷ Nominal prices. At the inflation rate DBP applied in its initial submission this converted to [REDACTED] in real prices \$2015. At the inflation rate that DBP has used in its amended submission, this converts to [REDACTED] real \$2015.

²⁸ Nominal prices. At the inflation rates used by DBP in its amended submission, this equates to [REDACTED].

²⁹ DBP amended Submission 53, Table 23. We note that in this table DBP presents its initial submission cost in real terms and its amended proposal cost in nominal terms.

³⁰ EMCa's Technical Report: Review of Technical Aspects of the Proposed Access Arrangement, December 2015, Page 50

Decision for the AA3 period that included a component for the work that DBP had then proposed as Conforming Capital Expenditure for the same period.

44. In its Revised Proposal DBP has provided a breakdown of the separate components of Subsequent Costs submitted in its revised AA submission, and which we summarise as follows³¹:
- [REDACTED]³² of 'Always Capital Expenditure' – DBP claims that this expenditure was always capital expenditure and not operating expenditure now capitalised; and
 - [REDACTED] of 'Other Subsequent Cost Expenditure' which is comprised of 'Reactive Maintenance Expenditure' for:
 - Turbine maintenance ([REDACTED])
 - Non-Turbine maintenance ([REDACTED]).
45. We note a discrepancy in the expenditure reported for the 'Other Subsequent Cost Expenditure' category which DBP reports as [REDACTED] in its RRP³³: the detailed breakdown provided for this category (Turbine and Non-Turbine Reactive Maintenance components) totals [REDACTED] ([REDACTED] plus [REDACTED]). DBP has submitted total expenditure of [REDACTED] for Subsequent Costs therefore we have assumed that the sub-total [REDACTED] reported for 'Other Subsequent Cost Expenditure' is an error and it should be [REDACTED].³⁴
46. DBP accepts that if there was operating expenditure for which an operating expenditure allowance was to be recovered through reference tariffs, and that expenditure is subsequently capitalised, then DBP may receive an allowance for the same expenditure through reference tariffs again in future periods³⁵. However, it claims that this only occurs if an allowance for expenditure on an activity in the operating expenditure is forecast and the expenditure associated with the same activity is subsequently capitalised, to the extent that the operating expenditure on the activity was less than the expenditure allowance.
47. DBP claims that this is not the case for the majority of subsequent cost capital expenditure; it claims that the amount denoted as Always Capital Expenditure was not included in the operating expenditure forecast allowance and that expenditure on the Non-Turbine Reactive Maintenance Expenditure was not included in the forecast operating allowance for AA3 and therefore was not recovered during AA3.
48. DBP further claims that it cannot receive a double count of an allowance for expenditure incurred in AA3 again in AA4 because it has not received revenue through reference tariffs during AA3 because its shipper contracts are negotiated under a tariff structure that sits outside the regulatory framework. Therefore, DBP claims it has not received income through reference tariffs during AA3, resulting from its allowance for operating expenditure³⁶.

³¹ DBP RRP Submission 53, page 71, all prices are Nominal

³² Figures quoted in this section are nominal, to retain auditability to DBP's submission

³³ DBP RRP Submission 53, page 71, para 10.11 (b)

³⁴ Our assumption is confirmed in Appendix C CY20112015 Subsequent costs spreadsheet provided by DBP as part of its RRP.

³⁵ DBP RRP Submission 53, page 72

³⁶ DBP RRP Submission 53, para 10.25, page 74

49. DBP also claims that *'in any event, the concept of "double-counting" or "double-dipping" is not prohibited under the NGL*³⁷.

2.3.2 EMCa's assessment

Double counting argument – NGL/NGR

50. In claiming that the concept of "double-counting" or "double-dipping" is not prohibited under the NGL, DBP appears to rely on the revenue and pricing principles of the NGL which includes *'to provide the service provider with a reasonable opportunity to recover at least the efficient costs the service provider incurs in providing reference services (see section 24(2)(a) of the NGL)*.³⁸ DBP asserts that it is sufficient that it has incurred the expenditure and that the expenditure will contribute to the provision of reference services in AA4.
51. It is relevant to consider the National Gas Objective³⁹, which is as follows
- 'The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.'*
52. We consider that to allow double counting of costs is not consistent with the National Gas Objective in that it is not in the long term interests of consumers to be charged twice for the same expense.
53. We consider that double counting of expenditure is also not consistent with the definition of conforming capex in the NGR, which requires that it *'...must be such as would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of delivering pipeline services' to consumers.*' (Rule 79(1)(a)). Specifically, it is our view that double counting of expenditure would not meet the requirement that the conforming capex meets *'the lowest sustainable cost of delivering pipeline services.'*
54. A search of the AER website currently reveals 1488 references to *'double counting'* and a further 411 to *'double dipping.'* All that we have reviewed are in the context that double counting or double dipping should not be permitted, or statements by regulated entities that it has not occurred (in a regulatory proposal). We are unable to find any references, whether by a regulator, by regulated entities or by stakeholders in submissions, which promote double counting of expenditure as consistent with electricity or gas regulatory law. An example statement from AER's explanation of its Expenditure Assessment Guideline⁴⁰, includes a concern raised by a stakeholder that *'The incentive arrangements (do) not address double dipping by claiming the same capex in two or more regulatory periods.'* The AER responds that *'Our capex expenditure assessment approach should limit the ability of NSPs to claim capex that is not prudent and efficient and as a result claim excessive capex from regulatory period to regulatory period.'* An AER Guideline on cost allocation⁴¹ states

³⁷ DBP RRP Submission 53, para 10.26, page 74

³⁸ DBP RRP Submission 53, para 10.26, page 74

³⁹ National Gas (South Australia) Act 2008—30.1.2015, Division 1, Clause 23

⁴⁰ *Explanatory Statement, Expenditure Forecast Assessment Guideline*, AER, (November 2013)

⁴¹ *Electricity distribution network service providers; Cost allocation guidelines*, AER (June 2008)

unequivocally under the heading “No double-counting of shared costs”⁴² that ‘A DNSP may only recover the same cost once through the charges that it levies for its distribution services.’⁴³

55. Our assumption for the purposes of this Addendum Report is that it is not an intention of the NGL to allow for the double-counting of expenditure. We therefore considered the extent to which double counting may have occurred, based on the new information provided by DBP.

Argument that because non reference service income, it doesn't count

56. EMCa does not accept DBP's assertion that it cannot be considered to have double-counted expenditure because its shipper contracts are based on their bilateral contracts, and not on the Reference Service tariffs. The NGR regulatory regime is based on the offer of a Reference Service and the calculation of Reference Tariffs and expenditure allowances is governed by the NGR; the extent to which customers take up those Reference Services or negotiate outside of this framework is not an NGR consideration in establishing expenditure allowances or other components in the building blocks for setting those tariffs.

Implications of changing accounting regulatory accounting policies between ex ante and ex post assessments

57. Changes to regulatory accounting classification have the potential to distort the operation of regulatory mechanisms that are based on consistent classification within a regulatory period. For example, for a given regulatory period, regulatory opex and regulatory capex are forecast as allowances using capitalisation and categorisation approaches that can be assessed together for consistency. At the end of the regulatory period, actual opex can result in efficiency carry-overs and actual capex is rolled into the capital base⁴⁴. The potential to switch expenditure between operating and capital expenditure during a regulatory period, whether by changes to maintenance practices themselves or by changes to expenditure capitalisation practices, can provide apparent commercial incentives to the regulated entity that may conflict with, or at least not be consistent with, the objectives, criteria and principles of the relevant regulatory law. We consider this to be such an instance.
58. Where accounting policies and practices have changed during an AA period, we consider that a reasonable way to assess the expenditure is by reference to the accounting policies and practices that applied at the time that the expenditure allowances were used to set the revenue allowance for the period. This applies particularly in regards to capitalising expenditure that was previously treated as opex.

Treatment of transfer of capex from specific capex projects to Subsequent Costs capex

59. We accept DBP's inclusion in its Revised Proposal Subsequent Costs of the component of [REDACTED] that it describes as ‘Always Capex’ – on the basis that allowances for this type of expenditure were included in AA3 for individual capital projects, but the actual expenditure was subsequently included in AA3 capex as a global category. DBP has informed us that the types of expenditure that this relates to were not previously included in its opex

⁴² Ibid clause 2.2.5

⁴³ Ibid clause 2.2.5(b)(4)

⁴⁴ Provided it is deemed to be conforming

allowance for AA3 and therefore do not relate to the accounting change that DBP has described.

60. The amount of [REDACTED] nominal [REDACTED]) AA3 Subsequent Costs that DBP describes as Always Capex is much closer the subsequent costs capex that DBP has forecast for the AA4 period [REDACTED] in real terms) and this provides support to DBP's claim that this represents an accounting shift from allowances within each project, to a global allowance outside of individual project budgets. From our review of a sample of AA4 projects, we can also confirm that there does not appear to be an allowance for Subsequent Costs or their equivalent, within individual project budgets.

Treatment of DBP's proposed inclusion of capex not previously treated as capex

61. DBP proposes as conforming capex an amount of [REDACTED]⁴⁵ that it states was previously classed as Reactive Maintenance expenditure. If such AA3 Reactive Maintenance incurred is now capitalised, then it would become included in the AA4 opening capital base and therefore would be included in calculating Reference Tariffs for AA4 (and beyond, until fully depreciated).
62. DBP further divides the relevant Reactive Maintenance between Turbine Reactive Maintenance of [REDACTED]⁴⁶ for which it acknowledges that an opex allowance was made for AA3, and Non Turbine Reactive Maintenance of [REDACTED] for which it claims it did not make an opex allowance⁴⁷.
63. While holding that double counting is not disallowed by the NGL as a matter of principle (and therefore that it is entitled to claim expenditures that have been previously included in other allowances in other periods), DBP claims alternatively that any adjustment for double counting should be restricted to the amount of any underspend in AA3 opex for a particular category of such expenditure – in this case Turbine Reactive Maintenance Expenditure - and which it informs was underspent by [REDACTED].⁴⁸ We do not accept this proposition of a minimal double-count, based on a narrow view of the relevant opex allowance for the current period.
64. We consider that assessment of this matter should rather be based on a rounded view of the implications of the change in regulatory capitalisation policy that DBP has instituted, by reference to the NGL. We observe that while DBP reported an amount spent on Reactive Maintenance opex in AA3 that was broadly equal to the regulatory allowance for that category, overall it spent \$58m less than its total opex allowance (excluding SUG), as we noted in our December 2015 report⁴⁹. Within this, DBP spent \$25m less than the AA3 regulatory allowance for Field Expenses, and specifically noted the impact of re-classification between Field Expenses and Reactive Maintenance as part of its explanation for this, as follows:

'DBP has also put in place clearer procedures dealing with the classification of planned maintenance and reactive maintenance explaining a degree of the

⁴⁵ DBP actually propose [REDACTED], see para 38 for further detail of this discrepancy.

⁴⁶ Supporting Submission 53, 10.11(b)(i)

⁴⁷ Ibid 10.11(b)(ii)

⁴⁸ Ibid, paragraph 10.14(b) and subsequent text to 10.22(b)

⁴⁹ EMCa Technical report, December 2015, paragraph 254

reduction in historical costs [of Field Expenses] and some of the uplift in the reactive cost category.’⁵⁰

65. While DBP claims that at the most granular level (turbine and non-turbine reactive maintenance) certain expenditure was not specified as such in its AA3 opex allowance, we consider that this narrow presentation by DBP is misleading. Taking the wider perspective of the NGL, we observe in short that a level of maintenance costs was included in DBP’s AA3 opex allowance and it underspent this allowance by a considerable amount, taking the underspend as a reduction in Field Expenses opex but reporting a higher amount in the ‘reactive maintenance’ category, and which it now proposes to capitalise.⁵¹ We consider this to be a significant and clear instance of double-counting and we consider that it is not consistent with the NGL to treat this component of Subsequent Costs as Conforming Capex.

2.3.3 Conclusion on AA3 Subsequent Costs capex

66. For the reasons above, we do not accept DBP’s proposed inclusion in conforming capex for AA3 (as Subsequent Costs) of the amount it describes as Reactive Maintenance expenditure and which was not considered as capex in setting DBP’s expenditure allowances for this period. We consider that exclusion of this amount is a reasonable application of the NGL and NGR on the grounds that such exclusion meets the objectives of the NGO, is consistent with Rule 79(1)(a) and is also consistent with section 24(2)(a) of the NGL as quoted by DBP.
67. We recommend that the ERA not allow the [REDACTED]⁵² of AA3 Subsequent Cost capex that DBP did not previously treat as capex.

2.4 Summary

68. In response to our Technical Report, DBP has provided a considerable amount of information which directly addresses and mitigates our concerns regarding systemic issues with governance and management of its AA3 capex program generally and the concerns that we had with regards to specific projects in that program.
69. DBP has provided further information which apportions the expenditure that DBP has categorised as Subsequent Costs between expenditure that is an aggregation of items that were always denoted as capex, and other expenditure that was not. We consider that only the amount denoted as Always Capex can be considered Conforming Capex.
70. As per our note to Heading 2.2, we did not review DBP’s claim for the increase in the valuation of linepack gas, which is considerably greater in its amended proposal.
71. On the further information provided, we recommend accepting all other AA3 capex expenditure as Conforming Capex.

⁵⁰ Forecasting Operating Expenditure, Supporting Submission 10, DBP December 2014, paragraph 5.109 (text in parentheses added)

⁵¹ The ‘uplift’ in reactive costs that DBP refers to cannot have been in the expensed component of reactive maintenance, since the actual costs that DBP has classified as reactive maintenance opex are around the level of the original allowance.

⁵² Nominal

3 Proposed AA4 capex

3.1 Introduction

72. This section describes our review of DBP's revised capex forecast for the AA4 period. Consistent with our assessment of DBP's Initial Proposal, we have undertaken this review using the assessment framework set out in section 3.2.1 of our Technical Report⁵³. We also have regard to our revised findings on DBP's governance framework and expenditure forecasting methodology (refer to section 2.1 of this Addendum Report).
73. The results of our review and our overall assessment of the extent to which DBPs revised capex proposal can be considered conforming capex (rule 79) are set out below.

3.2 Stay in Business capex

3.2.1 Recap of the findings in our Technical Report

74. In EMCa's Technical Report we assessed the 17 largest projects (based on expenditure) as a sample of the many projects identified by DBP in its Initial Proposal. We found that only one of the 17 projects satisfied the requirements of NGR rules 79(1), 79(2) and 74(2).⁵⁴ We have reconsidered our findings based on the new and updated information provided by DBP in its Revised Proposal for the other 16 projects.
75. The results of our updated review of the sample projects fall into two categories:
- (i) Thirteen projects for which DBP has now provided satisfactory explanations to address the issues we raised; and

⁵³ EMCa report, Review of Technical Aspects of the Proposed Access Arrangement, December 2015
<https://www.erawa.com.au/cproot/14129/2/EMCa%20Report%20%E2%80%93%20Review%20of%20Technical%20Aspects%20of%20the%20Proposed%20Access%20Arrangement.pdf>

⁵⁴ Replacement of 110V DC batteries and battery chargers (project 11 in Appendix B of our initial report)

- (ii) Three projects which include aspects for which we consider the new and updated information is insufficient to satisfy the requirements of one or more of NGR rules 79(1), 79(2) or 74(2).

76. In sections 3.2.2 and 3.2.3 we discuss the projects in these two categories.

3.2.2 Inflation

77. In DBP's supporting project documentation has same expenditure in nominal terms as in its initial proposal, despite having slightly reduced its forecast inflation assumption. We have verified that the increase in its proposed SIB capex expressed in real terms (from \$106.66m to \$107.73m) is a result of DBP using its amended inflation assumptions to incorrectly deflate nominal costs that were inflated using different assumptions. Whilst this is an error, because of its relatively low materiality, we consider this to be within the bounds of the overall AA4 adjustment that we recommend.

3.2.3 Sample projects – capex now considered to pass NGR requirements

Assessments based on new information in response to systemic issues identified in our Technical Report

78. One or more of the following issues in DBP's Initial Proposal led us to consider that the proposed expenditure for the thirteen projects⁵⁵ was unjustified (fully or partially) against the requirements of rule 74(2):
- Lack of clarity of the proposed scope of work;
 - Lack of clarity of the options considered; and/or
 - Lack of clarity about the basis for the forecast expenditure.
79. We now consider that the expenditure for these projects satisfies the requirements of NGR rules 79(1), 79(2) and 74(2) because DBP provided, via appendices to Submission 54 for each project:
- Further details to support the business need for the project (although in most cases we had already formed the view from the information in DBP's initial Proposal that the business need was adequately justified);
 - Sufficient information about the scopes of work, including where relevant (i) the delineation between what was achieved (and not achieved) in the AA3 period, and (ii) the relationship to other projects where EMCa identified an apparent scope conflict;
 - Satisfactory explanations of the risk and options analyses that led to the preferred option, including the timing for the work;
 - Satisfactory explanations of the basis for the procurement options and the selected procurement approach (in most cases by competitive tender) – this information helps establish that the delivered cost is likely to be efficient; and

⁵⁵ Subsequent costs, Intelligent pigging, New compressor station accommodation, Upgrade of GEA & DEA controls, Replacement of earthing systems, Annual allocation for vehicle fleet replacement program, Replacement of unit control systems, Retrofitting of fire suppression at compressor stations, Upgrade of fire and gas equipment, Retrofitting remote isolation valves, Refurbishment of pipework, Upgrade of southern communications network, and Replacement of fuel gas valve hydraulic actuators

- Satisfactory explanations of the basis for the cost estimate, including sources (e.g. historical costs, budget quotes) and other relevant assumptions – this provides confidence that the forecast cost is reasonable.
80. For two of the projects now accepted, we provide further information on our assessment process and reasoning in the following sub-sections.

Subsequent costs

81. DBP proposed capex of [REDACTED]⁵⁶ in its initial Proposal to provide for 'subsequent' costs associated with: [REDACTED]
- [REDACTED]⁵⁷ It advises in its Revised Proposal that it has not changed the proposed expenditure.⁵⁸
82. EMCa's primary concern with DBP's proposed expenditure in its Initial Proposal was that it had provided insufficient information about the basis for the assumed scope and cost of the work. We did, however, note that DBP had based its estimated expenditure on historical costs and that the total amount proposed for the AA4 period was less than it categorised as 'Subsequent Costs' in the AA3 period.
83. DBP has responded with the following new information in its response:⁵⁹
- General descriptions of the categories of Subsequent Costs, including the activities that drive the forecast expenditure (extracted in turn from DBP's Asset Management Plan); and
 - Advice that procurement under the subsequent cost category will be carried out in accordance with its Procurement Policy and that estimates are based on historical costs in accordance with the Project Estimating Guidelines.
84. The detailed information now provided is sufficient for EMCa to consider that the proposed AA4 period subsequent cost capex meets the requirements of NGR rules 79(1), 79(2) and 74(2).

Intelligent pigging

85. DBP proposed expenditure of [REDACTED] in its Initial Proposal to inspect the DBNGP via intelligent pigging. It advises in its Revised Proposal that it has not changed the proposed expenditure.⁶⁰
86. EMCa's primary concerns with DBP's proposed expenditure in its Initial Proposal were:
- [REDACTED]

⁵⁶ Real prices (\$2015)

⁵⁷ DBP, Submission 54 – App B – Attachment B1.1 DBP PMM PR D04, section 5.2

⁵⁸ DBP quotes total AA4 period forecast expenditure of [REDACTED] (nominal) in Table 1, Submission 54 – App B – App B1 Subsequent Costs, which has been converted to a real \$2015 base by EMCa. Refer to section 1.3 for further details on EMCa's real conversion approach which has been applied to all dollar values in the section unless stated otherwise

⁵⁹ DBP, Submission 54 – App B – App B1 Subsequent costs, paragraphs 1.7-1.10

⁶⁰ DBP, Submission 54 – App B – App B2 Intelligent pigging, Table 1

⁶¹ DBP Asset Management Plan – General TEB-001-0024-01 paragraph 5.4.7

[Redacted]

- There was further lack of clarity about the scope of the proposed work in the AA4 period; and
- DBP had not provided sufficient clarity about the basis for the cost estimate, including the steps it had taken to forecast a reasonable cost estimate.

87. DBP has responded with the following new information in its response (as summarised by EMCa):⁶²

- Its current view is that [Redacted]
- Clarification of the scope of work; and
- Information to support its cost estimate.

88. Based on the new information, EMCa is satisfied that [Redacted] the proposed work and estimated cost satisfies the requirements of NGR rules 79(1) (a) and (b). However, [Redacted]

89. [Redacted]

[Redacted]

[Redacted]

92. Nonetheless, for the purposes of determining an adequate provision for DBP's capex requirements for the AA4 period, we consider it appropriate that DBP allows for the necessary ILI expenditure for the loopline and laterals in its forecast as it currently has a licence obligation to undertake the work by 2017.

⁶² DBP, Submission 54 – App B – App B2 Intelligent pigging, paragraphs 1.6-1.16

⁶³ DBP, email, RE: DBP – AA4 – Contact query, 5 May 2016

⁶⁴ DMP, email RE: Dampier to Bunbury Natural Gas Pipeline – Request for a teleconference with the Economic Regulation Authority, 11 May 2016

93. [REDACTED]

94. Based on the information received, we are satisfied that it is prudent for DBP to provide for the necessary inspection work on the basis of a five-year inspection cycle in accordance with the licence requirements. EMCa's updated position after considering the new and updated information provided is that the proposed expenditure of [REDACTED] in the AA4 period satisfies the requirements of NGR rule 74(2).

3.2.4 Sample projects – capex considered not to pass NGR requirements

Flow computer upgrade

95. DBP proposed expenditure of [REDACTED] (nominal) in its Initial Proposal to upgrade obsolescent flow computers at the balance of sites not addressed in the AA3 period. DBP advises in its Revised Proposal that it has not changed the proposed AA4 expenditure.⁶⁵

96. EMCa's primary concerns with DBP's proposed AA4 expenditure in its initial Proposal were:

- Lack of clarity about the scope of work to be achieved in the AA4 period;
- Lack of clarity about the basis for the cost estimate for the AA4 work;
- A projected underspend of between [REDACTED] of the forecast [REDACTED] AA3 program (all nominal), indicating more than a two-year schedule slippage; and
- Consequent lack of confidence in DBP spending the proposed [REDACTED] (nominal) in the final year of the AA4 period.

97. DBP has responded with the following new information in its response:⁶⁶

- After accounting for the above-budget actual expenditure in 2015, the total spend for the AA3 period was [REDACTED] (nominal) on 17 of the originally scoped 45 sites;
- It proposes addressing 24 projects in 2016, and 2017 at a cost of [REDACTED], and allocating [REDACTED] (nominal) to commence the next replacement cycle (i.e. due to obsolescence of the units installed in AA3 period).

98. Based on the new information, EMCa observes that: (i) DBP installed no upgraded flow computers in 2010 and only a small amount in 2011⁶⁷ - in our view this reduces the strength of DBP's claim of the need to provide for future replacements based on obsolescence in 2020, (ii) DBP spent an average of approximately [REDACTED] in the AA3 period, (iii) DBP [REDACTED] and (iv) DBP proposes spending an average of just under [REDACTED] to complete the upgrade program commenced in AA3.

⁶⁵ Table 1, Submission 54 – App B – App B5 Flow computers.docx

⁶⁶ DBP, Submission 54 – App B – App B5 Flow computer upgrade, paragraphs 1.2-1.6

⁶⁷ DBP, Submission 53 - Appendix B – Project 11 – Appendix B11 Flow computers_FINAL.pdf, Table 2

99. We consider that it is unlikely that DBP will need to spend [REDACTED] (nominal) in the last year of the next regulatory period.
100. EMCA's updated position formed from the new and updated information provided by DBP, is that an allowance of [REDACTED] for the AA4 period is likely to satisfy the requirements of NGR rule 74(2), a reduction of [REDACTED] of DBP's proposed [REDACTED] (all nominal) allowance. This equates to an adjustment in real terms of - [REDACTED] and a recommended allowance of [REDACTED] (real terms).

Sealing of airstrips

101. DBP proposed expenditure of [REDACTED] (nominal) in its Initial Proposal to seal and install lighting at six airfields adjoining compressor stations. DBP advises in its Revised Proposal that it has not changed the proposed AA4 expenditure.⁶⁸
102. EMCA's primary concerns with DBP's Initial Proposal were that DBP did not: (i) present a compelling risk assessment, (ii) demonstrate that there had been a step change in regulatory or similar standards that triggered the need for sealing the airstrips, or (iii) demonstrate it had undertaken a thorough options analysis.
103. In its Revised Proposal, DBP has provided new or updated information as follows:⁶⁹
- The airstrips are not inspected daily (as the adjacent compressor stations are not always 'manned' by personnel);
 - There has been a snake bite incident at CS4 and a staff member lost his balance and could not stand at CS6 – both requiring evacuation;
 - The airstrips are not reliably available for community use (e.g. Royal Flying Doctor Service and nearby communities); and
 - Whilst the requirements of the Petroleum Pipelines Act have not changed, the current industry standard in remote locations is to have all weather emergency evacuation capability.
104. Despite the new and updated information provided by DBP:
- We do not consider that DBP has provided a compelling analysis to demonstrate that the risk associated with the unsealed airstrips has increased materially, including through potential non-compliance with any changes to aviation standards, industry standards, or the Petroleum Pipelines Act, or is such as to warrant the proposed expenditure;
 - We do not consider that DBP has provided a compelling options analysis to demonstrate that it has taken into account all practicable options to mitigate the inherent risk to a satisfactory level other than by sealing and lighting all six airstrips, including the option of prioritising the work on certain airstrips above others.^{70,71}

⁶⁸ DBP, Submission 54 – App A – App A7 Sealing of airstrips, Table 1

⁶⁹ *Ibid*, paragraphs 1.8-1.20

⁷⁰ DBP presents only one other option without analysis ("do nothing"); aspects of the options analysis could include, for example, demonstrating that the maintenance costs associated with the "do nothing" option are uneconomic; sealing only the most often used airstrip or 'manned' compressor station; proactively taking steps to mitigate snake bite risk and consequence and showing that it has assessed other evacuation options at each of the sites

⁷¹ DBP has not provided compelling information to confirm that sealing and lighting the airstrips provides for 24/7 operation without the need for safety inspections before aircraft can land

105. On this basis we maintain our initial view: DBP has not provided sufficiently compelling information to reasonably justify the proposed expenditure allowance in accordance with NGR rule 79(1)(b).. We therefore do not consider any of the proposed expenditure of [REDACTED] (nominal) is likely to satisfy the requirements of NGR Rule 74(2). This equates to an adjustment of [REDACTED] in real terms.

Hot gas path

106. DBP proposed expenditure of [REDACTED] (nominal) in its initial Proposal for inspection of the Nuovo Pignone unit hot gas path at Compressor Station 6 (CS6). DBP advises in its Revised Proposal that it has not changed the proposed AA4 expenditure.⁷²

107. EMCa's primary concerns with DBP's initial Proposal were that: (i) the cost estimate did not appear to be consistent with the work undertaken in the AA3 period, and (ii) there was doubt whether the work scope would be required based on deferral of expenditure scheduled for AA3.

108. In its Revised Proposal, DBP has provided new or updated information:⁷³

- Unit 2 at Compressor Station 6 reached its Hot Gas Path Inspection (HGPI) life in 2014 but due to its low use factor, its refurbishment was deferred for the last two years based on DBP's SIB risk ranking process - the timing of the implementation of the future Nuovo Pignone unit HGPIs (at CS6 and CS9) will be risk assessed by DBP based on their use, throughput and demand; and
- The cost estimate for 2016 would normally be [REDACTED] m but will be [REDACTED] (nominal) due to additional work; the cost estimate for 2017 is for work on [REDACTED] and is based on the cost for [REDACTED]⁷⁴ and the cost estimate for 2019 and 2020 is 'based on current cost estimates'.⁷⁵

109. DBP has provide separate information⁷⁶ that confirms that individual compressor unit use, throughput and demand is likely to be lower than originally forecast. DBP does not provide any evidence that it has taken this into account in forecasting that the next HPGIs are due in 2019 and 2020.⁷⁷ For these reasons we consider that it is unlikely the proposed HPGIs will be required.

110. With respect to the cost estimate, we find DBP's attempted reconciliation of the AA3 and AA4 period work scopes and cost estimates to be confusing and inconsistent. We find no support for the estimated [REDACTED] (nominal) expenditure in each of 2019 and 2020.

111. We consider that it is reasonable to form the view from the information presented by DBP that: (i) there is likely to be a two-year delay to the HPGI work scheduled for 2019 and 2020, and (ii) even if it were to occur, the work should be budgeted at [REDACTED] (i.e. the same as budgeted for the 2014 and 2017 work, nominal).

⁷² DBP, Submission 54 – App B – App B10 NP hot gas path, Table 1

⁷³ *Ibid*, paragraphs 1.8-1.12

⁷⁴ DBP states that 'The cost estimated for [REDACTED] would be similar and based on estimate for [REDACTED] App B10 NP hot gas path, paragraph 1.23) which we infer is intended to refer to the work completed on [REDACTED] based on the preceding paragraph

⁷⁵ *Ibid*, paragraph 1.24

⁷⁶ Submission 54 – App C - App C1 Enhancement project at CS9, paragraphs 1.3-1.12

⁷⁷ Noting that DBP has not changed its forecast expenditure since 2014

112. On this basis we consider that only [REDACTED] of DBP's proposed [REDACTED] is likely to satisfy NGR rule 74(2) representing an adjustment of [REDACTED] (all nominal). This equates to an adjustment in real terms of [REDACTED] and a recommended allowance of [REDACTED].

3.2.5 Conclusions on sampled projects

113. From our review of DBP's Initial Proposal we considered that only one project of seventeen fully met the requirements of the NGR. DBP has provided a considerable amount of new information which substantially addresses the concerns that we described in our Technical Report and we now consider that all except three projects meet the requirements for inclusion in the AA4 capex allowance.
114. We consider that the proposed allowance for sealing and lighting of six airstrips does not meet the requirements, and that the proposed allowances for flow computer upgrades and hot gas path inspections should be reduced on the basis that we consider DBP is unlikely to be required to spend the full amounts that it has proposed. We also do not consider these to be reflective of systemic issues in DBP's forecasting methodologies and governance. Indeed, with respect to the flow computer and hot gas path projects, we have taken into account, among other things noted in section 3.2.3 that DBP's governance process (including the risk-based project prioritisation process) is likely to result in deferral of currently forecast 2019-2020 expenditure.

3.2.6 Proposed AA4 SIB project expenditure not sampled

115. The sample projects that we have reviewed cover around 70% of the proposed AA4 SIB capex. We have considered the extent to which our findings in regard to the sample projects may reflect systemic issues such that the expenditure allowances DBP has proposed for the remaining projects may not reflect the requirements of the NGR.
116. On balance we consider that the proposed expenditure for the projects not sampled should be accepted as confirming with the requirement of the Rules. Our reasoning is that
- The sample is such that we have directly assessed over 2/3rd of expenditure
 - The only sampled project for which consider none of the expenditure meets the requirements of the Rules (airstrip sealing) is an atypical project and not one that can be considered an indicator of systemic issues affecting the types of projects not sampled;
 - Not including airport sealing, the other adjustments made represent only 6% of proposed expenditure; and
 - The annual amount of proposed SIB capex is less than the amount that DBP has spent in AA3.

3.2.7 Conclusions on proposed AA4 SIB capex

117. DBP proposed \$106.67m conforming SIB capex in its Initial Proposal. In its Draft Decision, the ERA approved \$77.92m, a reduction of \$28.75m (27%) based on EMCa's findings. EMCa identified the following issues with DBP's proposed AA4 expenditure in its Initial Proposal:
- Lack of clarity of the proposed scope of work;
 - Lack of clarity of the options considered; and/or

- Lack of clarity about the basis for the forecast expenditure.
118. These issues were derived primarily from EMCa’s assessment of a sample of the proposed AA4 projects.
119. DBP has responded with new and updated information for each of the sample projects for which EMCa recommended a reduced allowance (i.e. due to one or more of the issues listed above). Based on EMCa’s review of the new/updated information, which largely addresses EMCa’s concerns, EMCa is satisfied that the requirements of NGR rules 79(1), 79(2) and 74(2) have been satisfied in 14 of the 17 projects.
120. We consider that DBP has not provided sufficiently robust justification of the proposed expenditure in accordance with the requirements of the NGR for three projects, and we recommend reductions in the allowances relating to these projects.⁷⁸

3.3 Newly proposed projects

3.3.1 Introduction

121. Since its Initial Proposal, DBP has identified 3 new capital projects with a total value of [REDACTED]⁷⁹ that it has included in its revised forecast capital expenditure for the AA4 period:⁸⁰
- ‘Pipe wall integrity projects’ ([REDACTED]);
 - ‘CS9 enhancement project’ ([REDACTED]); and
 - ‘CS1 Enhancement project’ ([REDACTED]).
122. DBP claims that the additional projects were not reasonably foreseeable at the time of providing its Initial Proposal in December 2014. DBP further states that if the ERA does not include the new projects in the capex forecast, DBP would ‘*be forced to submit an intra period access arrangement revision proposal to ensure that they are incorporated into AA4 or to make an application under Rule 80*’⁸¹.

3.3.2 Pipe wall integrity projects

DBP’s proposal

123. DBP proposes four projects at a cost of [REDACTED] to replace four sections of the DBNGP (Table 1) with ‘heavy wall’ pipe to meet the Australian Standard AS2885 requirements for high pressure transmission pipeline traversing through proposed new residential areas.⁸²
124. DBP claims that the physical and procedural controls currently in place for the relevant sections of the DBNGP are adequate for the existing rural land use, but that a proposed change to residential land use would require the pipeline wall thickness to be increased

⁷⁸ Flow computer upgrade, Sealing & lighting airstrips, and Hot gas path

⁷⁹ Figures quoted in this section are nominal, to retain auditability to DBP’s submission

⁸⁰ DBP, Revised Proposal, Appendices C3, C2 and C1, respectively

⁸¹ Proposed Revisions DBNGP Access Arrangement, 2016 – 2020 Regulatory Period Projected Capital Base Supporting Submission: 54, page 38

⁸² DBP, Revised Proposal, Appendix C3

(strengthened). This would reduce the consequences of damage by providing improved resistance to penetration of the pipeline from external interference threats.

Table 1: Forecast expenditure Pipe Wall integrity projects - \$m, nominal

Source: DBP Submission 54 App C3 Pipe wall integrity projects, Table 1

125. DBP advises that in the last 24 months a number of development applications in the Dandalup area have been approved by the Western Australian Planning Commission resulting in land-rezoning from rural to residential⁸³. DBP claims that ‘further applications⁸⁴’ are under review for rezoning from rural to residential classification and/or subdivision. DBP also advises that ‘it is likely that the number of these applications to the [Western Australian Planning Commission] WAPC will increase in the medium term’.⁸⁵

Basis on which DBP has sought to justify the pipe wall integrity projects

126. DBP claims the projects are necessary to maintain safety and integrity of services and that the projects meet the requirements of Rule 79(2)(c)(i) and (ii). It submits the following reasons to justify the pipe wall integrity projects:⁸⁶

- the expenditure identified relates to the areas of the pipeline currently rated as R1/R2 (rural) which over the next 5-10 years are ‘most likely’ to be subject to re-zoning and subdivision applications;
- there should be no differentiation between the circumstances proposed with those associated with the initial design of the initial part of the pipeline that traversed T1 (residential)⁸⁷ areas – with no contribution to the incremental cost by land owners;
- the proposed expenditure will (i) provide developers with greater certainty that the subdivision or development will proceed with no change in the risk profile, (ii) ensure that ‘pipeliners’ are able to recover the costs from shippers, and (iii) ensure no delay to the residential development of Perth; and

⁸³ DBP Submission 54 App C3 Pipe wall integrity projects, page 3

⁸⁴ DBP Submission 54 App C3 Pipe wall integrity projects, page 3

⁸⁵ DBP Submission 54 App C3 Pipe wall integrity projects, paragraph 1.21

⁸⁶ *Ibid*, paragraph 1.25

⁸⁷ Residential land that is developed for community living. Residential applies where multiple dwellings exist in proximity to each other and dwellings are serviced by common public utilities, source DBP RRP submission, Appendix C3 Pipe wall integrity projects, para 1.3 (a)

- if land developers have to pay for the pipeline reinforcement expenditure, it will make the developments in question uneconomic. DBP contends that this is not in the best interests of the state as large tracts of land will be prohibitive to develop for residential use.

EMCa assessment

127. DBP submits that the project is necessary in that it '*meets the criterion in Rule 79(2)(c)(1) and (2) as expenditure required to maintain both safety and integrity of services.*'⁸⁸ DBP explains this requirement on the basis that if the residential development proceeds on land which '*covers land traversed by high pressure gas transmission pipelines,*'⁸⁹ a review of the physical and procedural controls to assess whether the new threats are effectively controlled will be required. Under AS2885 and the MoSoPO Regulations,⁹⁰ DBP must satisfy the DMP that the ALARP⁹¹ test is satisfied in these locations.⁹²

Was the requirement foreseeable?

128. Based on the information provided, it appears DBP became aware of the proposed land rezoning application as part of the WAPC's process for considering rezoning/subdivision applications (in which it refers applications to DBP for advice). DBP does not state when the application was sent to it for consideration. Without this information it is not possible to conclude unequivocally that the matter was not reasonably foreseeable.

DBP's options analysis

129. It would appear that DBP has concluded that the ALARP test can only be satisfied by either (i) undertaking the proposed work or (ii) by reducing the operating pressure.⁹³ It does not quantify the impact of the second option, nor does it fully explore other options, such as by enforcing a suitably wide easement (with or without other physical⁹⁴ and procedural⁹⁵ controls). Furthermore, DBP does not fully explore alternative timing for the work, particularly for projects three and four, which appear to be based on purely speculative development timetables.

130. DBP has not provided a robust option analysis to determine that the proposed projects are the only feasible or preferred way to meet the requirements of the ALARP test under AS2885 at the four locations at the estimated cost.

Who should pay?

131. More importantly, however, we consider that DBP has not satisfactorily explained why DBP's shippers should (through increased tariffs) fund any of the proposed [REDACTED] to the apparently sole tangible benefit of land developers. We note that DBP has identified that:

⁸⁸ *Ibid*, paragraph 1.2

⁸⁹ *Ibid*, paragraph 1.18

⁹⁰ Petroleum Pipelines (Management of Safety of Pipeline Operations) Regulations 2010

⁹¹ As Low As Reasonably Practicable

⁹² *Ibid*, paragraph 1.20

⁹³ *Ibid*, paragraph 1.22

⁹⁴ Such as slabbing

⁹⁵ Such as signage and patrols

*'Currently, subdivision applications have been assessed [by the WAPC] on the assumption that the costs of installing additional physical controls on pipelines to maintain the no rupture case are to be work by either the service provider or the developer... Were it left to the developer to pay, this would make any residential development uneconomic to proceed.'*⁹⁶

132. DBP goes on to say that 'A service provider is only prepared to make the expenditure if it is able to have the opportunity of recovering this expenditure from users of the pipeline capacity.'⁹⁷ We agree with the logic of this statement and we also acknowledge that if the developers were required to pay the [REDACTED] proposed then the developments are likely to be uneconomic. However, this in itself seems to provide a strong case for DBP to make to the WAPC against rezoning in that it would have such an impact on the pipeline. DBP has provided no economic case to explain why the project will be of benefit to the users of the pipeline or, (put in terms of Rule 79(1)(a)) DBP has not shown that the proposed capex is likely to achieve the 'lowest sustainable cost of providing services'.

Finding

133. The proposed expenditure for the pipe wall integrity projects represents around [REDACTED] of DBP's revised forecast capex for AA4. Given the materiality of these projects, and the fact that they were not included in its original regulatory submission, we would expect DBP to have provided a strong business case to support the new work. DBP has not provided adequate evidence that the further land development it refers to in its submission will take place within the AA4 period or that DBP will be unable to be compensated by the developers for the cost involved in facilitating their developments. Further, we note the options that DBP has itself raised for it to be able to seek an intra-period adjustment, if the expenditure subsequently does prove to be required.

134. We consider that DBP has provided insufficient evidence that the proposed work is consistent with either Rule 79(1)(a) or Rule 79(1)(b). We therefore consider that none of the proposed expenditure ([REDACTED]⁹⁸) is likely to satisfy NGR Rule 74(2).

3.3.3 CS9 enhancement project

DBP's proposal

135. DBP proposes expenditure of [REDACTED]⁹⁹ in 2016 to address matters it claims were unforeseeable when it prepared its 2014 initial Proposal. Specifically it proposes expenditure to:¹⁰⁰

- Undertake a FEED¹⁰¹ study in the first quarter of 2016 to confirm the proposed approach of re-wheeling both compressor units at CS9;
- Order long-lead time items in 2016 (assuming results are as expected); and

⁹⁶ *Ibid*, paragraph 1.23

⁹⁷ *Ibid*, paragraph 1.24

⁹⁸ Nominal

⁹⁹ Figures quoted in this section are nominal, to retain auditability to DBP's submission

¹⁰⁰ Submission 54 – App C – App C1 Enhancement project at CS9, paragraphs 1.30-1.33

¹⁰¹ Front End Engineering Design

- Install replacement wheels (impellers) in both CS9 units to improve operational flexibility.
136. The premise is that re-wheeling will allow the CS9 units to operate efficiently in both low and high flow conditions, thus reducing the number of start/stops.

Description of the need

137. DBP presents the following reasons for the project: ¹⁰²

- Due to changing load demand and transient flow patterns:
 - On low gas flow days, it is not efficient or feasible to operate CS9; and
 - On high flow days, CS9 needs to be able to quickly stop/start;
 - CS9 is critical to enable the DBNGP to respond promptly to sudden transients and peak demands from shippers - if DBP is unable to deliver contracted capacity or the required pressurised gas to shippers downstream of CS9, DBP is exposed to significant financial penalties;
 - Whilst there have been no curtailments due to CS9 outages, there have been ‘near curtailments’; and
 - If DBP does nothing to the configuration and operation of CS9, it would lead to other increased costs and risks for DBP.
138. DBP submits that the project meets the requirements of Rule 79(2)(c)(iv) as the work is required to maintain the reliability of the pipeline services required to be provided by the DBNGP.

EMCa’s assessment

Was the requirement foreseeable?

139. DBP advises that the issue has become more apparent over the last 24 months (i.e. since its Initial Proposal was submitted)



(iii) the remedial measures already deployed, may have led DBP to not submit the expenditure for a change in strategy in its Initial Proposal. However, it is not clear why DBP could not, through regular contact with the shippers, have identified the issue earlier and included the proposed expenditure in its Initial Proposal.

DBP’s need and options analysis

140. DBP has identified the sources of risk to reliable CS9 operations and to performance of the DBP from the ‘unexpected’ gas demand pattern – the risks are technical (reliability), economic (higher operating costs) and commercial (charges associated with shipper

¹⁰² *Ibid*, paragraphs 1.19 – 1.25

¹⁰³ *Ibid*, paragraph 1.8

¹⁰⁴ *Ibid*, paragraph 1.9-1.12

curtailment). However, DBP has not quantified the economic or commercial risks in the submission, nor has it presented the risk analysis in a form consistent with its risk management framework¹⁰⁵.

141. DBP describes how it has implemented a number of operating modes and strategies to respond to the changed use patterns since the completion of stage 5B Expansion, including operating different compressor configurations.¹⁰⁶ This strategy has mitigated some risk, but exacerbated others. DBP also presents its analysis of its options to address the issue contractually, concluding that the Shippers' rights are such that DBP's options for exercising remedies against the shippers are limited and unlikely to resolve the CS9 issues. DBP also lists four actions it has implemented, and two others that it is investigating to mitigate risk further.¹⁰⁷ These six actions are designed to reduce the repair time of a failed CS9 unit.
142. DBP has not provided a cost-benefit analysis of each option compared to the 'do-nothing' option. DBP has confirmed that the increased costs from the 'do nothing' option have not been included into the forecast SUG usage in the Revised Proposal.¹⁰⁸
143. The scope of work proposed in its Revised Proposal is directed towards reducing the risk of failure of the units and improving operational efficiency. On the basis of the information provided, the 're-wheeling' option represents a common industry approach, but has to be confirmed for the particular turbines at CS9. The alternative of replacing both units is a much more expensive option.¹⁰⁹

Cost estimate

144. DBP has presented a satisfactory explanation of the basis for the project cost estimate, including its procurement approach.

Finding

145. Despite some limitations in the information presented, we consider that there is sufficient evidence to find that the proposed work is consistent with Rule 79(1)(a) and Rule 79(1)(b)(2)(iv). We therefore consider that the proposed expenditure of [REDACTED] (nominal) in 2016 is likely to satisfy NGR Rule 74(2).

¹⁰⁵ DBP's risk management framework is centred on the management of an Enterprise Risk Register (ERR) by conducting risk analysis, evaluation and treatment throughout the organisation. Further details can be found in EMCa report, Review of Technical Aspects of the Proposed Access Arrangement, December 2015, Section 4.2.4

¹⁰⁶ *Ibid*, paragraph 1.6

¹⁰⁷ *Ibid*, paragraph 1.28 – 1.29

¹⁰⁸ *Ibid*, paragraph 1.25

¹⁰⁹ Although not referred to explicitly in the CS9 proposal, the similar CS1 project description does (see Submission 54 – App C – App C2 Enhancement project at CS1, paragraph 1.13)

3.3.4 CS1 enhancement project

DBP's proposal

146. DBP propose expenditure of ██████¹¹⁰ in 2017 to address matters it claims were unforeseeable when it prepared its 2014 Initial Proposal. Specifically, it proposes expenditure to:¹¹¹

- Undertake a FEED study in the first quarter of 2016 to confirm the proposed approach of re-wheeling both Solar Turbine compressor units at CS1;
- Ordering long-lead time items in 2016 (assuming results are as expected); and
- Re-wheeling of both CS1 units in 2017 to improve operational flexibility.

147. The premise is that re-wheeling will allow the units to operate efficiently at lower speeds.

Description of the need

148. DBP presents the following reasons for the project:¹¹²

- As part of the Stage 5B Expansion design, CS1 was assumed to be the highest gas flowing station but over the period 2010 – 2015, CS1 station gas flow has been well under the design capacity of ██████, with the forecast for further reductions;
- As a consequence, it has been increasingly difficult to operate CS1 with the station flowing at less than half of the design flow level; and
- The impellers were sized to ensure the compressor operating point was at maximum efficiency – they are now the wrong size (largest available) for the current operating regime and are often operating at or below the manufacturer's recommended speed.

149. DBP submits that the project meets the requirements of Rule 79(2)(c)(iv) as the work is required to maintain the reliability of the pipeline services required to be provided by the DBNGP.

EMCa's assessment

Was the requirement foreseeable?

150. DBP advises that the issue has become more pressing over the last 12 months (i.e. during 2015) as there has been a sharp drop in average CS1 station flows from ██████ to ██████¹¹³ DBP also advises that there will be further gas flow reductions from 2016 onwards. From the information provided, it is not possible to determine when DBP should have reasonably foreseen the need for further action (i.e. in addition to the changes to the compressor operating patterns).

DBP's need and options analysis

151. DBP has identified the sources of risk to reliable CS1 operations and to performance of the DBP from the low gas flow rates – the risks are technical (reliability) and economic.

¹¹⁰ Figures quoted in this section are nominal, to retain auditability to DBP's submission

¹¹¹ Submission 54 – App C – App C2 Enhancement project at CS1, paragraph 1.14

¹¹² *Ibid*, paragraphs 1.4, 1.7 – 1.11

¹¹³ *Ibid*, paragraph 1.4, 1.8

However, DBP has not quantified the economic or commercial risks in the submission, nor has it presented the risk analysis consistent with its risk management framework.¹¹⁴

152. DBP has not provided a cost-benefit analysis of each option compared to the ‘do-nothing’ option. Unlike the CS9 project (refer to section 3.3.3), DBP has not confirmed that the increased costs from the ‘do nothing’ option have not been included into the forecast SUG usage included in the Revised Proposal.
153. DBP describes how it has implemented a number of operating modes and strategies to respond to the changed use patterns since the completion of stage 5B Expansion, including operating different compressor configurations.¹¹⁵ The scope of work proposed for 2017 is directed towards reducing the risk of failure of the units and improving operational efficiency. On the basis of the information provided, the ‘re-wheeling’ option represents a common-industry approach, but needs to be shown to be viable for the specific units at CS1. The alternative of replacing both compressor packages is a much more expensive option.¹¹⁶

Cost estimate

154. DBP has presented a satisfactory explanation of the basis for the project cost estimate, including its procurement approach.

Finding

155. Despite some limitations in the information presented, we consider that there is sufficient evidence to find that the proposed work is consistent with Rule 79(1)(a) and Rule 79(1)(b)(2)(iv). We therefore consider that the proposed expenditure of [REDACTED] (nominal) in 2016 is likely to satisfy NGR Rule 74(2).

3.3.5 Conclusions on the proposed additional projects

156. We consider that it is reasonable to accept an allowance for the proposed re-wheeling of compressors CS1 and CS9. We do not consider that the proposed pipe wall integrity projects are justified.

3.4 Summary

157. In its Revised Proposal, DBP proposes the same amount for SIB as in its Initial Proposal. In response to our Technical Report and the ERA’s Draft Decision, DBP has provided a considerable amount of additional information that largely addresses the concerns that we raised with its proposed initial SIB expenditure allowance, and accordingly we consider that most of the proposed expenditure that was insufficiently justified in its Initial Proposal, now satisfactorily meets the requirements of the Rules. We propose that the allowance for AA4 SIB capex will exclude expenditure that DBP had included for resealing of airstrips and will reduce the amount proposed for two other projects.

¹¹⁴ DBP’s risk management framework is centred on the management of an Enterprise Risk Register (ERR) by conducting risk analysis, evaluation and treatment throughout the organisation. Further details can be found in EMCa report, Review of Technical Aspects of the Proposed Access Arrangement, December 2015, Section 4.2.4

¹¹⁵ *Ibid*, paragraph 1.5-1.6

¹¹⁶ *Ibid*, paragraph 1.13

158. In its Revised Proposal, DBP has proposed significant allowances for three capex projects that were not included in its Initial Proposal. On balance we consider that DBP has provided sufficient evidence to support providing capex for re-wheeling of compressors at CS1 and CS9. However we do not consider DBP has made an adequate case to support the proposed additional [REDACTED] (nominal) for strengthening of pipe walls at four locations in response to the possibility of re-zoning and urban development near its pipeline. This equates to an adjustment in real terms of [REDACTED].

4 Aggregate implications

4.1 Adjustment methodology

4.1.1 Adjustments to Revised Access Arrangement proposal

¹⁵⁹ We have calculated adjustments to DBP's proposed expenditure, that if applied would give effect to our findings. Any adjustments have been calculated based on our assessment of systemic issues in the samples of projects that we reviewed, and applying these findings to non-sampled projects where applicable. For these purposes, we have separately considered 'Subsequent Costs'.

4.1.2 Response to DBP regarding adjustment calculations

¹⁶⁰ In Submission 53, DBP has claimed that the AA3 adjustments described in EMCa's Technical Report differed from the actual adjustments made¹¹⁷. As we have described in Section 2 of this Addendum Report, the additional information now provided by DBP has allowed us to accept as confirming capex all expenditure on the AA3 projects that we had sampled (which excluded Subsequent Costs). Nevertheless DBP's claims warrant a response to correct misunderstandings that appear to have arisen.

¹⁶¹ First, DBP claims that the adjustment to non-sampled projects should be 25%, since this is the average adjustment derivable from Table 3 in our Technical Report (\$18.51m/\$75.23m).¹¹⁸ However as is described in paragraph 213 of our report, we applied the percentage reduction of 2011-2015 projects (i.e. excluding the 2010 WIP carry-over amount).

¹⁶² Secondly DBP claims that after adjusting out all Subsequent Costs, a further adjustment to Subsequent Costs was then incorrectly made.¹¹⁹ Inspection of the spreadsheets confirms that the Subsequent Costs adjustment was made independently of adjustment to non-

¹¹⁷ Submission 53, paragraph 5.7.

¹¹⁸ Ibid, paragraph 5.8

¹¹⁹ Ibid paragraph 5.9

sampled projects (which excluded Subsequent Costs). There was no double counting of adjustments, as is implied from DBP’s claim.

163. We note that an apparent adjustment greater than DBP’s’ actual expenditure for the ‘other’ category occurs under this calculation for 2015, however this results from a discrepancy between the sum of individual project expenditure information provided by DBP for 2015 and the aggregate actual expenditure claimed in DBP’s AAI supporting information. While anomalous, we considered this to be a phasing issue that did not affect the aggregate adjustment.

4.2 EMCa’s revised adjustment implications

164. In aggregate, our findings lead to the following expenditure allowance implications:

- For AA3 conforming capex, we recommend an allowance of ██████ m, compared with DBP’s proposed amount of ██████¹²⁰. This represents a reduction of ██████.

Table 2: Summary AA3 capex - \$m, real Dec 2015

Assessment category	Actual as previously proposed	EMCa previously adjusted	ERA Draft Decision	DBP Revised proposal	EMCa current adjustments	EMCa
██████████	██████████	██████████	██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████	██████████	██████████	██████████

Comprises DBP’s claimed change in linepack valuation. Not reviewed by EMCa.

Sources: EMCa’s adjustment and Table 5, 12, 13 Submission 53 - CONFIDENTIAL • Sub 53 Opening Capital Base_Final_Amended

- For AA4 conforming capex we recommend an allowance of \$104.96m, compared with DBP’s proposed allowance of \$154.30m. This represents a reduction of \$49.34m.

Table 3: Summary AA4 capex – \$m, real Dec 2015

Assessment category	Actual as previously proposed	EMCa previously adjusted range		ERA Draft Decision	DBP Revised proposal	EMCa current adjustments	EMCa Adjusted
		High adjustment	Low				
██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████

Sources: EMCa’s adjustment and Table 1, 2 and table 8, Submission 54 Sub 54 Project Capital Base amendments_FINAL

¹²⁰ Both these figures include DBP’s proposed increase in linepack valuation, which we have not reviewed, therefore this recommended allowance should not be read as acceptance of the linepack valuation.

Appendix A Resumes

Paul Sell

Paul Sell is an energy economist, specialising in energy markets and market reforms. He has over 30 years' experience, which includes providing major advice on restructuring, on deregulation, on the design and implementation of electricity and gas markets and on network regulatory arrangements in Australasia. He has worked extensively with energy utilities, governments, energy regulators and energy market agencies.

Career summary

- Managing Director of Energy Market Consulting associates (EMCa), Sydney, NSW
- Vice President of Cap Gemini Ernst & Young, Global Services Unit (GSU), Sydney, NSW
- Partner of Ernst & Young Consulting, based in Sydney, NSW
- Consultant/Manager/Senior Manager/Principal of Ernst & Young Consulting, Wellington, New Zealand
- Economist in NZ Ministry of Energy, Planning and Forecasting Division Wellington, New Zealand

Expertise

- Electricity and gas utility network pricing, regulation and associated cost analysis
- Energy utility analyses including investment decisions and investment justification processes, energy forecasting and planning studies, and business modelling
- Electricity and gas wholesale markets design and operations
- Energy utility sector reform, restructuring and deregulation policies
- Retail competition in energy markets

Mark de Laeter

Mark de Laeter is an electrical engineer with 30 years' experience in most aspects of the electricity industry, with roles ranging from executive to line management in Western Power, a Top 500 Australian company with over 5,000 personnel.

Mark has strong affinity with the needs and desires of customers and is able to bring his deep technical knowledge to bear to help safely and affordably serve customers of all types and sizes.

Mark joined EMCa in May 2013.

Career Summary (all at Western Power)

- General Manager Networks at Western Power, the government trading enterprise responsible for managing the distribution and transmission network in the south west of Western Australia

- General Manager Customer Service which, in addition to his responsibilities as the GM Networks, included accountability for all service offerings to Western Power's 1m customers and for engineering design
- General Manager Asset Management – transmission & distribution
- Manager Asset Integration - responsible for transmission asset management, engineering design, and project management
- Manager Regional Power Procurement - securing Power Purchase Agreements with private generators
- Construction Services Manager – responsible for transmission substation and line construction and maintenance

Expertise

- Electricity transmission and distribution planning
- Electricity network access
- Asset management practices
- Project management
- Advanced metering infrastructure
- Electricity operations management
- Customer service and community engagement

Elly Watson

Elly Watson is a regulatory economist specialising in network expenditure assessments. With over 10 years' experience, Elly has expertise in delivering high-quality economic analysis, with a track record across several industries in the UK including the energy and utilities sectors. Elly played a significant role in implementing the new RIIO regulatory price control framework used by Ofgem - the UK energy regulator – to assess gas and electricity network business plans and associated forecast expenditure. Elly has experience working in a variety of organisations including regulators, government and consultancy.

Career summary and experience

- Analyst in the UK government - delivered projects to investigate the economy, efficiency and effectiveness of local bodies and central government policies.
- Senior consultant, working for Jacobs where she managed a diverse number of assessment projects including a quantitative review of energy and associated carbon emissions for a leading UK water company to meet the water regulator's (Ofwat) reporting requirements.
- Senior Manager at Ofgem where she specialised in energy regulation and pricing issues. She has experience in relation to evaluating network company regulatory submissions. As part of the RIIO price controls she assessed consultation submissions from stakeholders including energy market participants, government and consumer groups to determine key issues from detailed and complex material.

Expertise

- Electricity and gas utility pricing, regulation and associated cost analysis
- Energy utility analyses including investment decision-making, expenditure budget planning and related assessments.
- Regulatory economics and econometric benchmarking
- Electricity and gas networks operations

Hugh Driver

Hugh Driver has a mechanical engineering background and has developed leadership, governance and management skills having been involved in lead roles in strategic development, corporate and operational risk, multi-million dollar construction projects, business operations and logistics, large change management processes and multi-million dollar divestment projects.

Hugh has experience across a range of technical and commercial roles in the corporate sector of New Zealand's energy and gas industries plus some time in Australia.

His most recent New Zealand corporate role was with Vector Gas Limited (formerly NGC New Zealand Ltd) as the Gas Transmission Asset Manager; however, he has in more recent times been working as an independent contractor/consultant involved in a variety of assignments including for Contact Energy and Powerco Gas.

Prior to the 6 years at Vector Gas, as an independent contractor, he also worked for all the New Zealand oil and gas companies. During the late 90's early 2000's he was based in Perth, as Facilities and Maintenance Manager for Kleenheat Gas with national engineering responsibilities which took him to all states in Australia not only associated with the LPG business but also tempered LPG distribution networks.

Other prior roles include a variety of commercial, operational and engineering management roles with BP New Zealand Limited plus mostly project engineering roles for MWD pipeline project and New Zealand electricity.

Eddie Syadan

Eddie Syadan is a finance, economics and accounting specialist recently recruited from the WA government. He has had several years' experience undertaking detailed analysis and providing recommendations and reports related to complex budget and finance matters to senior management at an agency level in both the Queensland and Western Australian Governments. He has considerable experience in operational budget development, budget planning and budget forecasting as well as the development of financial plans and strategies.

Career summary

Eddie has managed the budgets of state government funding programs at the agency level in both Queensland and Western Australia. This included developing financial plans and strategies and preparing the annual financial reports, preparing budget submissions, including resource allocation, monitoring budget performance and forecasting. Eddie has assisted in the development of policies and programs to facilitate the development of regional economies and communities.

Expertise

- Undertaking detailed analysis, recommendations and reports related to complex budget and financial matters.
- Preparing budget submissions, monitoring budget performance and forecasting.
- Preparing reports, including financial and project reports.
- Analytical and problem-solving including activity-based costing analysis, cost benefit analysis and variance analysis.

Appendix B Glossary

AA	Access Arrangement
AA3	Access Arrangement 3 (2010-2015)
AA4	Access Arrangement 4 (2016 – 2020)
AAI	Access Arrangement Information
AMP	Asset Management Plan
ALARP	As Low As Reasonably Practicable
Capex	Capital Expenditure
CS	Compressor station
DMP	Department of Mines and Petroleum
EMCa	Energy Market Consulting associates
ERA	Economic Regulation Authority
ERR	Enterprise Risk Register
FEED	Front End Engineering Design
GEA	Gas Engine Alternator
HGPI	Hot Gas Path Inspection
ILI	In line inspection
KPI	Key performance indicator
MoSoPo	Management of Safety of Pipeline Operations
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
Opex	Operating Expenditure
PMM	Project Management Methodology
PRC	Project Review Committee
SIB	Stay In Business
SUG	System Use Gas
WAPC	Western Australian Planning Commission
YTD	Year to date