Murraylink Transmission Company Pty Ltd

Murraylink Revenue Proposal Revisions

Effective
July 2013 to June 2018

January 2013
Murraylink Revised Proposal Final.docx

Contents

Tables

Attachments

Attachment 4.1	Cost Information Template
Attachment 5.1	Roll Forward Model
Attachment 7.1	(not used)
Attachment 7.2	Business Cases
Attachment 8.1	Further Submission on the Management, Operations and Maintenance and Commercial Services Agreement
Attachment 10.1	Post-Tax Revenue Model
Attachment 12.1	(not used)
Attachment 12.2	Pricing Methodology

Glossary

Abbreviation	Meaning
AARR	Aggregate Annual Revenue Requirement
ABS	Australian Bureau of Statistics
AC	Alternating Current
ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AWOTE	Average Weekly Ordinary Time Earnings
CGS	Commonwealth Government Securities
DC	Direct Current
DNSP	Distribution Network Provider
DRP	Debt Risk Premium
EBSS	Efficiency Benefit Sharing Scheme
EGWWS	Electricity, Gas, Water and Waste Services
EII	Energy Infrastructure Investments
HVDC	High Voltage Direct Current
LPI	Labour Price Index
MAR	Maximum Allowed Revenue
NEM	National Electricity Market
NER	National Electricity Rules
NPV	Net Present Value
Proposal	Murraylink Revenue Proposal
PTRM	AER Post Tax Revenue Model
RAB	Regulatory Asset Base
RIT	Regulatory Investment Test
RFM	(Asset Base) Roll Forward Model
Rules	National Electricity Rules
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission Network Service Provider
WACC	Weighted Average Cost of Capital

Executive Summary

This revised Revenue Proposal (revised Proposal) for the Murraylink transmission interconnector (Murraylink) is submitted by Murraylink Transmission Company Pty Limited, on behalf of Energy Infrastructure Investments Pty Limited. It updates the initial Proposal submitted in May 2012, to incorporate decisions made by the AER in its draft Decision and update information relevant to the AER's final Decision, including actual 2011/12 capital and operating expenditures.

Murraylink is a 180 km, HVDC 220 MW transmission link between Red Cliffs in Victoria and Berri in South Australia. It can control power transfers to the limit of its capacity, in both directions, between the Victorian and South Australian transmission networks. The link is dispatched by AEMO, in similar manner to a generator, to control flows between the NSW and South Australian regions of the National Electricity Market (NEM) and thereby minimise the costs of generation in the NEM.

Murraylink was originally built to operate as a market network service provider, trading between the two regions. In October 2003, the ACCC determined that Murraylink would be reclassified as providing a prescribed transmission service. The ACCC determined Murraylink's maximum allowable revenues for the nominal 10-year period until 30 June 2013. This revised Proposal is for a 5-year regulatory control period, from 1 July 2013 to 30 June 2018.

This revised Proposal presents Murraylink's revenue requirement to continue to provide the same level of prescribed transmission services for the second regulatory control period.

The maximum capacity available from the Murraylink interconnection is frequently limited by the capacity of the conventional transmission networks to which the link is connected, particularly when elements of those networks are constrained or out of service.

There is the potential for Murraylink to provide greater benefits to the market, if its capability were more fully utilised than at present. At modest cost, more sophisticated control systems could optimise the flow and voltage compensation provided by Murraylink and enable it to supply islanded systems.

Although these augmentations may well become economic during the 2013-18 regulatory control period, the AER has rejected projects to upgrade the utilisation of the link included in the Initial Proposal. These projects are not included this revised Proposal.

Murraylink also identified a sequence of projects with the potential to increase the capability of interconnection to South Australia and provide support to the Victorian, NSW and South Australian regional transmission networks. This sequence of works was included in the Initial Proposal as a contingent project, but was also rejected by the AER. This revised Proposal does not include a contingent project.

The primary elements of equipment that comprise the Murraylink have a standard life of 40 years and a remaining life of approximately 30 years.

The ancillary equipment in the terminal stations necessary for the operation of the link (notably equipment such as air conditioners, ventilation fans, water pumps and treatment apparatus, control and protection systems) in some cases have shorter useful lives than the primary assets and are maintained in a remote and hostile environment. Much of this equipment will require refurbishment during the 2013-18 regulatory control period and the cost of refurbishment projects was factored into the proposed capital expenditure program.

Murraylink's historic service performance has been excellent, as discussed in section 4.4 and shown in Table 1. The 2012 performance and exclusions have yet to be approved by the AER.

Table 1 – Historic service performance

F/Y ending	2004	2005	2006	2007	2008	2009	2010	2011	2012
Target planned availability	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%
Actual planned availability	98.75%	98.18%	99.11%	99.32%	99.22%	99.31%	99.58%	99.22%	99.58%
Difference	0.42%	0.99%	0.06%	-0.15%	-0.05%	-0.14%	-0.41%	-0.05%	-0.41%
Target forced peak availability	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%
Actual planned availability	98.89%	99.63%	99.76%	96.42%	99.99%	100.0%	100.0%	100.0%	99.98%
Difference	0.59%	-0.15%	-0.28%	3.06%	-0.51%	-0.52%	-0.52%	-0.52%	-0.50%
Target forced o/p availability	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%
Actual forced o/p availability	99.38%	99.72%	99.91%	94.69%	99.95%	100.0%	100.0%	99.98%	99.76%
Difference	-0.04%	-0.38%	-0.57%	4.65%	-0.61%	-0.66%	-0.66%	-0.64%	-0.42%
S-factor bonus/penalty	**-0.79%**	**0.15%**	**0.18%**	**-0.32%**	**0.69%**	**0.87%**	**1.00%**	**0.70%**	**1.31%**

The ACCC did not provide an allowance for capital expenditure in the 2003 determination. Murraylink's historic capital expenditure is discussed in section 4.2 During the first few years some repairs were covered by warranty and Murraylink's capital expenditure was indeed zero. However, since that time, some expenditure of a capital nature has been required and is forecast, mainly for ancillary equipment needing refurbishment to maintain the secure operation of the link.

Updated historic capex is shown in Table 2

Table 2 – Historic capital expenditure, nominal, $'000

F/Y ending	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Regulatory Allowance	0	0	0	0	0	0	0	0	0	0
Actual Expenditure[1]	0	0	317	404	6	0	20	37	466	1,396
Difference	0	0	317	404	6	0	20	37	466	1,396

[1] The 2013 year is estimated.

The updated historic Murraylink operating expenditure is set out in Table 3. A major component of the operating costs has been competitively outsourced and the actual expenditure was slightly less than the allowance provided in the ACCC's 2003 determination. More detail on the historic operating expenditure is set out in section 4.3

Table 3 – Historic operating expenditure, nominal, $'000

F/Y ending	2009	2010	2011	2012	2013
Regulatory Allowance[1]	3,380	3,450	3,520	3,590	3,660
Actual Expenditure[2]	3,200	3,282	3,453	3,562	3,356
Difference	-180	-168	-67	-28	-304

[1] Adjusted for CPI.
[2] The 2013 year is estimated.

The basis for some revisions to the proposed capital expenditure forecast for Murraylink for the 2013-18 regulatory control period is set out in section 7 and summarised in Table 4. The majority of this expenditure is associated with the refurbishment of ancillary equipment necessary for the secure operation of the link. These costs have been escalated by the real cost escalation determined by the AER in its draft Decision.

Table 4 – Forecast capital expenditure, real, $M

FY ending	2014	2015	2016	2017	2018	2014-18
Total	1.953	1.339	1.709	0.522	0.779	6.302

In the Initial Proposal, Murraylink foreshadowed that the maintenance contract that it held with Transfield was due to expire. It transpired that Transfield was no longer prepared to bid for this work and there was no other suitable head contractor. Murraylink was therefore obliged to change to a maintenance regime whereby a panel of contractors was established to carry out specialist tasks and a greater portion of maintenance was in-sourced.

This altered maintenance regime was in its initial development at the time the AER was making its draft Decision. The AER as a consequence did not include all the elements of the revised operating expenditure in the draft Decision. The full implications of this change are set out section 8 and summarised in Table 5. This revised forecast is a projection of both competitively sourced and internal maintenance costs, with allowance for real cost escalation as determined by the AER in the draft Decision. It also allows for some significant efficiency gains.

Table 5 – Forecast operating expenditure, real, $M

FY ending	2014	2015	2016	2017	2018	2014-18
Total	3.801	3.853	3.898	3.938	4.162	19.653

The proposed Murraylink revenue and price path builds upon these revised forecast costs and has been calculated in accordance with the Rules and the AER's

guidelines. The proposed revenue requirement, smoothed revenue trajectory and X-factors are set out in Table 6.

Table 6 – Revenue requirement and price path, $M

FY ending	2014	2015	2016	2017	2018
Unsmoothed revenue requirement	12.76	13.19	13.55	13.91	14.41
Smoothed revenue requirement	13.32	13.38	13.44	13.64	13.84
X factor	8.21%	2.00%	2.00%	1.00%	1.00%

This revised Proposal demonstrates the changes that are required to the AER's draft Decision and the total revenue needs for the 2013-18 regulatory control period required to maintain the availability of Murraylink.

1 Introduction

Murraylink is a privately funded electricity transmission asset operated by the Murraylink Transmission Company Pty Ltd. It includes the world's longest underground power cable (180 kilometres) and connects the Victorian and South Australian regions of the National Electricity Market (NEM), transferring power between the Red Cliffs substation in Victoria and the Monash substation in Berri, South Australia. Murraylink's rated capacity is 220 Megawatts (MW).

The ACCC determined Murraylink's maximum allowable revenues for the nominal 10-year period until 30 June 2013. This revenue Proposal is for a 5-year regulatory control period, from 1 July 2013 to 30 June 2018.

Murraylink's corporate structure, the services it provides and map of the transmission network that were included in the initial Proposal are not repeated here.

1.1 Purpose of this document

This document identifies the revisions required to the Murraylink revenue proposal filed on 31 May 2012. In particular, this document identifies those areas in which Murraylink accepts the findings of the AER in its draft decision, and incorporates those findings in the accompanying Asset Base Roll Forward Model (RFM) and Post Tax Revenue Model (PTRM). This document also identifies those areas in which Murraylink does not agree with the AER's draft findings, and provides additional information in support of those positions. These are also reflected in the accompanying RFM and PTRM.

In the interests of brevity, this document does not reiterate every aspect of the initial Proposal; rather, it identifies those areas of agreement where the AER has accepted Murraylink's original submission, and areas of acceptance where Murraylink has accepted the AER's required revisions[1], and focuses on those remaining areas where Murraylink's submissions require clarification or augmentation.

1.2 Length of regulatory control period

Rule S6A.1.3(9) requires Murraylink to propose the commencement and length of the regulatory control period. In s1.3 of its original regulatory proposal filed in May 2012, Murraylink proposed a ten-year regulatory period to operate from July 2013 to June 2023. The AER's draft decision of November 2012 neither approved nor rejected this proposal.

Rule 6A.4.2(c) does not specify a length for a regulatory control period, only that "a *regulatory control period* in respect of a *Transmission Network Service Provider* must be not less than 5 *regulatory years*."

[1] Although Murraylink has adopted many of the AER's adjustments to its Revenue Proposal, this does not necessarily mean that Murraylink accepts the rationale provided by the AER, or its consultants, for making them.

In light of the AER's draft decision to disallow a pass through for movements in connection costs[2]; its draft decision on assumed efficiency gains[3]; and its draft decision on the operation of the EBSS carryover period[4]; Murraylink has reverted to a standard five-year regulatory period, from 01 July 2013 to 30 June 2018, in this revised regulatory Proposal.

1.3 Response to AER draft decision

The AER's draft decision only partially reflects the changing business environment applicable to the Murraylink interconnector.

In the previous regulatory period, Murraylink contracted the majority of the maintenance activity to a Head Contractor, who then engaged subcontractors to perform many of the maintenance tasks associated with the asset. As outlined in the Murraylink Maintenance Strategy, this arrangement concluded at the end of June 2012.

Murraylink considered two contracting options. Firstly, a continuation of the head contractor strategy; and secondly, a specialised contractor strategy, with insourcing of most general maintenance functions and outsourcing of specialised functions.

The development of these options was in progress at the time Murraylink was required to file its revenue proposal in May 2012. Accordingly, Murraylink filed its revenue proposal in accordance with the AER's revealed cost methodology, although work on developing the revised business model was still ongoing.

Over the course of the AER's assessment of the Murraylink revenue proposal, Murraylink provided information to the AER regarding the specialist contracts it had engaged through public tender processes, and further information regarding the insource activities to be undertaken and the internal labour costs associated with them.

By letter dated 12 November 2012, the AER advised Murraylink that, in accordance with Rule 6A.16(a), it would not consider the additional information Murraylink supplied through the information request process. While the AER did not reflect the internal cost information provided through the information request process, it did reflect the costs associated with the specialist contracts.

Accordingly, the AER's draft decision reflects the contract labour cost savings associated with moving from a Head Contractor model to a more insourced model, but does not reflect the commensurately higher insource labour and other operating costs. That is, the AER's draft decision is based on an incomplete picture of the operating costs of the business.

The costs associated with the revised business operation model have been more completely scoped and costed over the period between filing the original revenue proposal and this revised revenue proposal. This revised revenue Proposal

2 AER draft decision s3.4.3.

3 AER draft decision s3.4.6.

4 AER draft decision s10.4.

therefore reflects a more complete picture of the operating costs associated with operating and maintaining the Murraylink interconnector.

Given the differing foundations of the AER draft decision and this revised revenue proposal, it is difficult for Murraylink to address all of the AER's required amendments directly. Rather, Murraylink submits that the costs in this revised revenue Proposal are the efficient forecast costs associated with the operation of the Murraylink interconnector.

It should be noted, as discussed in section 8.3.1 (pre-confiscation of efficiency gains) that Murraylink has had limited experience with the internal operating model, and it remains at risk in its ability to achieve the forecast costs under the new operating model; it is likely that costs will be incurred that were not foreseen in the forecasting process. It would not be appropriate therefore, in this first period under the new operating model, for the AER to assume that Murraylink can achieve efficiency gains beyond those forecast in this revised revenue proposal.

1.4 Structure of this document

The Section numbering of this revised Proposal are the same as the initial Proposal submitted in May 2012. The sections where there is a substantive update or comment are as follows:

- Chapter 4 updates the historic cost and service performance.
- Chapter 5 reviews the calculation of the regulated asset base for the forthcoming regulatory period, using the AER's Roll Forward Model (RFM).
- Chapter 6 reviews Murraylink's capital financing costs and taxation.
- Chapter 7 updates the capital expenditure forecast.
- Chapter 8 updates the operating expenditure forecast.
- Chapter 9 discusses the depreciation allowance.
- Chapter 10 presents the revenue needs for the 2013-18 regulatory control period, calculated using the AER's Post-Tax Revenue Model.
- Chapter 13 discusses the AER's proposed EBSS.

2 Business environment and key challenges

Murraylink's business environment and the key challenges it faces were detailed in the initial Proposal. There has been no significant change since the submission of that document and these matters are not restated in this updated Proposal.

3 Operating and capital expenditure compliance

The following matters:

- The way in which Murraylink is compliant with the requirements of the Rules and the Submission Guidelines;
- Murraylink corporate governance arrangements;
- Cost allocation procedures;
- The interaction between operating and capital expenditure;
- Capitalisation policies; and
- Related parties;

were detailed in the initial Proposal.

There has been no significant change since the submission of that document and these matters are not restated in this updated Proposal.

4 Historic cost and service performance

4.1 Introduction

This Chapter updates Murraylink's historical capital and operating costs and service performance, during the current regulatory control period. Minor changes since the initial Proposal arise from the availability of actual 2011/12 results.

Audited results are available and have been quoted for the three years from 2008/09 to 2010/11. Unaudited full year outcomes have been used for 2011/12 and a full year estimate for 2012/13. These costs are contained within the AER's cost information template, which forms Attachment 4.1 to this Proposal.

This chapter compares Murraylink's capital and operating expenditure outcomes against the ACCC's allowance. This is followed by a review of performance under the ACCC's Service Target Performance Incentive Scheme (STPIS).

4.2 Historic capital expenditure

In its October 2003 Determination, the ACCC did not make allowance for any capital expenditure by Murraylink[5]. Whilst there have not been any planned replacements of major items of plant, there have been a number of minor projects required during the current regulatory control period, to maintain the serviceability and performance of the link. The ancillary assets essential for the operation of the link (pumps, fans and other rotating machinery) require refurbishment at intervals much shorter than the lives of the primary equipment. There were five such refurbishment projects carried out during 2011/12.

The historic capital expenditure has been updated to include the 2011/12 outcomes and is outlined in Table 4.1.

Table 4.1 – Historic capital expenditure (nominal, $'000)

F/Y ending	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Regulatory Allowance	0	0	0	0	0	0	0	0	0	0
Actual Expenditure[1]	0	0	317	404	6	0	20	37	466	1,396
Difference	0	0	317	404	6	0	20	37	466	1,396

[1] The 2013 year is estimated.

Murraylink has included these capital expenditure items in the roll-forward of the RAB, as outlined in Chapter 5. The more significant expenditure in the final year arises from the planned refurbishment of several items of auxiliary equipment at the Murraylink substations. These rotating machines by then will be 10 years old and require overhaul.

5 Murraylink Transmission Company - *Application for Conversion and Maximum Allowed Revenue* – 1 October 2003, Australian Competition and Consumer Commission, p. 164.

4.3 Historic operating expenditure

The regulatory allowance for operating expenditure during the current regulatory control period is compared with the actual and forecast expenditures in Table 4.2. The regulatory allowance provided in the Determination has been adjusted for out-turn and current forecast inflation and to include actual 2011/12 expenditures.

The actual operating expenditures in Table 4.2 have been subdivided into the same categories as the forecast operating expenditures in Chapter 8, reflecting the principal cost drivers.

Table 4.2 – Historic operating expenditure (nominal, $'000)

F/Y ending	2009	2010	2011	2012	2013
Regulatory Allowance[1]	3,380	3,450	3,520	3,590	3,660
Actual Expenditure[2]	3,200	3,282	3,453	3,562	3,356
Maintenance	789	729	816	993	729
Operations and asset management support	1,383	1,291	1,079	1,237	1,260
Connection charges	759	878	1,036	926	953
Non system	269	384	522	406	414
Difference	-180	-168	-67	-28	-304

[1] Adjusted for CPI.
[2] The 2013 year is estimated.

The change to the Non system cost in 2010/11 arose from the sale of the Murraylink business by the APA Group to EII. During December 2008, a Commercial Service Agreement was entered into between the APA Group and EII. As part of this Agreement, APA provides accounting and other business services for a fee.

4.4 Historic Service Target Performance Incentive Scheme

The historic availability performance against the STPIS target (after allowance for exclusions) is set out in Table 4.3, along with the financial impact of the scheme. The exclusions and outcomes for 2012 have yet to be approved by the AER.

Table 4.3 – Historic Service Target Performance Incentive (nominal, $'000)

F/Y ending	2004	2005	2006	2007	2008	2009	2010	2011	2012
Target planned availability	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%
Actual planned availability	98.75%	98.18%	99.11%	99.32%	99.22%	99.31%	99.58%	99.22%	99.58%
Difference	0.42%	0.99%	0.06%	-0.15%	-0.05%	-0.14%	-0.41%	-0.05%	-0.41%
Target forced peak availability	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%
Actual planned availability	98.89%	99.63%	99.76%	96.42%	99.99%	100.0%	100.0%	100.0%	99.98%
Difference	0.59%	-0.15%	-0.28%	3.06%	-0.51%	-0.52%	-0.52%	-0.52%	-0.50%
Target forced o/p availability	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%
Actual forced o/p availability	99.38%	99.72%	99.91%	94.69%	99.95%	100.0%	100.0%	99.98%	99.76%
Difference	-0.04%	-0.38%	-0.57%	4.65%	-0.61%	-0.66%	-0.66%	-0.64%	-0.42%
S-factor bonus/penalty	**-0.79%**	**0.15%**	**0.18%**	**-0.32%**	**0.69%**	**0.87%**	**1.00%**	**0.70%**	**1.31%**

5 Regulatory asset base

5.1 Introduction

This Chapter explains how Murraylink has incorporated the AER's draft decision on the opening Regulatory Asset Base (RAB) for the new regulatory control period. An updated RFM forms Attachment 5.1 to this revised Proposal.

5.2 Roll forward methodology

The opening RAB as at 1 October 2003 was established by the ACCC in its Murraylink 2003-13 revenue cap Decision, at $97.33 million[6].

From that starting point, Murraylink has calculated the value of its opening RAB as at 1 July 2013. The annual adjustments to the RAB included:

- Increase by the amount of capital expenditure incurred during the current regulatory control period, to 2011/12; [7]
- Increase by the estimated amount of capital expenditure for 2012/13;
- Reduction by the amount of depreciation of the RAB, using the rates and methodologies allowed for in the ACCC's 2003 Murraylink Decision;
- Reduction by the value of assets disposed during the current regulatory period; and
- Indexation by CPI.

These adjustments have been calculated using the AER's RFM.

5.3 Opening RAB as at 1 July 2013

The AER amended the Roll Forward Model that formed part of the initial Proposal. The AER:

- Corrected the model to remove depreciation of easements; and
- Assigned all of the capital expenditure by Murraylink to the "Switchyard" asset class, with a depreciable life of 40 years.

---

6 AER, Decision - Murraylink Transmission Company *Application for Conversion and Maximum Allowed Revenue*, 1 October 2003, p. 167.

7 2011/12 unaudited.

5.3.1 Easements asset class – remaining life input

In its draft decision, the AER identified that Murraylink had made an input error to the Roll Forward Model respecting the remaining useful life of easements.[8] As easements are non-depreciable, Murraylink should have entered a value of "n/a" to represent the remaining life. However, Murraylink entered a value of zero in error, which caused the RFM to fully depreciate the asset class immediately.

Murraylink accepts this error correction, and has entered a value of "n/a" as the remaining useful life of the Easements asset class.

5.3.2 New asset classes

In its original revenue proposal, Murraylink apportioned capex to relevant asset classes. However, this required new asset classes, with suitable standard depreciable lives, to be created.[9] The AER disallowed these new asset classes, as it reads Rule S6A.2.1(f)(5) as prohibiting the creation of new asset classes in the previous regulatory period.

Murraylink's reading of Rule S6A.2.1(f)(5) differs from the AER's. Murraylink submits that this Rule does not prohibit the creation of new asset classes, but deals with the calculation of depreciation in the asset base roll forward:

> S6A.2.1 Establishment of opening regulatory asset base for a regulatory control period
>
> (f) Method of adjustment of value of regulatory asset base
>
> (5) The previous value of the regulatory asset base must be reduced by the amount of depreciation of the regulatory asset base during the previous control period, calculated in accordance with the rates and methodologies allowed in the *transmission determination* (if any) for that period.

Murraylink acknowledges that the new asset classes were not specified in the previous transmission determination, and thus to calculate depreciation using the rates applicable to the new asset classes would not be "in accordance with the rates and methodologies allowed in the *transmission determination*".

This is an important point, as it highlights the difference between "depreciation" on one hand and the "return of capital" on the other, as discussed below.

5.3.3 Depreciation vs return of capital

The AER's correction to the RFM resulting from the new asset classes has identified an error not discussed in the AER draft decision.

---

8 AER draft decision s5.4.1.

9 The appropriateness of these new asset classes is discussed in the depreciation section below.

The RFM originally filed by Murraylink allowed the RFM to calculate the regulatory depreciation on the actual capex in the 2003-13 regulatory period. The RFM therefore calculated an amount for depreciation on the 2003-13 capex in rolling forward the capital base. Murraylink agrees with the AER that this would not be in accordance with Rule S6A.2.1(f)(5).

However, the amount of capital returned to shareholders through tariffs is determined by the ACCC PTRM applicable to the 2003-13 regulatory period, as adjusted for outturn inflation. That is, the amount of "depreciation" in the 2013 RFM must equal the amount of "return of capital" reflected in the 2003 ACCC Final decision. Murraylink submits that this is the correct application of Rule S6A.2.1(f)(5).

The original Murraylink RFM committed this error, and the AER's adjustment to the RFM continued it. By calculating depreciation on actual rather than forecast capex, both Roll Forward Models remove an amount of capital from the RAB that has not been recovered through tariffs.[10]

Correcting this error is quite straightforward given the zero capex forecast in the previous regulatory determination and zero actual capex in the original Substations, Cable or Easements categories.[11] To calculate the correct inflation-adjusted amount of "depreciation" (that is, the correct amount of the return of capital reflected in tariffs), Murraylink has applied the RFM retaining the new asset classes as originally proposed, but setting those asset classes as being non-depreciable for the 2003-13 period.[12] The RFM will then calculate the correct "depreciation" and indexation on the opening capital base, consistent with the ACCC's final decision, and the AER's correction to the remaining life of easements as discussed above.

5.3.4 Actual and forecast CPI values

Murraylink accepts the AER's adjustment of CPI values to reflect the correct "lagging" in the RFM.

---

10 This is a reciprocal application – reliance on the RFM will over calculate the return of capital returned through the depreciation component of tariffs where there is a capex overspend relative to forecast, and under calculate the return of capital where there is a capex underspend relative to forecast.

11 This calculation would be slightly more complex had there been forecast or actual capex in the original Substations, Cable or Easements classes.

12 A value for the remaining asset life and standard asset life is then introduced in the PTRM to calculate the return of capital going forward.

5.3.5 Capex and disposal values per regulatory accounts

In its original filing, Murraylink included capex in the RFM "as incurred". The AER noted that this disagreed with the audited regulatory accounts.[13] Under Australian Accounting Standards, an asset is not recognised until it is in service and capable of providing future economic benefits. The regulatory accounts are therefore prepared on an "as commissioned" basis.[14]

Being based on Australian Accounting Standards, Murraylink's audited regulatory accounts do not reflect the allowed half year return on capital expenditure in the year incurred. Murraylink will process an adjustment to its regulatory accounts to reflect the AER's final decision RFM.

5.3.6 Movements in provisions

Murraylink disagrees with the AER's approach to provisions for the calculation of capex relevant to a particular year. In the draft decision RFM, the AER removed $0.1m from 2006/07 historical capex on the grounds that the "AER considers that capitalised provisions should not be included in the RAB as capex, because Murraylink has not yet paid out (incurred) the expenses to which the provisions relate."[15]

However, as clearly stated in the response to information request AER.ML/009, the amount in question is not a provision,[16] but an accrual of costs for works performed. That information response clearly states: "Accruals for operating and capital activities are recorded on a monthly basis when the expenses have been incurred and there is an obligation to pay suppliers."[17] This is entirely consistent with the Australian accounting standards on which Murraylink's accounts are prepared.

Murraylink considers it is inappropriate for the AER to include capex numbers which reconcile to the regulatory accounts, and then make such an adjustment conflicting with the basis on which those regulatory accounts are prepared. Murraylink submits that removal of the accrued capex understates the actual amount of capex incurred.

13 AER draft decision p56.

14 It should be noted that Murraylink has claimed no amount for interest during construction to account for this timing difference.

15 AER draft decision p 56.

16 Murraylink refers the AER to the discussion of provisions in the response to the draft decision for the GasNet gas transmission network filed 09 November 2012.

17 Response to information request AER.ML/009.

The outcome of applying the AER's roll forward methodology and RFM is an opening RAB for Murraylink of $107.63 M, for the 2013-18 regulatory control period. The roll forward calculation is set out in Table 5.1. A correction has been made to the AER's RFM to recognise the ACCC's allowance of ¾ of a years' depreciation and indexation in 2003/04.

Table 5.1 – Opening RAB as at 1 July 2013 ($M, nominal)

FY ending	2004 (9 mths)	2005	2006	2007	2008	2009	2010	2011	2012	2013
Opening Asset Base	102.96	102.73	102.78	103.74	103.85	105.69	105.62	105.95	106.70	105.96
Capex	0.00	0.00	0.33	0.08	0.01	0.00	0.02	0.04	0.48	1.46
Straight line Depreciation	-1.76	-2.38	-2.43	-2.51	-2.57	-2.68	-2.74	-2.82	-2.92	-2.97
Indexation	1.53	2.42	3.07	2.53	4.40	2.61	3.05	3.53	1.69	3.18
Closing Asset Base	102.73	102.78	103.74	103.85	105.69	105.62	105.95	106.70	105.96	**107.63**

6 Cost of capital, taxation and cost escalation

6.1 Cost of capital

Subject to updating the risk free rate and the debt risk premium for the nominated averaging period, the AER and Murraylink are in agreement that the AER's approach to determining the cost of capital is consistent with the Rules.

6.2 Forecast inflation

In the draft decision, the AER has adopted the same approach as that proposed by Murraylink: adopting the mid-point of the Reserve Bank of Australia's (RBA) target range of 2.5%.[18] Murraylink accepts that the AER may update this inflation forecast with the RBA's 2014/15 estimate once published.

6.3 Taxation allowance

Consistent with the original regulatory proposal and the AER draft decision, the tax allowance is calculated from the PTRM. The completed PTRM accompanies this Revenue Proposal. The taxation allowance is summarised in Table 6.1.

Table 6.1 – Tax allowance 2013-18 ($M nominal)

FY ending	2014	2015	2016	2017	2018
Taxation allowance	0.21	0.22	0.24	0.25	0.26

6.4 Cost escalation

In its draft Determination, the AER required in Revision 1.1 that its cost escalators be substituted for those that Murraylink had developed.

The real cost escalators used in developing Murraylink's revised program of operating and capital expenditures are set out in Table 6.2.

Table 6.2 – Project cost escalators 2013-18 (annual movement, %)

FY ending	2014	2015	2016	2017	2018
Wages	1.20%	0.90%	1.00%	0.80%	1.00%
Materials	0.00%	0.00%	0.00%	0.00%	0.00%
Contracted services	1.30%	0.90%	0.50%	0.30%	0.80%
Connection charges	2.95%	2.95%	2.95%	2.95%	2.95%

[18] AER draft decision s4.4.4.

7 Forecast capital expenditure

7.1 Introduction

This Chapter contains Murraylink's capital expenditure forecasts for each year of the 2013-18 regulatory control period and the total for the period. The Chapter also describes the capital expenditure categories used and the methodology adopted to forecast the capital expenditure. The major inputs and assumptions underpinning the forecasts are explained.

The major projects that contribute to the capital expenditure forecast are described, together with some changes that have been made to the capex program in the initial Proposal. The forecast capital expenditure is then demonstrated to be efficient.

The resulting forecast capital expenditures are set out in the AER's Cost Information template, which forms Attachment 4.1 to this Proposal.

Matters relating to:

- The requirements of the Rules and AER submission Guidelines;
- The capital expenditure objectives;
- Murraylink's capital expenditure categories;
- Murraylink's forecasting methodology; and
- Key inputs and assumptions;

were detailed in Murraylink's initial Proposal and are not restated here.

7.1.1 Cost escalation

The cost escalators determined by the AER in its draft decision were used to prepare the capital cost forecasts. These are described in Section 6.4.

7.2 Changes to the capital expenditure program since the initial submission

The following material changes have been made to the capital expenditure program since the initial submission to the AER in May 2012.

7.2.1 Inclusion of margins

In its draft Decision, the AER accepted that the margin of 10% applied by APA as operator was efficient.[19] This margin was inadvertently omitted from the initial Proposal and has been included on capital as well as operating expenditure items in this final Proposal.

[19] AER draft decision p36.

7.2.2 Spares requirements

A review of the requirement for spares to carry out routine maintenance has identified some omissions from the initial Proposal, notably the requirement for IGBTs (thyristor switching devices), motor control components and replacement control system components.

7.2.3 Link control system expenditures

In the initial Proposal, Murraylink had included three capital expenditure items associated with the link control system:

- control system end of life replacement
- control system black start
- control system reduction of converter losses.

The AER rejected these proposals on various grounds.

Murraylink acknowledges that the first of these proposals, the end of life replacement, was included in error. There is another project to replace industrial computers to achieve this outcome.

Murraylink maintains that the projects to augment the control system to permit supply to an islanded system and to modify the control system to reduce convertor losses may well become economic during the 2013-18 regulatory control period. Nevertheless, they have not been included in the revised Proposal.

7.2.4 Asset Management System

Prior to and in the draft Decision, the AER and its technical consultant were critical of the rigour with which Murraylink managed its assets. Murraylink views this expectation that the asset management practices applicable to a large, diverse transmission business should be in place for a single transmission asset as unwarranted, for the reasons set out in section 8.3.2. Nonetheless, during the course of formulation of the AER's draft Decision, Murraylink advised its intention to purchase a modestly priced off-the-shelf asset management system (known as FRACAS) to improve its asset management capability.

In the draft Decision, the AER:

- Declined the inclusion of expenditure on the asset management system in the capex allowance;
- Assumed operating cost savings that the system may provide, finding that "Murraylink's intention to upgrade its asset management practices, through improved software, was justified and should deliver efficiency savings"[20]; and
- Effectively confiscated any such savings through arbitrary "efficiency gain" reductions applied to both operating and capital expenditures.

[20] AER, Draft decision, p. 14.

Murraylink considers that the AER's approach to denying expenditure yet capturing the benefits of that expenditure is unreasonable. Murraylink has therefore included one half of the cost of asset management software in this revised Proposal. The remaining half will be attributed to Directlink.

7.3 Proposed contingent capital expenditure project

The AER's draft decision did not accept the Murraylink proposed contingent project, discussing two major concerns:

- whether the project would be required within the proposed regulatory control period; and
- whether the project would proceed in its proposed form.

Murraylink considers that the expansion of the Murraylink corridor, while a viable option to the longer term development of the Australian transmission network, is unlikely to be required in the 5 year regulatory period proposed in this revised regulatory proposal.

The contingent project has therefore been removed from this Proposal.

7.4 Forecast capital expenditure

The forecast capital expenditure required to maintain the prescribed transmission services by Murraylink during the 2013-18 regulatory control period is set out in Table 7.1.

Table 7.1 – Forecast capital expenditure 2013-18 ($M, nominal)

FY ending	2014	2015	2016	2017	2018	2014-18
Refurbishment	0.932	0.395	0.994	0.504	0.761	3.586
Compliance	1.004	0.944	0.715	0.018	0.018	2.700
Other	0.008	0.000	0.000	0.000	0.000	0.008
Total	1.953	1.339	1.709	0.522	0.779	6.302

8 Forecast Operating Expenditure

8.1 Introduction

In the draft Decision, the AER made a number of adjustments to the operating expenditures, which resulted in it proposing a very substantial opex reduction, compared with both forecast and historic expenditures. These reductions arose because Murraylink was transitioning at the time from a head contractor maintenance regime to a partly in-house resourced regime and the AER did not include all relevant costs, as explained in section 1.3. The full implications of Murraylink's change to the maintenance regime are described in this section.

The resulting forecast operating expenditures are set out in the AER's Cost Information template, which forms Attachment 4.1 to this Proposal.

Matters relating to:

- The requirements of the Rules and AER submission Guidelines;
- The operating expenditure objectives;
- Murraylink's operating expenditure categories;
- The identification of controllable and non-controllable operating costs; and
- The operating expenditure forecasting methodology;

were detailed in Murraylink's initial Proposal and are not restated here.

8.1.1 Real cost escalation

In its draft decision, the AER noted that the real cost escalation estimates prepared by BIS Shrapnel for Murraylink and those prepared by DAE for the AER differed in their foundations. Between the filing date of the Murraylink submission and the preparation of the DAE real cost escalator report, an announcement was made that the Olympic Dam project would be deferred. This project had a significant impact on the SA labour market, and accordingly on the estimates of real cost escalation over the forecast regulatory period.

Murraylink accepts the announcement that the Olympic Dam project has been deferred, and acknowledges the impact on the SA labour market. Murraylink also notes that the length of the deferral is somewhat uncertain. In this regard, Murraylink has incorporated the real cost escalation factors included in the AER draft decision in the costs in these revisions. These are shown in Table 6.2.

8.2 Changes to the operating expenditure program since the initial submission

Material changes have been made to three categories of operating cost, as follows:

- Routine maintenance;
- Non routine maintenance; and
- Connection charges.

8.2.1 Routine and non routine maintenance

The first two of these changes arise from the change to the maintenance regime for Murraylink, which has moved from the head contractor model to a regime using a panel of contractors for specialist tasks and an increased level of in-house resources. At the time of filing the original revenue proposal, the main elements of this altered maintenance regime were still being put into place.

The change to the maintenance regime was occasioned by the expiry of the Head Contractor contract and the unavailability of a suitable replacement Head Contractor. However, it is anticipated that there may be a number of other advantages from this strategy, including:

- Murraylink had found the Head Contractor arrangement to be unsatisfactory because the contractor had an incentive to push more work into the higher margin “non-routine” maintenance category;
- The in-house regime should provide better control over the routine maintenance and may assist with coordinating routine and non-routine works, scheduling any maintenance requiring outages and pursuit of the market impact incentive proposed by the AER;
- It is anticipated that overall, costs will be reduced compared with continuation of the current regime;
- An allowance has been made for an anticipated reduction in callout costs and non-routine maintenance costs arising from the change in the maintenance regime. However, at this early stage, Murraylink cannot confidently forecast significant additional operating cost reductions. There will remain some considerable uncertainty in the costing of this approach until Murraylink has managed the assets in-house for a number of years;
- The AER’s proposed pre-confiscation of efficiency gains is discussed in section 8.3.1. This is considered unjustified and unreasonable, in the circumstances of this material change to the maintenance arrangements; and
- Murraylink considers that the original cost methodology proposed by the AER needs to be updated for the additional in-house costs and identified savings to provide a reasonable opportunity for Murraylink to recover the costs of its maintenance operations;

- It should be noted that the uncertainty over operating costs in the new in-house regime and the AER's treatment thereof has been a significant factor in Murraylink's decision to opt for a 5-year regulatory control period. If there are cost savings, they will be passed on to users earlier than if the ten year period had been retained.

This specialist contractor strategy will use contractors for functions such as:

- Transformer maintenance;
- Circuit breaker maintenance; and
- Fire protection system maintenance.

The in-house resources would be augmented by the provision of three additional staff, fully dedicated to the Murraylink operation:

- Two technician/operators, at each of the terminal locations of Berri and Red Cliffs are required, because of the distance between these two remote terminals and the volume of work; and
- An asset manager/engineer, based in Brisbane.

The revised costs associated with this altered maintenance regime are shown in Table 8.1. These costs have not had real cost escalation applied.

Table 8.1 – Maintenance costs ($2012/13)

FY ending	2012	2013	2014	2015	2016	2017	2018
Head contractor regime							
Routine maintenance							
Head contractor (routine)	512.6						
Labour and related costs (in house)	61.5	61.5	61.5	61.5	61.5	61.5	61.5
Non routine maintenance							
Head contractor (corrective)	307.7						
Proposed in-house strategy							
Routine maintenance							
Transformer maintenance		118.2	118.2	118.2	118.2	118.2	118.2
Fire protection maintenance		11.9	11.9	11.9	11.9	11.9	11.9
Annual shutdown		56.2	56.2	56.2	56.2	56.2	56.2
Circuit breaker maintenance							165.0
Labour & related costs (1st technician operator)		115.5	115.5	115.5	115.5	115.5	115.5
Labour & related costs (2nd technician operator)			115.5	115.5	115.5	115.5	115.5
Motor vehicle costs		19.8	39.6	39.6	39.6	39.6	39.6
Non routine maintenance							
Chubb (security)		3.0	9.0	9.0	9.0	9.0	9.0
Corrective (various contractors*)		167.4	167.4	167.4	167.4	167.4	167.4
Total of labour and contract costs	**881.8**	**553.6**	**694.8**	**694.8**	**694.8**	**694.8**	**859.8**

* Based on 2011/12 corrective maintenance cost for Transfield, with a direct reduction of $57,000 and a further reduction in $71,000 in callout service fees.

The following rationale applies to this forecast of operating costs:

Routine maintenance

- The all-inclusive head contractor costs for routine maintenance will be discontinued in 2012/13, with the expiry of the head contractor arrangement;
- The existing APA allocation of labour costs to Murraylink will remain unaltered;

- The transformer maintenance and fire protection contracts have been disclosed to the AER. They represent two of the larger components of work carried out be subcontractors under the former head contract agreement;
- Provision for the annual shutdown, during which a concentrated program of maintenance is carried out, has been included. This would now be carried out with the assistance of a number of external contractors and coordinated by APA personnel;
- Major maintenance of the circuit breakers (at 15 years) is proposed to be carried out under contract by the manufacturer;
- Labour and related costs, including motor vehicles, are for the additional in-house field staff to carry out field operations and much of the routine maintenance at the two terminal locations. This staff would also be a resource for maintenance shutdowns and coordinate the activities of other contractors outside shutdowns.

Non routine maintenance

- A substantial portion of the head contractor's costs were for non routine maintenance. Indeed, it is recognised that there was an incentive under the original contractual arrangements for the head contractor to carry out maintenance as non-routine, as this was at additional cost. This cost will be discontinued in 2012/13;
- The fire protection contract is for inspection and testing of the security and fire protection systems only and does not include the normal cost of replacement of sensors and other equipment that will be found to be faulty. An allowance of 25% on the base contract cost has been made for this;
- Other non routine maintenance will require the engagement of a range of contractor resources. The nature of the required maintenance will determine whether the local contractor or specialist resources would be mobilised. In these early stages of this changeover to the new maintenance regime, there is some acknowledged uncertainty concerning the level of these costs. However, it is expected that compared with the head contractor there should be a reduction in these costs. The cost of the technician roll is expected to be offset by a reduction in the cost of callouts, for unplanned maintenance, of $71,000. There is also expected to be an overall reduction in the non routine maintenance costs (by effectively avoiding the head contractor margin) of $57,000 has been estimated.

The additional engineering resource is required to deliver the SIB capex works and to complete other projects, as well as analysing the maintenance, failure and condition data to ensure the continued reliable operation of Murraylink. This cost is set out in Table 8.2. This engineer will be dedicated full time to Murraylink.

Table 8.2 – Engineering costs, $'000 ($2012/13)

FY ending	2012	2013	2014	2015	2016	2017	2018
Additional labour related costs							
Labour & related costs (asset manager/engineer)			154.0	154.0	154.0	154.0	154.0
Motor vehicle costs			19.8	19.8	19.8	19.8	19.8
Total Cost			**173.8**	**173.8**	**173.8**	**173.8**	**173.8**

The materials and spare parts associated with routine maintenance are also included in this category of expenditure.

8.2.2 Connection costs

The connection costs paid to adjacent TNSPs ElectraNet and SP AusNet constitute a very significant component of Murraylink's operating expenditure. To mitigate the risk to Murraylink of changes in connection charges, Murraylink sought that the cost be treated as a pass-through, as is the case with the treatment of transmission costs by DNSPs. The AER did not accept this proposal.[21]

The 5 year regulatory control period now proposed for Murraylink will reduce the risk of variation in connection costs.

The AER's draft decision noted a sharp decline in connection costs in the 2010/11 year,[22] which formed the basis of the forecast connection costs into the forecast period. Upon investigation, Murraylink has uncovered a cost classification error in its cost information template.

Murraylink's investigation has revealed that connection charges of $408,560 were incorrectly coded as "utilities" rather than connection charges. While this correction does not impact the total amount of Murraylink opex, it does correct the forecast for connection costs.

Further, since filing its revenue proposal in May 2012, Murraylink has been advised by the SA co-ordinating TNSP, ElectraNet, that since 2009 it had failed to charge Murraylink a fee for collecting its revenue as part of its coordinating TNSP responsibilities. Accordingly the base year connection costs are understated by the amount of this fee. The Coordinating NSP revenue collection agreement provides for an annual fee of $20,000 in 2003, escalating by CPI for each year thereafter. For the 2010/11 base year, the fee levied by ElectraNet is $24,025.[23]

21 AER draft decision s3.4.3.

22 AER draft decision p35.

23 Advice from ElectraNet by email dated 20 August 2012.

8.3 Assumed opex efficiency benefits

Murraylink accepts that it operates in an incentive regulatory framework. It also accepts that it is the fundamental nature of incentive regulation that the business be provided with an incentive to pursue efficiencies in its provision of services, and that these efficiencies will be passed on to users over time. But it is a key tenet that, in order to provide incentives for efficiency, the business must have an opportunity to benefit from those efficiencies before they are delivered to users.

In its draft decision, the AER has assumed a 2.5% annual efficiency gain.[24] Murraylink submits that the draft decision clearly indicates that this has not been based on evidence that such gains are achievable, but is based on unsupported and unreasonable assumptions.

The AER's assumption that Murraylink could achieve these efficiency gains was based on its understanding of ElectraNet's experience. In particular, the AER appears to assume that Murraylink could achieve these efficiency gains, including "works in remote areas to be coordinated to reduce travel time".[25]

Murraylink is disappointed that the AER has simply assumed that the efficiency gains that can be achieved by a business with two converter stations and 180 km of underground cable are in the same orders of magnitude as those that can be achieved by a business that has "5,600 km of transmission lines connecting 86 high-voltage substations, and covers a service area of approximately 200,000 km^2."[26] Given that controllable costs are largely driven by labour costs, it is disappointing to note that the AER has not considered how these efficiency gains might be achieved with a workforce of three persons, in contrast to the flexibility associated with a large workforce.

Given these significant differences in the nature of the assets and the scale and scope of the business operations, Murraylink submits that the AER's draft finding that "The AER considers [ElectraNet's[27]] joint works program is a good example of a work program in which efficiencies could be readily achieved through better coordination of a joint works program and planning arrangements. If Murraylink were to implement such a program, the AER expects it could realise a similar level of efficiency gain as ElectraNet was able to achieve" [28] is completely unsupported.

Murraylink also submits this it has delivered forecast efficiency gains to users through its changes to the operation of the business. Rather than being based on a simple application of the revealed cost methodology, the operating costs forecast in the AER's draft decision and this revised proposal include expected cost reductions

---

24 AER draft decision p37. It should be noted that the AER has also applied this opex efficiency factor to connection costs, which it agrees are non-controllable.

25 AER draft decision p37.

26 ElectraNet Transmission Network Revenue Proposal 1 July 2013 – 30 June 2018, 31 May 2012, p1.

27 Confirmation of typographical error received from AER by email dated 11 January 2013.

28 AER draft decision p37.

arising from the change in operating approach. Forecast efficiency gains are already included in the operating cost forecasts.

Murraylink is most concerned that this assumed efficiency factor has been applied to all Murraylink opex costs, including competitively tendered external contractor costs, corporate overhead costs,[29] and connection costs. These are all costs which are not subject to Murraylink's control. Murraylink submits that applying the assumed efficiency factor to these costs will deny Murraylink a reasonable opportunity to recover its efficient costs of providing electricity transmission services.

Murraylink considers that such an imposed reduction in operating costs is unreasonable, and is a key driver to its decision to revise the length of the regulatory period to five years.

8.3.1 Pre-confiscation of efficiency gains

In the ACCC's 2008 GasNet decision, GasNet submitted, and the ACCC agreed, that it was inappropriate for the regulator to deliver assumed efficiency gains to the benefit of consumers until such time as they had been realised by the business. This was particularly the case in circumstances where it was not certain that the gains could indeed be achieved:[30]

> GasNet accepts that to the extent that efficiencies are achieved … they should eventually be passed onto users. However, GasNet believes that this should be done in accordance with the incentive mechanism in the Access Arrangement. If possible efficiencies are passed through to users immediately, before they are even realised and quantified GasNet will have little incentive to take other measures to reduce costs or seek future efficiency gains, because it is likely that any cost reductions will be immediately passed on to users.

Murraylink submits, consistent with the submissions of GasNet, that if the infrastructure owner is unable to retain the benefits of its efficiency initiatives for a period, (that is, if efficiency gains are immediately passed on to users through pre-confiscation) then it is unlikely that further gains will ever be pursued.

The ACCC's Final Decision concluded:[31]

> Having considered the various arguments submitted by interested parties to the draft decision, the ACCC has come to the broad position that there is merit in the arguments contained in the submissions advocating that the synergies be

---

29 Murraylink filed a supplementary submission on 26 October 2012 clearly demonstrating the efficiency of its corporate overhead costs. See Attachment 8.1.

30 APA Group, *Response to the Commission's draft decision on proposed access arrangement for the Principal Transmission System,* 20 December 2007, p35. This aspect of the submission was related to the ACCC's proposed confiscation of assumed synergies associated with the APA Group acquisition of GasNet.

31 ACCC, Final Decision: Revised access arrangement by GasNet Australia (Operations) Pty Ltd and GasNet (NSW) Pty Ltd for the Principal Transmission System, 30 April 2008, pp 80-81.

> treated like other efficiency gains and should form part of the carry-over mechanism. …
>
> Another criticism of the ACCC's proposal to reduce GasNet's overheads … is that GasNet would be disadvantaged if it could not achieve cost reductions of this magnitude. … An advantage of the carry-over mechanism is that the precise impact of these synergies does not need to be predicted in advance and these savings are passed on in later periods when the actual amount of these savings becomes clear.
>
> … the ACCC has decided not to proceed with the draft decision proposal to reduce GasNet's overheads … to take account of expected cost savings arising from the integration of GasNet into the APA Group.

Due to the changes in the business model, Murraylink is at some risk as to whether the expected efficiency gains can be realised. While Murraylink believes that costs were higher under the contractor-operator model, they were however more certain. Murraylink has forecast an efficient level of operating costs through the changes to the business model, and remains at risk as to whether the efficiencies can indeed be delivered.

In summary, Murraylink submits that it is unreasonable for the AER to impose reductions in allowed opex costs based on assumptions that they can be achieved. Moreover, Murraylink submits that it is inconsistent with the principles of the incentive regulatory framework for the AER to pre-confiscate these assumed efficiency gains before that have been realised by the business.

Consistent with Murraylink's position that it is at risk of being able to achieve the cost reductions included in its regulatory proposal, a further matter, being the time period over which the AER proposes to penalise the business through the Efficiency Benefit Sharing Scheme, is discussed in section 13 below. This also is a key factor in Murraylink's decision to revert to a five year regulatory period.

8.3.2 Asset management systems and processes

In the draft Determination, the AER and its consultant expressed concerns about Murraylink's asset management framework and underlying supporting systems and methods. The AER concluded that "it is not prudent or efficient for a TNSP to systematically dispose of assets before they reach the end of their economic life"[32].

Murraylink does not accept that these concerns in relation to Murraylink are valid, or that the conclusion is correct.

Referring to the AER's contemporaneous review of ElectraNet, by way of context, this business comprising "South Australia's electricity transmission network is a strategic asset that underpins the State's economic and regional development and the prosperity of the South Australian community. The network comprises

[32] AER draft Decision, p. 63.

approximately 5,600 km of transmission lines connecting 86 high-voltage substations, and covers a service area of approximately 200,000 km"[33].

In its draft decision on ElectraNet, the AER accepted ElectraNet's proposed routine maintenance costs, noting "The AER generally supports the integrated asset management framework that ElectraNet has begun to deploy, because such a regime can facilitate lifecycle management of risks in a transparent and cost effective manner. ElectraNet presented evidence of its continuous improvement program resulting in innovation and efficiency improvements of five per cent in the routine maintenance program"[34].

The AER and its consultant are well experienced in the operations of large-scale state-wide transmission businesses that have a broad portfolio of assets with different characteristics. This is a very different business to Murraylink, which has a single underground cable circuit and two technically complex AC/DC convertor stations.

It is appropriate for a large, diverse transmission business with controllable operational expenditures of $80 M per annum to make a significant investment in a sophisticated asset management system[35]. In this circumstance, the network could be expected to benefit from such an investment, particularly where there are a number of peer businesses worldwide from which information on the expected behaviour and durability of the assets may be drawn.

Murraylink's controllable operating expenditure is around $2.6 M, or 3% of that of ElectraNet[36]. The entire Murraylink network consists of a highly reliable underground cable and two converter stations (for which there are very few global comparators). The appropriate approach in this circumstance is to follow the manufacturer's recommendations on maintenance and replacement, rather than invest in a sophisticated inspection and condition monitoring program to vary and potentially extend some maintenance intervals. This is exactly what Murraylink has done in formulating the capex and opex programs in this Proposal.

It should be noted that in the case of "standard" components in the convertor stations such as the transformers and switchgear, Murraylink employs a similar approach to inspection, testing and condition monitoring as would any other TNSP.

Murraylink acknowledges that reliance on the manufacturer's replacement recommendations, particularly for the refurbishment of ancillary equipment, may result in earlier maintenance activity and refurbishment of assets than an inspection and condition-based replacement regime. Murraylink submits that the small cost associated with early maintenance or refurbishment is much less than the cost of a sophisticated asset management and condition monitoring system, and certainly

---

33 ElectraNet, Transmission Network Revenue Proposal - 1 July 2013 – 30 June 2018, 31 May 2012, p. 1.

34 AER, Draft decision – ElectraNet Transmission determination 2013–14 to 2017–18, November 2012, p. 283.

35 AER, ElectraNet draft Determination, p. 228.

36 AER, Murraylink draft Determination, p. 90.

much less than the widespread costs associated with an asset failure and emergency repair.

Notwithstanding that Murraylink believes that its asset management approach is appropriate given the business circumstances, it is intending to purchase an off the shelf asset management system at modest cost (FRACAS). This will be used to collate the maintenance records and facilitate review of the equipment condition and tailoring of future maintenance and refurbishment requirements. Paradoxically, the AER disallowed this expenditure in it draft Determination but this item has been resubmitted in this revised Proposal.

The AER's comment concerning the disposal of assets before the end of their economic life highlights that the AER and its consultant have not appreciated the nature of the capital expenditure program that Murraylink has put forward. Assets are not being disposed of – they are being maintained. The majority of the capex program comprises the refurbishment of rotating plant – items such as bearings, contactors, controllers and the like. These expenditures have been capitalised, in line with Murraylink's capitalisation policy, which the AER has accepted. The return of the associated capital is then over the expected refurbishment interval (mostly 7 to 15 years). The refurbishment intervals are in line with the manufacturer's recommendations.

8.4 Forecast operating expenditure

The forecast operating expenditure required to maintain the prescribed transmission services by Murraylink during the 2013-18 regulatory control period is set out in Table 8.3.

Table 8.3 – Forecast operating expenditure 2014-18 ($M)

FY ending	2014	2015	2016	2017	2018	2014-18
Maintenance						
Routine	0.692	0.698	0.703	0.707	0.884	3.68
Non routine	0.173	0.174	0.175	0.176	0.177	0.87
Engineering	0.156	0.157	0.159	0.160	0.162	0.79
Operations	0.633	0.639	0.642	0.644	0.649	3.21
Asset management support	1.085	1.094	1.100	1.103	1.112	5.49
Non system	0.013	0.013	0.013	0.013	0.013	0.07
Connection costs	0.981	1.010	1.040	1.071	1.103	5.21
Debt raising costs	0.068	0.067	0.066	0.064	0.062	0.33
Total real	3.801	3.853	3.898	3.938	4.162	19.65
Total nominal	3.896	4.048	4.198	4.347	4.709	21.20

9 Depreciation

This Chapter sets out how the proposed depreciation allowance for Murraylink was determined.

9.1 Depreciation methodology

The depreciation methodology used is straight-line, over the estimated useful life of the asset concerned. This approach is the same as currently applied.

9.2 Standard asset lives

9.2.1 Cable and Converter stations

Murraylink acknowledges the AER's acceptance of its proposal to align the lives of the cable and converter stations.

9.2.2 'Ancillary' asset classes

In its May 2012 revenue proposal, Murraylink included a number of new asset classes related to ancillary equipment and refurbishment capex. These asset classes were proposed consistent with the Murraylink capitalisation policy, which the AER accepted.

The AER approved the proposed refurbishment capex for ancillary equipment, but did not accept the proposed standard asset lives for the ancillary asset classes for regulatory depreciation purposes. It considers that Murraylink had understated the economic lives of the refurbishment capex in respect of ancillary assets.[37]

The effect of the AER's decision in this regard is to assume that refurbishment capex will have the same useful life as the core asset being refurbished. Under this assumption, a 30-year life will be assigned to ten-yearly refurbishment undertaken in year 10 on a core asset with a 40 year life. Moreover, this ten-yearly refurbishment will still have a 20 year remaining life when the subsequent ten-yearly refurbishment is performed. Murraylink submits that this is unreasonable.

By way of analogy, a commercial airline might acquire an aircraft for long term service. Over the life of that aircraft, however, the seat configuration will be replaced a number of times. The seat set is clearly an asset, but the useful life will only extend to their replacement; the replacement seats will have a shorter life than the core aircraft.

Murraylink's capitalisation policy operates in much the same way regarding refurbishment capex. For example, expenditure to replace a seal kit in a water pump (the core asset in this example) is capitalised because it has future reliability benefits. However, the useful life of the seal kit extends only until the next

[37] AER draft decision p63.

scheduled refurbishment;[38] the useful life of the refurbishment seal kit will not extend to the end of the useful life of the water pump to which it relates.

Murraylink's new asset classes reflect this capitalisation policy as approved by the AER. Murraylink has therefore persevered with its proposed asset classes in these revenue proposal revisions. See the discussion in section 5.3.2.

Consistent with the original proposal, the following estimated useful lives have been used for the calculation of depreciation.

Table 9.1 – Useful life by asset class

Asset class	Useful life
Land and Buildings	
Easements	n/a
Buildings	40 years
Site improvements	40 years
Transportable office	30 years
Plant and equipment	
Cables	40 years
Converters - transmission equipment	40 years
Converters - electronics and control systems	25 years
Spares	40 years
Other plant and equipment including the capitalised refurbishment of secondary equipment	3 to 20 years

These standard lives are consistent with those used in the regulatory financial statements.

9.3 Remaining asset lives

Murraylink has now been in service for approximately 10 years. The major items of equipment thus have a remaining life of approximately 30 years at the commencement of the 2013-18 regulatory control period. Other operating assets have shorter remaining lives and in the case of many ancillary items of equipment, will be refurbished during the next control period.

As discussed in section 5.3.2, the remaining lives of the capital expenditure undertaken in the new asset classes has been curtailed to reflect the remaining weighted average life of the related refurbishments.

[38] See the discussion on asset management planning in section 8.3.2.

9.4 Depreciation forecast

The regulatory depreciation has been calculated using the AER's PTRM.

The forecast regulatory depreciation for Murraylink during the 2013-18 regulatory control period is set out in Table 9.2.

Table 9.2 – Forecast depreciation 2013-18 ($M, nominal)

FY ending	2014	2015	2016	2017	2018
Depreciation	-3.69	-3.90	-4.09	-4.26	-4.43
Indexation	2.69	2.72	2.72	2.74	2.71
Regulatory depreciaton	1.00	1.19	1.36	1.53	1.72

10 Maximum allowable revenue

Murraylink's Revenue Proposal is derived from the post-tax building block approach outlined in the Rules[39] and the AER's PTRM.[40] The completed PTRM forms Attachment 10.1 to this regulatory proposal. This Chapter summarises the building block approach, the components of which are detailed in the preceding Chapters as required under Section 4.3.8 of the Submission Guidelines. The MAR and X factor for Murraylink are calculated from the PTRM. Future adjustments to the revenue cap are also described.

10.1 Building block approach

The building block formula to be applied in each year of the regulatory period is:

MAR = return on capital + return of capital + opex + tax

= (WACC × RAB) + D + opex + tax

Where:

MAR = Maximum Allowable Revenue.

WACC = post-tax nominal weighted average cost of capital ("vanilla" WACC).

RAB = Regulatory Asset Base.

D = Regulatory Depreciation.

opex = operating expenditure.

tax = income tax allowance.

The MAR is then smoothed with an X factor, in accordance with the Rules requirements.[41]

The Rules allow for revenue increments and decrements arising from the Efficiency Benefit Sharing Scheme (EBSS). As the EBSS did not apply to Murraylink in the 2003-13 period, there is no carry over amount to be included in the operating expenditure building block.

Any increment or decrement associated with the Service Target Performance Incentive Scheme (STPIS) is not included in this Revenue Proposal, but as a future revenue cap adjustment.

10.2 Building Block components

The building blocks that formed a part of the revenue calculation are set out below.

---

39 *National Electricity Rules*, Part C of Chapter 6A, AEMC.

40 AER, Final decision, Amendment - Electricity transmission network service providers Post-tax revenue model, December 2010.

41 AEMC, *National Electricity Rules*, Chapter 6A, clause 6A.6.8.

10.2.1 Regulatory asset base

Chapter 5 described the calculation of the estimated RAB of $107.63 million, as at 1 July 2013.

The capital expenditure forecast in Chapter 7 and was used to roll forward RAB, using the expected regulatory depreciation detailed in Chapter 9. The RAB for the next regulatory control period is set out in Table 10.1.

Table 10.1 – Summary of RAB ($M, nominal)

FY ending	2014	2015	2016	2017	2018
Opening Asset Base	107.63	108.67	108.93	109.44	108.51
Capex	2.05	1.44	1.88	0.59	0.90
Depreciation	-3.69	-3.90	-4.09	-4.26	-4.43
Indexation	2.69	2.72	2.72	2.74	2.71
Closing Asset Base	108.67	108.93	109.44	108.51	107.69

10.2.2 Return on capital

The return on capital was calculated by applying the post-tax nominal vanilla WACC to the opening RAB in the respective year.

The post-tax nominal vanilla WACC of 7.11% was established as detailed in Chapter 4 of the AER's draft decision. Murraylink has calculated the return on capital using the PTRM. This calculation is summarised in Table 10.2.

Table 10.2 – Summary of return on capital forecast ($M, nominal)

FY ending	2014	2015	2016	2017	2018
Return on capital	7.66	7.73	7.75	7.79	7.72

10.2.3 Return of capital

Chapter 9 describes how Murraylink has calculated the return of capital provided by depreciation. The AER's PTRM combines both the straight line depreciation and an adjustment for inflation on the opening RAB. A summary of the regulatory depreciation allowance is given in Table 10.3.

Table 10.3 – Summary of regulatory depreciation ($M, nominal)

FY ending	2014	2015	2016	2017	2018
Depreciation	-3.69	-3.90	-4.09	-4.26	-4.43
Indexation	2.69	2.72	2.72	2.74	2.71
Regulatory depreciaton	1.00	1.19	1.36	1.53	1.72

10.2.4 Operating expenditure

Chapter 8 of this revenue Proposal details Murraylink's requirement for operating expenditure requirements in each year of the next regulatory period. This is summarised in Table 10.4.

Table 10.4 – Summary of forecast operating expenditure ($M)

FY ending	2014	2015	2016	2017	2018	2014-18
Maintenance						
Routine	0.692	0.698	0.703	0.707	0.884	3.68
Non routine	0.173	0.174	0.175	0.176	0.177	0.87
Engineering	0.156	0.157	0.159	0.160	0.162	0.79
Operations	0.633	0.639	0.642	0.644	0.649	3.21
Asset management support	1.085	1.094	1.100	1.103	1.112	5.49
Non system	0.013	0.013	0.013	0.013	0.013	0.07
Connection costs	0.981	1.010	1.040	1.071	1.103	5.21
Debt raising costs	0.068	0.067	0.066	0.064	0.062	0.33
Total real	3.801	3.853	3.898	3.938	4.162	19.65
Total nominal	3.896	4.048	4.198	4.347	4.709	21.20

10.2.5 Tax allowance

The tax allowance associated with the RAB is outlined in Section 6.3. The forecast tax allowance is summarised in Table 10.5.

Table 10.5 – Summary of tax allowance 2013-18 ($M nominal)

FY ending	2014	2015	2016	2017	2018
Taxation allowance	0.21	0.22	0.24	0.25	0.26

10.3 Maximum Allowable Revenue

As required by the Section 4.3.8 of the Submission Guidelines, the total revenue cap and the MAR for each year of the next regulatory period is provided below. Based on the building blocks outlined in the previous Section, the total revenue cap and maximum allowable unsmoothed revenue requirement is summarised in Table 10.6.

Table 10.6 – Summary of unsmoothed revenue requirement ($M, nominal)

FY ending	2014	2015	2016	2017	2018
Return on capital	7.66	7.73	7.75	7.79	7.72
Return of capital	1.00	1.19	1.36	1.53	1.72
Total operating expenditure	3.90	4.05	4.20	4.35	4.71
Tax allowance	0.21	0.22	0.24	0.25	0.26
Unsmoothed revenue requirement	12.76	13.19	13.55	13.91	14.41

10.4 X-Factor smoothed revenue

As required in Section 4.3.12 of the Submission Guidelines, the Revenue Proposal must contain the X factors nominated for each year of the regulatory period and that the X factors comply with the Rules. A net present value (NPV) neutral smoothing process is applied to the building block unsmoothed revenue requirement, while ensuring the expected MAR for the last regulatory year is as close as reasonably possible to the annual building block revenue requirement. The associated X factors are presented in Table 10.7.

Table 10.7 – Smoothed revenue requirement and X factor ($M, nominal)

FY ending	2014	2015	2016	2017	2018
Unsmoothed revenue requirement	12.76	13.19	13.55	13.91	14.41
Smoothed revenue requirement	13.32	13.38	13.44	13.64	13.84
X factor	8.21%	2.00%	2.00%	1.00%	1.00%

10.5 Revenue cap adjustments

In accordance with the Rules,[42] Murraylink's revenue cap determination by the AER is in the CPI-X format, and may be subject to adjustment during the next regulatory period for the following reasons:

- ***Adjustment for actual CPI*** - Murraylink's revenue cap will be calculated each year using the actual CPI.
- ***STPIS*** – Murraylink's revenue cap will be adjusted by the impact of the STPIS as discussed in section 11;

[42] AEMC, National Electricity Rules, Chapter 6A.5.3.

- ***Pass through*** – Murraylink's revenue cap may be adjusted in the event that an eligible pass through amount is approved by the AER.

11 Service Target Performance Incentive Scheme

11.1 Introduction

This chapter updates Murraylink's actual performance against the AER's Service Target Performance Incentive Scheme (STPIS) during the 2003-13 regulatory control period.[43] It also comments on the parameters of the STPIS, including the market parameters, to apply for the 2013-18 regulatory control period.

11.2 Performance during current regulatory control period

The performance against the three target parameters established by the AER and the overall bonus/penalty as a percentage of the maximum annual revenue is set out in section 10.5. The 2012 performance and exclusions have yet to be approved by the AER.

Table 11.1 – Performance against service target levels (after exclusions)

F/Y ending	2004	2005	2006	2007	2008	2009	2010	2011	2012
Target planned availability	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%	99.17%
Actual planned availability	98.75%	98.18%	99.11%	99.32%	99.22%	99.31%	99.58%	99.22%	99.58%
Difference	0.42%	0.99%	0.06%	-0.15%	-0.05%	-0.14%	-0.41%	-0.05%	-0.41%
Target forced peak availability	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%	99.48%
Actual planned availability	98.89%	99.63%	99.76%	96.42%	99.99%	100.0%	100.0%	100.0%	99.98%
Difference	0.59%	-0.15%	-0.28%	3.06%	-0.51%	-0.52%	-0.52%	-0.52%	-0.50%
Target forced o/p availability	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%	99.34%
Actual forced o/p availability	99.38%	99.72%	99.91%	94.69%	99.95%	100.0%	100.0%	99.98%	99.76%
Difference	-0.04%	-0.38%	-0.57%	4.65%	-0.61%	-0.66%	-0.66%	-0.64%	-0.42%
S-factor bonus/penalty	**-0.79%**	**0.15%**	**0.18%**	**-0.32%**	**0.69%**	**0.87%**	**1.00%**	**0.70%**	**1.31%**

There is year on year variation in performance against each of the target service parameters and in the bonus and penalty outcomes. However, it is apparent that the average performance to date during the regulatory control period has been close to the target level. This leads Murraylink to conclude that the current performance standards used in the scheme broadly match reasonably achievable levels of service performance.

11.3 STPIS during the 2013-18 regulatory control period

There are two components of the STPIS that will apply to Murraylink in the 2013-18 regulatory control period. These are the service component and the market impact component.

[43] AER, Electricity transmission network service providers Service Target Performance Incentive Scheme, March 2011.

11.3.1 Service component

In the draft Decision, the AER determined to make no change to the existing parameter values and weightings of the service component of the STPIS in the 2013-18 regulatory control period. Murraylink welcomes this decision as continuing to provide an appropriate level of incentive to achieve high availability.

11.3.2 Market impact component

The AER has proposed a benchmark of 782.3 5-minute dispatch intervals to apply to Murraylink, for the market impact component of the STPIS, corresponding to a period of approximately 65 hours. Murraylink accepts that this value, based on market data, is appropriate.

In the 2003 Determination, the ACCC established a planned outage availability target of 72 hours[44]. Murraylink therefore proposes that, for consistency, the benchmark for the market impact component of the STPIS be established at the same duration, which would correspond to 864 dispatch intervals.

[44] ACCC, Decision - Murraylink Transmission Company - Application for Conversion and Maximum Allowed Revenue, 1 October 2003, Table 9.2 p. 177.

12 Pricing methodology and negotiating framework

Murraylink's initial Proposal complied with the requirements of the Rules and the AER's Submission Guidelines concerning the Pricing Methodology and Negotiating Framework. The AER accepted both of these proposals. The Negotiating Framework was provided at Attachment 12.1 in the original proposal and is not resubmitted.

In satisfaction of clause 6A.10.1(a) of the NER, Murraylink provided a *Pricing Methodology.* This was accepted by the AER in its draft Determination and has been amended only to amend the end date of the regulatory control period. The revised Pricing Methodology is attached as Attachment 12.2.

13 Efficiency Benefits Sharing Scheme

13.1 Introduction

Murraylink's expenditures were not subject to an Efficiency Benefits Sharing Scheme (EBSS) during the 2003-13 regulatory control period.

In its draft Decision, the AER has proposed that Murraylink should be subject to an EBSS on controllable operating costs during the 2013-18 regulatory control period. However, the proposed EBSS differs from that of any other TNSP in that a 10-year carryover period has been proposed by the AER, purportedly to match the length of the regulatory control period. This presents an unacceptable revenue risk to Murraylink and is a significant factor in Murraylink's decision to revert to a 5 year regulatory control period.

13.2 AER's proposed EBSS

The AER has proposed that an EBSS would apply to Murraylink's controllable operating expenditure. The AER defined this controllable operating expenditure to be the total forecast opex, with the exclusion of two expenditure categories:

- debt raising costs; and
- connection charges.

Murraylink agrees that these two expenditure categories are beyond its control and should be excluded from the EBSS.

The AER has calculated the relationship between the length of the regulatory period and the benefit sharing ratio afforded by the scheme, as shown in Table 13.1[45].

Table 13.1 – Length of the regulatory period and benefit sharing ratios

Length of carryover period	Business (%)	Customers (%)
Five years	29.7	70.3
Ten years	48.0	52.0

The effect of increasing the length of time over which the scheme applies is thus to significantly change the benefit sharing ratio.

13.3 Concerns with AER's proposed EBSS

The way in which the benefit sharing ratio is intended to work is that if a TNSP makes an ongoing efficiency in opex, the value is of the saving is retained by the TNSP for a fixed period, carried over into the next regulatory control period. The scheme is thereby intended to create an incentive for the TNSP to make such savings. However, this is founded on the assumption that the AER has determined

[45] Final decision - Electricity transmission network service providers Efficiency benefit sharing scheme, September 2007, p. 12.

opex costs that represent the efficient costs of operating the business. Moreover, as discussed above, the current changes to the Murraylink operating model drive considerable uncertainty as to whether the forecast operating cost targets can be achieved.

In Murraylink's case, the AER has applied an efficiency gain to opex of 2.5% per annum to each year of the regulatory control period, by reducing the base 2011/12 costs by that amount (including non-controllable connection costs). This is despite the fact that major components of the opex are outsourced through competitively sourced contracts and that this small single-asset organisation does not have equivalent scale and scope of a state-wide TNSP to identify and implement such savings. This pre-confiscation of efficiency gains leads to a situation where, when Murraylink is unable to meet this efficiency target set by the AER, it will continue to be penalised throughout the third regulatory control period.

Murraylink believes this will be the outcome from the application of the scheme and this situation is greatly exacerbated with a 10 year carryover period.

13.4 EBSS to apply to Murraylink in 2013-18

Murraylink contends that there is no particular reason for the carryover period of the EBSS to match the regulatory control period. Murraylink therefore proposes that a 5-year carryover should be adopted. This would then provide incentive properties for the scheme that matched those of all other NSPs in the NEM.