



2014 NETWORK PRICE DETERMINATION

FINAL DETERMINATION PART A – STATEMENT OF REASONS

April 2014

Table of Contents

Purpose of this Report	vi
Inquiries.....	vi
Glossary of Terms.....	vii
CHAPTER 1 - Executive Summary.....	1
Review Process	2
Outcome of the Regulatory Process	3
Impact on Retail Customers.....	4
Key Expenditure Drivers and Considerations	4
Summary of Constituent Decisions	6
Next Steps	11
CHAPTER 2 - The Regulatory Framework	13
Background.....	13
The Commission's Authority	13
Regulatory Requirements	15
Commission's Approach to the 2014 Network Price Determination	17
Review Process	19
Structure of this Statement of Reasons	21
CHAPTER 3 - Classification of Services	22
Introduction	22
Regulatory Requirements	22
PWC Networks' Initial Regulatory Proposal	24
Submissions on Initial Regulatory Proposal.....	25
Issues and Commission's Initial Considerations	25
Commission's Draft Decision	29
PWC Networks' Revised Regulatory Proposal.....	30
Submissions on Draft Determination and Revised Regulatory Proposal	31
Issues and Commission's Further Considerations	31
Commission's Final Decision	32
CHAPTER 4 - Control Mechanism for Regulated Network Access Services	33
Introduction	33
Regulatory Requirements	33
PWC Networks' Initial Regulatory Proposal	34
Submissions on Initial Regulatory Proposal.....	35
Issues and Commission's Initial Considerations	35
Commission's Draft Decision	37
PWC Networks' Revised Regulatory Proposal.....	37
Submissions on Draft Determination and Revised Regulatory Proposal	37
Issues and Commission's Further Considerations	38
Commission's Final Decision	38

CHAPTER 5 - Cost Allocation Methodology	41
Introduction	41
Regulatory Requirements	41
PWC Networks' Initial Regulatory Proposal	43
Submissions on Initial Regulatory Proposal	43
Issues and Commission's Initial Considerations	43
Commission's Draft Decision	45
PWC Networks' Revised Regulatory Proposal	45
Submissions on Draft Determination and Revised Regulatory Proposal	46
Issues and Commission's Further Considerations	46
Commission's Final Decision	47
CHAPTER 6 - Opening Regulatory Asset Base	48
Introduction	48
Regulatory Requirements	48
PWC Networks' Initial Regulatory Proposal	49
Submissions on Initial Regulatory Proposal	51
Issues and Commission's Initial Considerations	51
Commission's Draft Decision	53
PWC Networks' Revised Regulatory Proposal	53
Submissions on Draft Determination and Revised Regulatory Proposal	54
Issues and Commission's Further Considerations	54
Commission's Final Decision	55
CHAPTER 7 - Demand Forecasts	57
Introduction	57
Regulatory Requirements	57
PWC Networks' Initial Regulatory Proposal	58
Submissions on Initial Regulatory Proposal	59
Issues and Commission's Initial Considerations	60
Commission's Draft Decision	63
PWC Networks' Revised Regulatory Proposal	64
Submissions on Draft Determination and Revised Regulatory Proposal	64
Issues and Commission's Further Considerations	65
Commission's Final Decision	66
CHAPTER 8 - Maintaining Quality, Reliability and Security of Supply	67
Introduction	67
Regulatory Requirements	67
PWC Networks' Initial Regulatory Proposal	71
Submissions on Initial Regulatory Proposal	72
Issues and Commission's Initial Considerations	72
Commission's Draft Decision	72

PWC Networks' Revised Regulatory Proposal.....	72
Submissions on Draft Determination and Revised Regulatory Proposal	73
Issues and Commission's Further Considerations	73
Commission's Final Decision	73
CHAPTER 9 - Forecast Capital Expenditure.....	74
Introduction	74
Regulatory Requirements	74
Current Period Outcomes	75
PWC Networks' Initial Regulatory Proposal	76
Submissions on Initial Regulatory Proposal.....	78
Issues and Commission's Initial Considerations	78
Commission's Draft Decision	82
PWC Networks' Revised Regulatory Proposal.....	84
Submissions on Draft Determination and Revised Regulatory Proposal	85
Issues and Commission's Further Considerations	85
Commission's Final Decision	88
CHAPTER 10 - Forecast Operating and Maintenance Expenditure.....	90
Introduction	90
Regulatory Requirements	90
Current Period Outcomes	91
PWC Networks' Initial Regulatory Proposal	93
Submissions on Initial Regulatory Proposal.....	95
Issues and Commission's Initial Considerations	95
Commission's Draft Decision	105
PWC Networks' Revised Regulatory Proposal.....	107
Submissions on Draft Determination and Revised Regulatory Proposal	108
Issues and Commission's Further Considerations	108
Commission's Final Decision	110
CHAPTER 11 - Depreciation	112
Introduction	112
Regulatory Requirements	112
PWC Networks' Initial Regulatory Proposal	113
Submissions on Initial Regulatory Proposal.....	113
Issues and Commission's Initial Considerations	113
Commission's Draft Determination.....	114
PWC Networks' Revised Regulatory Proposal.....	115
Submissions on Draft Determination and Revised Regulatory Proposal	115
Issues and Commission's Further Considerations	115
Commission's Final Decision	116

CHAPTER 12 - Cost of Capital	118
Introduction	118
Regulatory Requirements	118
PWC Networks' Initial Regulatory Proposal	120
Submissions on Initial Regulatory Proposal	120
Issues and Commission's Considerations	121
Commission's Draft Decision	123
PWC Networks' Revised Regulatory Proposal.....	123
Submissions on Draft Determination and Revised Regulatory Proposal	123
Issues and Commission's Further Considerations	124
Commission's Final Decision	125
CHAPTER 13 - Permitted Adjustments to the 2014 Network Price Determination	126
Introduction	126
Regulatory Requirements	126
PWC Networks' Initial Regulatory Proposal	129
Submissions on Initial Regulatory Proposal	129
Issues and Commission's Initial Considerations	130
Commission's Draft Determination.....	130
PWC Networks' Revised Regulatory Proposal.....	131
Submissions on Draft Determination and Revised Regulatory Proposal	132
Issues and Commission's Further Considerations	132
Commission's Final Decision	136
CHAPTER 14 - Building Block Revenue Requirements	137
Introduction	137
Regulatory Requirements	137
PWC Networks' Initial Regulatory Proposal	138
Submissions on Initial Regulatory Proposal	140
Issues and Commission's Initial Considerations	141
Commission's Draft Decision	141
PWC Networks' Revised Regulatory Proposal.....	143
Submissions on Draft Determination and Revised Regulatory Proposal	145
Issues and Commission's Further Considerations	145
Commission's Final Decision	147
CHAPTER 15 - Capital Contributions Principles and Methods Statement	149
Introduction	149
Regulatory Requirements	150
PWC Networks' Initial Regulatory Proposal	150
Submissions on Initial Regulatory Proposal	151
Issues and Commission's Initial Considerations	151
Commission's Draft Determination.....	152

PWC Networks' Revised Regulatory Proposal.....	152
Submissions on Draft Determination and Revised Regulatory Proposal	152
Commission's Final Decision	152
CHAPTER 16 - Network Pricing Principles and Methods Statement and Indicative Pricing Proposal	153
Introduction	153
Regulatory Requirements	153
PWC Networks' Initial Regulatory Proposal	155
Submissions on Initial Regulatory Proposal.....	156
Issues and Commission's Initial Considerations	157
Commission's Draft Decision	158
PWC Networks' Revised Regulatory Proposal.....	158
Submissions on Draft Determination and Revised Regulatory Proposal	158
Issues and Commission's Further Considerations	158
Commission's Final Decision	159
APPENDIX A - Network Service Classification.....	160
APPENDIX B - Annual Reporting Requirements.....	166
APPENDIX C - Submissions	167

Purpose of this Report

This Statement of Reasons (Part A), together with the 2014 Network Price Determination (Part B), comprise the Commission's Final Determination under clause 66 of the Network Access Code in relation to the maximum allowed revenue that PWC Networks can recover from the provision of regulated network access services during the 2014-19 regulatory control period.

Inquiries

Any inquiries regarding this Final Determination should be directed in the first instance to the Executive Officer, Utilities Commission at any of the following:

Executive Officer
Utilities Commission of the Northern Territory
GPO Box 915
DARWIN NT 0801
Telephone: +61 8 8999 5480
Fax: +61 8 8999 6262
Email: utilities.commission@nt.gov.au

Glossary of Terms

Term	Definition
2004-09 regulatory control period	The regulatory control period from 1 July 2004 to 30 June 2009.
2009-14 regulatory control period	The regulatory control period from 1 July 2009 to 30 June 2014.
2014-19 regulatory control period	The regulatory control period from 1 July 2014 to 30 June 2019.
2009 Network Price Determination	The <i>Network Price Determination</i> applying to the <i>2009-14 regulatory control period</i> published in March 2009. ¹
2014 Network Price Determination	The Network Price Determination relating to the supply of regulated network access services during the 2014-19 regulatory control period set out in Part B.
ABS	Australian Bureau of Statistics.
AER	The Australian Energy Regulator, which is established by section 44E of the <i>Competition and Consumer Act 2010</i> (Cth).
allowed rate of return	The allowed rate of return for a regulatory year will be the weighted average of the return on equity for the 2014-19 regulatory control period and the return on debt for that regulatory year (both as estimated by the Commission) determined on a pre-tax nominal basis in accordance with clause 2.6 of the 2014 Network Price Determination.
annual revenue requirement	An amount representing the maximum allowed revenue from the supply of regulated network access services by PWC Networks, for each regulatory year of the 2014-19 regulatory control period, as determined by the Commission in accordance with clause 2.2.2(b) and Schedule 4 of the 2014 Network Price Determination (also called the 'revenue cap' in the Network Access Code).

¹ Utilities Commission, [Final Determination Networks Pricing: 2009 Regulatory Reset](#), March 2009.

Term	Definition
applicable regulatory instruments	<p>All laws, regulations, orders, licences, codes, determinations and other regulatory instruments which apply to PWC Networks from time to time, including:</p> <ul style="list-style-type: none"> a) the <i>Electricity Reform Act</i>; b) all regulations made and licences issued under the <i>Electricity Reform Act</i>; c) the <i>Electricity Networks (Third Party Access) Act</i>; d) the Network Access Code; e) the <i>Utilities Commission Act</i>; f) all regulations and determinations made under the <i>Utilities Commission Act</i>; and g) all regulatory instruments applicable under the licences, but only to the extent that they regulate or contain terms and conditions relating to access to an electricity network, connection to an electricity network, the provision of regulated network access services, regulated network access service prices or extensions to an electricity network.
approved pass through amount	<p>In respect of a positive change event for PWC Networks:</p> <ul style="list-style-type: none"> a) the amount the Commission determines should be passed through to network users under clause 3.1.3(a)(ii) in the 2014 Network Price Determination; or b) the amount the Commission is taken to have determined under clause 3.1.3(d)(i) of the 2014 Network Price Determination, <p>as the case may be.</p>
Authority	<p>Any government, government department, instrumentality, Minister, agency, statutory authority or other body in which a government has a controlling interest, and includes the Commission and its successors.</p>
building block	<p>The sum of underlying components or 'building block' consisting of return on capital, return of capital, operating expenditure, and various other components as a mechanisms for a forward looking review of expected reasonable expenditure.</p>
business day	<p>A day that is not a Saturday or Sunday or observed as a public holiday in the Territory.</p>
CAM or cost allocation methodology	<p>The documented processes and procedures by which costs are allocated across lines of business, service classes and customer classes.</p>
capex or capital expenditure	<p>Expenditure on large cost items that are capitalised in PWC Networks' accounts and for which PWC Networks may expect to earn a rate of return on investment and of investment (depreciation). For example, capex may include expenditure on items such as plant and equipment, poles and wires, vehicles and facilities.</p>

Term	Definition
capital expenditure criteria	<p>The capital expenditure criteria are as follows:</p> <ul style="list-style-type: none"> a) the efficient costs of achieving the capital expenditure objectives; b) the costs that a prudent operator would require to achieve the capital expenditure objectives; and c) a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objectives.
capital expenditure factors	<p>The capital expenditure factors are as follows:</p> <ul style="list-style-type: none"> a) the most recent annual benchmarking report that has been published by the AER (or any equivalent benchmarking report that has been prepared by or for the Commission) and the benchmark capital expenditure that would be incurred by an efficient network service provider over the 2014-19 regulatory control period; b) the actual and expected capital expenditure of PWC Networks during any preceding regulatory control period; c) the extent to which the capital expenditure forecast includes expenditure to address the concerns of electricity retail customers as identified by PWC Networks in the course of its engagement with electricity retail customers; d) the relative prices of operating and capital inputs; e) the substitution possibilities between operating and capital expenditure; f) whether the capital expenditure forecast is consistent with any incentive scheme or schemes that apply to PWC Networks under the 2014 Network Price Determination; g) the extent the capital expenditure forecast is referable to arrangements with a person other than PWC Networks that, in the opinion of the Commission, do not reflect arm's length terms; h) whether the capital expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 2.5 and Chapter 3 of the 2014 Network Price Determination; i) the extent to which PWC Networks has considered, and made provision for, efficient and prudent non-network alternatives; j) any relevant final project assessment report relating to a regulatory investment test for distribution project published by PWC Networks; and k) any other factor the Commission considers relevant and which the Commission has notified to PWC Networks in writing, prior to the submission of its revised regulatory proposal, is a capital expenditure factor.

Term	Definition
capital expenditure objectives	<p>The capital expenditure objectives are as follows:</p> <ul style="list-style-type: none"> a) meet or manage the expected demand for regulated network access services over the regulatory control period; b) comply with all applicable regulatory obligations or requirements associated with the provision of regulated network access services; c) to the extent that there is no applicable regulatory obligation or requirement in relation to: <ul style="list-style-type: none"> (i) the quality, reliability or security of supply of regulated network access services; or (ii) the reliability or security of the electricity network through the supply of regulated network access services, <p>to the relevant extent:</p> <ul style="list-style-type: none"> (iii) maintain the quality, reliability and security of supply of regulated network access services; and (iv) maintain the reliability and security of the electricity network through the supply of regulated network access services; and d) maintain the safety of the electricity network through the supply of regulated network access services.
capital expenditure sharing scheme	A scheme of that name which is published by the Commission and substantially reflects the scheme developed and published by the AER under clause 6.5.8A of the NER at the relevant time.
Commission	The Utilities Commission of the Northern Territory established in April 2000 in accordance with the <i>Utilities Commission Act</i> , or such other Authority who is responsible from time to time for the administration of the 2014 Network Price Determination.
connection point	Has the meaning given in the Network Access Code.
connection services	Has the meaning given in the Network Access Code.
contingent project	A project that is listed in clause 2.5 and Chapter 3 of the 2014 Network Price Determination as a 'contingent project' for the purposes of the 2014 Network Price Determination.
contingent project threshold	Either \$15 million (nominal) or 5 per cent of the annual revenue requirement for the first regulatory year of the 2014-19 regulatory control period, whichever is the larger amount.
consumer price index or CPI	<p>As at a particular time, the Consumer Price Index: All Group Index Number, weighted average of eight capital cities published by the ABS for the most recent quarter that precedes that particular time and for which the index referred to has been published by the ABS as at that time.</p> <p>If that index ceases to be published or is substantially changed, CPI will be such other index as is determined by the Commission as a suitable benchmark for recording general movements in prices.</p>

Term	Definition
cost pass through	The mechanism for reviewing and adjusting the 2014 Network Price Determination to pass through to network users an amount incurred or saved during the 2014-19 regulatory control period as a consequence of the occurrence of a pass through event.
credit support	A security supporting the obligations of a retailer to PWC Networks.
Deloitte	Deloitte Economics and Infrastructure Advisory.
demand management and embedded generation incentive scheme	A scheme of that name which is published by the Commission and substantially reflects the scheme developed and published by the AER under clause 6.6.3 of the NER at the relevant time.
DNSP or Distribution Network Service Provider	Has the meaning given in Chapter 10 of the NER.
DORC	Depreciated optimised replacement cost being the replacement cost of the existing fixed system assets with modern equivalent assets, depreciated by a straight-line depreciation methodology according to the age of the existing asset relative to the expected total life of the existing asset.
Draft Determination	The '2014-2019 Network Price Determination' draft determination published by the Commission in December 2013 ² .
DRP	Debt risk premium.
efficiency benefit sharing scheme	A scheme of that name which is published by the Commission and substantially reflects the scheme developed and published by the AER under clause 6.5.8 of the NER at the relevant time.
electricity network	Has the meaning given in the Network Access Code (this term is equivalent to the term 'distribution system' when used in the NER).
Electricity Pricing Order	An order made by the Minister under section 44 of the <i>Electricity Reform Act</i> regulating retail prices for the sale of electricity to retail customers of a prescribed class.

² Utilities Commission, [2014-19 Network Price Determination: Draft Determination](#), December 2013.

Term	Definition
eligible pass through amount	<p>In respect of a positive change event, the increase in costs in the provision of regulated network access services that, as a result of that positive change event, PWC Networks has incurred and is likely to incur (as opposed to the revenue impact of that event) until:</p> <ul style="list-style-type: none"> a) unless subparagraph (b) applies – the end of 2014-19 regulatory control period; or b) if Post 2019 Network Price Determination does not make any allowance for the recovery of that increase in costs (whether or not in the forecast operating expenditure or forecast capital expenditure accepted or substituted by the Commission for the Post 2019 regulatory control period) – the end of the Post 2019 regulatory control period.
ESS Code	Electricity Standards of Service Code published by the Commission on 1 December 2012.
excluded network access services	The network access services specified in Schedule 3 of the 2014 Network Price Determination which are services supplied by PWC Networks for which the associated costs and revenue are excluded from the 2014 Network Price Determination.
extension	Has the meaning given in the Network Access Code.
Final Determination	The Statement of Reasons and the 2014 Network Price Determination.
Framework statement	The '2014-2019 Network Price Determination – Framework and Approach' decision paper published by the Commission in November 2012. ³
generally accepted regulatory practice	The conventions, rules and procedures in use at a particular time by leading jurisdictional regulators in Australia when choosing and applying economic regulation methodologies to a power system for the generation, transmission, distribution and supply of electricity and consistent with applicable laws.
generator	A person who is authorised by licence to generate electricity under the <i>Electricity Reform Act</i> or is exempt from the requirement to be licenced to generate electricity under the <i>Electricity Reform Act</i> .
GSL or guaranteed service level	The minimum guaranteed service level which retail customers are entitled to receive from PWC Networks, as defined in the GSL Code.

³ Utilities Commission, [2014-19 Network Price Determination: Framework and Approach Decision Paper](#), December 2013.

Term	Definition
GSL Code	Guaranteed Service Level Code, which took effect from 1 January 2012 and as amended from time to time.
GSL payment	A payment made, or required to be made, by PWC Networks to a retail customer when the retail customer received service at a level worse than the prescribed GSL. PWC Networks must make GSL payments in accordance with the GSL Code.
GWh	Gigawatt hour.
initial regulatory proposal	The initial regulatory proposal submitted by PWC Networks to the Commission in September 2013.
insurance event	An insurer credit risk event or a liability above insurance cap event.
insurer credit risk event	The insolvency of a nominated insurer of PWC Networks, as a result of which PWC Networks: <ul style="list-style-type: none"> a) incurs materially higher or lower costs for insurance premiums than those allowed for in the 2014 Network Price Determination; and b) (in respect of a claim for a risk that would have been insured by that insurer) is subject to a materially higher or lower claim limit or a materially higher or lower deductible than would have applied under the policy but for the insolvency of that insurer.
kVA	Kilo-volt amperes.
kVA _r	Kilo-volt amperes reactive.
LGANT	Local Government Association of the Northern Territory.
liability above insurance cap event	Any event beyond the control of PWC Networks for which external insurance has been provided and the loss suffered by PWC Networks as a result of the occurrence of that event exceeds the policy limit under that insurance and the excess loss borne by PWC Networks materially increases the costs to PWC Networks of providing the regulated network access services.
maintenance costs	Expenditure relating to the maintenance of the PWC Network electricity network.
materially	For the purposes of the application of clause 3.1 of the 2014 Network Price Determination, an event that results in PWC Networks incurring materially higher or materially lower costs if the change in costs (as opposed to the revenue impact) that PWC Networks incurred and is likely to incur in any regulatory year in the 2014-19 regulatory control period, as a result of that event, exceeds 1 per cent of the annual revenue requirement for that regulatory year.
MWh	Megawatt hour.

Term	Definition
natural disaster event	Any major fire, flood, earthquake or other natural disaster beyond the reasonable control of PWC Networks (but excluding those events for which external insurance or self-insurance has been included within PWC Networks' forecast operating expenditure) that occurs during the 2014-19 regulatory control period and materially increases the costs to PWC Networks of providing the regulated network access services.
NCCP or Networks Capital Contributions Policy	A policy statement providing details of principles and methods for establishing capital contributions as submitted by PWC Networks and approved by the Commission in accordance with clause 81(3) of the Network Access Code.
negative change event	A pass through event that entails PWC Networks incurring materially lower costs in providing the regulated network access services than it would have incurred but for that event.
negative pass through amount	In respect of a negative change event for PWC Networks, an amount that is not greater than a required pass through amount as determined by the Commission under clause 3.1.5(a) of the 2014 Network Price Determination.
NEL	The National Electricity Law as set out in the schedule to the <i>National Electricity (South Australia) Act 1996 (SA)</i> and as applied in each of the participating jurisdictions.
NEM or national electricity market	Has the meaning given in Chapter 10 of the NER.
NER or Rules	National Electricity Rules. Has the meaning given in the NEL and when used in the 2014 Network Price Determination and this Statement of Reasons will mean version 61 of the NER.
Network Access Code	The Electricity Networks (Third Party Access) Code, which is a schedule to the <i>Electricity Networks (Third Party Access) Act</i> .
network access service	Has the meaning given in the Network Access Code and includes regulated network access services and excluded network access services.
Network Price Determination	A determination made by the Commission relating to the prices of regulated network access services under sections 20 and 21 of the <i>Utilities Commission Act</i> , section 43 of the <i>Electricity Reform Act</i> and clause 66 of the Network Access Code.
network service provider	Has the meaning given to the term 'network provider' in the Network Access Code.
Network Technical Code	The Network Technical Code and Network Planning Criteria (version 3.1) dated December 2013 included as Attachment 2 to PWC Networks' revised regulatory proposal.
network user	A generator, retailer or retail customer.

Term	Definition
NPPS or Network Pricing Principles Statement	A statement setting out the details of the principles and methods to be used for defining the individual standard network access services to be supplied by PWC Networks and for establishing the reference tariffs to apply to those services, as submitted by PWC Networks and approved by the Commission in accordance with clause 78(1) of the Network Access Code.
NPV	Net present value.
NTCOSS	Northern Territory Council of Social Services.
NTMEU	Northern Territory Major Energy Users.
NTRM or Northern Territory Revenue Model	The AER's Post Tax Revenue Model as modified by the Commission to the minimum extent the Commission considered necessary to use a pre-tax approach.
operating costs	Opex minus expenditure relating to the maintenance of the PWC Networks' electricity network.
opex or operating and maintenance expenditure or operating expenditure	Expenditure on the delivery of regulated network access services using the electricity network and may include such items as staff costs, repairs and maintenance of plant and equipment, taxes and financing fees and charges.
operating expenditure criteria	<p>The operating expenditure criteria are as follows:</p> <ul style="list-style-type: none"> a) the efficient costs of achieving the operating expenditure objectives; b) the costs that a prudent operator would require to achieve the operating expenditure objectives; and c) a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives.

Term	Definition
operating expenditure factors	<p>The operating expenditure factors are as follows:</p> <ul style="list-style-type: none"> a) the most recent annual benchmarking report that has been published by the AER (or any equivalent benchmarking report that has been prepared by or for the Commission) and the benchmark operating expenditure that would be incurred by an efficient network service provider over the 2014-19 regulatory control period; b) the actual and expected operating expenditure of PWC Networks during any preceding regulatory control period; c) the extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity retail customers as identified by PWC Networks in the course of its engagement with electricity retail customers; d) the relative prices of operating and capital inputs; e) the substitution possibilities between operating and capital expenditure; f) whether the operating expenditure forecast is consistent with any incentive scheme or schemes that apply to PWC Networks under the 2014 Network Price Determination; g) the extent the operating expenditure forecast is referable to arrangements with a person other than PWC Networks that, in the opinion of the Commission, do not reflect arm's length terms; h) whether the operating expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 2.5 and Chapter 3 of the 2014 Network Price Determination; i) the extent to which PWC Networks has considered, and made provision for, efficient and prudent non-network alternatives; j) any relevant final project assessment report relating to a regulatory investment test for distribution project published by PWC Networks; and k) any other factor the Commission considers relevant and which the Commission has notified to PWC Networks in writing, prior to the submission of its revised regulatory proposal, is an operating expenditure factor.

Term	Definition
operating expenditure objectives	<p>The operating expenditure objectives are as follows:</p> <ul style="list-style-type: none"> a) meet or manage the expected demand for regulated network access services over the regulatory control period; b) comply with all applicable regulatory obligations or requirements associated with the provision of regulated network access services; c) to the extent that there is no applicable regulatory obligation or requirement in relation to: <ul style="list-style-type: none"> (i) the quality, reliability or security of supply of regulated network access services; or (ii) the reliability or security of the electricity network through the supply of regulated network access services, <p>to the relevant extent:</p> <ul style="list-style-type: none"> (iii) maintain the quality, reliability and security of supply of regulated network access services; and (iv) maintain the reliability and security of the electricity network through the supply of regulated network access services; and <ul style="list-style-type: none"> d) maintain the safety of the electricity network through the supply of regulated network access services.
overs	Where the sum of the revenue received by PWC Networks for the supply of regulated network access services during a regulatory year exceeds the annual revenue requirement for that regulatory year.
pass through event	An event defined as such by the Commission under Chapter 3 of the 2014 Network Price Determination.
PB	Parsons Brinckerhoff Strategic Consulting.
PCNT	Property Council of Australia – Northern Territory Division.
positive change event	A pass through event which entails PWC Networks incurring materially higher costs in providing the regulated network access services than it would have incurred but for that event, but does not include a contingent project or an associated trigger event.
positive pass through amount	An amount (not exceeding the eligible pass through amount) proposed by PWC Networks under clause 3.1.2(b) of the 2014 Network Price Determination.
Post 2019 Network Price Determination	The Network Price Determination for the regulatory control period following the 2014-19 regulatory control period.
Post 2019 regulatory control period	The regulatory control period following the 2014-19 regulatory control period.
price cap	Has the meaning given in the Network Access Code.

Term	Definition
PTRM or Post Tax Revenue Model	The Post Tax Revenue Model published by the AER on 1 December 2010.
PWC	The Power and Water Corporation, the government owned corporation established under the <i>Power and Water Corporation Act</i> .
PWC Generation	The generation business division of PWC.
PWC Networks	The networks business division of PWC.
PWC Retail	The retail business division of PWC.
PWC System Control	The system control business division of PWC.
RAB	The regulatory asset base maintained by PWC Networks relating to the provision of regulated network access services.
reference tariff	Has the meaning given in the Network Access Code.
regulated network access services	Has the meaning given in the Network Access Code.
regulatory change event	<p>A change in a regulatory obligation or requirement that:</p> <ul style="list-style-type: none"> a) falls within no other category of pass through event; and b) occurs during the course of the 2014-19 regulatory control period; and c) substantially affects the manner in which PWC Networks provides regulated network access services; and d) materially increases or materially decreases the costs to PWC Networks of providing the regulated network access services.
regulatory control period	The period between major network access service price reviews during which time the methodology used in setting prices for regulated network access services is held constant.
regulatory obligation or requirement	Any obligation or requirement applicable to PWC Networks under an applicable regulatory instrument.
regulatory proposal	The regulatory proposal submitted by PWC Networks to the Commission in relation to the 2014 Network Price Determination which is comprised of the initial regulatory proposal, revised regulatory proposal and supporting information submitted by PWC Networks to the Commission in response to the RIN issued to PWC Networks for the purposes of the 2014 Network Price Determination.
regulatory year	Each consecutive period of 12 calendar months in a regulatory control period, the first such 12-month period commencing at the beginning of the regulatory control period and the final 12-month period ending at the end of the regulatory control period.

Term	Definition
relevant tax	Any tax or tax equivalent payable by PWC Networks other than: <ul style="list-style-type: none"> a) income tax and capital gains tax; b) stamp duty, financial institutions duty and bank accounts debits tax; c) penalties, charges, fees and interest on late payments, or deficiencies in payments, relating to any tax; or d) any tax that replaces or is the equivalent of or similar to any of the taxes referred to in subparagraphs (a) to (c) (including any Northern Territory taxes).
required pass through amount	In respect of a negative change event for PWC Networks, the costs in the provision of the regulated network access services that PWC Networks has saved and is likely to save as a result of the negative change event until: <ul style="list-style-type: none"> a) unless subparagraph (b) applies – the end of the 2014-19 regulatory control period; or b) if the Post 2019 NPD does not make any allowance for the pass through of the saved costs – the end of the Post 2019 regulatory control period.
retailer	A person who is authorised by licence, or exempt from being licenced, to sell electricity under the <i>Electricity Reform Act</i> .
retail customer	A person to whom electricity is sold by a retailer at a premises that is connected to the PWC Networks' regulated electricity network.
retailer insolvency event	The failure of a retailer during the 2014-19 regulatory control period, to pay PWC Networks an amount to which PWC Networks is entitled for the provision of regulated network access services, if: <ul style="list-style-type: none"> a) a receiver, receiver and manager, administrator, provisional liquidator, liquidator, trustee in bankruptcy or person having a similar or analogous function has been appointed in respect of that retailer; and b) PWC Networks is not entitled to payment of that amount in full under the terms of any credit support provided in respect of that retailer.
revenue cap	Has the meaning given in the Network Access Code.
revised regulatory proposal	The revised regulatory proposal submitted by PWC Networks to the Commission in January 2014.
RFM or Roll Forward Model	The AER's roll forward model (for distributors) published on 26 July 2008.
RIN or regulatory information notice	A notice prepared and served by the Commission on PWC Networks under section 25 of the <i>Utilities Commission Act</i> (or any other relevant applicable regulatory instrument) that requires PWC Networks to provide to the Commission the information specified in the notice, prepared, maintained or kept in a manner and form specified in the notice.

Term	Definition
service standard event	<p>A legislative or administrative act or decision that:</p> <p>a) has the effect of:</p> <ul style="list-style-type: none"> (i) substantially varying, during the course of the 2014-19 regulatory control period, the manner in which PWC Networks is required to provide a regulated network access service; or (ii) imposing, removing or varying, during the course of the 2014-19 regulatory control period, minimum service standards applicable to the regulated network access services; or (iii) altering, during the course of the 2014-19 regulatory control period, the nature or scope of the regulated network access services provided by PWC Networks; and <p>b) materially increases or materially decreases the costs to PWC Networks of providing the regulated network access services.</p>
service target performance incentive scheme	<p>A scheme of that name which is published by the Commission and which substantially reflects the scheme developed and published by the AER under clause 6.6.2 of the NER at the relevant time.</p>
side constraint	<p>A controlling effect on tariff movements to minimise the volatility and reduce the commercial uncertainty for network users. A side constraint is effectively a limit on the amount by which reference tariffs can change from regulatory year to regulatory year.</p>
SKM	Sinclair Knight Mertz.
SLA	Service level agreement.
small-scale incentive scheme	<p>A scheme of that name published by the Commission and which substantially reflects the scheme developed and published by the AER under clause 6.6.4 of the NER at the relevant time.</p>
standard network access services	Has the meaning given in the Network Access Code.
Statement of Reasons	<p>This document headed 'Final Determination: Part A – Statement of Reasons' that accompanies the 2014 Network Price Determination and sets out the reasons for the determinations made by the Commission in the 2014 Network Price Determination.</p>

Term	Definition
structural separation event	The legal separation of PWC Generation, PWC Retail or PWC System Control from PWC Networks after the date on which the 2014 Network Price Determination is published by the Commission or during the 2014-19 regulatory control period, which substantially affects the manner in which PWC Networks provides regulated network access services and materially increases or materially decreases the costs to PWC Networks of providing regulated network access services.
tariff class	A class of retail customers for one or more regulated network access services who are subject to a particular reference tariff or particular reference tariffs.
tax	Any tax, levy, impost, deduction, charge, rate, rebate, duty, fee or withholding which is levied or imposed by an Authority.
tax change event	<p>A tax change event occurs if:</p> <ul style="list-style-type: none"> a) any of the following occurs during the course of the 2014-19 regulatory control period for PWC Networks: <ul style="list-style-type: none"> (i) a change in a relevant tax, in the application or official interpretation of a relevant tax, in the rate of a relevant tax, or in the way a relevant tax is calculated; (ii) the removal of a relevant tax; (iii) the imposition of a relevant tax; and b) in consequence, the costs to PWC Networks of providing the regulated network access services are materially increased or materially decreased.
Territory or Northern Territory	The Northern Territory of Australia.
terrorism event	An act (including, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and which materially increases the costs to PWC Networks of providing the regulated network access services.
TFP	Total factor productivity. TFP approaches rely on the estimation of industry wide productivity trends to determine the X factor under a CPI minus X approach as part of price cap incentive regulation.
total revenue requirement	An amount representing the revenue calculated for the whole of the 2014-19 regulatory control period in accordance with the 2014 Network Price Determination.

Term	Definition
trigger event	In relation to a contingent project, a specific condition or event described in clause 3.2.2 of the 2014 Network Price Determination, the occurrence of which, during the 2014-19 regulatory control period, may result in the amendment of the 2014 Network Price Determination under Chapter 3 of the 2014 Network Price Determination.
TTEG	Trans Tasman Energy Group.
unders	Where the sum of the revenue received by PWC Networks for the supply of regulated network access services during a regulatory year is less than the annual revenue requirement for that regulatory year.
unders and overs account	The account that is required to be maintained by PWC Networks in which any overs or unders are recorded, verified and reconciled.
use of network services	Has the meaning given in the Network Access Code.
X factor	Amount by which a DNSP is allowed to escalate reference tariffs (on average) relative to the rate of consumer price inflation. The X factor is often referred to as a productivity or efficiency factor.
WACC or weighted average cost of capital	The cost of capital as measured by the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the PWC Networks.

CHAPTER 1

Executive Summary

- 1.1 Under the Network Access Code, the Commission is required to set the maximum allowed revenue that PWC Networks can recover, or maximum average annual price that PWC Networks can charge, for the provision of regulated network access services during a regulatory year.
- 1.2 This Statement of Reasons, together with the 2014 Network Price Determination set out in Part B, comprises the Commission's Final Determination under clause 66 of the Network Access Code in relation to the maximum allowed revenue that PWC Networks can recover from the provision of regulated network access services during the 2014-19 regulatory control period.
- 1.3 In particular, this Statement of Reasons sets out the Commission's basis and rationale for the 2014 Network Price Determination. The 2014 Network Price Determination sets out the Commission's constituent decisions in relation to the revenue cap which will apply to the supply of regulated network access services by PWC Networks during the 2014-19 regulatory control period.
- 1.4 The 2014-19 regulatory control period is the fourth regulatory control period for which the Commission has made a network price determination in accordance with the Network Access Code.⁴
- 1.5 The Network Access Code requires the Commission to determine the revenue cap or price cap to apply during the 2014-19 regulatory control period in a manner that, in the Commission's opinion, most effectively achieves the desired outcomes set out in clause 63 of the Network Access Code and is consistent with generally accepted regulatory practice at this time.
- 1.6 In the Commission's opinion, generally accepted regulatory practice for distribution network price determinations in Australia comprises the conventions, rules and procedures applied by the AER in accordance with the NEL and Chapter 6 of the NER.
- 1.7 The Commission has made the Final Determination having regard to those conventions, rules and procedures.
- 1.8 The Commission acknowledges that resourcing constraints for PWC Networks and economies of scale have meant that full adoption of the relevant NER conventions, rules and procedures has not been practicable for the 2014-19 regulatory control period. However, the Commission believes that full compliance with the relevant NER conventions, rules and procedures is practicable for the Post 2019 regulatory control period.

⁴ First regulatory control period 1 July 2001 to 30 June 2004, second regulatory control period 1 July 2004 to 30 June 2009, third regulatory control period (current) 1 July 2009 to 30 June 2014.

- 1.9 In particular, the Commission considers that working towards alignment with industry best practice (as demonstrated in NER arrangements for distribution network price determinations) is in the long-term interest of Territory electricity customers.

Review Process

- 1.10 The review process commenced with the release of the Commission's Consultation Paper in June 2012⁵ dealing with the possible options underlying the network price determination process, and providing the Commission's preliminary position with respect to various aspects of the framework and approach to the 2014-19 network price determination process.
- 1.11 The Commission's Framework Statement setting out its final decision in relation to its proposed framework and approach to the 2014-19 network price determination process was released in November 2012.⁶
- 1.12 Following the publication of the Commission's Framework Statement, the Commission worked closely with PWC Networks to develop an appropriate set of information to be provided by PWC Networks to enable the Commission to assess its regulatory proposal against the requirements of the Network Access Code and the NER.
- 1.13 Due to PWC Networks' resourcing constraints, the Commission agreed to a staged provision of information by PWC Networks as part of its regulatory proposal. PWC Networks provided information progressively from May 2013, with the initial regulatory proposal being submitted and published on the Commission's website in September 2013. The Commission sought comment on PWC Networks' initial regulatory proposal from stakeholders and five submissions were received.⁷
- 1.14 Following consideration of issues raised in submissions and the Commission's own analysis of PWC Networks' initial regulatory proposal, the Commission released its Draft Determination in December 2013. The Commission's considerations and its examination of the PWC Networks' initial regulatory proposal was also informed by consultant advice and supporting data supplied by PWC Networks.
- 1.15 PWC Networks submitted a revised regulatory proposal in January 2014. This revised regulatory proposal was published on the Commission's website and comments sought from stakeholders. The Commission received four submissions in response to its Draft Determination and the revised regulatory proposal from PWC Networks.
- 1.16 In making the 2014 Network Price Determination, the Commission has assessed PWC Networks' initial and revised regulatory proposals in accordance with the requirements of the Network Access Code and the relevant provisions of the NER and the conventions, rules and procedures currently applied by the AER in relation to the economic regulation of electricity distribution network businesses in Australia. The Commission also considered the past performance of PWC Networks and the

⁵ Utilities Commission, [2014 Network Price Determination: Framework and Approach Consultation Paper](#), June 2012.

⁶ Utilities Commission, [2014 Network Price Determination: Framework and Approach Decision Paper](#), November 2012.

⁷ A full list of submissions received can be found in Appendix C.

effectiveness of its policies and procedures in the development of its regulatory proposal.

- 1.17 In accordance with the NER and as identified in the Framework Statement, the Commission has applied a forward-looking building block approach in determining the annual revenue requirement to apply to PWC Networks for the 2014-19 regulatory control period. The building block approach includes an allowance for operating and maintenance expenditure, return on capital (which includes an allowance for capital expenditure), and regulatory depreciation. The Commission's expenditure assessments are based on tests of prudence and efficiency.
- 1.18 The Commission's determination includes the three distribution systems of Darwin-Katherine, Alice Springs, and Tennant Creek.⁸

Outcome of the Regulatory Process

- 1.19 The Commission's Final Determination on the total revenue requirement to apply to PWC Networks for the 2014-19 regulatory control period for the supply of regulated network access services is \$1 034.2 million (nominal), inclusive of \$42.0 million (nominal) carried over from the cost pass through for the implementation of the Davies Review recommendations approved by the Commission in May 2013⁹.
- 1.20 The approved total revenue requirement is \$181.3 million less than the \$1 215.6 million (inclusive of the May 2013 cost pass through) sought by PWC Networks in its revised regulatory proposal.
- 1.21 The Commission has established a revenue path, of the CPI minus X form, which is consistent with the approved total revenue requirement. To minimise the price shock for retail customers, the revenue path has been set to phase in the required reference tariff increases over the initial regulatory years of the 2014-19 regulatory control period.
- 1.22 Under the approved revenue path, PWC Networks' annual revenue requirement will increase in nominal terms by CPI plus 29.8 per cent in the 2014-15 regulatory year compared to the 2013-14 regulatory year. For the remaining four regulatory years of the 2014-19 regulatory control period, PWC Networks' annual revenue requirement will increase in nominal terms by CPI plus 8 per cent in the 2015-16 regulatory year and CPI plus 3 per cent in the 2016-17 regulatory year. For the 2017-18 and 2018-19 regulatory years, PWC Networks' annual revenue requirement will decrease in real terms, with nominal revenues to be adjusted by CPI minus 2 per cent for each regulatory year. Reference tariffs are expected to increase on average by a lower rate, reflecting the partially offsetting effect of higher energy consumption.

⁸ Under the NER, a transmission network is generally considered to be a network operating at nominal voltages of 220 kV and above, although there is scope for the AER to deem networks operating at lower nominal voltages to be transmission networks. In the Territory, there is one 132 kV line connecting Darwin and Katherine and a small number of 66 kV lines. While these may be considered to provide a transmission function for network planning purposes, for the purposes of the 2014 Network Price Determination, the Commission has taken the view that the regulated electricity networks operated by PWC Networks are equivalent to 'distribution systems' under the NER and the network access services provided by PWC Networks are equivalent to 'distribution services' under the NER.

⁹ Utilities Commission, [Cost pass through application – Final determination](#), May 2013

-
- 1.23 The specific circumstances faced by PWC Networks, which justify these revenue increases, are discussed in this Statement of Reasons.
- 1.24 The Commission has considered individual projects and lines of expenditure in determining PWC Networks' efficient annual revenue requirements for the 2014-19 regulatory control period.
- 1.25 The 2014 Network Price Determination establishes the total revenue requirement that PWC Networks can recover from retail customers during the 2014-19 regulatory control period. It is a matter for PWC Networks to efficiently manage its expenditures to ensure that it maintains the quality, reliability, safety and security of electricity supply, and complies with all applicable regulatory obligations and requirements.
- 1.26 A summary of the constituent decisions made by the Commission in the 2014 Network Price Determination is outlined later in this Executive Summary. Further details are provided in relevant chapters of this Statement of Reasons.
- 1.27 This Statement of Reasons also considers:
- the pricing principles and secondary price controls that are proposed to be applied by PWC Networks in relation to the determination of its annual reference tariffs; and
 - the procedures that are proposed to be used by PWC Networks in relation to the determination of charges for network extensions and augmentations.

Impact on Retail Customers

- 1.28 Reference tariffs are generally paid by electricity retailers (including PWC Retail) to PWC Networks, and represent one component of bundled electricity charges, which also include generation, system operation and retail charges.
- 1.29 For small and medium size retail customers (those consuming less than 750 MWh of electricity per annum), retail prices are regulated by a Territory Government Pricing Order which sets the maximum amount that PWC Retail is able to charge these categories of retail customers. A change to the reference tariff as a result of the 2014 Network Price Determination will not impact the current Pricing Order or the retail prices that PWC can charge these categories of retail customers.
- 1.30 For retail customers on negotiated contracts (for example, retail customers consuming more than 750 MWh of electricity per annum), the size and timing of the impact of changes in reference tariffs on the retail prices payable by those retail customers will generally depend on the terms and conditions of each individual negotiated contract. However, for retail customers using between 750 MWh and 2 GWh per annum, there is currently a Territory Government Pricing Order in place that limits the rate at which PWC Retail can increase an individual retail customer's retail price.

Key Expenditure Drivers and Considerations

- 1.31 The main drivers of the increase in annual revenue requirements are an increase in PWC Networks' operating and maintenance expenditure and regulatory depreciation allowance.
- 1.32 In relation to the first driver, the Commission considered that the total revenue requirement approved in March 2009 for the 2009-14 regulatory control period provided sufficient funding for PWC Networks to operate and maintain its electricity network, based on PWC Networks' practices at the time. However, since that time,

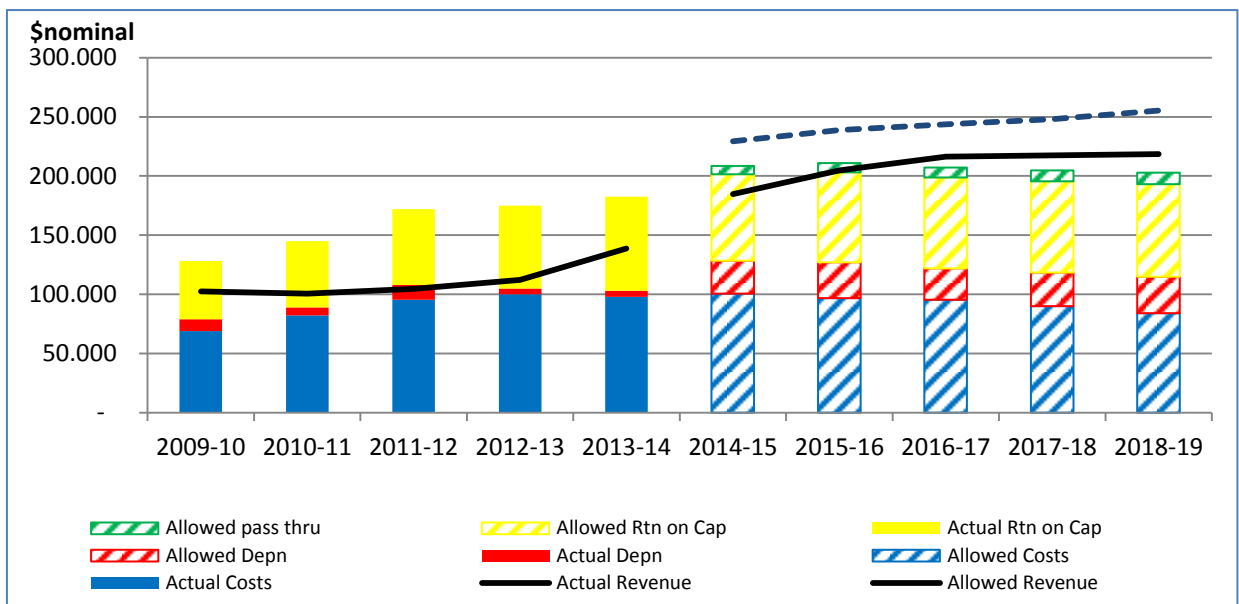
various shortcomings in PWC Networks' policies, practices and procedures have been identified.

- 1.33 The Davies Review¹⁰, found that PWC Networks did not have in place systems and processes to collect and analyse the information necessary to allow it to appropriately manage and maintain its electricity network assets, and thus lacked the systems and knowhow required to implement alternative approaches being adopted elsewhere throughout the electricity industry. During the 2009-14 regulatory control period, PWC Networks increased its operating and maintenance expenditure as it moved from a 'run to fail' asset management regime to a condition-based asset management regime with increased focus on condition monitoring and preventative maintenance.
- 1.34 The Commission made some allowance for increased capital expenditure and operating and maintenance expenditure associated with implementation of the Davies Review recommendations through the cost pass through approved in May 2013. The Commission did not, however, approve the full amount sought by PWC Networks for what it claimed were:
- ...substantial enhancements made to the network asset management regime and the embedding of an improved maintenance cycle culture within PWC, as espoused in the Davies Review recommendations.*¹¹
- 1.35 The Commission considered that PWC Networks had not provided the rigorous and detailed analysis of the actual activities undertaken, the issues these activities are intended to address and an assessment as to whether the objectives have been, or are likely to be, achieved.
- 1.36 In its initial and revised regulatory proposals, PWC Networks provided detailed justification for the increased resources necessary to achieve a more strategic focus on its asset management function and other essential related matters, such as operating requirements, safety and training. PWC Networks also noted that additional personnel were required to plan and deliver a robust condition-based preventative maintenance program, consistent with the broader recommendations provided by the Davies Review.
- 1.37 The Commission's Final Determination provides PWC Networks with operating and maintenance expenditure at a similar level to its actual operating and maintenance expenditure in the 2009-14 regulatory control period, recognising the step change that has occurred since 2009, but provides little further increase in real terms. Any additional expenditure requirements will need to be funded through efficiency improvements or by reallocation of funds from other areas within PWC Networks.

¹⁰ [Independent Enquiry into Casuarina Substation Events and Substation Management across Darwin – Final Report](#), February 2009.

¹¹ Power and Water Corporation, [Network Cost Pass Through Application – Response to the Commission's request for further information](#), February 2013, page 2.

Figure 1.1: PWC Networks' actual costs and revenues for the 2009-14 regulatory control period and the 2014 Network Price Determination outcomes



Source: Utilities Commission

- 1.38 The second driver of the increase in the annual revenue requirements is the regulatory depreciation allowance. In the 2009 Network Price Determination, the annual CPI effect on the opening RAB was greater than nominal straight-line depreciation, so the regulatory depreciation allowance resulted in a reduction in revenue. This effectively assumed that PWC Networks' RAB had a significant proportion of its economic life remaining.
- 1.39 PWC Networks has reviewed and adjusted its asset lives, with the assistance of technical consultants, to reflect a more appropriate age profile for the RAB, resulting in an increase in the regulatory depreciation allowance to a level more consistent with that allowed for other DNSPs.

Summary of Constituent Decisions

Classification of services (refer Chapter 3 of this document)

- 1.40 In its revised regulatory proposal, PWC Networks accepted the classification of network access services set out in the Commission's Draft Determination except for the Commission's decision not to classify the proposed charge for provision of network capacity in excess of Network Technical Code requirements as an excluded network access service. PWC Networks also made some modifications to the service descriptions to provide further clarification for retail customers and improve transparency and certainty.
- 1.41 The Commission's service classification remains consistent with its draft decision and is set out Appendix A. Some modifications have been made to service descriptions to improve transparency and certainty.
- 1.42 The Commission does not accept PWC Networks' proposal to classify the provision of network capacity in excess of Network Technical Code requirements as an excluded network access service, because the costs associated with providing this network access service cannot be excluded from the cost base for the purposes of calculating the total revenue requirement applying to regulated network access services.

Control mechanism (refer Chapter 4 of this document)

- 1.43 The Framework Statement specified that the Commission would apply a revenue cap control mechanism of a CPI minus X form to the regulated network access services provided by PWC Networks. It also indicated that annual adjustments to the annual revenue requirement would be provided for any:
- under or over recoveries of revenue; and
 - cost pass throughs approved by the Commission during the 2014-19 regulatory control period.
- 1.44 Following consideration of PWC Networks' initial regulatory proposal, provision was also made for adjustments to be made to the annual revenue requirement for contingent projects if a specified trigger event occurs.
- 1.45 The 2014 Network Price Determination has been developed on this basis.
- 1.46 As part of its pricing proposals to be submitted in accordance with clause 78(1) of the Network Access Code for each regulatory year of the 2014-19 regulatory control period, PWC Networks must submit to the Commission its proposed reference tariffs and charging parameters which lead to expected revenues consistent with the Revenue Control formula set out in Schedule 4 of the 2014 Network Price Determination.
- 1.47 PWC Networks proposed that a side constraint of 2 per cent on any increase in weighted average revenue of each reference tariff class would apply between regulatory years.
- 1.48 The Commission's final decision is that the side constraint of 2 per cent proposed by PWC Networks is appropriate and that, consistent with the NER, the side constraint is to be applied to the weighted average revenue to be raised from a tariff class for a particular regulatory year.
- 1.49 In its annual pricing proposals, PWC Networks will be required to demonstrate that its proposed tariffs and charges for the next regulatory year will meet the side constraint, as specified in the 2014 Network Price Determination and will be consistent with the Side Constraint Formula set out in Schedule 4 of the 2014 Network Price Determination.

Opening RAB (refer Chapter 6 of this document)

- 1.50 PWC Networks proposed an opening RAB for the 2014-19 regulatory control period of \$930.1 million as at 1 July 2014, based on a DORC valuation of \$856.2 million as at 1 July 2013, rolled forward for one year.
- 1.51 The Commission has updated the revised roll forward model provided by PWC Networks with the latest available CPI data from the ABS used for determining the inflation rate for the indexation adjustment. The Commission has forecast the opening RAB for PWC Networks to be \$928.3 million (nominal) as at 1 July 2014.

Reliability standards (refer Chapter 8 of this document)

- 1.52 PWC Networks' initial and revised regulatory proposals noted that the Commission approved network reliability targets required under the ESS Code in June 2013.
- 1.53 The Commission considers that the targets established under the ESS Code and related obligations under the GSL Code establish appropriate standards for the service element of the regulatory bargain and form an appropriate basis for determining the capital expenditure and operating and maintenance expenditure required in the 2014-19 regulatory control period.

Forecast capital expenditure (refer Chapter 9 of this document)

- 1.54 PWC Networks proposed a revised total forecast for capital expenditure of \$292.5 million (\$2013–14) for the 2014-19 regulatory control period in its revised regulatory proposal.
- 1.55 The Commission is not satisfied that the forecast capital expenditure proposed by PWC Networks reflects prudent and efficient capital investment required to be undertaken by PWC Networks in the 2014-19 regulatory control period in order to maintain or extend network capacity that is commensurate with the commercial and regulatory risks involved, nor that PWC Networks' forecast reasonably reflects the capital expenditure criteria set out in clause 6.5.7(c) of the NER.
- 1.56 This conclusion is based in part on the Commission's assessment that the demand forecasts proposed by PWC Networks exhibit an upward bias that is not justified and that a deferral by two to three years of proposed forecast demand should be applied in considering capital expenditure proposals.
- 1.57 The Commission's estimate of the total capital expenditure required by PWC Networks in the 2014-19 regulatory control period that reflects prudent and efficient capital investment is \$274.0 million (\$2013-14). The Commission considers that this reasonably reflects the level of expenditure required to meet the capital expenditure objectives set out in clause 6.5.7(a) of the NER.

Forecast operating expenditure (refer Chapter 10 of this document)

- 1.58 PWC Networks proposed a revised total forecast for operating and maintenance expenditure of \$528.1 million (\$2013-14) for the 2014-19 regulatory control period in its revised regulatory proposal.
- 1.59 The Commission is not satisfied that the operating and maintenance expenditure proposed by PWC Networks reflects efficient costs required to be incurred by PWC Networks in connection with the operation and maintenance of its electricity network, nor that PWC Networks' forecast reasonably reflects the operating expenditure criteria set out in clause 6.5.6(c) of the NER.
- 1.60 The Commission's estimate of the efficient operating and maintenance expenditure requirements for PWC Networks in the 2014-19 regulatory control period is \$431.1 million (\$2013-14). The Commission considers that this reasonably reflects the level of expenditure required to meet the operating expenditure objectives set out in clause 6.5.6(a) of the NER.

Depreciation (refer Chapter 11 of this document)

- 1.61 PWC Networks' revised regulatory proposal calculated a regulatory depreciation allowance totalling \$146.6 million (nominal) over the 2014-19 regulatory control period.
- 1.62 On the basis of the Commission's approved asset lives, opening RAB, and forecast capital expenditure, the Commission has determined a regulatory depreciation allowance of \$143.9 million (nominal).

Cost of capital (refer Chapter 12 of this document)

- 1.63 PWC Networks' revised regulatory proposal proposed an indicative pre-tax nominal WACC of 9.05 per cent based on the parameters set out in the Commission's Draft Determination and correcting for an inadvertent formula error in the calculation of the effective tax rate on equity.

- 1.64 The Commission has determined a nominal pre-tax WACC of 7.86 per cent for PWC Networks.
- 1.65 This WACC is lower than that proposed by PWC Networks because the Commission has adopted a higher utilisation of franking credits (gamma) and a corporate tax rate of 30 per cent, and because market based parameters (that is, nominal risk free rate, DRP and expected inflation) have changed since PWC Networks prepared its revised regulatory proposal.

Building block revenue requirement (refer Chapter 14 of this document)

- 1.66 PWC Networks' calculation of its annual revenue requirements and X factors, as presented in its revised regulatory proposal, are summarised in Table 1.1.
- 1.67 PWC Networks also submitted a revised estimate for expected revenue in the 2013-14 regulatory year, which is a major contributor to the significant increase in the X factors underlying the proposed revenue path.

Table 1.1: PWC Networks proposed annual revenue requirements and X factors (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Return on capital		84.14	88.81	92.20	94.00	95.45	454.60
Regulatory depreciation		28.49	31.15	27.04	28.81	31.15	146.64
Operating and maintenance expenditure		109.64	111.21	115.98	116.25	119.03	572.11
Unsmoothed annual revenue requirement		222.27	231.17	235.22	239.07	245.62	1 173.35
Expected revenues (smoothed revenue)	132.65	197.73	233.10	241.35	249.89	258.73	
Forecast CPI (%)		2.51	2.51	2.51	2.51	2.51	
X factors (%) ^(a)		- 45.41	- 15.00	- 1.00	- 1.00	- 1.00	
Carryover adjustment (2013 cost pass through)		7.18	7.76	8.39	9.07	9.81	42.21
Total unsmoothed annual revenue requirement		229.25	238.93	243.62	248.14	255.43	1 215.66
Expected revenues (smoothed revenue)	132.65	204.77	241.41	249.95	258.80	267.95	
Forecast CPI (%)		2.51	2.51	2.51	2.51	2.51	
X factors (%) ^(a)		- 50.59	- 15.00	- 1.00	- 1.00	- 1.00	

Source: PWC Networks' revised regulatory proposal, NTRM

^(a) Negative values for X indicate real revenue increases under the CPI-X formula.

- 1.68 The Commission has calculated PWC Networks' annual revenue requirements and X factors based on its constituent decisions regarding the various components of the building block (refer Table 1.2).

- 1.69 The Commission's final decision results in a total revenue requirement (exclusive of cost pass through carryovers) over the 2014-19 regulatory control period of \$992.2 million, compared to the \$1 173.4 million proposed by PWC Networks in its revised regulatory proposal. Inclusion of the cost pass through carryover increases these figures to \$1 034.2 million and \$1 215.6 million respectively. The main reasons for the difference between the Commission's final decision and the revised proposal of PWC Networks are:
- the removal of \$18.4 million from PWC Networks' forecast capital expenditure, with two projects totaling \$31.0 million approved as contingent projects (that is, the Mitchell Street switching station project which is forecast to cost \$15.2 million and East Arm substation project which is forecast to cost \$15.8 million);
 - the removal of \$97.0 million from PWC Networks forecast operating expenditure, which includes an unallocated efficiency adjustment of \$78.2 million to bring PWC Networks to the average achieved by its peer DNSPs by the end of the 2014-19 regulatory control period; and
 - a lower WACC of 7.86 per cent than the 9.05 per cent proposed by PWC Networks, due to the adoption of a utilisation of franking credits (gamma) of 50 per cent and a corporate tax rate of 30 per cent, and updating of the WACC parameters based on observed market data.
- 1.70 The Commission has not accepted PWC Networks' revised estimate of the revenue to be recovered in the 2013-14 regulatory year and has substituted its own estimate. This does not affect the total revenue requirement for the 2014-19 regulatory control period but does impact in the X factors underlying the proposed revenue path.
- 1.71 The Commission's calculation of annual revenue requirements and X factors is summarised in Table 1.2.

Table 1.2: Commission's determination on PWC Networks annual revenue requirements and X factors for regulated network access services (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Return on capital		73.01	76.01	76.91	77.24	78.16	381.33
Regulatory depreciation		27.78	30.46	26.52	28.39	30.73	143.88
Operating and maintenance expenditure (a)		100.63	96.74	95.42	90.02	84.19	466.99
Unsmoothed annual revenue requirement		201.41	203.21	198.85	195.64	193.08	992.20
Expected revenues (smoothed revenue)	138.75	177.33	196.47	207.61	208.72	209.85	
Forecast CPI (%)		2.59	2.59	2.59	2.59	2.59	
X factors (%) (a)		- 24.58	- 8.00	- 3.00	2.00	2.00	
Carryover adjustment (2013 cost pass through) (c)		7.18	7.75	8.36	9.02	9.72	42.03
Total unsmoothed annual revenue requirement		208.60	210.96	207.21	204.66	202.80	1 034.23

Expected revenues (smoothed revenue)	138.75	184.74	204.68	216.29	217.45	218.62	
Forecast CPI (%)		2.59	2.59	2.59	2.59	2.59	
X factors (%) ^(b)		- 29.78	- 8.00	- 3.00	2.00	2.00	

Source: Utilities Commission, NTRM

^(a) Operating and maintenance expenditure includes an allowance for debt raising costs.

^(b) Negative values for X indicate real revenue increases under the CPI minus X formula.

^(c) Lower than PWC Networks' revised regulatory proposal due to application of a lower WACC.

Capital contributions principles and methods statement (refer Chapter 15 of this document)

- 1.72 As part of its revised regulatory proposal, PWC Networks submitted a revised draft NCCP, setting out the principles and methods for establishing capital contributions, amended in accordance with the Commission's draft decision.
- 1.73 The Commission approves PWC Networks' capital contribution principles and methods statement for use from 1 July 2014 in accordance with clause 81(3) of the Network Access Code.

Network pricing principles and methods statements and indicative pricing proposal (refer Chapter 16 of this document)

- 1.74 As part of its revised regulatory proposal, PWC Networks submitted a revised draft NPPS and indicative pricing proposal amended in accordance with the Commission's draft decision.
- 1.75 The Commission is unable to approve PWC Networks' NPPS at this time as the draft NPPS may require further amendment following review of PWC Networks' Cost of Supply Model. The Commission will consider the draft NPPS when PWC Networks resubmits it with its proposed reference tariffs for standard network access services which are due by 1 May 2014.

Next Steps

- 1.76 In accordance with clause 78(1) of the Network Access Code, PWC Networks must submit a statement setting out its proposed reference tariffs for the standard network access services it will be supplying during the 2014-15 regulatory year, to apply from 1 July 2014, at least 60 days prior to the start of the 2014-15 regulatory year (that is, by Thursday 1 May 2014).
- 1.77 The Commission must approve the reference tariffs and charges unless, in the opinion of the Commission, the reference tariffs and charges would result in PWC Networks not complying with the requirements of the Network Access Code. If the Commission does not advise PWC Networks within 30 days of receiving the statement that it disapproves the reference tariffs and charges, then the Commission is taken to have approved PWC Networks' proposed reference tariffs and charges.
- 1.78 In requesting information to be satisfied that PWC Networks' proposed reference tariffs and charges comply with the Network Access Code, the Commission has the following authority:
- section 8 of the Network Access Code requires PWC Networks, at all times, to permit the Commission to have access to the accounts and records pertaining to a network access service that the Commission specifies are required for the purpose of making determinations under the Network Access Code; and

-
- section 65(1) of the Network Access Code may be used by the Commission to obtain any forecasts and estimates it requires to perform the functions of approving PWC Networks' NPPS and pricing schedules, and any other information that the Commission reasonably requires for the purpose of performing a function.
- 1.79 In requesting information to be satisfied that PWC Networks' proposed reference tariffs and charges comply with the Network Access Code, PWC Networks must also comply with any request by the Commission to provide information to substantiate its compliance with the NPPS, prior to approval of the proposed reference tariffs and charges, under clause 22 of PWC Networks' network licence.
- 1.80 If the Commission does not approve the reference tariffs and charges, the reference tariffs and charges applying in the immediately preceding regulatory year will apply until the Commission approves the new reference tariffs and charges.
- 1.81 PWC Networks must publish a pricing schedule, incorporating any modifications that the Commission directs, at least 30 days before the reference tariffs and charges are to take effect.

CHAPTER 2

The Regulatory Framework

Background

- 2.1 Retail electricity prices currently paid by retail electricity customers comprise several cost components:
- electricity generation costs;
 - electricity network costs (these costs are the subject of this Final Determination);
 - system operation and control costs; and
 - retail services costs.
- 2.2 The network service provider in the Territory is PWC Networks.
- 2.3 The electricity supply industry in the Territory is regulated by the *Electricity Reform Act*, *Electricity Networks (Third Party Access) Act*, *Utilities Commission Act* and various other regulatory instruments.
- 2.4 This statutory framework was introduced on 1 April 2000 and primarily focuses on regulating the activities of electricity industry participants (including network service providers) and retail customers in relation to the Darwin-Katherine, Alice Springs and Tennant Creek electricity networks. These electricity networks are prescribed electricity networks under section 5 of the *Electricity Networks (Third Party Access) Act*.
- 2.5 Key elements of the statutory framework are:
- third-party access to the prescribed electricity networks (that is, Darwin-Katherine, Alice Springs and Tennant Creek electricity networks);
 - staged introduction of retail contestability, with all retail customers being contestable from 1 April 2010; and
 - the Commission being the independent economic regulator responsible for regulating monopoly electricity services, licensing market participants and enforcing regulatory standards for market conduct and service performance.

The Commission's Authority

Utilities Commission Act

- 2.6 Section 6(1) of the *Utilities Commission Act* states that one of the Commission's functions is to regulate prices charged by government and other businesses for providing certain monopoly services and for providing services in regulated industries as required under relevant industry regulation Acts. The Commission also has the power to do all things that are necessary or convenient to be done in relation to the performance of its functions.
- 2.7 However, in performing its functions under the *Utilities Commission Act*, the Commission must have regard to the principles set out in section 6(2) of the *Utilities Commission Act*. The list of principles includes the need:
- a) to promote competitive and fair market conduct;

- b) to promote economic efficiency;
- c) to ensure consumers benefit from that competition and efficiency;
- d) to protect the interests of consumers with respect to reliability, quality and supply of network services;
- e) to facilitate entry into, and maintain the financial viability of, the network services industry; and
- f) to ensure an appropriate rate of return on PWC Networks' regulated infrastructure assets.

2.8 Sections 20 and 21 of the *Utilities Commission Act* also give the Commission the power to make pricing determinations for electricity networks and regulate prices in any manner that the Commission considers appropriate. However, this power is subject to the *Electricity Networks (Third Party Access) Act*.

Electricity Reform Act

2.9 Section 6 of the *Electricity Reform Act* provides that in addition to the functions of the Commission under the *Utilities Commission Act*, the Commission has the price regulation function and powers conferred by the *Electricity Reform Act*.

2.10 Section 43 of the *Electricity Reform Act*, gives the Commission the power to make determinations regulating the prices for network services. However, this power is subject to the Network Access Code.

Electricity Networks (Third Party Access) Act

2.11 Section 10 of the *Electricity Networks (Third Party Access) Act* provides that the functions of the Commission include:

- monitoring and enforcing compliance with the Network Access Code;
- advising the Minister on the operation of the *Electricity Networks (Third Party Access) Act*; and
- performing any other functions conferred on the Commission by the Network Access Code.

2.12 The Commission also has the power to do all things necessary and convenient to be done in the performance of those functions. However, in doing so, the Commission must comply with the Network Access Code.

2.13 Clause 66 of the Network Access Code makes the Commission responsible for determining the revenue caps or price caps to apply to PWC Networks.

2.14 Clause 66(3) of the Network Access Code narrows the Commission's powers by providing that the Commission must determine the revenue cap or price cap for the 2014-19 regulatory control period in a manner that:

- a) in the Commission's opinion, most effectively achieves the outcomes set out in clause 63; and
- b) is consistent with generally accepted regulatory practice at the time.

2.15 Clause 68 of the Network Access Code also requires the Commission, in setting the revenue cap or price cap, to take into account PWC Networks' revenue requirements during the relevant regulatory control period having regard to a number of factors.

2.16 The Commission has made the 2014 Network Price Determination according to the requirements of the Network Access Code.

Regulatory Requirements

Network Access Code

- 2.17 Chapter 6 of Part 3 of the Network Access Code sets out the price regulation framework which is to apply to the Commission and PWC Networks when setting the revenue cap or price cap to apply to PWC Networks for the supply of regulatory network access services during a regulatory control period.
- 2.18 The price regulation framework makes no specific or statutory distinction between transmission and distribution, with regulated network access services regulated under the Network Access Code including both transmission and distribution services.
- 2.19 As noted above, clause 66(3) of the Network Access Code provides that the Commission must determine the revenue cap or price cap that is to be applied for the 2014 Network Price Determination in a manner that:
- (i) in the Commission's opinion, most effectively achieves the outcomes set out in clause 63; and
 - (ii) is consistent with generally accepted regulatory practice at the time.
- 2.20 Clause 63 of the Network Access Code sets out the objectives of price regulation, which are:
- (a) *efficient costs of supply;*
 - (aa) *expected revenue for a regulated service or services that is at least sufficient to meet the efficient long-run costs of providing that regulated service or services, and includes a return on investment commensurate with the commercial and regulatory risks involved;*
 - (b) *prevention of monopoly rent extraction by the network provider;*
 - (c) *promotion of competition in upstream and downstream markets and promotion of competition in the provision of network services where economically feasible;*
 - (ca) *an efficient and cost-effective regulatory environment;*
 - (d) *regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions;*
 - (e) *reasonable certainty and consistency over time of the outcomes of regulatory processes;*
 - (f) *an acceptable balancing of the interests of the network provider, network users and the public interest; and*
 - (g) *such other outcomes as the regulator determines are consistent with the underlying principles set out in clause 2.*
- 2.21 Clause 68 of the Network Access Code lists the factors that the Commission must take into account when setting the revenue cap or price cap. The list of factors is expressed as an 'exclusive' list rather than an 'inclusive' list and includes demand growth, service standards, provision of an efficient rate of return and recovery of efficient costs.

National Electricity Law

- 2.22 The NEL sets out the functions and powers of the AER, including its role as the economic regulator of utilities operating in the NEM.

- 2.23 Section 16 of the NEL states that when performing or exercising a regulatory function or power, the AER must do so in a manner that will or is likely to contribute to the achievement of the national electricity objective.
- 2.24 The national electricity objective is:¹²
...to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –
 (a) *price, quality, safety, reliability and security of supply of electricity; and*
 (b) *the reliability, safety and security of the national electricity system.*
- 2.25 In performing or exercising its regulatory functions or powers, the AER must also ensure that the regulated DNSP to which a determination applies and any affected registered participants are, in accordance with the NEL:¹³
 (i) *informed of material issues under consideration by the AER; and*
 (ii) *given a reasonable opportunity to make submissions in respect of that determination before it is made.*
- 2.26 Section 7A of the NEL also specifies the revenue and pricing principles that the AER must take into account in making a determination in relation to direct control services.

National Electricity Rules

- 2.27 Chapter 6 of the NEL sets out the provisions that the AER must apply in exercising its regulatory functions and powers relating to the economic regulation of distribution services.
- 2.28 In particular, Chapter 6 requires the AER to make a distribution determination predicated on the constituent decisions set out in clause 6.12.1 of the NEL.
- 2.29 A building block determination is a component of a distribution determination and must specify the following matters:¹⁴
 (i) *the Distribution Network Service Provider's annual revenue requirement for each regulatory year of the regulatory control period;*
 (ii) *appropriate methods for the indexation of the regulatory asset base;*
 (iii) *how any applicable efficiency benefit sharing scheme, capital expenditure sharing scheme, service target performance incentive scheme, demand management incentive scheme or small-scale incentive scheme are to apply to the Distribution Network Service Provider;*
 (iv) *the commencement and length of the regulatory control period; and*
 (v) *any other amounts, values or inputs on which the building block determination is based (differentiating between those contained in, or inferred from, the service provider's building block proposal and those based on the AER's own estimates or assumptions).*

¹² NEL section 7.

¹³ NEL section 16.

¹⁴ NEL clauses 6.3.1 and 6.3.2.

Authority to adopt the NER in the 2014 Network Price Determination

- 2.30 The Commission has a broad authority under Chapter 6 of the Network Access Code to make revenue cap determinations for regulated network access services.¹⁵ This broad authority alone permits the inclusion of NER conventions, rules and procedures in the 2014 Network Price Determination.
- 2.31 However, clause 66(3) of the Network Access Code gives the Commission the authority to include NER conventions, rules and procedures in the 2014 Network Price Determination. More importantly, clause 66(3) of the Network Access Code actually requires the Commission to include NER conventions, rules and procedures in the 2014 Network Price Determination if:
- (i) those conventions, rules and procedures are consistent with other applicable Territory laws; and
 - (ii) the Commission believes that those conventions, rules and procedures are the most effective way of achieving the desired outcomes set out in clause 63 of the Network Access Code.
- 2.32 The Commission has formed the view that Chapter 6 of the NER represents 'generally accepted regulatory practice' with respect to the conventions, rules and procedures applying to the economic regulation of electricity distribution network businesses in Australia at this point in time.
- 2.33 The Commission has also formed the view that adopting NER conventions, rules and procedures (for example, the NER cost pass through and contingent project rules) in the 2014 Network Price Determination is the most effective way of achieving the desired outcomes set out in clause 63 of the Network Access Code.

Commission's Approach to the 2014 Network Price Determination

Framework Statement

- 2.34 In its Framework Statement for the 2014 Network Price Determination, the Commission made clear its intention to apply, where practicable, the conventions, rules and procedures used by the AER as specified in Chapter 6 of the NER.
- 2.35 This intention was predicated on confirming that the specific requirements of the NER were not inconsistent with the Network Access Code and confirming that PWC Networks had the capability of meeting those requirements. Where PWC Networks lacked such capability, the Framework Statement indicated that the Commission would modify the NER requirements so they could be met by PWC Networks.
- 2.36 The Commission acknowledged in the Framework Statement that resourcing constraints and economies of scale meant that full adoption of the NER conventions, rules and procedures might not be practicable at this point. However, the Commission's longer term objective is to require full compliance with NER conventions, rules and procedures in the Post 2019 Network Price Determination.

¹⁵ Clause 66, Network Access Code

Stakeholder views and Commission response

- 2.37 Underlying the Commission's stated intention to apply the provisions of the NER was a belief that the information systems of PWC Networks were now sufficiently well-developed as to enable the building block approach to be applied to PWC Networks.
- 2.38 In the Commission's two previous network price determinations, this was not possible but the Commission's consistent position has been that the building block approach should become the standard technique for network price determinations in the Territory. This position has strong stakeholder support, particularly because it will provide stronger incentives for efficiency gains within PWC Networks than other approaches.
- 2.39 The approach used by the AER in applying the building blocks technique to distribution determinations, as required by Chapter 6 of the NER, is widely acknowledged as representing industry best practice in Australia. While the regulated electricity networks in the Territory have some different characteristics from those in other parts of Australia, the basic approach remains applicable. In consultation leading to finalisation of the Framework Statement, there was general stakeholder support for this approach.
- 2.40 In particular, support for application of the NER came in a submission from the Treasurer in November 2013 which indicated his agreement with the Commission's decision to adopt:
- ...where practicable and feasible, the approach used by the Australian Energy Regulator and the application of those parts of Chapter 6 of the NER ... that are consistent with the Network Access Code.*
- 2.41 The Treasurer also noted that the Commission's approach to the 2014 Network Price Determination would assist in facilitating a recent Government decision to transfer responsibility for economic regulation of electricity networks in the Territory to the AER.
- 2.42 However, PWC Networks, in its initial regulatory proposal, argued:
- ...that regulatory practice makes it incumbent upon the Commission to demonstrate that there is a positive net benefit from the regulatory changes it proposes, rather than assuming that the NEM framework and AER reporting is best practice or appropriate and placing the onus on Power Networks and stakeholders to demonstrate otherwise.*
- 2.43 Ultimately there is little disagreement between stakeholders on the fundamentals of this matter. Chapter 6 of the NER and the AER's approach to the economic regulation of electricity distribution network businesses in Australia clearly represents 'generally accepted regulatory practice' at this point in time with respect to the conventions, rules and procedures applying to the economic regulation of electricity distribution network businesses in Australia. Accordingly, the Commission is obliged to include those NER conventions, rules and procedures in the 2014 Network Price Determination that are not inconsistent with other applicable Territory laws.
- 2.44 The Commission has worked closely with PWC Networks in considering the application of specific provisions of Chapter 6 of the NER and consulted with the AER on the matter. The Commission has also been sensitive to the resourcing constraints and economies of scale faced by PWC Networks, which make full adoption of the NER approach impracticable for the 2014 Network Price Determination.

- 2.45 As outlined in this Statement of Reasons, substantial modifications have been made to the AER's approach under Chapter 6 of the NER to accommodate PWC Networks' constraints. Notably, a pre-tax (rather than post-tax) approach has been adopted, cost allocation requirements have been substantially altered and the Commission has not sought to apply any of the AER's incentive schemes to PWC Networks at this point in time.
- 2.46 In addition, the Commission has significantly lessened the information requirements generally imposed by the AER on network service providers in recognition of PWC Networks' current capacity to provide information. The Commission also provided PWC Networks with a significantly longer period than allowed for by the AER in which to prepare and submit its full regulatory proposal, and allowed PWC Networks to submit the information supporting its regulatory proposal in stages.
- 2.47 The Commission also worked with PWC Networks to identify where gaps exist in PWC Networks' information systems to collect the information generally required by the AER. This will be important going forward as it is the Commission's expectation that for the Post 2019 Network Price Determination, PWC Networks will be required to comply with the AER's information requirements.
- 2.48 The Commission notes that the information required for regulatory purposes is similar to that required for business purposes, where good management decisions rely on the same detailed information as that required for regulatory decision-making. Accordingly, the information management systems being designed for PWC Networks' regulatory purposes should also be utilised for its business purposes.

Scope of the 2014 Network Price Determination

- 2.49 As set out in the Commission's Framework Statement, the 2014 Network Price Determination comprises a single building block covering all regulated network access services provided by PWC Networks, applying, where appropriate, the provisions of Chapter 6 of the NER and the conventions, rules and procedures generally applied by the AER.

Review Process

- 2.50 The Commission has reviewed PWC Networks' regulatory proposal in accordance with the requirements of the Network Access Code, having regard to the review process outlined in Part E of Chapter 6 of the NER. To date, this process has involved:
- Framework and approach - The Commission consulted with PWC Networks and interested parties about the development of the framework and approach, with respect to the classification of incentive services, control mechanism and application of schemes. The Framework Statement was published in November 2012, generally in accordance with the timeframe and requirements prescribed in clause 6.8.1 of the NER.
 - Pre-consultation - The Commission consulted with PWC Networks about the development of the regulatory information notice, including the pro forma templates.
 - Regulatory proposal - PWC Networks submitted its regulatory proposal to the Commission on 16 September 2013. The Commission assessed PWC Networks' regulatory proposal against the requirements of the Network Access Code having regard to Chapter 6 of the NER and the AER's conventions, rules and procedures (including relevant guidelines).

- Public consultation - On 19 September 2013, the Commission published PWC Networks' initial regulatory proposal and called for submissions from interested parties.
- Submissions - The Commission received five submissions on PWC Networks' initial regulatory proposal. The submissions are listed in Appendix C.
- Assessment by technical experts - The Commission engaged PB as a technical expert to advise the Commission on a number of key aspects of the regulatory proposal, including a review of PWC Networks' demand forecasts, proposed capital expenditure and proposed operating and maintenance expenditure.
- Other specialist advice - The Commission also engaged:
 - Ernst & Young to provide advice in developing the NTRM and the (confidential) regulatory templates that accompanied the information submitted to the Commission by PWC Networks in response to the RIN;
 - Primrose and Associates to provide high-level overview advice on the 2014 Network Price Determination; and
 - Deloitte to provide advice on PWC Networks' proposed network capital contributions principles and methods statement and network pricing principles statement.
- Draft decision – The Draft Determination was released on 23 December 2013 and the Commission requested submissions from interested parties.
- Revised regulatory proposal – PWC Networks submitted its revised regulatory proposal to the Commission on 28 January 2014. The Commission published PWC Networks' revised regulatory proposal on 4 February 2014 and called for submissions from interested parties.
- Submissions - The Commission received four submissions on its Draft Determination and PWC Networks' revised regulatory proposal. The submissions are listed in Appendix C.
- Assessment by technical experts - The Commission engaged PB as a technical expert to advise it on the proposed capital expenditure and proposed operating and maintenance expenditure components of PWC Networks' revised regulatory proposal.
- Other specialist advice - The Commission also engaged
 - Deloitte to provide advice on PWC Networks Pricing Model;
 - Primrose and Associates to provide high-level overview advice on the 2014 Network Price Determination; and
 - Minter Ellison Lawyers to provide legal advice on the Commission's legal authority and aspects of the NER.
- Decision – The Commission made the 2014 Network Price Determination for PWC Networks on 22 April 2014.

Structure of this Statement of Reasons

2.51 This document sets out the Commission's basis and rationale for the 2014 Network Price Determination as follows:

- Chapters 3 and 4 address the classification of PWC Networks' network access services and the control mechanisms to apply to PWC Networks' regulated network access services; and
- Chapters 5 to 14 relate to key elements of the building block calculation.

2.52 The Network Access Code also requires the Commission to approve the statements submitted by PWC Networks which set out the principles and methods to be used for establishing capital contributions¹⁶ and the principles and methods to be used for defining the individual standard network access services PWC Networks will supply and establishing the reference tariffs that will apply to those services¹⁷. These are additional Territory specific requirements and are addressed in Chapters 15 and 16.

¹⁶ Network Access Code clause 81(2).

¹⁷ Network Access Code clause 75(5).

CHAPTER 3

Classification of Services

Introduction

- 3.1 This chapter sets out the Commission's classification of PWC Networks' network access services for the 2014-19 regulatory control period. It draws on the Commission's Framework Statement.¹⁸

Regulatory Requirements

Network Access Code

- 3.2 The Network Access Code provides that a revenue cap or price cap applies only to regulated network access services.¹⁹ Regulated network access services are all the network access services supplied by a network service provider other than those specified by the Commission as excluded network access services under clause 72 of the Network Access Code.²⁰
- 3.3 Clause 72 of the Network Access Code provides that
- (1) *The excluded network access services, being those services for which the associated costs and revenue are excluded from the revenue or price cap, are to be determined by the regulator (when the regulator determines the network revenue caps) in a manner consistent with clause 6(3) of the Competition Principles Agreement.*
- 3.4 Excluded network access services are then further classified into the following two types:
- (2) *Excluded network access services not subject to any price regulation relate to services:*
- (a) *the supply of which, in the assessment of the regulator, is subject to effective competition; and*

¹⁸ The Framework Statement and PWC Networks' regulatory proposals refer to regulated network access services and excluded network access services using the terminology that would be used to classify those services under the NER. For the purposes of the 2014 Network Price Determination, the Commission has taken the view that:

- regulated network access services would be classified as 'standard control services' under the NER and should therefore be regulated in a manner which is consistent with the requirements of Chapter 6 of the NER that apply to standard control services;
- the requirements of Chapter 6 of the NER that apply to standard control services represent generally accepted regulatory practice with respect to the economic regulation of regulated network access services at this time; and
- excluded network access services would not be classified as standard control services under the NER.

¹⁹ Network Access Code clause 67.

²⁰ Network Access Code clause 3.

- (b) *the cost of which, in the assessment of the regulator, can be satisfactorily excluded from the cost base (including all asset-related costs) used for the purpose of calculating the revenue or price cap applying to regulated network access services.*
 - (3) *Excluded network access services which, in the regulator's opinion, do not lend themselves to being regulated by the price control mechanisms set out in Chapters 6 and 7 relate to services:*
 - (a) *the supply of which, in the assessment of the regulator, is not subject to effective competition; and*
 - (b) *the cost of which, in the assessment of the regulator, cannot be satisfactorily included in the cost base (including all asset-related costs) used for the purpose of calculating the revenue or price cap applying to regulated network access services.*
- 3.5 Any network access service that is not specifically classified by the Commission as an excluded network access service is a regulated network access service covered by the revenue cap or price cap.

National Electricity Rules

- 3.6 The NER defines a distribution service as a service provided by means of or in connection with a distribution system (which is a distribution network, together with the connection assets, which is connected to another transmission or distribution system).²¹
- 3.7 Clause 6.2.1 of the NER allows the AER to classify a distribution service as either a direct control service or a negotiated distribution service. If the AER decides not to classify a distribution service, the service is not regulated under Chapter 6 of the NER.
- 3.8 Clause 6.2.2(a) of the NER then provides for direct control services to be further classified as either standard control services or alternative control services.

Framework Statement

- 3.9 The Commission's Framework Statement proposed the adoption of the AER's approach of classifying a class of activities, rather than the specific activities, allowing the specific definition or magnitude of services to change while maintaining the desired classification. The intention of this classification was to allow PWC Networks to flexibly alter the exact specification (but not the nature) of a service during the 2014-19 regulatory control period.
- 3.10 The Commission grouped PWC Networks' services and applied a NER classification for each group as shown in Table 3.1 below.

²¹ NER Chapter 10.

Table 3.1: Commission's preliminary position on the classification of services for the 2014 Network Price Determination

Service grouping	Negotiated distribution services	Direct control services – standard control services	Direct control services – alternative control services
Network services	Nil	Network services at mandated standard Energy-only service for public lighting	Above standard or non-standard network services
Connection services	Nil	Connection services at mandated standard	Above standard or non-standard connection services New or upgraded connection services (to the extent the user is required to make a financial contribution)
Metering services	Nil	Metering services at the mandated standard	Above standard or non-standard metering services
Fee-based services	Nil	Nil	Disconnection and reconnection Temporary supply services – low voltage Fault response – not network service provider's fault Wasted attendance Provision, construction and maintenance of street lighting assets Non-standard data services Installation of minor equipment to network assets (eg Tiger Tails) Cable location services Unscheduled metering services – chargeable
Quoted services	Nil	Nil	High load transport escorts Covering of low voltage mains Rearrangement of network assets Ancillary metering services Supply enhancement Metering enhancement Emergency recoverable works Supply abolishment Temporary supply services – high voltage Rectifying illegal connections Unmetered supply services

PWC Networks' Initial Regulatory Proposal

3.11 PWC Networks stated that its initial regulatory proposal had been prepared consistently with the classification of services set out in the Commission's Framework Statement with the addition of the following new excluded network access services:

- investigation and testing services;

- provision of non-standard street light assets; and
 - provision of network capacity in excess of Network Technical Code requirements.
- 3.12 PWC Networks also proposed that a number of excluded network access services be changed from fee-based services to quoted services.
- 3.13 PWC Networks' proposed classification of services was provided in Attachment 4 to its initial regulatory proposal and included comprehensive descriptions of the activities in the each service group. This included some additional changes to activity descriptions for which no explanation was provided in the initial regulatory proposal.

Submissions on Initial Regulatory Proposal

- 3.14 The NTMEU indicated that it did not support the introduction of a new excluded network access service (referred to as an 'alternative control service') for a power factor below the level set by the Network Technical Code requirements, arguing that the proposed approach was:
- inefficient, with better approaches used in other networks to address the problem of low power factor;
 - inequitable, applying only to large retail customers with appropriate metering; and
 - likely to be difficult for some retail customers to understand and respond to.
- 3.15 The NTMEU also raised concerns about the use of quotations for a significant number of excluded network access services, noting that some will be imposed on retail customers with an insufficient understanding about how power systems operate and an inability to fully appreciate the implications of PWC Networks' new requirements.
- 3.16 No other submissions were received on the classification of services.

Issues and Commission's Initial Considerations

- 3.17 Classification of services is the key area where the requirements of the Network Access Code differ from the requirements of the NER.
- 3.18 While some service classification categories broadly align, there are some key differences. In particular, under the NER:
- any service that is not classified as either a direct control service or a negotiated distribution service defaults to an unregulated service, while by contrast, under the Network Access Code, any network access service that is not classified as an excluded network access service is, by default, included as a regulated network access service under the revenue cap or price cap; and
 - services are classified on the basis of the potential for development of competition, effects on administrative costs and the extent to which the costs of providing the service are directly attributable to the person to whom the service is provided, while by contrast, the focus of the Network Access Code is whether the costs of an excluded network access service can, in the assessment of the Commission, be satisfactorily excluded from the cost base for the revenue cap or price cap.

Fee-based and quoted alternative control services

- 3.19 PWC Networks distinguishes between excluded network access services (described as 'alternative control services') that are provided based on a schedule of fees and those excluded network access services that are provided on a quoted basis (that is, excluded network access services for which the nature and scope cannot be known in

advance irrespective of whether they are retail customer requested or triggered by an external event).

- 3.20 This distinction is relevant under the NER, where the AER determines price controls for alternative control services.
- 3.21 However, under the Network Access Code, the Commission does not determine price controls for excluded network access services. Rather, for those excluded network access services that, in the Commission's assessment, are not subject to effective competition²² (and which are similar types of services to alternative control services) PWC Networks is required to provide these services to network users on fair and reasonable terms.
- 3.22 Only if PWC Networks and the network user cannot reach agreement does the Commission have a role in determining what constitutes fair and reasonable terms.
- 3.23 The NTMEU expressed concern about the use of quotations for the provision of services, noting that:
- the use of quotations for provision of services implies that those receiving the quotations have an understanding of what is a reasonable cost in the circumstances and that PWC will not abuse the process to over-recover costs.(page.18)*
- 3.24 The Commission noted the NTMEU's concerns but concluded that it had no basis to consider that PWC Networks was abusing the process. The Commission noted that its ability to scrutinise the prices for these services was limited in the absence of a specific network user complaint.

Proposed classifications

- 3.25 The Commission considered that most of the service classifications proposed by PWC Networks were reasonable. The exceptions are discussed below.

Above standard or non-standard connection services

- 3.26 PWC Networks added some additional activity descriptors to this service group:
- supply enhancement;
 - supply abolishment; and
 - ancillary connection services, which includes:
 - responding to enquiries in relation to the provision of the non-standard connection;
 - provision of technical specifications in relating to the connection;
 - provision of duplicate supply; and
 - preliminary communications with networks user where more than six hours work is required.
- 3.27 The Commission considered that supply enhancement was captured within the existing activity descriptors, as supply enhancement would constitute an above standard connection or an upgraded connection service.
- 3.28 It was not clear from the information provided by PWC Networks that supply abolishment of an above standard, non-standard or upgraded connection would impose greater costs on PWC Networks than supply abolishment of a standard

²² Network Access Code clause 72(3).

connection. The Commission amended this descriptor to clarify that only additional costs incurred could be recovered.

- 3.29 The Commission was satisfied that including ancillary connection services as described by PWC Networks was reasonable.

Above standard or non-standard metering services

- 3.30 PWC Networks added some additional activity descriptors to this service group, notably:

- ancillary metering services, which include:
 - provision of ancillary metering or metering of a type that exceeds normal requirements of a user;
 - installation and commissioning of non-standard metering and associated equipment;
 - periodic testing of additional or non-standard metering equipment; and
 - maintenance and replacement of non-standard metering assets;
- metering enhancement; and
- unmetered supply services.

- 3.31 The ancillary metering services specified by PWC Networks were the same services as those supplied in relation to standard metering.

- 3.32 It was not clear from the information provided by PWC Networks that providing these services with respect to an above standard or non-standard metering service would impose greater cost on PWC Networks than for a standard connection. The Commission amended this descriptor to clarify that only additional costs incurred could be recovered.

- 3.33 The Commission considered that metering enhancement was captured within the existing activity descriptors, as metering enhancement would constitute an above standard connection or an upgraded metering service.

Equipment rental charges for non-network purposes

- 3.34 PWC Networks proposed a new excluded network access service for equipment rental charges for non-network purposes. This would include use of PWC Networks poles or other conduits by communications or other services.

- 3.35 As this service is not a network service, the Commission considered that it should be classified as an excluded network access service under clause 72(2) of the Network Access Code.

Connection point services

- 3.36 PWC Networks proposed a new excluded network access service for connection point services associated with:

- non-compliance of a network user with the connection agreement; and
- services or extensions required to connect a network user and meet the requirements of the Network Technical Code.

- 3.37 Recouping of costs arising from a network user's non-compliance with contractual arrangements should be dealt with as part of those contractual arrangements.

- 3.38 The Commission considered that services or extensions required to connect a network user were captured as part of the standard connection service (that is, a regulated network access service) or an above standard connection or an upgraded connection service (that is, an excluded network access service).

- 3.39 The Commission did not consider that connection point services should be included as a separate excluded network access service.

Investigation and testing services

- 3.40 PWC Networks proposed a new excluded network access service to make specialised test equipment and trained staff available as a service to retail customers to rent or for in-house electrical testing and investigation, as required by retail customers. Provision of equipment and/or personnel would be on an 'as available' basis when not needed in relation to the provision of regulated network access services.
- 3.41 As this service is not a network access service, the Commission considered that this should be classified as an excluded network access service under clause 72(2) of the Network Access Code.

Provision of non-standard street light assets

- 3.42 PWC Networks proposed a new excluded network access service for the provision of non-standard street light services. This was proposed to be a quoted service for non-standard street lights, with a fee-based excluded network access service proposed for the provision, construction and maintenance of standard street lights.
- 3.43 As discussed above, distinguishing between excluded network access services which are provided based on a schedule of fees and those which are provided on a quoted basis is not required for the purposes of determining excluded network access services under the Network Access Code.
- 3.44 However, to facilitate alignment with the requirements of the NER, the Commission stated that it would continue to separately specify these excluded network access services.
- 3.45 The Commission was satisfied that a specific excluded network access service for provision of non-standard street lights as described by PWC Networks was reasonable.

Administrative services – miscellaneous

- 3.46 PWC Networks proposed a new excluded network access service for the provision of administrative services. PWC Networks explained this fee by providing examples of activities that would attract a charge such as arranging permits for high load transport escorts and an application for a connection fee for new or upgraded supply.
- 3.47 As PWC Networks intends to provide high load transport escorts as a quoted service, the Commission considered that a pass through of any fees incurred by PWC Networks in arranging permits should be incorporated in this existing charge.
- 3.48 With respect to the second example provided by PWC Networks, the Commission did not consider that an application for connection fees in addition to the charge for providing connection services was warranted.
- 3.49 For these reasons, the Commission did not consider that administrative services - miscellaneous should be an excluded network access service.

Travel costs

- 3.50 PWC Networks proposed a new excluded network access service for travel costs to attend rural locations.
- 3.51 The Commission was satisfied that a specific service providing for the recovery of excessive travel costs was reasonable, but was concerned that PWC Networks use of

'rural locations' did not accurately describe the determinant of excessive cost. For example, the area commonly referred to as the 'Darwin rural area' includes locations within 50km of the CBD. The Commission amended this descriptor to clarify that only travel in excess of 100km from the relevant PWC Networks depot would incur additional travel costs. The Commission understood that this was consistent with current practice.

Provision of network capacity in excess of Network Technical Code requirements

- 3.52 PWC Networks proposed a new excluded network access service for provision of network capacity in excess of Network Technical Code requirements.
- 3.53 The Commission considered that PWC Networks had not justified:
- why this network access service should be an excluded network access service, given that the recovery of extension costs are recovered through the revenue cap for regulated network access services; and
 - that the proposal to charge as a fee-based excluded network access service is appropriate, given that the fee is effectively a penalty for a non-compliant power factor and an incentive pricing signal rather than cost-recovery for the provision of a separate excluded network access service.
- 3.54 The Commission stated that for a network access service to be determined to be an excluded network access service, the Network Access Code required the Commission to be satisfied that the costs associated with that service could be excluded from the cost base used for the purpose of calculating the revenue cap. The Commission was not satisfied that the specific costs of a low power factor of a specific retail customer could be identified.
- 3.55 The NTMEU also raised concerns regarding equity considerations, noting that determining whether a network user has a low power factor is dependent on the network user having appropriate metering to allow measurement to occur:
- This means that only consumers that have appropriate metering will be exposed to the alternative control service fee even though there will be many others with low power factors which can't be measured but still have a similar impact on the network carrying capacity. This is inequitable. (page.17)*
- 3.56 For these reasons, the Commission did not consider that provision of network capacity in excess of Network Technical Code requirements should be an excluded network access service. Therefore this network access service was classified as a regulated network access service.

Commission's Draft Decision

- 3.57 The Commission's decision in the Draft Determination was to accept the classification of services proposed by PWC Networks with specific exceptions.
- 3.58 The specific exceptions were:
- amendment of the descriptor for above standard or non-standard connection services to clarify that only additional costs incurred above those for a standard connection service could be recovered;
 - amendment of the descriptor for above standard or non-standard metering services to clarify that only additional costs incurred above those for a standard metering service could be recovered;
 - amendment of the descriptor for additional travel costs to clarify that only travel in excess of 100km from the relevant PWC Networks depot would trigger the requirement to pay additional travel costs;

- classification of equipment rental charges for non-network purposes as an excluded network access service under clause 72(2), rather than under clause 72(3);
 - classification of investigation and testing services as an excluded service under clause 72(2), rather than under clause 72(3);
 - that the proposed new excluded network access service for administrative services - miscellaneous was not approved; and
 - that the proposed new excluded network access service for provision of network capacity in excess of Network Technical Code requirements was not approved.
- 3.59 The Commission's decision on excluded network access services was set out in Appendix A of the Draft Determination.

PWC Networks' Revised Regulatory Proposal

- 3.60 PWC Networks accepted the classification of services set out in the Draft Determination except for the Commission's decision not to classify the proposed excluded network access service for the provision of network capacity in excess of Network Technical Code requirements. PWC Networks also made some modifications to the service descriptions to provide further clarification for retail customers and improve transparency and certainty.
- 3.61 PWC Networks' revised regulatory proposal advised that the power factor of loads on the electricity network has a significant impact on the network capacity that needs to be provided to maintain supply. PWC Networks provided an example that a non-compliant retail customer with a low power factor of 0.7 presents a total power demand that is 29 per cent greater than that of a compliant retail customer with a power factor of 0.9, with each component of the electricity network (low and high voltage) required to be designed to accommodate the additional demand. PWC Networks also added that electrical losses in the electricity network are proportional to the square of the load and the non-compliant retail customer would contribute 65 per cent more electricity network losses.
- 3.62 PWC Networks recognised that power factor correction for small retail customers is usually not economic but correction for large retail customers is a cost effective solution as it reduces the demand placed on the electricity network at each upstream level.
- 3.63 PWC Networks noted that the proportion of large retail customers that have a power factor lower than the Network Technical Code requirement is significant. PWC Networks advised that while PWC Networks already has kVA tariffs, the financial incentive for non-compliant retail customers to reduce their power factor is insufficient and a small fraction of the costs the retail customers impose on the electricity network.
- 3.64 PWC Networks noted that experience in the NEM suggests that power factor improvements have only been obtained as a result of direct negotiation with the retail customers concerned or, as in the case of SA Power Networks, through the use of an excess kVA charge.
- 3.65 PWC Networks' revised regulatory proposal noted that the proposed kVA tariffs was not designed to recover the costs of extension, but rather seeks to avoid imposing extension costs on all retail customers through standard network access service charges, by providing sufficient incentive for a non-compliant retail customer to comply with the Network Technical Code requirements.

- 3.66 PWC Networks' revised regulatory proposal noted that costs associated with the provision of excess reactive power can be identified on an average basis, and while the costs are material, they are an average across all retail customers. PWC further noted that while specific costs cannot be readily identified as a component of PWC Networks' cost base, they were unlikely to be material and should not preclude the charge for provision of network capacity in excess of Network Technical Code requirements being an excluded network access service.

Submissions on Draft Determination and Revised Regulatory Proposal

- 3.67 The Commission received two submissions in relation to the classification of public lighting (street lighting).
- 3.68 The submission from the LGANT supported PWC Networks' proposal to establish a separate unmetered public lighting tariff but raised concerns that the tariff would not be cost-reflective and PWC Networks should be required to establish a cost reflective charge for unmetered street lighting that recognises its unique characteristics (including that it is predominately off-peak with a flat load when in operation).
- 3.69 LGANT also raised the issue of classification and that the transition to NER classifications and supported street lighting being classified as a 'negotiated distribution service' under the NER. In support of its view, LGANT advised that classification of street lighting as a negotiated distribution services allowed flexibility of both service provision and price, a critical consideration due to the increasing changes in technology and related services.
- 3.70 The submission from TTEG also focused on the classification and form of price control for public lighting. TTEG noted the Commission's classification of street lighting as an excluded network access which required PWC Networks and its retail customers to negotiate on services and costs. TTEG purported that with references to the NER, street lighting would be considered a 'negotiated distribution service'.

Issues and Commission's Further Considerations

- 3.71 The Commission notes that previous use of the term 'alternative control services' has caused confusion. The correct terminology under the Network Access Code is 'excluded network access services'. The correct terminology has been used for this Final Determination. Any previous references to alternative control services should be taken as references to excluded network access services.
- 3.72 In relation to the submissions from LGANT and TTEG, charges for street lighting as an excluded network access service (either subject to competition or not) are outside of the scope of the Commission's authority for the purposes of making the 2014 Network Price Determination.
- 3.73 The only authority the Commission has is to determine whether costs associated with an excluded network access service can be excluded from revenue cap or price cap. The Commission considers that costs relating to the repair and maintenance of street lighting costs can be appropriately separated from the revenue cap or price cap. The Commission notes that use of the system charge for delivery of energy to street lighting is a regulated networks access service included in the revenue cap.
- 3.74 While the Commission agrees that a charge for provision of network capacity in excess of Network Technical Code requirements is a reasonable management tool to control demand, the Commission is not satisfied that costs associated with providing

reactive power (that is, avoiding augmentation of the electricity network) can be excluded as part of the revenue cap or price cap or that the kVAr costs associated with the excess capacity can be identified and excluded.

- 3.75 PWC Networks noted that the cost of providing network capacity in excess of the Network Technical Code requirements during the 2014-19 regulatory control period cannot be identified as a component of the cost base for the purposes of calculating the revenue cap or price cap applying to regulated network access services. In accordance the Network Access Code, the Commission is not able to determine that the charge for the provision of network capacity in excess of Network Technical Code requirements (which is an excluded network access service for the purposes of the 2014 Network Price Determination).

Commission's Final Decision

- 3.76 The Commission's service classification remains consistent with its Draft Determination and is set out in Appendix A. Some modifications have been made to the service descriptions to improve transparency and certainty.
- 3.77 The Commission's determination on PWC Networks' excluded network access services is set out in Schedule 3 of the 2014 Network Price Determination.

CHAPTER 4

Control Mechanism for Regulated Network Access Services

Introduction

- 4.1 A network price determination imposes controls over the tariffs and charges, and revenues, that a network service provider may recover from providing regulated network access services.
- 4.2 The Commission's Framework Statement, consistent with clause 6.8.1 of the NER, set out the control mechanism that will apply to the provision of regulated network access services by PWC Networks during the 2014-19 regulatory control period. The control mechanism for regulated network access services is a revenue cap of the prospective CPI minus X form.
- 4.3 This chapter discusses how the control mechanism will be applied and sets out how the Commission will monitor compliance with the control mechanism during the 2014-19 regulatory control period.

Regulatory Requirements

Network Access Code

- 4.4 Clause 66(1) of the Network Access Code makes the Commission responsible for determining the revenue cap or price cap to apply to PWC Networks with regard to its electricity network.
- 4.5 For the 2014-19 regulatory control period, the revenue cap or price cap that is to apply to PWC Networks is to be determined by the Commission in a manner that:
- (a) *in the regulator's opinion, most effectively achieves the desired outcomes set out in clause 63; and*
 - (b) *is consistent with generally accepted regulatory practice at the time.*²³
- 4.6 A revenue cap or price cap applies only to reference tariffs and other charges for regulated network access services.

National Electricity Rules

- 4.7 Clause 6.12.1 the NER requires the AER to make the following constituent decisions relating to the form of control mechanism for standard control services:
- a decision on the control mechanism (including the X factor) for standard control services (NER clause 6.12.1(11)); and
 - a decision on how compliance with the relevant control mechanism is to be demonstrated (clause 6.12.1(13)).

²³ Network Access Code clause 66(3).

- 4.8 Clause 6.2.5(b) of the NER provides that the control mechanism may consist of:
- (1) *a schedule of fixed prices; or*
 - (2) *caps on the prices of individual services; or*
 - (3) *caps on the revenue to be derived from a particular combination of services; or*
 - (4) *tariff basket price control; or*
 - (5) *revenue yield control; or*
 - (6) *a combination of any of the above.*
- 4.9 Clause 6.2.5(c) lists the matters to which the AER must have regard in deciding on a control mechanism for standard control services.
- 4.10 Clause 6.18.6 of the NER sets a side constraint of 2 per cent on the amount that weighted average revenue to be raised from a tariff class can be increased from one regulatory year to the next regulatory year.

Framework Statement

- 4.11 In its Framework Statement, the Commission set out the control mechanism that would apply to regulated network access services provided by PWC Networks during the 2014-19 regulatory control period. This mechanism is a revenue cap of the prospective CPI minus X form on the basis that:
- electricity network costs are largely fixed, and given that the effect on demand of foreshadowed increases in retail prices is largely unknown at this time (which makes robust demand forecasting difficult), a revenue cap is more likely to provide PWC Networks with sufficient revenue, but no more;
 - while a revenue cap can lead to more price volatility, price signals to most retail customers in final retail prices are constrained by the imposition of the Territory Governments' Electricity Pricing Order; and
 - it is consistent with current views of the AER and expected future direction in the NEM.
- 4.12 A side constraint would also be applied such that the weighted average network tariff for each individual retail customer for a particular regulatory year of the regulatory control period is not to exceed the corresponding weighted average network tariff for that individual retail customer for the preceding regulatory year by more than a permissible percentage of 2 per cent.
- 4.13 An unders and overs account would monitor any variation between the annual revenue requirement and the actual revenue collected by PWC Networks. A notional interest charge, or interest credit (as appropriate), would be approved by the Commission and applied to the cumulative balance at the end of each regulatory year.
- 4.14 The Framework Statement also provided for tolerance margins to be applied in adjusting future regulatory year reference tariffs for under or over recoveries compared to the relevant annual revenue requirement.

PWC Networks' Initial Regulatory Proposal

Form of Control

- 4.15 PWC Networks proposed a revenue cap control mechanism, of a CPI minus X form for its regulated network access services, consistent with the Commission's Framework Statement. The building blocks that make up PWC Networks' revenue cap (or annual revenue requirement) are discussed in Chapter 14.

Application of the Revenue Cap

- 4.16 PWC Networks proposed annual adjustments to its annual revenue requirement for:
- any under or over recoveries related to regulated network access service revenues; and
 - any cost pass throughs approved by the Commission during the 2014-19 regulatory control period.

Under/over Recoveries

- 4.17 PWC Networks proposed an approach to the treatment of under or over recoveries related to regulated network access service annual revenues for the 2014-19 regulatory control period in accordance with the Commission's Framework Statement.
- 4.18 Under this approach, the balance of the unders and overs account was to be assessed at the end of each regulatory year (based on two year lagged data). The balance of the unders and overs account would be adjusted for the time value of money (that is, indexed by the nominal WACC) and an adjustment made to the PWC Networks' annual revenue requirement in the next regulatory year to offset the balance.
- 4.19 PWC Networks proposed that the size of the adjustment to its annual revenue requirement for under or over recoveries would depend on tolerance limits consistent with those set out in the Commission's Framework Statement, specifically:
- less than 2 per cent – PWC Networks proposed that the under or over recovery would be cleared within one regulatory year;
 - between 2 per cent and 5 per cent – PWC Networks proposed the under or over recovery could be spread over two regulatory years; and
 - greater than 5 per cent – PWC Networks proposed to submit a plan to the Commission detailing how it proposes to clear the balance.

Side Constraint

- 4.20 PWC Networks proposed that the side constraint formula for regulated network access services be applied to tariff classes, rather than individual retail customers, consistent with clause 6.18 of the NER.
- 4.21 A maximum permissible change of 2 per cent on any increase in the weighted average revenue of each tariff class would apply in relation to any regulatory year.

Submissions on Initial Regulatory Proposal

- 4.22 The NTMEU commented that a revenue cap approach was preferable to continuing with the price cap form of regulation for PWC Networks in the 2014-19 regulatory control period and noted that there were some constraints as to how the annual under or over recovery of revenue would be adjusted. The NTMEU supported the Commission's approach in this regard.
- 4.23 No other submissions were received on the form of control.

Issues and Commission's Initial Considerations

Form of Control

- 4.24 PWC Networks proposed a revenue cap for its regulated network access services. The Commission accepted PWC Networks proposed form of control as it was consistent with the Commission's decision in its Framework Statement. The revenue

cap would take the form of a CPI minus X approach, with the X factors based on the various building block costs.

Application of the Revenue Caps

Unders and Overs Account

- 4.25 The approach proposed by PWC Networks was the approach set out in the Commission's Framework Statement. This approach was consistent with the approach applied by the Commission in the 2000-2004 regulatory control period (which was the last time a revenue cap form of control was used in the Territory) and with the approach currently used by the AER for Queensland and Tasmanian DNSPs who are subject to a revenue cap form of control.
- 4.26 The Commission considered that this approach would allow PWC Networks to recover its total revenue requirement in a manner that was neutral in NPV terms.
- 4.27 The Commission also accepted PWC Networks' proposal to include tolerance limits in the settlement of this unders and overs account.

Cost Pass Throughs

- 4.28 The Commission accepted that PWC Networks' total revenue requirement would (if necessary) be adjusted for approved cost pass throughs, subject to receiving legal confirmation that clause 66(3) of the Network Access Code permitted the inclusion of the NER cost pass through procedures in the 2014 Network Price Determination.

Side Constraint

- 4.29 PWC Networks proposed that the side constraint be applied to tariff classes, rather than individual retail customers. That is, the side constraint would be applied to the weighted average revenue from each tariff class in any regulatory year, rather than to the weighted average reference tariff of the individual retail customer.
- 4.30 The Commission noted that practice to date has been for the side constraint to be applied to:
- retail customers covered by the Territory Governments' Electricity Pricing Order (which sets the retail prices for all retail customers using less than 750MWh of electricity per annum) as a single class; and
 - individual retail customers for those retail customers on negotiated contracts.²⁴
- 4.31 PWC Networks did not provide details on the possible impact of this change in approach on individual retail customers. The Commission was concerned that, by applying the side constraint to the revenue for a tariff class, some retail customers within a tariff class might be subject to higher increases which were offset by correspondingly lower increases for other retail customers within that same tariff class.
- 4.32 In approving PWC Networks' reference tariffs for the 2013-14 regulatory year, the side constraint was only required to be calculated for 195 individual retail customers. The Commission did not consider that this imposed an unduly onerous burden on PWC Networks.

²⁴ This includes customers using between 750MWh and 2GWh per annum, for whom there is currently a Pricing Order in place that limits the rate at which PWC can increase an individual customer's retail tariff.

- 4.33 In the absence of information on the impact on individual retail customers, the Commission's preference was to continue the existing practice of assessing the side constraint for individual retail customers only where those retail customers were on a negotiated contract.

Commission's Draft Decision

- 4.34 In accordance with clause 66 of the Network Access Code, the Commission decided that the basis of the control mechanism for regulated network access services provided by PWC Networks was a revenue cap of the prospective CPI minus X form.
- 4.35 The methodology used to determine the revenue cap was the building block approach.
- 4.36 As part of its pricing proposals to be submitted to the Commission in accordance with clause 78(1) of the Network Access Code for each regulatory year of the regulatory control period, PWC Networks must submit to the Commission proposed reference tariffs and charging parameters which lead to expected revenues consistent with the formula set out in paragraph 2.15 of the Draft Determination.
- 4.37 The side constraint to apply to each of PWC Networks' tariff classes must be consistent with the formula set out in paragraph 2.16 of the Draft Determination.
- 4.38 The Commission accepted the side constraint of 2 per cent proposed by PWC Networks for the Draft Determination, but required that for retail customers using more than 750 MWh per annum, the side constraint was to be applied with respect to each individual retail customer, rather than to the tariff class as a whole.

PWC Networks' Revised Regulatory Proposal

- 4.39 PWC Networks accepted the control mechanism for regulated network access services.
- 4.40 PWC Networks resubmitted its proposal that the side constraint should be applied to the weighted average revenue to be raised from a tariff class, rather than applied to individual retail customers. PWC Networks' NPPS and indicative pricing proposal set out a range of proposed reference tariff reforms to enhance cost reflectivity, curtail peak demand growth and encourage demand side participation and energy efficiency.
- 4.41 PWC Networks argued that limiting reference tariff changes to accommodate a single retail customer would result in extended periods for any meaningful reference tariff reform to take place.
- 4.42 PWC Networks also advised that it did not intend to subject retail customers to large changes in reference tariffs, that the pace of restructuring would be limited and that the pace of any restructuring would be carried out in accordance with the consultation process in the NER.

Submissions on Draft Determination and Revised Regulatory Proposal

- 4.43 No submissions on the control mechanism for regulated network access services were received from interested parties.

Issues and Commission's Further Considerations

- 4.44 All stakeholders support the use of a revenue cap of the prospective CPI minus X form with provision for adjustments relating to:
- under or over-recovery of revenue in a particular regulatory year;
 - cost pass through events; and
 - contingent projects.
- 4.45 To align with the requirements of the NER, the Commission's Final Determination has also added provision for reopening the revenue cap if PWC Networks is required to undertake unexpected capital expenditure to rectify the adverse consequences of an unforeseen event that is outside PWC Networks' control. In line with the NER, such a reopening will only occur if the amount of capital expenditure exceeds 5 per cent of the value of the RAB in the first regulatory year of the regulatory control period (that is, \$46 million).
- 4.46 The Commission further considers PWC Networks' submission that the side constraint be applied to tariff classes. While the overall revenue constraint limits the amount by which PWC Networks can increase its total revenue in a given year, the side constraint is about relativities between classes of customers.
- 4.47 The Commission considers information provided by PWC Networks, including an example of the structural reference tariff changes it intends to implement during the 2014-19 regulatory control period. The Commission notes that PWC Networks intends to move from declining block to inclining block structure over the 2014-19 regulatory control period and to reduce the number of blocks. This means large retail customers (that is, those using more energy and with higher peak demand) are likely to see higher costs than those who use less, but noted PWC Networks' has undertaken that it does not intend to introduce price restructuring at a pace that subjects retail customers to large price shocks.
- 4.48 The Commission accepted PWC Networks' argument that limiting reference tariff changes on the basis of the effect on a single retail customer would significantly slow the rate at which change can be implemented. The Commission also notes the incentives for more efficient energy use contained in an inclining block tariff structure, and that incentives for energy efficiency have strong community support.
- 4.49 The Commission considers that it should not unnecessarily restrict PWC Networks' ability to move to an efficient reference tariff structure. Accordingly, given PWC Networks' commitment to limit the pace of restructuring so that individual retail customers are not subject to unduly large reference tariff increases, the Commission accepts that applying the side constraint to the tariff class is reasonable.
- 4.50 The Commission also notes that applying a side constraint to a tariff class is consistent with the requirements of the NER.

Commission's Final Decision

- 4.51 The Commission's decision on the basis of the control mechanism for regulated network access services provided by PWC Networks remains consistent with its Draft Determination. The form of control is a revenue cap of the prospective CPI minus X form, determined using a building block approach.
- 4.52 Adjustments to the annual revenue requirement will be allowed for any:
- under or over recoveries;

- cost pass throughs approved by the Commission during the 2014-19 regulatory control period;
- additional capital expenditure for any contingent projects specified in the 2014 Network Price Determination where the specified trigger event occurs; and
- unexpected additional capital expenditure that meets the requirements set out in Chapter 3 of the 2014 Network Price Determination.

4.53 As part of its pricing proposals to be submitted in accordance with clause 78(1) of the Network Access Code for each regulatory year of the 2014-19 regulatory control period, PWC Networks must submit to the Commission its proposed reference tariffs and charging parameters which lead to expected revenues consistent with the revenue control formula set out below:

$$\sum_{i=1}^n \sum_{j=1}^m p_t^{i,j} \times q_t^{i,j} \leq R_{t-1} \times (1 + CPI_t) \times (1 - X_t) \times (1 \pm \text{passthrough}_t) \pm \Delta R_t$$

where:

R_{t-1}	is the revenue in regulatory year $t-1$
CPI_t	is the annual percentage change in CPI from March in regulatory year $t-2$ to March in regulatory year $t-1$
X_t	is the allowed real change in revenue from regulatory year $t-1$ to regulatory year t of the 2014-19 regulatory control period as determined by the Commission
<i>Passthrough</i>	is any positive pass through amount or negative pass through amount in regulatory year t determined by the Commission, expressed as a percentage of the annual revenue requirement
ΔR_t	is the overs and unders adjustment to the annual revenue requirement in regulatory year t
n	is the number of network tariffs
m	is the number of tariff components
$p_t^{i,j}$	is the price of component i of tariff j in regulatory year t
$q_t^{i,j}$	is the forecast volume of component i of tariff j in regulatory year t

- 4.54 The size of the adjustment to revenues for under or over recoveries will depend on the following tolerance limits:
- less than 2 per cent – PWC Networks must clear the balance of the unders and over account within one regulatory year;
 - between 2 per cent and 5 per cent – PWC Networks must clear the balance of the unders and over account over two regulatory years; and
 - greater than 5 per cent – PWC Networks must submit a plan to the Commission detailing how it proposes to clear the balance of the unders and overs account.
- 4.55 The percentage referred to in paragraph 4.54 will be determined by reference to the percentage difference between the annual revenue requirement for the relevant regulatory year and the actual revenue received during that regulatory year from the provision of regulated network access services. When determining whether the tolerance limit specified in paragraph 4.54 applies in relation to a regulatory year, PWC Networks must take into account any balance of the unders and overs account

that remains to be cleared during that regulatory year as well as the unders and overs for the previous regulatory year.

- 4.56 The Commission's final decision is that a side constraint of 2 per cent is to be applied to the weighted average revenue to be raised from a tariff class for a particular regulatory year.
- 4.57 In its annual pricing proposals, PWC Networks will be required to demonstrate that its proposed reference tariffs for the next regulatory year will meet the side constraint, as specified in the 2014 Network Price Determination and are consistent with the side constraint formula set out below:

$$\frac{\sum_{j=1}^m p_t^j \times q_{t-2}^j}{\sum_{j=1}^m p_{t-1}^j \times q_{t-2}^j} \leq (1 + \text{CPI}_t) \times (1 - X_t) \times (1 + Y_t) \times (1 \pm \text{passthrough}_t)$$

where:

CPI_t	is the annual percentage change in CPI from March in regulatory year $t-2$ to March in regulatory year $t-1$
X_t	is the allowed real change in revenue from regulatory year $t-1$ to regulatory year t of the 2014-19 regulatory control period as determined by the Commission
Y_t	is the side constraint on revenue recovered from a tariff class from regulatory year $t-1$ to regulatory year t of the 2014-19 regulatory control period as determined by the Commission
<i>Passthrough</i>	is any positive pass through amount or negative pass through amount in regulatory year t determined by the Commission, expressed as a percentage of the annual revenue requirement
m	is the number of tariff components
p_t^j	is the proposed price for component j of the tariff class in year t
p_{t-1}^j	is the price charged for component j of the tariff class in year $t-1$
q_{t-2}^j	is the actual volume of component j of the tariff class in year $t-2$

CHAPTER 5

Cost Allocation Methodology

Introduction

- 5.1 Effective cost allocation aims to inform business decision-making by improving understanding of the true costs of operating a regulated network business (such as PWC Networks) and to prevent distortions from cost shifting or incorrect allocation of costs between, firstly, the regulated network business and any other lines of business, and secondly, between regulated services²⁵ and other services provided by the regulated network business. In achieving this objective, cost allocation prevents distortionary cross-subsidisation between the different businesses or services.
- 5.2 In addition, by allocating costs transparently, it enhances the ability of the Commission to ensure that only efficient costs relevant to the regulated network access services provided by PWC Networks are passed through to retail customers.

Regulatory Requirements

Network Access Code

- 5.3 Clause 7A of the Network Access Code provides that:
- The network provider must keep the business of operating the electricity network separate from any other business conducted by the network provider or any associate or related body corporate of the network provider in the manner and to the extent specified in a ring-fencing code to be determined by the regulator.*
- 5.4 The Northern Territory Electricity Ring-fencing Code version 3 took effect from 1 January 2009.²⁶
- 5.5 Further, clause 7 of the Network Access Code requires, among other things:
- (1) *The network provider must keep accounts and records relating to its electricity network business that give a true and fair view of the business (as distinct from other*

²⁵ The Framework Statement and PWC Networks' regulatory proposals describe cost allocation between network access services using the terminology that would be used to classify those services under the NER. For the purposes of the 2014 Network Price Determination, the Commission has taken the view that:

- regulated network access services would be classified as 'standard control services' under the NER and should therefore be regulated in a manner which is consistent with the requirements of Chapter 6 of the NER that apply to standard control services;
- the requirements of Chapter 6 of the NER that apply to standard control services represent generally accepted regulatory practice with respect to the economic regulation of regulated network access services at this time; and
- excluded network access services would not be classified as standard control services under the NER.

²⁶ Utilities Commission, [Northern Territory Electricity Ring-fencing Code, version 3](#), January 2009.

businesses carried on by the network provider or any associate or related body corporate of the network provider).

- 5.6 Further, the accounts must comply with any guidelines published by the Commission²⁷ and be kept in a way that gives sufficient information to enable the pricing principles and methodologies set out in Part 3 of the Network Access Code to be applied in a reasonable manner.²⁸
- 5.7 Specific to access pricing, clause 65 of the Network Access Code sets out the requirements for information disclosure to the Commission by PWC Networks:
- (1) *Before the network or service provider publishes the annual pricing schedules required under this Part, it must within a reasonable time before doing so (or a period set by this Code or by the regulator) provide the regulator with:*
 - (a) *information relating to the proposed prices that is required under the arrangements set out in Chapters 7 and 9; and*
 - (b) *any other information that the regulator reasonably requires for the purpose of performing his or her functions.*
 - ...
 - (9) *If information is provided in the form of certified annual financial statements, the financial statements must provide a true and fair statement of the financial and operating performance for the reporting period and be in a form and be provided by the date determined by the regulator.*
 - (10) *Certified annual financial statements submitted under subclause (1) may be used by the regulator:*
 - (a) *to monitor the compliance of the network provider with the revenue or price cap;*
 - (b) ***to assess the allocation of costs between services that are subject to regulation under the revenue or price cap and services or activities that are not and to identify any cross-subsidy between these different types of services or activities; and (emphasis added)***
 - (c) *to collate data regarding the financial, economic and operational performance of the network provider and to be used as input to the regulator's decision making regarding the setting of revenue or price caps.*

National Electricity Rules

- 5.8 Under the NER, development of cost allocation methodologies by DNSPs and the approval of these methodologies by the AER takes place outside the distribution determination process.
- 5.9 Clause 6.15.3 of the NER requires the AER to make guidelines relating to the preparation by a DNSP of its cost allocation method.
- 5.10 The AER's current Cost Allocation Guidelines were published in June 2008²⁹.

²⁷ Network Access Code clause 7(3)

²⁸ Network Access Code clause 7(4)(c)

²⁹ Australian Energy Regulator, [Electricity Distribution Network Service Providers - Cost Allocation Guidelines](#), June 2008.

- 5.11 Clause 6.15.4 of the NER sets out the requirements that apply to each DNSP when preparing and submitting a CAM to the AER for approval. These requirements include that DNSPs must submit a proposed CAM to the AER by 1 January 2009 (or within six months after being required to do so by the AER if an entity becomes a DNSP covered by the NER after the commencement of the NER) and that the proposed CAMs must give effect to, and be consistent, with the Cost Allocation Guidelines issued by the AER.
- 5.12 As part of giving any approval, the AER may, after consulting with the relevant DNSP, amend the CAM submitted to it, in which case the CAM as so amended will be taken to be approved by the AER.
- 5.13 The AER may amend the Cost Allocation Guidelines from time to time, following public consultation. A DNSP may submit a revised CAM to the AER for approval at any time.

Framework and Approach

- 5.14 In its Framework Statement, the Commission noted that, while the Network Access Code does not explicitly require PWC Networks to submit a CAM to the Commission, PWC Networks still needs to allocate costs between its regulated network access services and excluded network access services when preparing its regulatory proposal.
- 5.15 However, noting PWC Networks' resource constraints, the Commission did not require PWC Networks to fully comply with the AER's Cost Allocation Guidelines, but required that its existing cost allocation methodology be fully documented such that the following could be audited against it:
- allocation of costs to PWC Networks;
 - allocation of costs between regulated network access services and excluded network access services; and
 - allocation of costs between retail customer classes and geographic regions.

PWC Networks' Initial Regulatory Proposal

- 5.16 PWC Networks submitted a CAM as part of its initial regulatory proposal.
- 5.17 PWC Networks' advised that the CAM was prepared for the approval of the Commission, in a manner that contained detailed principles, policies and methodology, having regard to the NER requirements.

Submissions on Initial Regulatory Proposal

- 5.18 While making no specific comment on PWC Networks' CAM, the NTMEU noted that:
- ...as PWC is a multi-utility, it has the ability to maximise the allocation of overhead costs to regulated elements of its portfolio so as to minimise the overhead share carried by its unregulated elements. (page.36)*
- 5.19 No further submissions were received on PWC Networks' CAM.

Issues and Commission's Initial Considerations

- 5.20 PWC Networks' financial management system is maintained by PWC for all of PWC's business units. Accordingly, the Commission's considerations have been undertaken with the respect to the PWC's CAM, which includes allocation of costs to the business units, rather than a CAM specific to PWC Networks.

- 5.21 PWC assigns the direct cost of services where they are provided between its business divisions wherever feasible.
- 5.22 The Commission understands this to mean that where a corporate support unit provides a specific service to an operating business unit (for example, employee services undertaking specific recruitment activity for PWC Networks, or the economics and regulation unit assisting with the preparation of PWC Networks' regulatory proposal), the cost, based on a set charge out rate, will be directly attributed to the relevant business unit, with a corresponding credit to the corporate support unit.
- 5.23 The remaining costs of each corporate support unit are allocated to each business unit on a causal basis using an appropriate allocator. The method and rationale underlying the calculation of these allocators are specified in the CAM.
- 5.24 Where one operating business unit provides a service to another operating business unit, a service level agreement (or SLA) is entered into, which details the services to be provided and the fees for these services. The CAM sets out the method and rationale underlying the calculation of the fees associated with SLAs to which PWC Networks is a party.
- 5.25 Within PWC Networks³⁰, the cost allocations to regulated network access services and excluded network access services (which are further distinguished between those services subject to effective competition and those that are not subjective to effective completion)³¹ are less well developed. With the exception of the street lighting excluded network access service, which are directly attributable and separately recorded, allocation of costs between regulated network access services and excluded network access services are determined manually in an Excel spreadsheet.
- 5.26 While the Commission considers that PWC Networks has met the requirements (substantially modified from those specified by the AER) set in the Commission's Framework Statement, the Commission also considers that the CAM could be improved by:
- including a statement regarding the nature, scope and purpose of the document (beyond satisfying requirements set by the Commission) and the way in which it is to be used by PWC, and specifically PWC Networks;
 - clarifying the accountabilities within PWC for implementing the CAM, responsibilities for updating, maintaining and applying the CAM, and for internal monitoring and reporting on its application by both PWC and PWC Networks;
 - providing details of how direct costs are processed through PWC's financial systems, possibly illustrated by mapping the chart of accounts;
 - providing further details of how directly attributable costs for services provided between business units are determined;
 - providing further details of the process for establishing the monthly journals to be uploaded to the general ledger system, including accountabilities for calculating and approving the percentage rates;

³⁰ PWC's CAM uses the service classification terminology used in the NER, consistent with the approach taken in the Framework Statement.

³¹ PWC Networks does not provide any services that would be classified as services under the NER.

- providing further details of how PWC maintains records of the attribution or allocation of costs, for example the outputs that are obtained from the financial management system such as financial reports or views of the posting of financial transactions that can be produced depending on the nature of the enquiry, and the safeguards in place to ensure that records cannot be modified or deleted; and
 - further development of cost allocations between regulated network access services, excluded network access services not subject to effective competition and excluded network access services subject to effective competition.
- 5.27 PB undertook a detailed assessment of the methodology and approach taken by PWC to allocate the corporate and shared services between business divisions. PB reviewed the allocation method and rationale used for each division within the corporate business units and expressed the view that suitable drivers were used for each allocation.
- 5.28 The Commission's detailed analysis of PWC Networks' capex and opex forecasts did not identify any costs attributable to the other business units of PWC.
- 5.29 In assessing the level of shared corporate costs allocated to PWC Networks, PB undertook a detailed assessment of the methodology and approach taken by PWC to allocate the corporate and shared services between its business divisions. The Commission was satisfied that the allocation method and rationale used to allocate costs between PWC's business units were based on a suitable driver for each allocation.

Commission's Draft Decision

- 5.30 The Commission accepted that PWC Networks had documented its existing cost allocation methodology, as required in the Commission's Framework Statement.
- 5.31 The Commission's Framework Statement noted that full adoption of an approach consistent with the AER processes may not be practical in the Territory at this time due to resourcing constraints and economies of scale.
- 5.32 However, the Commission considers that, over the course of the 2014-19 regulatory control period, progress would be required in the development of the CAM and its application to the regulatory process, particularly with respect to the allocation of costs between regulated network access services and excluded network access services. In addition to enhancing the transparency, reliability and certainty of the network price determination process, a more comprehensive and defined CAM would be required to enable effective transition to national regulation by the AER.
- 5.33 The Commission also noted that cost allocation is also key to the structural separation of the electricity supply chain, with separation of PWC Generation and PWC Retail from PWC likely to occur early in the 2014-19 regulatory control period.

PWC Networks' Revised Regulatory Proposal

- 5.34 PWC Networks made a minor amendment to its CAM following the Draft Determination by the Commission to reflect the proposed classification of some services as excluded network access services subject to effective competition under clause 72(2).
- 5.35 This did not affect the allocation of costs for regulated network access services.

Submissions on Draft Determination and Revised Regulatory Proposal

- 5.36 The Treasurer submitted that:
- ...there is insufficient evidence or transparency in the Commission's Draft Determination to establish that the actual allocation of costs is consistent with the CAM and that cost shifting to the regulated network business has not occurred. (page.3)*
- 5.37 The Treasurer urged the Commission to undertake rigorous scrutiny of costs allocated to PWC Networks, noting that this was particularly pertinent given the Government's recent decision to structurally separate PWC's monopoly and contestable businesses.
- 5.38 The Treasurer noted that the timing of the 2014 Network Price Determination and the commencement of structural separation placed greater emphasis on the need to ensure reference tariffs for the 2014-19 regulatory control period represented efficient and forward looking costs.
- 5.39 The NTMEU noted that the lack of certainty associated with a range of data issues, including cost allocations, contributed to the difficulties in evaluating PWC Networks' regulatory proposal.

Issues and Commission's Further Considerations

- 5.40 Concern about cost shifting is predominantly a Territory specific problem, as the AER does not regulate vertically integrated and multi-utility monopolies in other jurisdictions. The AER's role is generally limited to approving the CAM submitted by a DNSP, with an audit of whether the CAM is being correctly applied only being required if specific concerns are identified.
- 5.41 The Commission acknowledges that some concession was provided to PWC Networks in recognition of its resource constraints and the developmental stage of its CAM, as was identified in the Commission's Framework Statement. The Commission undertook a detailed examination of the individual cost categories making up PWC Networks' forecast opex, and identified only a single instance of the inclusion of costs not related to PWC Networks' regulated network access services which was removed from the forecast opex.
- 5.42 Detailed examination of the individual capex projects making up PWC Networks' forecast capex did not identify any costs not related to PWC Networks' regulated network access services included in the proposed projects.
- 5.43 The manner in which the PWC Networks' share of corporate costs are determined was scrutinised, including examination of the processes and procedures for calculating the percentage allocations and how these are input into PWC's business systems.
- 5.44 The Commission identified some shortcomings in PWC's CAM, particularly with respect to the allocation of costs between regulated network access services and excluded network access services. However, there was no evidence before the Commission that PWC Networks is not allocating actual costs consistent with the CAM or that other costs were being shifted from PWC's other business units to PWC Networks.
- 5.45 In undertaking its benchmarking analysis, it was not evident that there had been cost shifting between PWC's business units in relation to capex or opex.

-
- 5.46 The Commission also required a statutory declaration from the Managing Director of PWC, which declared that PWC Networks' response to the Commission's regulatory information notice relating to the 2014 Network Price Determination was true and accurate with respect to the network access services PWC Networks provides.
- 5.47 The Commission sought technical advice on any alternative scrutiny which could be undertaken on PWC's cost allocations and the advice confirmed that the only other avenue would have been a full audit of actual costs for the 2009-14 regulatory control period. In the absence of any evidence of inappropriate cost allocations or clear examples provided in the submission process, the Commission considered such a task as cost prohibitive and could not be reasonably justified. In addition, the Commission's view is that Government's proposed structural separation of PWC would assist in making cost allocations more transparent.

Commission's Final Decision

- 5.48 The Commission's view on the CAM submitted by PWC Networks remains consistent with its views set out in the Draft Determination.
- 5.49 The Commission considers that further progress will be required in relation to the development of the CAM over the 2014-19 regulatory control period to align the CAM with the requirements of the NER.

CHAPTER 6

Opening Regulatory Asset Base

Introduction

- 6.1 This chapter sets out the method used by the Commission to determine the opening RAB for the 2014-19 regulatory control period. The opening RAB will be used to calculate PWC Networks' annual revenue requirements.

Regulatory Requirements

Network Access Code

- 6.2 Clause 68 of the Network Access Code requires the Commission, in setting a revenue cap or price cap, to take into account the revenue requirements of the network service provider during the relevant regulatory year or regulatory years having regard to a number of factors.
- 6.3 One of these factors is:
- (e) *the provision of a return on efficient capital investment undertaken by the network provider in order to maintain or extend network capacity that is commensurate with the commercial and regulatory risks involved;*
- 6.4 Schedule 7 of the Network Access Code sets out how the regulatory asset base should be identified and measured.
- 6.5 In particular, clause 6 of Schedule 7 sets out the basis for valuing PWC Networks' RAB for the 2014-19 regulatory control period, with any valuations or revaluations to be undertaken on a basis approved by the Commission. It also provides that:
- (2) *In approving the basis of asset valuation to be used, the regulator must have regard to:*
 - (a) *the agreement of the Council of Australian Governments of 19 August 1994 that deprival value should be the preferred approach to valuing network assets;*
 - (b) *any subsequent decisions of the Council of Australian Governments regarding the valuation of public sector assets; and*
 - (c) *generally accepted regulatory practice at the time.*

National Electricity Rules

- 6.6 Clause 6.5.1 of the NER outlines the approach to be followed by the AER in determining the opening RAB for a distribution determination. Consistent with the requirements of this clause, the AER has published a roll forward model which sets out the method for determining the roll forward of the RAB.³²

³² AER, [Final decision, Electricity distribution network service providers, Roll forward model](#), June 2008.

- 6.7 Clause S6.2.1(c)(1) of the NER provides that at the commencement of Schedule 6.2 of the NER, the value of the RAB for a distribution system for the first regulatory year to which the schedule applies is to be determined by rolling forward the relevant RAB value set out in the Schedule.
- 6.8 For distribution systems that are not specified in the Schedule, clause S6.2.1(d) specifies that:
- (2) The value of the regulatory asset base for that distribution system as at the beginning of the first regulatory year of the first regulatory control period for the relevant Distribution Network Service Provider is the prudent and efficient value of the assets that are used by the provider to provide those standard control services (but only to the extent that they are used to provide such services), as determined by the AER. In determining this value, the AER must have regard to the matters referred to in clause S6.2.2.*
- 6.9 Clause S6.2.2 of the NER sets out a range of criteria for determining the prudence and efficiency of capital expenditure including ensuring that the DNSP is provided with a reasonable opportunity to recover efficient costs, providing incentives for the DNSP to avoid inefficient capital expenditure, minimising investment uncertainty for the DNSP and having regard to the value of the relevant asset as shown in independently audited and published accounts.

Framework and Approach

- 6.10 In its Framework Statement, the Commission set out that its preferred approach was to adopt a RFM, largely modelled on the AER's published RFM and accompanying handbook, for use by PWC Networks to roll forward the RAB at the commencement of the 2014-19 regulatory control period. The RAB was valued by the Commission at \$350.0 million (excluding gifted assets) as at 1 July 2002 (in July 2002 dollars) (Off Ramp Decision)³³.

PWC Networks' Initial Regulatory Proposal

- 6.11 PWC Networks proposed an opening RAB for the 2014-19 regulatory control period of \$930.1 million as at 1 July 2014. The proposed opening RAB was based on a DORC³⁴ valuation undertaken for PWC Networks by SKM of \$856.2 million as at 1 July 2013, rolled forward for one regulatory year using the AER's RFM.
- 6.12 PWC Networks proposed that:
- The method that was adopted by jurisdictional regulators across Australia for the initial valuation of assets under the building block model was the depreciated optimised replacement cost (ODRC) methodology. This approach avoids the circularity associated with the regulator estimating an asset value that is supported by a revenue stream that is determined by the regulator. (page.124)*

³³ Utilities Commission, [Networks Pricing: Asset Valuation Off-Ramp Final Decision Statement Of Reasons](#), April 2005.

³⁴ In its regulatory proposal, PWC Networks has termed this ODRC. The two acronyms, DORC and ODRC, have the same meaning.

6.13 Although noting that RAB values for NEM DNSPs are based on a roll forward of initial RAB values specified in the NER, PWC Networks contended that the values prescribed in the NER were based on DORC for the respective DNSPs upon their entry to the NEM and exposure of their businesses to the NER framework.

6.14 PWC Networks further argued that the concerns that led to the Commission's Off Ramp Decision relating to deficiencies in the register of its assets have been addressed:

Based on its transition to a world class asset management system, Maximo, and the positive findings of the SKM review of its data integrity, Power Networks believes that the accuracy of its asset records is now equivalent to best practice levels, and therefore provides substantial confidence in the robustness of the valuation outputs. (page.129)

6.15 PWC Networks contended that basing the opening RAB on the 2013 SKM DORC valuation delivers a more appropriate means of establishing the efficient value of investment in PWC Networks' electricity network.

6.16 PWC Networks then used the AER's RFM to roll forward the RAB from 1 July 2013 (the value date for the SKM valuation) to 1 July 2014.

Table 6.1: PWC Networks proposed RAB roll forward from 1 July 2013 to 1 July 2014 (\$M, nominal)

	Actual			Estimate	
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening RAB at 1 July					856.18
Net capex					93.20
Regulatory depreciation					19.32
Closing balance					930.06
Contributed assets					9.64
Inflation rate					2.57%

Source: PWC Networks' initial regulatory proposal, RFM (ODRC)

6.17 PWC Networks also provided a roll forward of the RAB based on the Commission's valuation as set in the Off Ramp Decision.

Table 6.2: PWC Networks provided RAB roll forward for the 2009-14 regulatory control period based on the Off Ramp Decision (\$M, nominal)

	2008-09 ^(a)	Actual			Estimate	
		2009-10	2010-11	2011-12	2012-13	2013-14
Opening RAB at 1 July	460.40	514.80	585.07	669.40	734.32	832.89
Net capex	56.56	80.38	91.08	77.49	103.44	93.22
Regulatory depreciation	15.56	- 10.11	- 6.75	- 12.57	- 4.87	- 5.28
Difference between forecast and actual for last year of 2004-09 regulatory control period	13.40					- 4.48
Closing balance	514.80	585.07	669.40	734.32	832.89	916.35
Contributed assets	18.56	10.88	7.31	11.12	14.85	9.64
Inflation rate	3.75%	2.35%	3.11%	2.30%	2.57%	2.66%

Source: PWC Networks' initial regulatory proposal, RFM (Commission preferred)

^(a) from 2009 Network Price Determination, [Po adjustment model FINAL](#), worksheet 'RAB Roll Forward', 2008-09 opening RAB \$460.518 million less streetlights \$0.116 million

Submissions on Initial Regulatory Proposal

6.18 The NTMEU submitted that the opening RAB should be based on a roll forward of the RAB previously determined by the Commission.

6.19 The NTMEU argued that:

The only reason to set the RAB using a DORC approach is because the historic value of the assets is unknown. This is the case when a vertically integrated firm cannot specifically point to the cost of the network assets it has provided in the past.

However, the UC has previously determined an asset base and once set, needs no further reassessment. (page.24)

6.20 Further:

The NTMEU does not agree that the PWC assets should be "re-DORCed" as this inappropriately increases the value of the assets and that the previously agreed asset base should be rolled forward as has been done in the past. (page.25)

6.21 No other submissions were received on the value of the opening RAB.

Issues and Commission's Initial Considerations

6.22 A key aspect of any building block approach to economic regulation of regulated network access services is the value assigned to the opening RAB. The RAB has a substantial impact on reference tariffs through the return of capital (depreciation) and return on capital components of the annual revenue requirement.

6.23 The Commission's Off Ramp Decision was initiated because, during the 2004 Network Price Determination process, PWC Networks was unable to confirm the accuracy of its estimates of the DORC value of the electricity network that was in service on 1 July 1999 or the roll-forward in these values to 1 July 2004.

- 6.24 As such, the Commission established a total RAB value of \$350 million (excluding gifted assets) as at 1 July 2002 (in July 2002 dollars), with PWC Networks allocating this across asset categories based on a pro-rata allocation in line with its best estimates of the existing RAB at that time.
- 6.25 The Commission noted that the DORC value for the opening RAB proposed by PWC Networks for 1 July 2014 was not significantly greater than the value obtained by rolling forward the RAB for the 2009-14 regulatory control period.
- 6.26 Given the small difference between the two outcomes, the Commission also considered the constitution of the RAB. In its Off Ramp Decision, the Commission only set an aggregate value for the total RAB. The Commission accepted the disaggregation into asset classes provided by PWC Networks, established on a 'best endeavours' basis, based on information available at that time. The SKM review provides improved information on the constitution of the RAB.
- 6.27 The SKM review was the most detailed examination of PWC Networks' RAB that had been undertaken to date and the Commission was of the view that that it had sufficient authority to warrant its acceptance in lieu of the RAB value determined for 1 July 2002. In addition, the Commission noted that the imputed value rolled forward since 1 July 2002 and the SKM valuation were substantially comparable, with the \$14 million difference in the total being statistically acceptable, and that the valuation provided a transparent, detailed, reliable and stable base for future determinations. The certainty that was available in this opening RAB value would also assist in the transition to regulation by the AER in the near future, presumably without the need for subsequent revisions to the RAB.

Table 6.3: Comparison of disaggregation of RAB into asset classes (\$M, nominal)

Asset values as at 1 July 2014	2013 SKM valuation	Roll forward of 2009 Network Price Determination
System Capex		
Transmission terminal station	37.6	64.0
Zone substations	262.8	288.8
Transmission lines	165.5	156.6
Distribution mains	313.8	329.0
Distribution substations	83.9	21.8
Metering	7.5	4.9
Land and easements	33.9	11.7
Secondary systems - Control, communications & Protection	12.0	18.8
Other	0.4	- 0.7 ¹
Non-System Capex		
Non-network - IT and Communications Capex	3.1	0.0
Non-network - Motor Vehicles Capex	0.0	0.0
Non-network - Property Capex	0.0	0.0

Non-network - Plant & Equipment Capex	8.9	19.7
Non-network - Other capex	0.7	1.8
Total	930.1	916.4

Source: PWC Networks' initial regulatory proposal

¹ Negative value due to adjustment in RFM for difference between forecast and actual capex values in the final year of the 2004-09 regulatory control period.

6.28 In light of this, the Commission saw advantages in adopting the opening RAB proposed by PWC Networks, as it provided a firm basis for the disaggregation of PWC Networks' RAB into asset classes going forward.

Escalation Rate for RAB Roll Forward

6.29 The NER provides that the roll forward of the RAB be adjusted for actual inflation, consistent with the method used for the indexation of the control mechanism during the 2009-14 regulatory control period.

6.30 The method used for indexation of the control mechanism during the 2009-14 regulatory control period was to use CPI.³⁵

6.31 In rolling forward the RAB from 2013 to 2014, PWC Networks applied CPI based on a national forecast for the 2013-14 financial year provided by Deloitte Access Economics, as actual CPI would not be available at the time of the Commission's Draft Determination.

6.32 The Commission accepted this method was a practical approach for the Draft Determination.

Commission's Draft Decision

6.33 The Commission accepted the opening RAB proposed by PWC Networks of \$930.1 million for regulated network access services. The Commission considered that the SKM review of the RAB provided a transparent and reliable RAB value materially consistent with the Commission's estimated RAB value developed for 1 July 2002. The proposed RAB value provided a level of granularity that would facilitate a greater degree of certainty in future determinations.

6.34 The Commission was satisfied that PWC Networks had completed the AER's RFM in accordance with the requirements of the NER.

6.35 The Commission stated that it would update the roll forward of PWC Networks' RAB with the most recent forecast of capital expenditure for the 2013-14 regulatory year, and the latest actual CPI data at a time closer to the publication of the Final Determination.

PWC Networks' Revised Regulatory Proposal

6.36 PWC Networks accepted the opening RAB of \$930.1 million allowed in the Commission's Draft Determination.

³⁵ For pricing approvals in the 2009-14 regulatory control period, the Commission used the year on year four quarter Mar-Dec average of CPI (to remove any quarter on quarter volatility), rather than the quarter to quarter CPI used by the AER. For the 2014-19 regulatory control period, the Commission would change its approach to the CPI adjustment to bring the Territory in to line with the approach commonly used by the AER. This should provide more certainty and consistency for future determinations.

6.37 PWC Networks did not revise its capex forecasts for the 2013-14 regulatory year.

Submissions on Draft Determination and Revised Regulatory Proposal

- 6.38 Both the Treasurer and the NTMEU disagreed with the Commission's decision in the Draft Determination to accept the 2013 SKM DORC valuation of PWC Networks' electricity network assets as the basis for the opening RAB as at 1 July 2014. Both submissions considered that the opening RAB should be based on the RAB for the 2009-14 regulatory control period and should be calculated using the RFM.
- 6.39 The Treasurer advised that to maintain certainty and consistency with the approach used by the AER, it would be appropriate for the RFM to be applied by the Commission, to the extent possible, in calculating PWC Networks opening RAB.
- 6.40 The NTMEU raised concerns with the Commission's decision in the Draft Determination to accept the 2013 SKM DORC valuation on the basis that it had not been reviewed for prudence and efficiency. The NTMEU further stated that it was concerned with the automatic roll in of actual capex and the use of actual capex was inconsistent with the NER (which required that actual capex to be assessed when it exceeded the forecast capex for the 2009-14 regulatory control period).
- 6.41 No other submissions were received on the opening RAB value.

Issues and Commission's Further Considerations

- 6.42 In its initial regulatory proposal, PWC Networks argued that DORC is generally accepted regulatory practice. The NTMEU effectively says that roll forward is generally accepted regulatory practice. The Commission considers that both positions are partly correct.
- 6.43 The AER's RFM is a 'line in the sand' approach. An opening value for the RAB is set then the total value of the RAB is rolled forward according to a simple set of rules designed to provide incentives for investment. These simple rules include disaggregating the total value of the RAB into a number of asset classes, with each asset class rolled forward based on different depreciation profiles.
- 6.44 While the opening values for most DNSP's in Australia did originate from a DORC valuation at some point in the past, the Commission does not accept PWC Networks' contention that adoption of a DORC valuation at a regulatory reset is necessarily generally accepted regulatory practice. The Commission also disagrees with the NTMEU that a roll forward methodology alone is generally accepted regulatory practice, without any consideration of the historic basis of the value being rolled forward.
- 6.45 The 2005 Off Ramp Decision adopted an artificial number for the RAB because reliable asset data was not available from PWC Networks at that time. The value set by the Commission was not related to the assets at all, but rather set an artificial number that would generate an income stream necessary to at least maintain a BBB+ credit rating, based on PWC Networks' capex and opex forecasts at that time.
- 6.46 Clause S6.2.2(7) of the NER states that the AER must have regard to 'the value of the relevant assets as shown in independently audited and published accounts.' But as PWC were a vertically integrated multi utility, there are no independently audited and published accounts for PWC Networks. However, the SKM valuation provided a robust account of PWC Networks' actual assets.

- 6.47 The Commission is not ‘re-dorcing’ as it did not previously use DORC. Rather, the Commission rejected the DORC valuation provided by PWC Networks in 2004 (that is, just before the Off Ramp Decision) as unreliable and unverifiable. PWC Networks again provided a DORC valuation considered too high by the Commission in 2009. The fact that the new SKM valuation is very close to the outcome of rolling forward the RAB value used by the Commission for the 2009 Network Price Determination substantiates the Commission’s view that the previous DORC valuation was incorrect.
- 6.48 The Commission’s key concern is that, not only was the DORC valuation submitted for the 2009 Network Price Determination too high, but it also contained errors in the categorisation of assets across asset classes. As such, by allocating the total RAB value set in the Off Ramp Decision in proportion to the asset class values submitted by PWC Networks at that time (that is, based on the 2007 DORC valuation), a roll forward of the 2009 RAB value will be flawed. The differences in values for individual asset categories are shown in Table 6.3 above.
- 6.49 The Commission maintains its view that the 2013 SKM review of the RAB provides a transparent and reliable RAB value materially consistent with the Commission’s estimated RAB value developed for 1 July 2002 and that the proposed RAB value provides a level of granularity that will facilitate a greater degree of certainty in future Network Price Determinations.
- 6.50 With respect to the NTMEU’s contention that capex in the 2009-14 regulatory control period should be assessed for prudence and efficiency rather than being automatically rolled into the RAB, the Commission notes that this refers to the Capital Expenditure Incentive Guidelines published by the AER in November 2013 following the amendments made to the NER in November 2012 for which transitional arrangements apply.
- 6.51 These transitional arrangements are consistent with the Commission’s position, set out in its Framework Statement, that the Commission would roll the full amount of actual capex incurred in the 2009-14 regulatory control period into the opening RAB for the 2014-19 regulatory control period, as investment decisions made by PWC Networks to date have been premised on the RAB value being adjusted in full for inflation, asset acquisitions, asset disposals and annual depreciation.
- 6.52 The Commission also notes that this will not be the case going forward, and PWC Networks’ opening RAB for the Post 2019 regulatory control period will be determined in accordance with the NER conventions, rules and procedures at that time.

Commission’s Final Decision

- 6.53 The Commission accepts the opening RAB proposed by PWC Networks, which is based on the SKM 2013 valuation rolled forward using the AER’s RFM from 1 July 2013 (the value date for the SKM valuation) to 1 July 2014.
- 6.54 As indicated in its Draft Determination, the Commission has updated the revised RFM for PWC Networks with the latest available CPI data (that is, the data published in the December 2013).
- 6.55 The RAB roll forward calculations for PWC Networks are set out in Table 6.4 and provide for an opening RAB value of \$928.3 million for regulated network access services for the 2014-19 regulatory control period.

Table 6.4: Commission’s conclusion on PWC Networks opening RAB (\$M, nominal)

	Actual	Estimate

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening RAB at 1 July					856.18
Net capex					92.96
Regulatory depreciation					20.81
Closing balance					928.34
Contributed assets					9.64
Inflation rate					2.45%

Source: Utilities Commission, PWC Networks RFM – Final Decision

CHAPTER 7

Demand Forecasts

Introduction

- 7.1 PWC Networks must be able to deliver electricity to its retail customers and must build, operate and maintain its electricity network to manage expected changes in the demand for electricity. PWC Networks therefore requires demand-driven capex and opex so that its electricity network can deliver a reliable supply of electricity when:
- the demand for electricity is at its peak (maximum demand);
 - new retail customers connect to the electricity network; and
 - the overall consumption of electricity increases.
- 7.2 Maximum demand is a snapshot of the highest level of demand on PWC Networks' electricity network at a point in time.
- 7.3 New retail customer connections have an effect on the expenditure required to construct new connections and augment upstream infrastructure for the connected load. They also affect capital contributions and assets contributed to the electricity network which are received by PWC Networks.
- 7.4 Electricity consumption forecasts are important for setting reference tariff levels, but the Commission is not required to set reference tariffs in the 2014 Network Price Determination. PWC Networks must submit its proposed prices for the 2014-15 regulatory year to the Commission for approval 60 days prior to start of that regulatory year.³⁶
- 7.5 This chapter discusses whether PWC Networks' demand forecasts reflect a realistic expectation of the demand for regulated network access services over the 2014-19 regulatory control period. The Commission also considers the extent to which the forecasts can be relied upon for the purposes of assessing the proposed load driven capex and whether PWC Networks' energy sales forecasts are appropriate inputs to the NTRM.

Regulatory Requirements

Network Access Code

- 7.6 Clause 68 of the Network Access Code requires the Commission, in setting a revenue cap or price cap, to take into account the revenue requirements of PWC Networks during the relevant regulatory year or regulatory years having regard to a number of factors.

³⁶ Network Access Code clause 78 (1).

7.7 One of these factors is:

- (a) *the demand growth that the network provider is expected to service using any appropriate measure including but not limited to:*
- (i) *energy consumption by category of network users or other relevant groups of persons who consume energy;*
 - (ii) *demand by category of network users or other relevant groups of persons who consume energy;*
 - (iii) *numbers of network users or other relevant groups of persons who consume energy by category of network users; and*
 - (iv) *length of the electricity network;*

National Electricity Rules

7.8 Clauses 6.5.6(a) and 6.5.7(a) of the NER require a building block proposal to include the total forecast opex and total forecast capex for the relevant regulatory control period which the DNSP considers is required to achieve the operating expenditure objectives and the capital expenditure objectives which, amongst other things, includes meeting or managing the expected demand for regulated network access services over that regulatory control period.

7.9 Clauses 6.5.6(c) and 6.5.7(c) require the AER to accept the forecast of required opex and capex of a DNSP that is included in a building block proposal if the AER is satisfied that the total of the forecast opex and capex for the regulatory control period reasonably reflects each of the operating expenditure criteria and capital expenditure criteria which includes a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives and the capital expenditure objectives.

7.10 In deciding whether or not the AER is satisfied that the operating expenditure criteria and capital expenditure criteria have been met, the AER must also have regard to the operating expenditure factors and capital expenditure factors respectively.

7.11 Clause 6.12.1(1) of the NER also requires the AER, as part of a distribution determination, to make a constituent decision on appropriate amounts, values or inputs for that distribution determination, which in the AER's recent distribution determinations has included a decision on the demand forecasts to apply for the regulatory control period.

PWC Networks' Initial Regulatory Proposal

Table 7.1: PWC Networks' maximum demand, customer number and energy consumption forecasts

	2014-15	2015-16	2016-17	2017-18	2018-19	Average annual growth 2014-19 (%)
Weather normalized system maximum demand (50% PoE) (MW)						
Darwin-Katherine	307.7	313.3	318.9	324.6	330.2	1.46
Alice Springs	55.2	54.9	54.7	54.4	54.2	- 0.36
Tennant Creek	7.3	7.4	7.4	7.5	7.5	0.55
Customer numbers (total)	81,844	83,834	85,878	87,978	90,134	2.03

Customer connections	1,960	2,020	2,075	2,103	2,190	2.90
Energy consumption (GWh)	1,743,346	1,764,240	1,768,815	1,779,910	1,791,075	0.55

Source: Derived from PWC Networks, Regulatory proposal, September 2013, RIN templates 6.1, 6.2 and 6.3 (confidential)

- 7.12 PWC Networks' initial regulatory proposal identified that economic activity in the Territory is proceeding apace in comparison to muted global economic growth and slower Australian economic growth. PWC Networks highlighted the INPEX Total joint venture Ichthys project (Ichthys) and noted that other private engineering construction, equipment and housing investments were at very high levels.
- 7.13 PWC Networks noted that Deloitte had forecast:
...average annual five-year economic growth rate for the Territory through to 2016-17 to be 4.5 per cent compared to a national average annual growth rate of 3.0 per cent and is the highest growth rate of all jurisdictions over this period. (page.47)
- 7.14 PWC Networks identified high levels of economic activity evident in Territory building approvals and increasing high rates of population growth and noted that the immediate to medium term economic outlook was higher than average for the Territory and higher than national levels.
- 7.15 PWC Networks identified that, although electricity demand is relatively price inelastic, the large increase in regulated retail prices on 1 January 2013 and further price increases from January 2014 were expected to have a dampening impact on energy consumption. However, the impact on maximum demand was expected to be much less significant.
- 7.16 PWC Networks noted that there are rapidly increasing numbers of photovoltaic (solar PV) installations in the Territory, predominantly at domestic and small commercial premises and that while those solar PV installations reduced the energy transmitted, they did not have a proportionate effect on maximum demand as output was intermittent.
- 7.17 PWC Networks highlighted that its approach to network demand forecasting was documented in its Network Demand and Customer Connections Forecasting Procedure and that the approach was accepted as reasonable by the Commission in the Power System Review for 2011-12.
- 7.18 PWC Networks stated that global demand forecasts provided an indication of overall trends in network regions. The global demand forecasts did not directly relate to the incidence of growth-related capex but rather were used as a check to ensure the sum of spatial demand forecasts, which influence both capex and opex, were in reasonable alignment.

Submissions on Initial Regulatory Proposal

- 7.19 PWC Networks proposed that electricity demand would continue to grow over the 2014-19 regulatory control period. As an example, PWC Networks referred to average annual growth forecast for the Territory to the 2016-17 regulatory year of

4.5 per cent compared to a 3 per cent annual average growth nationally.³⁷ In addition, PWC Networks referred to the population growth rate forecast for the 2016-17 regulatory year of 1.7 per cent, compared to 1.6 per cent nationally, and up from 1.4 per cent in the 2013-14 regulatory year.³⁸

- 7.20 The NTMEU submitted that PWC Networks' demand forecasts were likely to be overstated as a result of reliance on overly optimistic growth expectations.³⁹
- 7.21 NTCOSS implicitly addressed demand growth forecasts, noting that growth in the number of low income households or the elderly would, in turn, raise affordability issues and imply potential growth in electricity demand as more residents would be at home during the day and using more electricity on air-conditioning, cooking and entertainment. NTCOSS provided no data to support the argument that there was likely to be growth in low income households in the Territory or an increase in the daily usage patterns of such households.
- 7.22 NTCOSS argued that wages growth in the Territory, one factor influencing the economic outlook identified in PWC Networks' regulatory proposal, did not extend to all retail customers, particularly those on low incomes who continue to struggle with existing electricity prices, let alone any future increase. NTCOSS did not provide further details of this analysis.
- 7.23 NTCOSS also commented that the growth in solar PV installations was not occurring in low income households and encouraged the Territory Government to find creative solutions to make energy efficiency measures more accessible to low income households.
- 7.24 Dr Clark noted in his submission that obtaining basic electricity system data on Territory electricity networks had been difficult, therefore he had limited capacity to present quantitative arguments. Dr Clark advised that demand data for the Darwin-Katherine electricity network had been obtained (and incorporated in modelling work examining the impact of solar PV installations) from PWC Networks, but that it was considered commercial-in-confidence. He urged the Commission to act aggressively in facilitating data requests into the public domain in all cases except where a clear and strong case of commercial sensitivity existed.
- 7.25 Dr Clark also submitted that the arrival of retail parity for solar PV installations represents a key challenge for PWC Networks, yet PWC Networks' regulatory proposal made no material attempt to examine this challenge and it would be difficult for the Commission to make a rational assessment of the totality of PWC Networks' proposal.

Issues and Commission's Initial Considerations

- 7.26 With technical advice from PB, the Commission undertook a review of whether the demand forecasts and projected growth scenarios proposed by PWC Networks were realistic using the principles set out in the NER as a guide. The Commission reviewed

³⁷ PWC Networks' regulatory proposal page 47 cited Deloitte Access Economics, Territory Economic Review, July 2013, page. 11.

³⁸ Ibid, page. 47.

³⁹ NTMEU, Submission to the Utilities Commission on Power and Water Corporations Network Pricing proposal: 2014 Regulatory Reset, page.20.

the realism and reasonableness of the growth forecast, retail customer number forecast, projected retail customer usage and growth scenarios in the documentation provided by PWC Networks.

- 7.27 The Commission observed that PWC Networks' demand forecasts tended to prefer data indicative of higher growth, which might not be sustainable over time and might not be supported by other indicators of potential demand. For example, building approvals were relatively flat over the period from June 2009 and June 2013.⁴⁰ Also, steeply rising penetration of solar PV installations in the Territory electricity market appeared to indicate the contrary view: solar PV installation applications have risen from 284 in 2010-11 to 579 in 2012-13.⁴¹ The growth in penetration of solar PV installations combined with other energy efficiency incentives would mitigate against continually increasing peak demand over the 2014-19 regulatory control period.
- 7.28 The Commission acknowledged PWC Networks' proposed growth rate was based on a range of factors including population growth forecast of 1.5 per cent, historical connection growth rate of 3.8 per cent and a five-year rolling average in dwelling approvals of 2.7 per cent and an historical growth in gross state product of 3.9 per cent.
- 7.29 PWC Networks' review and preparation of historical data as well as its weather normalisation practice generally aligned with industry practice. However, there were concerns about PWC Networks' general application of a least squares regression model and associated adjustments. Specifically, the use of a least squares regression model to project the linear trend component of the historical data inherently assumed that the underlying drivers of this linear trend would continue, unmodified, for the 2014-19 regulatory control period. To account for this inherent limitation, PWC Networks applied adjustments based on expert judgement to derive resultant forecasts that considered factors such as expected economic conditions, technology, social impacts, spot loads and network configuration changes.
- 7.30 The Commission noted that spot loads and network configuration adjustments were documented at the time of the forecast through the 'Load Log Table' and a 'Transfer Log Table' respectively and that this practice provides transparency, repeatability and supported an independent objective review of the forecast. However, while PWC Networks' Forecasting Procedure noted that the forecasting process included consideration of 'adjustments for changes in key drivers', and that the 'projection of regional demand is made after the consideration of economic indicators', details of the method by which such adjustments were achieved were not provided.
- 7.31 An examination of examples of the forecasting procedures exhibited adjustments being made without supporting documentation to provide specific justification for these adjustments, the methodology used to apply the adjustments, details of the judgements employed or their impact on the forecasts.
- 7.32 The Commission's view was that PWC Networks' forecasting methodology was not sufficiently transparent or repeatable as details of the expert judgements employed were not clearly documented. Furthermore, the lack of documented detail regarding

⁴⁰ PWC Networks' regulatory proposal page 47 cited Deloitte Access Economics, Territory Economic Review, July 2013, page. 11

⁴¹ Ibid, page. 48

the expert judgements employed did not make it possible to objectively assess if there had been an appropriate incorporation of key drivers of demand and exclusion of unjustified drivers.

- 7.33 Following examination of a number of forecasting examples, the Commission's view was that the adjustments applied exhibit an upward bias in the trend derived directly from the least squares fit process.
- 7.34 While an increasing linear rate of growth in the forecast above the historical trend might be appropriate where the underlying drivers of demand were in the main expected to increase, no evidence was provided to support this upward bias.
- 7.35 The Commission shared the NTMEU's view that PWC Networks tended to overestimate growth in demand. PB's view was that a three-year deferral in demand, particularly in the mid to latter part of the 2014-19 regulatory control period, should be applied when interpreting PWC Networks' demand forecasts. The Commission did not develop an alternative demand forecast but rather relied on PB's recommendations of where deferrals were warranted for some zone substation replacement projects (Casuarina by one regulatory year, Berrimah by two regulatory years and East Arm and Lovegrove to outside the 2014-19 regulatory control period).
- 7.36 The Commission noted that while the 2011-12 Power System Review identified that PWC Networks' approach to network demand forecasting was reasonable, for the purposes of determining the demand-supply balance, the Commission's assessment of reasonableness for the 2014 Network Price Determination was based on the AER's approach that PWC Networks' forecasting techniques should demonstrate the following characteristics:
- accurate and unbiased data – an unbiased forecast of demand should include careful management of data quality (for example, removal of outliers, spurious values, data normalisation), and the forecasting model construction should be based on sound theoretical grounds that closely fit the observed data;
 - transparency and repeatability – as evidenced by good documentation, including documentation of the use of judgment, which ensures consistency and minimises subjectivity in forecasts;
 - appropriate incorporation of key drivers (inputs) of demand and exclusion of spurious drivers;
 - model validation and testing – including, where appropriate, assessment of statistical significance of explanatory variables, 'goodness of fit', in-sample forecasting performance of the model against actual data, diagnostic checking of the old models and out-of-sample forecast performance;
 - accuracy and consistency of forecasts at different levels of aggregation – affects the overall reasonableness of the forecasts as accuracy at the total level may mask errors at lower levels that cancel each other out; and
 - use of most recent input information.
- 7.37 An overestimation of demand for the purposes of the Power System Review might be less critical than identifying areas of potential under supply, but, for the 2012-13 Power System Review, the Commission advised that it would consider the analysis undertaken as part of the 2014 Network Price Determination with the objective of providing a more robust demand forecasting assessment.
- 7.38 The Commission stated that it understood the issues raised by the NTCOSS submission on affordability, demand growth and ability for low income households to

implement energy efficiency measures (such as solar PV installations). However, the regulation of retail charges for small and medium retail customers and the application of subsidy schemes, such as the Pensioner Concession Scheme, were matters of Territory Government policy and not within the authority of the Commission and the Draft Determination.

- 7.39 The level of retail customer connections was the primary cost driver of the forecast network user initiated capex. The Commission noted that PWC Networks' retail customer connection forecast was developed using similar techniques to the demand forecasts, specifically least squares regression and adjustments based on expert judgement to account for factors that impact on retail customer number growth (for example, forward economic conditions).
- 7.40 In relation to retail customer connection forecasts, the Commission again noted that the adjustments were made based on expert judgements that were not clearly documented.
- 7.41 It was noted that the ABS demographics data shows that the population of the Territory grew by 4,297 persons per annum on average across the five years from 2007-08 to 2011-12. While over the forecast period from 2011 to 2021, the ABS was projecting a population increase of 3,600 persons per annum on average, a reduction in population growth of about 16 per cent on average.
- 7.42 In contrast, analysis of PWC Networks' retail customer connection forecast showed that, over the five years from 2008-09 to 2012-13, PWC Networks connected 1 718 retail customers per annum on average. However, over the 2014-19 regulatory control period, PWC Networks forecasts connections of 2 075 customers per annum, on average, a 21 per cent increase over the historical average. Based on these numbers, historically there was one connection made for each 2.5 persons, while PWC Networks' forecasts reflected one connection made for each 1.7 persons (an average 31 per cent change in this ratio over five years).
- 7.43 The Commission considered that an increase in the average number of retail customers connecting per annum might be reasonable, but the basis for the significant increase in annual average connections and the implied connections per head of population had not been demonstrated by PWC Networks. The Commission considered that PWC Networks' retail customer connection forecasts were biased and overestimated.
- 7.44 The Commission also noted that PWC Networks' retail customer connection forecast did not consider the various types of retail customer connections. The approach did not account for the mix of retail customer types and the associated mix of connection types (for example, small commercial, large commercial, industrial, residential).
- 7.45 The Commission understood that connection costs vary considerably by connection type and, therefore, forecasting the total number of connections did not allow the mix of retail customer connection types to be reflected into the network user initiated capex forecasts and introduced additional variance into the capex forecast's unit cost estimate.

Commission's Draft Decision

- 7.46 The Commission considered that the growth in forecast demand submitted by PWC Networks was likely to be overstated but, in lieu of an alternative authoritative

demand forecast, the Commission adopted PB's recommendations to defer the proposed costs for some zone substation replacement projects.

- 7.47 PWC Networks' retail customer connection forecasts were considered by the Commission to be biased and overestimated. While an increase in the average number of retail customers connecting per annum might be reasonable, the basis for the significant increase in annual average connections and the implied connections per head of population had not been demonstrated. Therefore, the Commission could not conclude that the retail customer connection forecasts proposed by PWC Networks were reasonable.
- 7.48 The Commission's decision in the Draft Determination was that it would make adjustments to the capex forecasts for the 2014-19 regulatory control period on the basis that PWC Networks' forecast demand and retail customer connections were biased and overestimated and the proposed capex forecast was not efficient.

PWC Networks' Revised Regulatory Proposal

- 7.49 PWC Networks accepted the Commission's view that documentation supporting the forecast process and justification of specific adjustments could be improved.
- 7.50 However, PWC Networks did not accept that its global demand forecasts were biased or over-estimated. PWC Networks argued that:
- the deferment assessment made by PB was arbitrary and appeared to be based solely on other Australian jurisdictions when there is clear evidence that the Northern Territory is experiencing independent growth drivers (page.31)*
- 7.51 PWC Networks submitted that, as the Territory is strongly resource based, it was not reasonable to infer that the downturn experienced in other jurisdictions would apply to the Territory.
- 7.52 While not accepting the Commission's view that its spatial demand forecasts were also over-estimated, PWC Networks reviewed the capex projects that the Commission considered could be deferred and revised some of its capex forecasts. The revised capex forecasts are discussed in Chapter 9 of this Statement of Reasons.
- 7.53 PWC Networks did not accept the Commission's substituted forecast for new retail customer connections, arguing that it did not take account of historical growth in the number of retail customer connections, or the trends of closely related economic indicators.
- 7.54 PWC Networks also noted that the Commission had not made criticisms of PWC's forecasting methodology in previous Power System Reviews.

Submissions on Draft Determination and Revised Regulatory Proposal

- 7.55 The NTMEU commented that great care is needed to assess growth forecasts as experience from other jurisdictions was that network service providers consistently overstate expected demand and consumption. The NTMEU also noted that the Australian Energy Market Operator (AEMO) has recently reduced its forecast for demand and consumption in the NEM.

- 7.56 The NTMEU considered that as PWC Networks had an incentive to overstate its forecasts, the views of an independent reviewer such as PB should carry greater weight than PWC Networks' demand forecasts.
- 7.57 No other submissions were received on PWC Networks' demand forecasts.

Issues and Commission's Further Considerations

- 7.58 The Commission has been unable to develop alternative demand forecasts with any confidence due to lack of robust data provided by PWC Networks. Information on drivers of demand in the individual zone substations is limited and the time series for each zone substation covers at most from 2007-08 to 2012-13 which limits the confidence in individual estimates for each zone substation.
- 7.59 The lack of a robust alternative forecast however, does not mean that the Commission must accept the forecasts provided by PWC Networks. The Commission notes the NTMEU's comment that network service providers who receive a regulated income stream are generally more inclined to over-estimate their expenditure requirements.
- 7.60 PWC Networks has provided little additional information to support its demand forecasts other than to restate a general contention that national trends cannot be applied in the Territory and that PWC Networks' adjustments which are based on expert judgement, while undocumented, were valid.
- 7.61 PWC Networks has provided some additional information in support of its new retail customer connection forecast. Actual new connections for the year to date, when extrapolated, confirm PWC Networks forecast for the 2013-14 regulatory year, and recently released demographic statistics.
- 7.62 The Commission notes PWC Networks' argument that growth has been high in recent years. The ABS however, forecasts that population growth is to peak in the 2013-14 regulatory year and to grow at a slower rate throughout the 2014-19 regulatory control period.
- 7.63 Overall, the Commission does not consider that PWC Networks has provided any information that changes the view expressed by the Commission in its Draft Determination.
- 7.64 Under a revenue cap form of control, demand forecasts mainly impact on the assessment of the capital expenditure required for extension of an electricity network. Accordingly, the Commission considers that, given the lack of adequate historic data available for the development of an alternative authoritative demand forecast, PB's recommendations to defer proposed costs for some zone substation replacement projects reasonably reflects the capital expenditure objectives, capital expenditure criteria and capital expenditure factors as adapted to apply in the Territory electricity market.
- 7.65 The Commission addressed the different requirements of a network price determination and the Power System Review in the Draft Determination with respect to demand forecasts and the need for a more stringent approach for the former.
- 7.66 The context of the Power System Review and a network price determination are different. A Power System Review considers the demand-supply balance at the global level. A network price determination looks at a more granular level, that is, down at the substation and line level, to determine whether the proposed capital expenditure at that level is adequate.
- 7.67 A Power System Review looks at demand from both a top-down and bottom-up perspective, and the Commission acknowledges that, ideally, the bottom-up analysis

for a Power System Review should have similar requirements to the network price determination. However, for a Power System Review the granular level of demand analysis is not as important as in the network price determination and in 2011-12 Power System Review the Commission accepted the demand estimates were within the normal methodology for system level understanding.

- 7.68 The analysis undertaken as part of the 2014 Network Price Determination will be considered in the Power System Review for 2012-13 with the objective of providing a more robust demand forecasting assessment.

Commission's Final Decision

- 7.69 The Commission's view on the demand forecasts remains consistent with its views set out in the Draft Determination.
- 7.70 The Commission considers that demand forecasts provided by PWC Networks are over-estimated for the purposes of assessing the proposed load driven capex for the 2014 Network Price Determination.

CHAPTER 8

Maintaining Quality, Reliability and Security of Supply

Introduction

- 8.1 Standards of quality, reliability and security of supply are key considerations of the Commission in setting a network price determination and identifying the optimum balance between price and service levels – a trade-off known as the regulatory bargain.
- 8.2 PWC Networks' network licence requires it to operate, maintain (including repair and replace as necessary) and protect its electricity network in accordance with the Network Access Code and the Network Technical Code. PWC Networks is also required to supply reliable and secure electricity. Many of the requirements in this broad obligation overlap with other specific regulatory obligations and requirements applying to PWC Networks. For example, PWC Networks is subject to reliability targets established under the ESS Code⁴² and the GSL Code.⁴³

Regulatory Requirements

NT Electricity Standards of Service Code

- 8.3 Clause 68 of the Network Access Code requires the Commission, in setting a revenue cap or price cap, to take into account the revenue requirements of PWC Networks during the relevant regulatory year or regulatory years having regard to a number of factors.
- 8.4 One of these factors is:
- (b) the service standards applicable to the network provider under this Code and any other standards imposed on the network provider by any regulatory regime administered by the regulator and by agreement with the relevant network users;*
- 8.5 The ESS Code, implemented on 1 December 2012, applies to all electricity entities providing generation, network and retail services on PWC Networks' electricity network, excluding independent power producers, and establishes services and performance measures for PWC Networks.
- 8.6 The objectives of the ESS Code are to:
- establish standards of service and performance measures in the electricity supply industry;
 - develop, monitor, and enforce compliance with, and promote improvement in, standards of service of supply in the electricity supply industry; and

⁴² Utilities Commission, [Northern Territory Electricity Standards of Service Code](#), December 2012.

⁴³ Utilities Commission, [Northern Territory Guaranteed Service Level Code](#), January 2012.

- require electricity entities such as PWC Networks to have adequate systems in place which allow for regular reporting of actual performance in accordance with the ESS Code.

8.7 The ESS Code sets out the processes and obligations for establishing, amending and meeting the approved target standards to be met by electricity entities, including PWC Networks.

8.8 The targets must be set for the performance indicators included in Table 8.1 below.⁴⁴

Table 8.1: Network target standards and segmentation

Target Standards	Segmentation
Adjusted distribution network performance indicators	
System average interruption duration index (SAIDI)	By distribution feeder type (CBD, urban, short rural, long rural)
System average interruption frequency index (SAIFI)	By distribution feeder type (CBD, urban, short rural, long rural)
Adjusted transmission network performance indicators	
Average circuit outage duration (ACOD)	By transmission network
Frequency of circuit outage (FCO)	By transmission network
Average transformer outage duration (ATOD)	By transmission network
Frequency of transformer outages (FTO)	By transmission network

8.9 The targets set and approved by the Commission in accordance with clause 3.1 of the ESS Code will apply for the duration of the 2014-19 regulatory control period.

8.10 The process for approving the relevant targets is based on a propose-approve model, with PWC Networks to apply a methodology identified in the ESS Code, based on:

- segmenting the targets in accordance with the feeder categories specified in the Feeder Category Guidelines issued by the Commission;⁴⁵
- averaging the data from the preceding five financial years; and
- applying adjustments to the interruptions⁴⁶ by excluding those events that are considered outside the control of PWC Networks.

8.11 In accordance with clause 3.1 of the ESS Code, the Commission considered the distribution targets developed by PWC Networks and submitted to the Commission on 1 March 2013.

8.12 The Commission did not approve the proposed distribution targets submitted by PWC Networks as they did not meet the objectives of the ESS Code which, inter alia, aim to:

...promote improvement in standards of service by electricity entities in the electricity supply industry.

⁴⁴ ESS Code clause 3.1.2(a) and Schedule 2.

⁴⁵ The Feeder Category Guidelines were developed in accordance with the ESS Code on 1 December 2012.

⁴⁶ All network interruptions excluding those of less than one minute in duration.

- 8.13 In making its decision, the Commission also had regard to PWC Networks' historical performance, retail customers' willingness to pay and the performance of comparable DNSPs in other Australian jurisdictions.
- 8.14 On 12 July 2013, the Commission approved the network performance target standards applicable to PWC Networks for the 2014-19 regulatory control period.
- 8.15 Pursuant to clause 3.1.8 of the ESS Code, the Commission set distribution targets using an improvement factor of:
- 5 per cent applicable to CBD, urban and short rural feeders; and
 - 10 per cent applicable to long rural feeders due to their exceptionally poor historical performance.
- 8.16 The Commission has approved the distribution targets contained in Table 8.2 below.

Table 8.2: Distribution targets set by the Commission

Feeder category	Distribution Targets	
	SAIDI	SAIFI
Rural long	2,164.9	35.1
Rural short	496.3	8.1
Urban	136.0	2.5
CBD	18.8	0.4

- 8.17 The Commission has approved the transmission targets proposed by PWC Networks and contained in Table 8.3 below.

Table 8.3: Transmission targets set by the Commission

Transmission performance indicators	Target
ACOD	358.8
FCO	49.0
ATOD	123.3
FTO	0.8

Guaranteed Service Level Code

- 8.18 In late 2011, the Commission made a GSL Code to set out the arrangements for payments by PWC Networks to small retail customers who receive poor levels of service.
- 8.19 The GSL Code is based on the recommendations arising from the Review of Options for Implementation of a Customer Service Incentive Scheme for Northern Territory Electricity Customers⁴⁷ and consultation with electricity industry participants.

⁴⁷ Utilities Commission, [Customer Service Incentive Scheme for Northern Territory Electricity Customers Final Report](#), July 2010.

- 8.20 All Australian jurisdictions have established GSL schemes for electricity network service performance, although the services subject to penalty payments and the applicable payment levels vary widely.
- 8.21 The GSL Code took effect from 1 January 2012, with a staged approach to the implementation of payments for various service performance measures. The GSL Code came into full force on 1 July 2012.
- 8.22 The GSL Code applies to retail customers using less than 160 MWh per year in the electricity networks of Darwin-Katherine, Alice Springs and Tennant Creek.
- 8.23 Under the GSL Code, if PWC Networks does not meet the guaranteed service levels as specified in the GSL Code, PWC Networks must make a GSL payment to the eligible small retail customer in accordance with the GSL Code.
- 8.24 While GSL schemes are designed to provide an incentive for a network service provider to improve service to its worst-served retail customers, reliability expenditure is fundamentally driven by the need to meet average targets across all retail customers connected to an electricity network. A network service provider can be fully compliant with average reliability standards and still be required to make payments under a GSL scheme, as there will inevitably be poorer outcomes for some individual retail customers.
- 8.25 The GSL Code sets payments from PWC Networks to an eligible retail customer who has experienced exceptionally poor service. GSL payments are not intended to be compensation but rather some recognition for poor service.
- 8.26 GSL schemes are generally funded through the operational costs of a network service provider and approved by the relevant regulator through network price determinations. The cost of the scheme is therefore borne by the network service provider's customer base.
- 8.27 The level of funding for GSL payments for PWC Networks for the 2014-19 regulatory control period is discussed in Chapter 10. Should the total actual GSL payments made over the 2014-19 regulatory control period be below or above the estimated provision approved by Commission, PWC Networks will retain or absorb the difference.

National Electricity Rules

- 8.28 Under the NER, accountability for delivering distribution services lies with the applicable DNSP. The AER, through its service target performance incentive scheme and efficiency benefit sharing scheme, places incentives on DNSPs to improve distribution system reliability to all retail customers. The schemes aim to ensure that any cost savings achieved by a DNSP during a regulatory control period do not come at the expense of service standards. In addition, the AER's demand management and embedded generation incentive scheme provides DNSPs with additional incentives to manage demand.
- 8.29 The AER published its first service target performance incentive scheme in June 2008, in accordance with clause 6.6.2 of the NER. An amended version of the scheme was published in November 2009.
- 8.30 While the regulatory regime as a whole encourages a business to improve its operating and capital efficiency, the service target performance incentive scheme is designed to ensure that this increase in efficiency is not at the expense of a deterioration in service performance for retail customers. Further, the service target performance incentive scheme is intended to encourage a business to improve its

service performance where retail customers are willing to pay for these improvements.

- 8.31 The AER's service target performance incentive scheme comprises four components being the:
- 'reliability of supply' component;
 - 'quality of supply' component;
 - 'customer service' component; and
 - GSL component.
- 8.32 Under the 'reliability of supply', 'quality of supply' and 'customer service' components of the scheme, a DNSP's revenue is increased (or decreased) based on changes in service performance, as assessed by the AER in accordance with the scheme. This is achieved by including an S factor component in the price control mechanism, so that DNSPs are penalised (or rewarded) for diminished (or improved) service compared to predetermined targets.
- 8.33 Under the GSL component, payments are made directly to retail customers where the service performance received is worse than a specified threshold.
- 8.34 As part of a distribution determination, the AER determines whether one or more components of the scheme may apply to a DNSP. However, jurisdictional schemes take precedence and the AER will only consider applying components of its service target performance incentive scheme where there is no applicable jurisdictional scheme. For example, for those jurisdictions which have a GSL scheme in place, the AER does not apply that component of the service target performance incentive scheme in that jurisdiction.
- 8.35 The AER's service target performance incentive scheme also includes information and reporting requirements for annual reporting by DNSPs of actual performance against the parameters applicable to it as set out in the relevant distribution determination.

Framework and Approach

- 8.36 In its Framework Statement, the Commission stated that it would be premature for the 2014 Network Price Determination to require PWC Networks to comply with a service target performance incentive scheme⁴⁸ since PWC Networks will have had only limited exposure to the new service standards. Instead, the Commission would rely on the GSL Code to drive reliability improvements in poorly performing areas of PWC Networks' electricity network, and on the targets and reporting framework established under the ESS Code to encourage reliability improvements across the electricity network as a whole.

PWC Networks' Initial Regulatory Proposal

- 8.37 PWC Networks' initial regulatory proposal noted that the Commission approved the targets required under the ESS Code on 12 June 2013. However, PWC Networks advised that it was currently reviewing its proposed reliability capital expenditure,

⁴⁸ Utilities Commission, [2014 Network Price Determination: Framework and Approach Decision Paper](#), November 2012, page 77.

vegetation management program, unplanned corrective maintenance and GSL payment forecasts to account for the new ESS targets.

- 8.38 PWC Networks advised that it had prepared its expenditure forecasts on the basis of the former standards. PWC Networks foreshadowed a variation to the expenditure forecasts in its revised regulatory proposal (required to be submitted within 20 business days of the release of the Draft Determination) to meet the revised reporting standards and targets standards set under the ESS Code.

Submissions on Initial Regulatory Proposal

- 8.39 The Commission did not receive any submissions on the service standards proposed in PWC Networks' initial regulatory proposal.
- 8.40 The NTMEU noted that the fact that the Commission had implemented the GSL scheme late in the 2009-14 regulatory control period warranted an increase in opex. However, the NTMEU also noted that PWC Networks cited step changes resulting in increased staffing for a variety of additional activities but there was no detailed explanation of these step changes and what caused those changes to be implemented.

Issues and Commission's Initial Considerations

- 8.41 The purpose of the Network Price Determination process is to ensure that secure, safe and reliable services are provided to retail customers at a fair and reasonable price. A customer-focused culture and a culture of not only regulatory compliance, but also regulatory outperformance, is inherent in the pricing process.
- 8.42 The Commission noted that PWC Networks' capex and opex forecasts had been developed based on the service standard targets in place prior to those approved by the Commission in June 2013 and foreshadowed revised forecasts to meet the ESS targets.
- 8.43 The Commission noted that the new standards were introduced in July 2013, three months before PWC Networks submitted its initial regulatory proposal. Further, the Commission considered that there was significant funding provided to implement the recommendations of the Davies Review, and there should be significant reliability benefits associated with this expenditure.

Commission's Draft Decision

- 8.44 The Commission considered that the ESS Code and GSL Code established the appropriate standards for the service element of the regulatory bargain and formed an appropriate basis for determining the capex and opex required in the 2014-19 regulatory control period.
- 8.45 The Commission's draft decision was that the standards of quality, reliability and security of supply to be delivered in the 2014-19 regulatory control period were the standards established in the Commission's ESS Code and GSL Code.

PWC Networks' Revised Regulatory Proposal

- 8.46 PWC Networks provided information on its actual performance against the new target standards established in July 2013.

- 8.47 PWC Networks noted that improvements will be required in the 2014-19 regulatory control period to meet some of the new standards and outlined a range of programs being undertaken to achieve this.
- 8.48 PWC Networks updated its forecast costs for its feeder upgrade capex project and its vegetation management opex to meet the required performance standards.

Submissions on Draft Determination and Revised Regulatory Proposal

- 8.49 The NTMEU noted that PWC Networks has generally not met service performance targets in the past and could have difficulty meeting the improved standards set for the 2014-19 regulatory control period.
- 8.50 The NTMEU considered that the Commission should couple the new service performance targets with an incentive to assist PWC Networks achieve the performance expected, similar to the service target performance incentive scheme applied by the AER in the NEM.
- 8.51 No other submissions were received on standards of quality, reliability and security of supply to apply for the 2014-19 regulatory control period.

Issues and Commission's Further Considerations

- 8.52 The Commission's considerations regarding PWC Networks proposed revisions to its forecast capex and opex proposals to meet the new performance standards are discussed in Chapters 9 and 10 of this Statement of Reasons.
- 8.53 The Commission identified in its Framework Statement and confirmed in the Draft Determination that it would be premature for the 2014 Network Price Determination to apply a service target performance incentive scheme to PWC Networks, since PWC Networks has had only limited exposure to the new service standards.

Commission's Final Decision

- 8.54 The Commission's view remains consistent with its views set out in the Draft Determination.
- 8.55 The standards of quality, reliability and security of supply that are to be delivered in the 2014-19 regulatory control period are the standards established in the ESS Code and GSL Code.

CHAPTER 9

Forecast Capital Expenditure

Introduction

- 9.1 This chapter sets out the Commission's decision on the total capital expenditure required by PWC Networks for the 2014-19 regulatory control period. It also:
- discusses the framework the Commission has applied in assessing PWC Networks' proposed capex forecast;
 - discusses the outcomes of the 2009-14 regulatory control period;
 - provides a general overview of PWC Networks' proposed capex forecast;
 - lists comments made by stakeholders on PWC Networks' proposed capex forecast; and
 - sets out the Commission's considerations and responses to stakeholder comments.

Regulatory Requirements

Network Access Code

- 9.2 Clause 68 of the Network Access Code requires the Commission, in setting a revenue cap or price cap, to take into account the revenue requirements of PWC Networks during the relevant regulatory year or regulatory years having regard to a number of factors.
- 9.3 One of these factors is:
- (e) *the provision of a return on efficient capital investment undertaken by the network provider in order to maintain or extend network capacity that is commensurate with the commercial and regulatory risks involved;*

National Electricity Rules

- 9.4 Clause 6.5.7(a) of the NER provides that a building block proposal must include the total forecast capex for the relevant regulatory control period which a DNSP considers is required in order to achieve each of the following capital expenditure objectives:
- (1) *meet or manage the expected demand for standard control services over that period*
 - (2) *comply with all applicable regulatory obligations or requirements associated with the provision of standard control services*
 - (3) *to the extent that there is no applicable regulatory obligation or requirement in relation to:*
 - (i) *the quality, reliability or security of supply of standard control services; or*
 - (ii) *the reliability or security of the distribution system through the supply of standard control services;*

to the relevant extent:

 - (iii) *maintain the quality, reliability and security of supply of standard control services;*

and

- (iv) *maintain the reliability and security of the distribution system through the supply of standard control services; and*
- (4) *maintain the safety of the distribution system through the supply of standard control services.*
- 9.5 The DNSP's proposed capital expenditure forecast must also comply with any relevant regulatory information instrument, for expenditure that is properly allocated to standard control services in accordance with the principles and policies in the DNSP's CAM and include and identify several other matters specified in clause 6.5.7(b) of the NER.
- 9.6 Clause 6.5.7(c) of the NER provides that the AER must accept the forecast of required capex included in a DNSP's building block proposal if it is satisfied that the total of the forecast capex for the regulatory control period reasonably reflects each of the following capital expenditure criteria:
- (1) *the efficient costs of achieving the capital expenditure objectives*
 - (2) *the costs that a prudent operator would require to achieve the capital expenditure objectives*
 - (3) *a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objectives.*
- 9.7 In making this assessment, the AER must have regard to the capital expenditure factors in clause 6.5.7(e) of the NER. These capital expenditure factors were amended in the November 2012, with a stronger emphasis being placed on benchmarking and a new factor included to address the concerns identified by electricity consumers. Provision was also made for projects excluded from capex forecasts to be included as contingent projects.
- 9.8 Clause 6.5.7(d) of the NER states that, if the AER is not satisfied that a DNSP's forecast capex reasonably reflects the capital expenditure criteria, the AER must not accept the DNSP's forecast required capex.
- 9.9 If the AER does not accept the proposal, then clause 6.12.1(3) of the NER requires the AER to set out its reasons for that decision and an estimate of the total of the DNSPs required capital expenditure that it is satisfied reasonably reflects the capital expenditure criteria, taking into account the capital expenditure factors outlined in clause 6.5.7 of the NER.

Framework and Approach

- 9.10 In its Framework Statement, the Commission stated that its preferred approach was to assess PWC Networks' proposed capex forecast against the requirements of clause 6.5.7 of the NER.

Current Period Outcomes

- 9.11 The Commission has been unable to undertake a detailed analysis of capital expenditure outcomes with respect to the total required capex set by the Commission for the 2009-14 regulatory control period, as the 2009 Network Price Determination was not based on a building block approach and did not contain a bottom up assessment of proposed capex projects. Instead, the Commission applied a TFP-style approach to escalate the total revenue requirement in line with what the Commission would expect an efficient network service provider to require.

- 9.12 The Commission has backcast the 2009 Network Price Determination to estimate the total required capex that would have given rise to the same revenue outcomes. The estimated total required capex, the increase attributable to the cost pass through approved by the Commission in May 2013⁴⁹ and PWC Networks' actual and forecast capex spend for the 2009-14 regulatory control period are shown in Table 9.1.
- 9.13 PWC Networks is expected to exceed the estimated capex requirement, including the additional cost pass through, by \$58.6 million (14 per cent).
- 9.14 PWC Networks identified the main drivers of the overspend as PWC Networks' implementation of the Davies Review recommendations, the need for significant expenditure related to remedial works following the Casuarina Zone Substation failure in late 2008, and the subsequent enhancement of PWC Networks' network asset management regime.

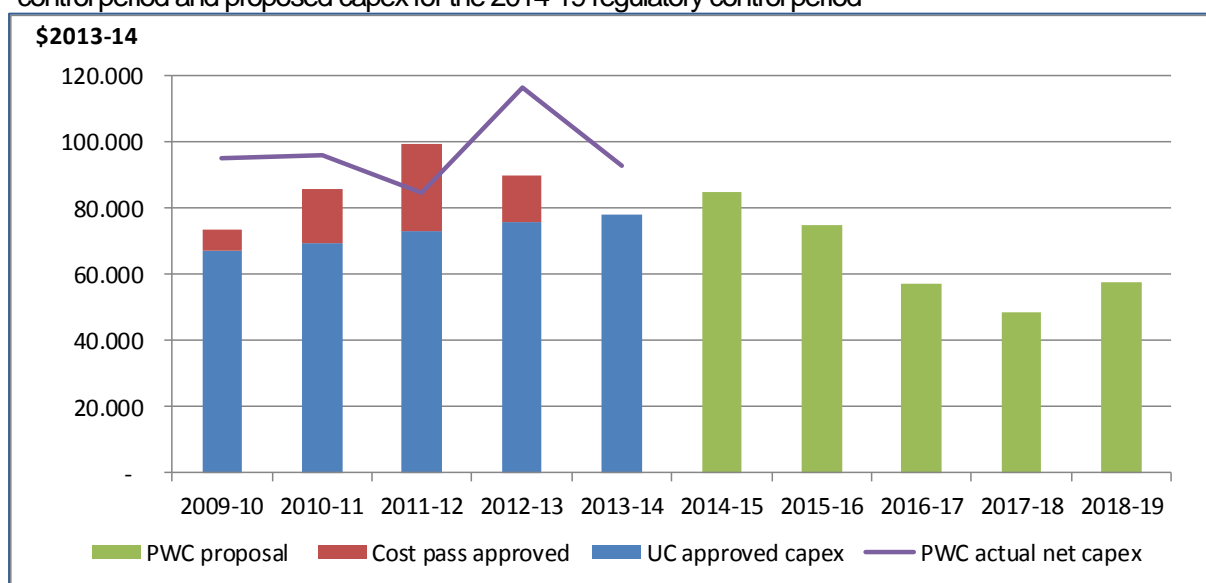
Table 9.1: Capex outcomes for PWC Networks for 2009-14 regulatory control period (\$M, 2013-14)

	2009-10	2010-11	2011-12	2012-13 (f)	2013-14 (f)	Total
(est) Regulatory allowance	67.36	69.48	73.33	75.79	78.02	363.98
Additional cost pass through ^(a)	6.19	16.52	26.32	14.15	0.00	63.18
	73.54	86.00	99.65	89.94	78.02	427.16
Actual net capex	95.15	96.34	84.82	116.37	93.10	485.77
Overspend	21.60	10.34	(14.83)	26.42	15.08	58.61

Source: Utilities Commission; PWC Networks' initial regulatory proposal, converted to real terms using ABS CPI data.

^(a) Cost pass through associated with implementation of recommendations from the Davies Review, approved by the Commission in May 2013.

Figure 9.1: Capex allowance (including cost pass through) and actual capex for the 2009-14 regulatory control period and proposed capex for the 2014-19 regulatory control period



⁴⁹ Utilities Commission, [Cost Pass Through Application Final Determination](#), May 2013.

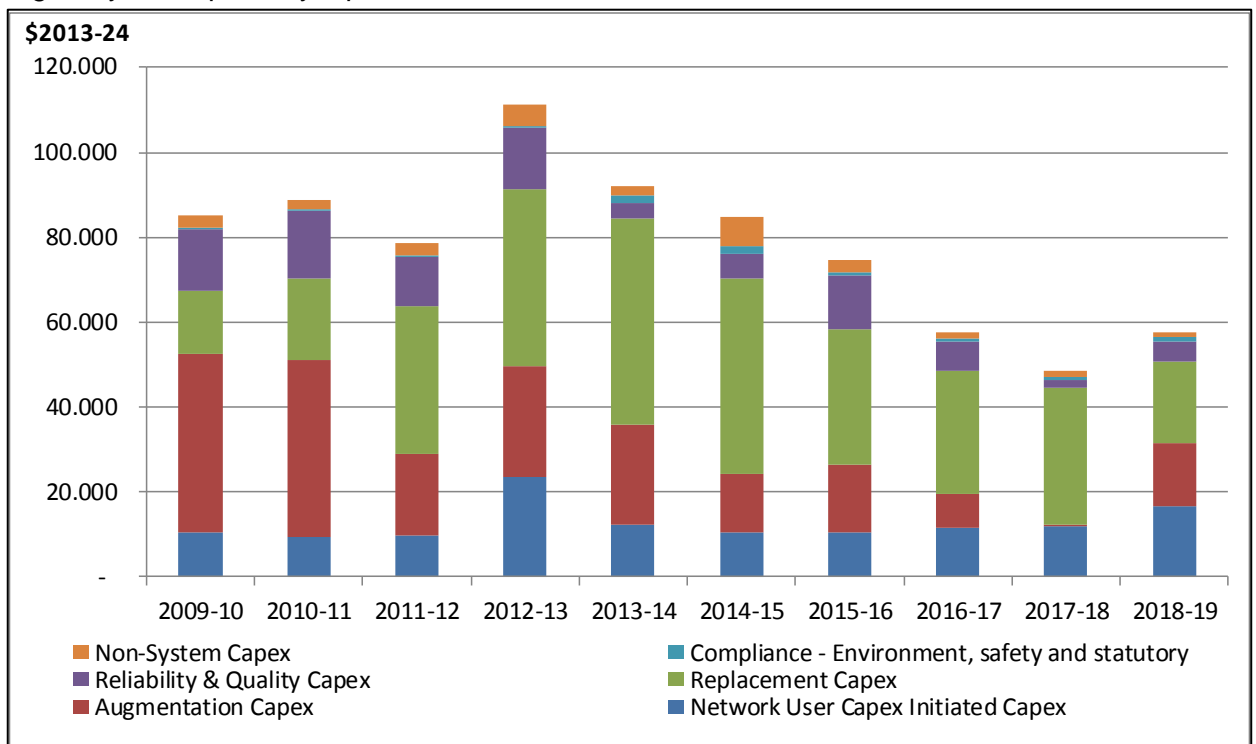
9.16 PWC Networks' initial capex forecast for the 2014-19 regulatory control period was approximately 24 per cent (in real terms) lower than the estimated total required capex (including the cost pass through) for the 2009-14 regulatory control period and 29 per cent (in real terms) lower than expected actual capex.

Table 9.2: PWC Networks proposed capex for the 2014-19 regulatory control period (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
User initiated	10.39	10.59	11.47	12.10	16.61	61.15
Augmentation	13.73	16.02	7.92	0.30	14.99	52.96
Replacement	46.17	31.62	29.23	32.06	18.96	158.05
Reliability	5.69	12.80	6.87	1.87	4.99	32.22
Compliance	1.88	0.82	0.72	0.82	0.79	5.05
Non-system	6.88	2.95	1.24	1.24	1.24	13.54
Total proposed capex	84.74	74.80	57.44	48.39	57.58	322.96

Source: Derived from PWC Networks, initial regulatory proposal, September 2013, RIN template 3.1 (confidential)

Figure 9.2: Actual capex for the 2009-14 regulatory control period and proposed capex for the 2014-19 regulatory control period by capex driver



9.17 PWC Networks identified the following key drivers for its proposed initial capex forecast:

- the intensive program of remedial works to replace or refurbish unserviceable equipment following on from the recommendations of the Davies Review in 2008-2009 is nearing completion. While there is some carry over to the 2014-19 regulatory control period, asset replacements and refurbishments should return to more normal levels towards the end of 2014-19 regulatory control period;

- demand growth is expected to continue at a higher rate than the historical growth rate throughout the 2014-19 regulatory control period. However the 'lumpiness' of capex on major projects such as zone substations and transmission lines results in significant year-on-year expenditure variations in a relatively small electricity network; and
- non-system capex is forecast to decline during the 2014-19 regulatory control period, as the need to acquire modern diagnostic and test equipment for the remedial asset management program has been met in the 2009-14 regulatory control period.

Submissions on Initial Regulatory Proposal

9.18 The NTMEU submitted that PWC Networks was proposing considerably more capex for the 2014-19 regulatory control period than was warranted (especially after what it contended was the massive overspend in 2009-14 regulatory control period), noting that:

Whilst the excessive capex for [the 2009-14 regulatory control period] has been justified on the basis of the large amount of rectification of the failures experienced when seen in comparative terms, the capex proposed for [the 2014-19 regulatory control period] is still excessive when compared to that incurred in [the 2004-09 regulatory control period], despite there being only a modest growth in demand. (page.27)

- 9.19 The NTMEU argued that, while the capex projects nominated by PWC Networks might be justified when viewed from a 'bottom up' basis, a 'top down' assessment of the proposed capex for the 2014-19 regulatory control period did not support the amount of capex proposed by PWC Networks:
- the proposed augmentation capex appeared to exceed forecast expectation of growth;
 - the proposed replacement capex represented a very large proportion of the RAB to be replaced in a five-year period; and
 - PWC Networks' arguments on expenditure to replace ageing assets did not appear to be supported by the asset age profile, with an implied decrease in average asset age in a short period.
- 9.20 The NTMEU also expressed concern that PWC Networks did not provide a sufficiently detailed breakdown of the three capex classifications (augmentation, replacement and non-network) incurred in the 2009-14 regulatory control period, making comparisons with the forecast capex extremely difficult.
- 9.21 No other submissions were received on the PWC Networks' forecast capex.

Issues and Commission's Initial Considerations

- 9.22 The Commission engaged PB to provide independent reviews of the prudence and efficiency of PWC Networks' initial proposed capex forecast. PB's report was released with the Draft Determination.
- 9.23 The Network Access Code provides the Commission with more flexibility in its approach than the NER, which is prescriptive in its treatment of any expenditure that is not fully justified by the DNSP. While PB's review approach considered the NER and was based upon the principles and practices that the AER has applied in its distribution determinations, the Commission directed PB to take into consideration the context in which PWC Networks operates and, specifically, the recent development of

appropriate processes and procedures and limited availability of documentation and data.

- 9.24 In assessing whether the capex forecasts proposed by PWC Networks were prudent and efficient, PB:
- assessed whether PWC Networks had acted efficiently in accordance with good industry practice through a review of capital governance, policy and procedures, cost estimating practices, specific reviews of certain expenditures and the deliverability of the proposed works program;
 - assessed whether there was a justifiable need for the proposed investment within each expenditure category;
 - assessed whether all reasonable options had been considered and the most efficient investment selected to satisfy that need after confirming the need for an investment; and
 - assessed whether those assumptions were reasonable where an investment was based on assumptions about future conditions.
- 9.25 A project was considered prudent if it addressed an identified and justifiable need and the benefits of undertaking the project outweigh the costs. A project was considered efficient if it employed the least cost option to deliver the technical requirements in the required timeframe.

Policies and procedures

- 9.26 The Davies Review identified a number of shortcomings of PWC Networks' substation maintenance practices and risks posed by the uncertain condition of its substation assets at the time of the review, and made a number of recommendations. The recommendations encompassed changes to policies, systems and processes, new reporting systems, increased workforce levels and training, and equipment upgrades.
- 9.27 Accordingly PWC Networks' capital governance framework is relatively new, with new processes and procedures set out and templates developed in the Capital Investment and Delivery Framework implemented in May 2012. The Commission has been advised that PWC Networks has worked closely with peer DNSPs familiar with the requirements of the NER and national regulatory bodies in developing these new policies and procedures.
- 9.28 The Commission noted, however, that PWC Networks is in the early stages of implementing the improved governance framework so evidence of its application is not readily assessable.
- 9.29 The Commission was satisfied that, in general, the principles and practices set out in the Capital Investment and Delivery Framework and associated documents broadly accorded with good industry practice and formed a firm basis for PWC Networks to make efficient and prudent capital investment going forward.

Network user initiated capex and augmentation capex

- 9.30 Network user initiated capex is the expenditure required to construct assets where retail customers seek extensions and upgrades in accordance with PWC Networks' NCCP.⁵⁰ PWC Networks funds that portion of the capex that it can reasonably expect

⁵⁰ The NCCP is discussed in Chapter 16 in the Statement of Reasons.

to recover through reference tariffs over time, with the retail customer making a capital contribution for the cost of the works above this level.

- 9.31 Augmentation capex is the capex required to expand the capacity of PWC Networks' electricity network to meet expected load growth.
- 9.32 Network user initiated capex and augmentation capex were considered together as they both reflect expected growth in PWC Networks' electricity network.
- 9.33 Network user initiated capex and augmentation capex accounted for 35 per cent of PWC Networks forecast capex.
- 9.34 PB examined the largest project associated with network user initiated capex and the two largest augmentation capex projects which were as follows:
- customer augmentation and network extension program, with forecasts based on historical expenditure, adjusted for proposed changes to the NCCP;
 - construction of the East Arm Zone Substation, to address emerging capacity constraints for the Berrimah Zone Substation and the Palmerston Zone substation and constraints on 11kV feeders that are resulting in quality of supply issues; and
 - construction of the Archer to Palmerston 66kV line, to address an expected growth rate of 3.2 per cent in the Palmerston, McMinn and Humpty Doo areas.
- 9.35 The Commission considered that these projects, while prudent, were not efficient. The Commission decided that network user initiated capex should be reduced based on actual 2012-13 capex, construction of the East Arm Zone Substation should be deferred to the Post 2019 regulatory control period and construction of the Archer to Palmerston 66 kV line should be deferred by two regulatory years.

Replacement capex

- 9.36 Replacement capex accounted for 49 per cent of PWC Networks' forecast capex. The primary driver of PWC Networks' replacement capex forecast was the condition of the assets and the increased risk that is introduced by the condition of the assets.
- 9.37 PB examined the six largest replacement capex projects which were as follows:
- replacement of Casuarina Zone Substation 66kv Outdoor Switchyard, to address risk of asset failure;
 - replacement of McMinn's 66/22kV Zone Substation, to address risk of asset failure;
 - replacement of Berrimah Zone Substation, to address risk of asset failure and emerging capacity constraints;
 - new Mitchell Street Switching Station, to address a possible need to vacate premises;
 - asset replacement and upgrade programs composed of 19 sub-programs to replace non-major assets; and
 - meters/metering program composed of four sub-programs – new meter installations, meter replacements, pre-payment meter replacements and smart metering trial.
- 9.38 PB noted that the forecast replacement capex profile was relatively 'front loaded'.
- 9.39 The Commission considered that these projects, while mostly prudent, were not efficient and contained some unnecessary expenditure. The Commission considered that prudent and efficient replacement capex would be achieved by deferring works at the Casuarina and Berrimah Zone Substations by one and two regulatory years respectively, removing some sub-programs as unnecessary in the 2014-19 regulatory control period, and reducing PWC Networks' estimates of unit rate costs.

- 9.40 With respect to the Mitchell Street Switching Station, the Commission noted that PWC Networks was still in negotiations with the City of Darwin Council and might reach an agreement for operation at the current site to continue. Accordingly, this forecast capex was excluded. The Commission advised that it would give consideration to including this as a contingent project when there was legal clarification of the scope for such arrangements to be included in the 2014 Network Price Determination.
- 9.41 The Commission noted arguments from the NTMEU that PWC Networks' proposed replacement capex was excessive as it represented a very large proportion of the RAB to be replaced in the 2014-19 regulatory control period.
- 9.42 While replacement capex may represent a large proportion of PWC Networks' RAB based on dollar value, it does not necessarily represent a large proportion of the units in service. PWC Networks continues to have a large number of older assets in service, with capex prior to the Casuarina event in 2008 being more focused on growth of the electricity network.
- 9.43 Further, the replacement capex as a proportion of the RAB was not inconsistent with that set by the AER for comparable DNSPs.⁵¹

Reliability and quality improvement capex

- 9.44 Reliability and quality improvement capex accounted for 10 per cent of PWC Networks' forecast capex. This was reflective of PWC Networks' move to condition-based maintenance of its electricity network, rather than a run-to-failure regime.
- 9.45 PB examined the largest reliability capex project which was to:
- rebuild the Channel Island Power Station to Hudson Creek 132kV transmission line, to ensure that optimal risk mitigation is achieved.
- 9.46 The Commission considered that this project was prudent but should be undertaken earlier than proposed by PWC Networks as the efficiency of the project would decrease if delivery was deferred.

Real input cost escalation

- 9.47 PB was not required to assess forecast rates of growth in input costs but was required to ensure that forecast changes in input costs were appropriately reflected in the cost escalation calculations performed by PWC Networks in forecasting capex.
- 9.48 PB reviewed the application of escalation in PWC Networks' forecast capex model (refer Table 9.3) and confirmed that the rates applied were those relevant to the capex forecast for the 2014-19 regulatory control period as recommended by consultants engaged by PWC Networks. PB found that PWC Networks' overall capex escalation process was reasonable, however PB did not offer a view about the reasonableness of the escalators themselves.

⁵¹ For example, in the 2010-15 distribution determination for Ergon Energy, replacement capex was 16 per cent of the opening RAB (which had 64 per cent of its life remaining on a weighted average basis) and in the 2010-15 distribution determination for ETSA Utilities, replacement capex was 12 per cent of the opening RAB (which had 38 per cent of its life remaining on a weighted average basis).

Table 9.3: Impact of PWC Networks' real cost escalators on forecast capex for the 2014-19 regulatory control period, (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Base capex	83.45	76.20	57.84	48.06	56.81	322.35
Real cost escalation adjustment	1.30	(1.39)	(0.40)	0.33	0.77	0.61
Total proposed capex	84.74	74.80	57.44	48.39	57.58	322.96

Source: Derived from PWC Networks, initial regulatory proposal, September 2013, RIN template 3.1 (confidential)

- 9.49 The NTMEU expressed concern that PWC Networks' real labour cost escalators did not include a productivity adjustment and, for internal labour, were based on the PWC Enterprise Bargaining Agreement. The NTMEU also noted that the long-term accuracy of forecasters of future labour costs was variable.
- 9.50 The NTMEU accepted that PWC Networks' approach to forecast real material cost changes had regulatory precedent.
- 9.51 The Commission considered the real input cost escalators proposed by PWC Networks were reasonable, taking into account the higher costs generally incurred in the Territory due to its remoteness, lack of economies of scale and pressure arising from such major projects as Ichthys.

Deliverability

- 9.52 The Commission noted that PWC Networks' forecast capex program represented a decrease compared to the level of actual capex in the 2009-14 regulatory control period.
- 9.53 Adjustments to the timing of some capex projects would address the 'front loading' and improve the deliverability of the forecast capex program.
- 9.54 The Commission was satisfied that PWC Networks had resource capability and material procurement processes in place to deliver its proposed capital works program during the 2014-19 regulatory control period.

Commission's Draft Decision

- 9.55 The Commission considered PWC Networks' proposed forecast of required capex of \$323.0 million (\$2013-14) but was not satisfied that the capex proposed by PWC Networks reasonably reflected the efficient capital investment required to be undertaken by PWC Networks in the 2014-19 regulatory control period. Further, the Commission was not satisfied that PWC Networks' forecast capex, taking into account the capital expenditure factors, reasonably reflected the capital expenditure criteria in clause 6.5.7 of the NER.
- 9.56 Following its review of PWC Networks capex proposal, the Commission made the following adjustments to PWC Networks' proposed capex forecast for the 2014-19 regulatory control period.⁵²

⁵² Real cost escalation applied to PB recommendations by the Commission.

- a reduction of \$8.6 million to the network user initiated capex forecast as the forecast has not been sufficiently substantiated;
- a reduction of \$15.8 million to the augmentation capex forecast as the forecast has not been sufficiently substantiated;
- a reduction of \$31.4 million to the asset replacement capex forecast consisting of:
 - \$15.8 million as some components of work were not demonstrated to be prudent and the unit rates underpinning the forecasts were upwardly biased; and
 - \$15.6 million as the Mitchell St Switching Station replacement project was a contingent project,⁵³ dependent on the decision by City of Darwin Council not to extend the lease on the Mitchell Street site; and
- a reduction of \$2.1 million to the capex forecast relating to reliability and quality of supply, as some components of work were not demonstrated to be prudent.

9.57 The Commission also had regard to the capital expenditure criteria set out in the NER, taking into account the capital expenditure factors. The Commission considered this reduction was the minimum adjustment necessary to ensure PWC Networks' capex forecast met the capital expenditure criteria.

9.58 The Commission accepted the real input cost escalators proposed by PWC Networks.

9.59 The Commission's decision in the Draft Determination is shown in Table 9.4 below.

Table 9.4: Commission's decision in the Draft Determination on PWC Networks total required capex for the 2014-19 regulatory control period (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
PWC Networks proposed capex	84.74	74.80	57.44	48.39	57.58	322.96
Adjustment to network user initiated capex	- 1.20	- 1.43	- 1.71	- 2.01	- 2.23	- 8.57
Adjustment to augmentation capex	- 1.73	- 10.28	- 6.05	7.06	- 4.81	- 15.81
Adjustment to replacement capex	- 18.76	- 6.44	- 4.32	- 8.73	- 6.88	- 31.37
Adjustment to reliability capex	10.93	- 5.78	- 4.65	0.29	- 2.88	- 2.08
Commission estimate of required capex forecast	73.99	50.88	40.71	45.00	54.55	265.13

Source: Utilities Commission

⁵³ The treatment of contingent projects is discussed in Chapter 14 in this Statement of Reasons.

PWC Networks' Revised Regulatory Proposal

9.60 PWC Networks' revised regulatory proposal included a proposed capex forecast requiring a total of \$292.4 million (\$2013-14) for the 2014-19 regulatory control period, approximately \$30 million lower than the proposed capex forecast in its initial regulatory proposal. PWC Networks' revised capex proposal is set out in Table 9.5.

Table 9.5: PWC Networks original and revised capex forecast (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Original capex	84.74	74.80	57.44	48.39	57.58	322.96
Revised capex	79.14	66.83	45.71	42.89	57.89	292.46
Difference	-5.60	-7.97	-11.73	-5.50	0.31	-30.49

Source: PWC Networks, revised regulatory proposal, January 2014, RRP: RIN template 3.1 (confidential)

9.61 Table 9.6 shows PWC Networks' revised proposed capex forecast by capex category.

Table 9.6: PWC Networks' revised proposed capex forecast by category (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
User initiated	10.37	10.55	11.41	12.01	16.58	60.92
Augmentation	16.86	13.32	0.70	2,71	5,66	39,26
Replacement	36.18	25.85	24.07	23.41	30.89	140.41
Reliability	6.96	13.34	7.57	2.69	2.73	33.30
Compliance	1.88	0.82	0.72	0.82	0.79	5.04
Non-system	6.88	2.95	1.24	1.24	1.24	13.54
Total proposed capex	79.14	66,83	45.71	42.89	57.89	292.46

Source: PWC Networks, revised regulatory proposal, January 2014, RIN template 3.1 (confidential)

9.62 PWC Networks' revised regulatory proposal resubmitted the proposed capex forecast including a total of \$24.9 million (\$2013-14) that was rejected by the Commission in its Draft Determination. The main areas of contention were:

- PWC Networks did not accept the Commission's view that its demand forecasts was over-estimated and had accordingly maintained its original capex forecasts for its customer augmentation and network extension program, retail customer connection program and the construction of the Archer to Palmerston 66 kV transmission line. PWC Networks provided further information to support its new service connection forecasts;
- PWC Networks did not accept the Commission's view that purchase of three new transformers should be removed from the replacement capex forecast;
- PWC Networks did not accept the Commission's view that the replacement unit rates used to develop its capex forecast were over-estimated;
- PWC Networks did not accept the deferral and smoothing of some zone substation projects, on the basis that its demand projections supported the proposed timing and that it had substantially improved its capability in capital project delivery; and

- PWC Networks increased its forecast reliability capex for its feeder upgrade program, on the basis that additional expenditure was required to meet the new service standards targets.
- 9.63 PWC Networks submitted that, if removed from the capex forecast, the following projects should be approved as contingent projects:
- construction of East Arm Zone Substation if load requirements grew substantially, which could occur with the addition of just one or two major industrial customers in the East Arm industrial zone; and
 - construction of a new Mitchell Street Switching Station if PWC Networks was required to vacate the current premises.

Submissions on Draft Determination and Revised Regulatory Proposal

- 9.64 The NTMEU considered that the reduction in capex included in the Commission's Draft Determination was welcome, but that PWC Networks' proposed capex forecast still appeared to be inflated. The NTMEU did not consider that the increased capex forecast proposed by PWC Networks in its revised regulatory proposal was justified on a global view and expressed concern that PWC Networks' arguments were all based on a 'bottom up' approach, which the NTMEU argued was a recognised technique for increasing claims.
- 9.65 The NTMEU commented on the amount of capex proposed by PWC Networks for the various categories of capex, noting that a decrease in augmentation capex had been offset by increases in replacement and reliability capex over the later regulatory years of the 2009-14 regulatory control period. The NTMEU also noted the significant variations in the proposed capex year on year.
- 9.66 The NTMEU noted the Commission's proposal to provide for contingent projects. The NTMEU considered that this should result in a reduction in PWC Networks' proposed capex forecast, as this effectively transferred risk from PWC Networks to retail customers.
- 9.67 The NTMEU also raised concerns regarding the Commission's acceptance of the real cost escalators proposed by PWC Networks, particularly in relation to the use of a labour cost escalator based on the PWC enterprise bargaining agreement.
- 9.68 No other submissions were received on PWC Networks' proposed capex forecast.

Issues and Commission's Further Considerations

- 9.69 The Commission engaged PB to undertake further analysis of PWC Networks' revised proposed capex forecast for the 2014-19 regulatory control period. PB's report has been released with this Final Determination.

Growth Capex

- 9.70 PWC Networks resubmitted some parts of its original proposed capex forecast that the Commission previously rejected as not being required in the 2014-19 regulatory control period, based on the Commission's view that PWC Networks' demand forecasts were over-estimated. This view led to:
- the reduction in the capex required for the customer augmentation and network extension program;
 - the reduction in capex required for the customer connection program;
 - the reduction in capex required for the metering program;

- the deferral of the construction of the Archer to Palmerston 66 kV transmission line to Post 2019 regulatory control period; and
 - the deferral of construction of the East Arm Zone Substation to the Post 2019 regulatory control period.
- 9.71 As discussed in Chapter 7, the Commission does not consider that PWC Networks has provided any further information that changes the view of expected demand expressed by the Commission in its Draft Determination.
- 9.72 The Commission maintains its decision to remove these elements from its estimates of PWC Networks' total required capex.
- 9.73 However, with respect to the construction of the East Arm Zone Substation, the Commission acknowledges PWC Networks' submission that load requirements in the East Arm industrial area can change unexpectedly with the arrival of one or two large industrial customers. Accordingly, the Commission accepts this project should be a contingent project for the purposes of the 2014 Network Price Determination.

Replacement capex

- 9.74 PWC Networks did not accept the Commission's removal of capex for excessive power transformer replacements or for the reduction in replacement unit rates.
- 9.75 The Commission's decision in the Draft Determination reduced the number of power transformers required for zone substation works on the basis that PWC Networks had not proven or justified that condition issues with some transformers required their replacement during the 2014-19 regulatory control period. No further evidence of the condition of the transformers was provided in the revised regulatory proposal. The Commission has reviewed the information provided by PWC Networks and maintains its view that the number of replacement transformers proposed by PWC Networks is excessive. The zone substation replacement program proposed by PWC Networks would see a large number of power transformers retained as spares at the completion of the program. The Commission considers that PWC Networks can utilise efficient scheduling, logistics and spares to carry out its zone substation replacements within the Commission's estimate of PWC Networks' total required capex.
- 9.76 The Commission does, however, accept PWC Networks estimate of the cost of those replacement transformers that are required and has adjusted the estimate of PWC Network' total required capex accordingly. The Commission has also accepted PWC Networks' replacement unit rates for zone substation replacement works as these are likely to contain estimates derived from previous contracts.
- 9.77 PWC Networks also rejected the Commission's smoothing of program expenditure for its asset replacement and upgrade program, and smoothing and deferral of zone substation works, but provided no further justification for the timing of these works. The Commission has reviewed the information provided by PWC Networks and maintains its view that not all of the proposed works are required to be undertaken in the 2014-19 regulatory control period and that the timing of some works can be deferred to later in the 2014-19 regulatory control period.

Reliability capex

- 9.78 PWC Networks has increased the proposed expenditure for its feeder upgrade program on the basis that additional expenditure is required to meet the new service standards targets established under the ESS Code. PWC Networks provided a detailed analysis based on reliability in the short rural feeder category showing a worsening trend during the 2009-14 regulatory control period.

- 9.79 The feeder upgrade program was not one of the projects subject to specific and detailed review for the Draft Determination. The program appeared reasonable given that there was an expectation that improvements in reliability were required. In its further analysis of the revised proposed capex forecast submitted by PWC Networks for the 2014-19 regulatory control period, PB examined this project more closely.
- 9.80 PWC Networks forecast the performance gap to meet the ESS Code requirements then estimated the contribution to reliability performance of vegetation related outages and targeted improvements to vegetation management in the same proportion. The remainder of the performance gap was to be addressed by the feeder upgrade program.
- 9.81 PB identified shortcomings in the forecasts of reliability performance that underlay the proposed capex. PWC Networks' performance trend was based on a trend line fit to a few data points and with a low correlation coefficient, indicating that the fitted trend line was not valid and, particularly when compared to 2012-13 actual performance, appeared to understate current performance.
- 9.82 PB recommended the use of averages to establish current performance and undertook analysis on each feeder type and the gap to the targets for SAIDI and SAIFI respectively.
- 9.83 PB considered PWC Networks' analysis of the value to consumers of reliability improvements. PB also compared the \$ per SAIDI minute saved and the \$ per SAIFI interruption avoided using its knowledge of other DNSPs' improvement programs and considered that the values proposed by PWC Networks were not unreasonable.
- 9.84 Based on its analysis of PWC Networks' actual performance against the ESS targets, PB recommended a further reduction to capex for the feeder upgrade program. However, as the Commission was unable to provide PWC Networks with an opportunity to comment on PB's analysis due to time constraints, the Commission has maintained reliability capex at the level included in the Draft Determination.

Real Cost Escalators

- 9.85 The Commission notes the concerns raised by the NTMEU and has reviewed its acceptance of the real cost escalators submitted by PWC Networks.
- 9.86 The Commission confirms its decision in the Draft Determination to use the material real cost escalators submitted by PWC Networks. The Commission is satisfied that the modelling undertaken to derive aggregated material cost escalators for PWC Networks standard asset classes reflects reasonable estimates in the movement of key cost drivers which includes input commodity prices, construction costs, relevant exchange rates and forecast CPI.
- 9.87 With respect to the real labour cost escalators, PWC Networks has submitted the escalators recommended by its consultants for the 2015-16 to 2018-19 regulatory years, but has substituted its own values for internal labours costs in the 2013-14 and 2014-15 regulatory years based on the PWC enterprise bargaining agreement.
- 9.88 PWC Networks used the nominal wage increase and the associated uplift in employee provisions contained in the PWC enterprise bargaining agreement in calculating the real labour cost escalator, taking no account of productivity and efficiency improvements. As such, the Commission considers this expenditure has not been demonstrated to be efficient by PWC Networks.
- 9.89 The Commission has decided to apply the real labour cost escalators for the 2014-19 regulatory control period as recommended by consultants engaged by PWC

Networks, rather than the PWC Networks' proposed real labour cost escalators which included an adjustment for the PWC enterprise bargaining agreement in the 2013-14 and 2014-15 regulatory years.

Commission's Final Decision

- 9.90 The Commission considers that PWC Networks' revised capex forecast requiring a total of \$292.5 million (\$2013-14) does not reasonably reflect the efficient capital investment required to be undertaken by PWC Networks in the 2014-19 regulatory control period in order to maintain or extend network capacity that is commensurate with the commercial and regulatory risks involved.
- 9.91 In addition, the Commission is not satisfied that PWC Networks' proposed capex forecast, taking into account the capital expenditure factors, reasonably reflects the capital expenditure criteria in clause 6.5.7 of the NER.
- 9.92 As such, the Commission has decided to substitute PWC Networks' proposed capex forecast with its own estimate of PWC Networks' total required capital expenditure which takes into account the following adjustments⁵⁴:
- a reduction of \$8.3 million to the network user initiated capex forecast as the forecast has not been sufficiently substantiated;
 - an increase of \$0.3 million to the augmentation capex forecast for timing adjustments;
 - a reduction of \$7.4 million to the asset replacement capex forecast as some components of work which have not been demonstrated to be prudent;;
 - a reduction of \$3.2 million to the capex forecast relating to reliability and quality of supply, as some components of work which have not been demonstrated to be prudent; and
 - a reduction of \$0.1 million for adjustments to real cost escalation.
- 9.93 The Commission considers these adjustments are necessary to ensure PWC Networks' capex forecast reasonably reflects the efficient capital investment required to be undertaken by PWC Networks in the 2014-19 regulatory control period, having regard to the capital expenditure criteria set out in the NER and taking into account the capital expenditure factors.
- 9.94 Allowing for the adjustments listed above, the Commission's estimate of the total required capex forecast for PWC Networks for the 2014-19 regulatory control period is \$274.0 million, as set out in Table 9.7.

⁵⁴ Real cost escalation applied to PB recommendations by the Commission.

Table 9.7: Commission's decision on PWC Networks' forecast capital expenditure (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
PWC Networks proposed capex	79.14	66.83	45.71	42.89	57.89	292.46
Adjustment to network user initiated capex	-1.18	-1.39	-1.65	-1.92	-2.20	-8.34
Adjustment to augmentation capex	-4.85	-7.59	1.17	7.08	4.52	0.33
Adjustment to replacement capex	-7.43	0.22	1.04	1.32	-2.53	-7.39
Adjustment to reliability capex	9.65	-6.32	-5.35	-0.52	-0.62	-3.15
Adjustment for real cost escalation changes	0.03	0.02	0.02	0.03	0.03	-0.13
Commission capex allowance	75.36	51.77	40.94	48.87	57.09	274.04

Source: Utilities Commission

Contingent Projects

9.95 The Commission's decision on contingent projects for the purposes of the 2014 Network Price Determination is set out in Chapter 13 of this Statement of Reasons.

CHAPTER 10

Forecast Operating and Maintenance Expenditure

Introduction

- 10.1 This chapter sets out the Commission's decision on total operating and maintenance expenditure required by PWC Networks for the 2014-19 regulatory control period. It also:
- discusses the framework the Commission has applied in assessing PWC Networks' proposed opex forecast;
 - discusses the outcomes of the 2009-14 regulatory control period;
 - provides a general overview of PWC Networks' proposed opex forecast;
 - lists comments made by stakeholders on PWC Networks' proposed opex forecast; and
 - sets out the Commission's considerations and responses to stakeholder comments.

Regulatory Requirements

Network Access Code

- 10.2 Clause 68 of the Network Access Code requires the Commission, in setting a revenue cap or price cap, to take into account the revenue requirements of PWC Networks during the relevant regulatory year or regulatory years having regard to a number of factors.
- 10.3 One of these factors is:
- (f) *the right of the network provider to recover reasonable costs incurred by the network provider in connection with the operation and maintenance of the network, including those arising from but not limited to:*
 - (i) *any Territory and Commonwealth taxes or equivalent taxes paid in connection with the operation of its business as a provider of network access services; and*
 - (ii) *the tariffs and charges paid to other network providers irrespective of whether these tariffs and charges are regulated under this Code.*

National Electricity Rules

- 10.4 Clause 6.5.6(a) of the NER provides that a building block proposal must include the total forecast opex for the relevant regulatory control period which a DNSP considers is required in order to achieve the following operating expenditure objectives:
- (1) *meet or manage the expected demand for standard control services over that period;*
 - (2) *comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;*
 - (3) *to the extent that there is no applicable regulatory obligation or requirement in relation to:*
 - (i) *the quality, reliability or security of supply of standard control services; or*

(ii) the reliability or security of the distribution system through the supply of standard control services;

to the relevant extent:

(iii) maintain the quality, reliability and security of supply of standard control services; and

(iv) maintain the reliability or security of the distribution system through the supply of standard control services;

(4) maintain the safety of the distribution system through the supply of standard control services.

- 10.5 The DNSP's proposed operating expenditure forecast must also comply with any relevant regulatory information instrument, for expenditure that is properly allocated to standard control services in accordance with the principles and policies in the DNSP's CAM and include and identify several other matters specified in clause 6.5.6(b) of the NER.
- 10.6 Clause 6.5.6(c) of the NER provides that the AER must accept the forecast opex included in the DNSP's building block proposal if it is satisfied that the total of the forecast opex for the regulatory control period reasonably reflects each of the following operating expenditure criteria:
- (1) the efficient costs of achieving the opex objectives; and*
 - (2) the costs that a prudent operator in the circumstances of the relevant DNSP would require to achieve the opex objectives; and*
 - (3) a realistic expectation of the demand forecast and cost inputs required to achieve the opex objectives.*
- 10.7 In making this assessment, the AER must have regard to the operating expenditure factors contained in clause 6.5.6(e) of the NER. These factors were amended in November 2012, with a stronger emphasis being placed on benchmarking and a new factor included to address the concerns identified by consumers.
- 10.8 Clause 6.5.6(d) of the NER states that, if the AER is not satisfied that a DNSP's forecast opex reasonably reflects the operating expenditure criteria, then the AER must not accept the DNSP's forecast required opex.
- 10.9 If the AER does not accept the DNSP's forecast required opex, then it must set out its reasons for that decision and an estimate of the total of the DNSPs required operating expenditure that it is satisfied reasonably reflects the operating expenditure criteria, taking into account the operating expenditure factors outlined in clause 6.5.7 of the NER.

Framework Statement

- 10.10 In its Framework Statement, the Commission stated that its preferred approach was to assess PWC Networks' proposed forecast opex against the requirements of clause 6.5.6 of the NER.

Current Period Outcomes

- 10.11 The Commission has been unable to undertake a detailed analysis of operating and maintenance expenditure outcomes with respect to the total required opex set by the Commission for the 2009-14 regulatory control period, as the 2009 Network Price Determination was not based on a building block approach and did not contain a bottom up assessment of proposed opex. Instead, the Commission applied a TFP-

style approach to escalate the total revenue requirement in line with what the Commission would expect an efficient network service provider to require.

- 10.12 The Commission has backcast the 2009 Network Price Determination to estimate the total required opex that would have given rise to the same revenue outcomes. The estimated total required opex, the increase attributable to the cost pass through approved by the Commission in May 2013 and PWC Networks' actual and forecast opex for the 2009-14 regulatory control period are shown in Table 10.1.
- 10.13 PWC Networks is expected to exceed the estimated opex for the 2009-14 regulatory control period, including the additional cost pass through allowance, by \$148.2 million (46 per cent).
- 10.14 PWC Networks identified the main drivers of the overspend as:
the deteriorating state of assets, changes to the asset management approach, and the minimum levels of expenditure required to satisfy core network asset management related principles regarding the safety of the network and the objective maintenance needs of assets. (pages.90-91)
- 10.15 PWC Networks has submitted that a significant contributor to the overspend in the 2009-14 regulatory control period was that the estimates of required opex were too low:
The shortfall in 2009-14 regulatory funding allowance has resulted in gaps in Power Networks' current operational and investment expenditure. This is in turn leading to the rationing of some standard control services and support functions and driving up costs above efficient levels. Examples of regulated funding constraints driving inefficient expenditure include:
- *Under-expenditure on replacement investment is increasing the cost of planned and unplanned corrective maintenance (fault management); and*
 - *Under-expenditure on planned corrective maintenance is leading to a growing backlog of corrective maintenance, which is in turn driving an increase in unplanned corrective costs above efficient levels.*
- In addition to the degraded level of operational efficiency, underfunding is reducing the scope and quality of standard control services. (page 92)*
- 10.16 The Commission considers that the required opex forecasts for the 2009-14 regulatory control period provided sufficient funding for the efficient operation and maintenance of PWC Networks' electricity network, based on PWC Networks' practices at that time.
- 10.17 Following the Casuarina failure in late 2008, the Davies Review subsequently identified a number of shortcomings in PWC Networks' policies, practices and procedures. The Davies Review found that PWC Networks did not have in place the systems and processes to collect and analyse the necessary information that would have allowed it to appropriately manage and maintain its electricity network, and thus lacked the systems and knowhow required to implement alternative better approaches being adopted throughout the Australian electricity industry.
- 10.18 The Commission considers that the overspend in the 2009-14 regulatory control period is largely explained by the implementation of the Davies Review recommendations and resulting changed work practices, and that this has been taken into account by PWC Networks in developing its regulatory proposal.

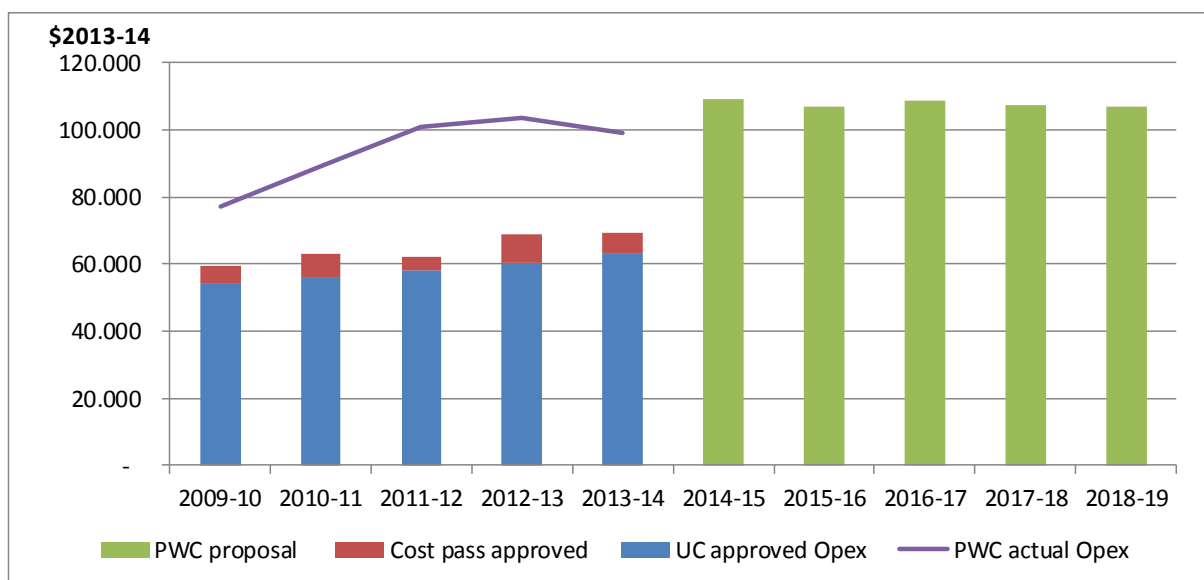
Table 10.1: PWC Networks' opex outcomes for the 2009-14 regulatory control period (\$M, 2013-14)

	2009-10	2010-11	2011-12	2012-13 (f)	2013-14 (f)	Total
(est) Regulatory allowance	54.26	55.97	58.11	60.58	62.85	291.77
Additional cost pass through allowance ^(a)	5.06	6.90	3.85	8.37	6.28	30.45
	59.32	62.88	61.96	68.94	69.13	322.22
Actual net opex	77.11	89.32	101.08	103.84	99.02	470.37
Overspend	17.80	26.44	39.12	34.90	29.90	148.15

Source: Utilities Commission; PWC Networks' initial regulatory proposal, converted to real terms using ABS inflation data

^(a) Cost pass through associated with implementation of recommendations from the Davies Review, approved by the Commission in May 2013

Figure 10.1: Opex allowance (including cost pass through) and actual opex for 2009-14 regulatory control period and proposed opex for 2014-19 regulatory control period



Source: Utilities Commission

PWC Networks' Initial Regulatory Proposal

10.19 PWC Networks submitted an initial opex forecast requiring a total of \$539.3 million (\$2013-14) for the 2014-19 regulatory control period. The amounts proposed by PWC Networks are set out in Table 10.2.

10.20 PWC Networks' initial opex forecast for the 2014-19 regulatory control period was approximately 67 per cent (in real terms) higher than the estimated total required opex for the 2009-14 regulatory control period and 14 per cent (in real terms) higher than expected actual opex. The estimated total required opex included the additional amounts approved by the Commission for the cost pass through relating to the Davies Review⁵⁵ and actual opex in the 2009-14 regulatory control period includes

⁵⁵ Utilities Commission, [Cost Pass Through Application Final Determination](#), May 2013.

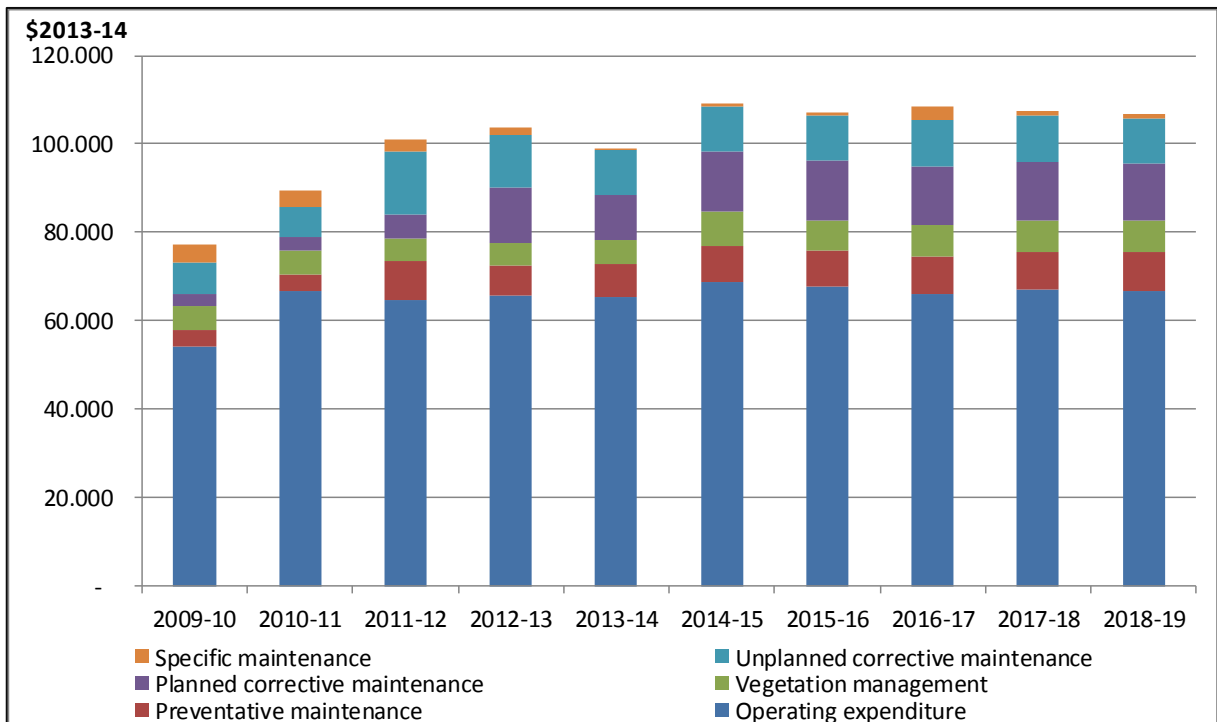
significant expenditure relating to increased resources associated with the implementation of a condition-based maintenance regime following the Casuarina Zone Substation failure in late 2008.

Table 10.2: PWC Networks proposed opex for the 2014-19 regulatory control period (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Operating expenditure						
Operating	68.71	67.75	66.03	67.22	66.68	336.39
Maintenance expenditure						
Preventative	8.19	7.97	8.60	8.45	8.81	42.02
Vegetation mgmt.	7.97	6.97	7.03	7.10	7.18	36.25
Planned corrective	13.32	13.49	13.25	13.20	12.97	66.23
Unplanned corrective	10.31	10.42	10.56	10.46	10.27	52.01
Specific	0.81	0.56	3.12	0.95	0.96	6.39
Total maintenance	40.60	39.41	42.55	40.15	40.19	202.990
Total proposed opex	109.30	107.17	108.58	107.37	106.87	539.29

Source: Derived from PWC Networks, initial regulatory proposal, September 2013, RIN templates 2.1 and 2.2 (confidential)

Figure 10.2: Actual opex for the 2009-14 regulatory control period and proposed opex for the 2014-19 regulatory control period by opex driver



Source: Utilities Commission

10.21 PWC Networks identified the following key drivers for its proposed initial opex forecast:

- acquiring new expertise, skills and resources to improve the asset management function; and
- increasing knowledge about network assets leading to rising maintenance expenditure.

Submissions on Initial Regulatory Proposal

10.22 The NTMEU expressed the following concern in relation to massive increase in opex over the 2009-14 regulatory control period and the required opex forecast proposed by PWC Networks for the 2014-19 regulatory control period:

What is more concerning is the massive increase in opex - basically over a period of 5 years, opex has doubled, yet the size of the networks has not increased significantly. This implies that PWC is not in control of its operations and is trending towards operating on a 'cost plus' approach and is not trending towards the efficient cost base for its networks. (page. 12)

10.23 The NTMEU submitted that:

- there has been considerable replacement of assets during the 2009-14 regulatory control period which should have resulted in a reduction of opex; and
- it is not demonstrated that the base year opex is efficient (with this premise being the basis of the 'base, step, trend' approach used by PWC Networks), with the NTMEU assessing benchmark efficient opex in the range of \$60-70 million per annum.

10.24 The NTMEU also noted that PWC Networks has cited step changes resulting in increased staffing for a variety of additional activities. The NTMEU expressed concern that a bottom up assessment of staffing needs would lead to an increase that was not efficient when considered from a top down perspective.

10.25 No other submissions were received on the PWC Networks' forecast opex.

Issues and Commission's Initial Considerations

10.26 The Commission engaged PB to provide independent reviews of the prudence and efficiency of PWC Networks' initial proposed opex forecast. PB's report was released with the Draft Determination.

10.27 The Network Access Code provides the Commission with more flexibility in its approach than the NER, which is prescriptive in its treatment of any expenditure that is not fully justified by a DNSP. While PB's review approach considered the NER and was based upon the principles and practices that the AER has applied in its recent distribution determinations, the Commission directed PB to take into consideration the context in which PWC Networks operates and specifically the recent development of appropriate processes and procedures and limited availability of documentation and data.

10.28 PB's review of PWC's proposed opex forecast included an assessment of:

- the efficiency of the forecast opex for each regulatory year of the 2014-19 regulatory control period, and whether there was any further scope for efficiencies;
- the appropriateness of the allocation of opex to specific activities;
- the effectiveness of operating practices, procedures, and asset management systems at ensuring only necessary and efficient opex is incurred;

- the major factors (drivers) that may affect the level of efficient opex required over the 2014-19 regulatory control period; and
- the appropriateness of PWC Networks' opex forecasting methodology.

10.29 The Commission subsequently requested that PB undertake further analysis of the benchmarking of PWC Networks' opex to provide a reasonable indication of the relative efficiency of PWC Networks against its peers. The supplementary advice from PB was released with the Draft Determination.

Operating costs

10.30 PWC Networks developed its initial opex forecast for operating costs by considering individual opex categories and applying a top-down, base, step and trend modelling approach.

10.31 PWC Networks used the 2013-14 regulatory year as the base year, as it considered that the 2013-14 regulatory year opex reflected a reasonable and improving degree of efficiency, given the level of regulated funding and need to ensure equipment operates safely, and that the maintenance of assets was based on objective need.

Network management

10.32 Network management covers the general management of PWC Networks and management of relevant regulatory obligations or requirements. Network management accounted for 2 per cent of PWC Networks' forecast opex.

10.33 A small step increase, driven by internal labour costs, was forecast for the 2013-14 regulatory year, with costs then forecast to remain at that level throughout the 2014-19 regulatory control period. The step change was not considered material.

10.34 The Commission considered that the forecast network management opex was efficient.

Service delivery

10.35 Service delivery covers the delivery of PWC Networks' maintenance and capital works programs. Service delivery accounted for 16 per cent of PWC Networks' forecast opex.

10.36 Peak expenditure for service delivery opex occurred in the 2010-11 regulatory year as a result of the remedial asset management program. With the completion of this program, opex declined over the last three regulatory years of the 2009-14 regulatory control period and costs were forecast to remain at this lower level during the 2014-19 regulatory control period. It was noted that more accurate time sheeting has also resulted in some costs previously allocated to this category being allocated to maintenance.

10.37 However, PB noted the inclusion of an 'Other – Remainder' amount did not have a clear justification.

10.38 The Commission considered that PWC Networks' forecast service delivery opex should be reduced to remove the 'Other – Remainder' amount.

Strategy and planning

10.39 Strategy and planning covers PWC Networks' strategy and planning functions, including asset management, network planning development, and investment analysis. Strategy and planning accounted for 12 per cent of PWC Networks' forecast opex.

- 10.40 There was a gradual increase in expenditure on strategy and planning in the 2009-14 regulatory control period, with expenditure in the forecast of the 2013-14 regulatory year to be \$3 million higher than in the 2009-10 regulatory year. Expenditure was forecast to increase slightly in the 2014-19 regulatory control period.
- 10.41 However, PB again noted the inclusion of an 'Other – Remainder' amount which did not have a clear justification.
- 10.42 The NTMEU expressed the view that while costs associated with the strategy and planning function may have risen as PWC Networks implemented its survey of assets and rectification program following the Davies Review, costs should have reverted to historic levels once this was completed.
- 10.43 The Commission considered that the development of appropriate processes and procedures for management of PWC Networks' electricity network was still relatively recent. While documentation had substantially been completed, the strategy and planning function would then turn to assessment and review to ensure continuous improvement, rather than reverting to previous practices. That said, the Commission expected PWC Networks to find scope for future efficiency dividends as the new asset management processes were bedded down.
- 10.44 The Commission considered that PWC Networks' forecast strategy and planning opex should be reduced to remove the 'Other – Remainder' amount. This reduced strategy and planning opex to the average annual expenditure level incurred in the 2009-14 regulatory control period.

Metering

- 10.45 Metering covers electricity metering provision and electricity meter data services. Meter reading is undertaken for both electricity and water meters as a common process, with costs allocated based on the respective proportion of total meters. Metering accounted for 4 per cent of PWC Networks' forecast opex.
- 10.46 PWC Networks identified a range of process gaps in its existing information technology systems. In addition, PWC Networks proposed to implement a new structure that would result in an increase in staff and an incidental increase in forecast opex for the 2014-19 regulatory control period of 39 per cent compared with current levels.
- 10.47 The Commission considered that the increase in opex relating to upgrading PWC Networks' IT systems were justified as it was closely linked to increased licence and system support costs. However, while some increase in staffing was justified, the Commission considered that the increase proposed by PWC Networks was above efficient levels, as it appeared to be based on the creation of new roles rather than any likely increase in the volume of work.
- 10.48 The Commission considered that PWC Networks' forecast metering opex should be reduced as its proposed staffing levels were not efficient.

Regulatory costs

- 10.49 Regulatory costs cover the expenditure required for PWC Networks to meet new regulatory obligations and requirements to be established as the Territory progressively moves towards a regulatory framework similar to the NER and applied by the AER. Regulatory costs accounted for 1 per cent of PWC Networks' forecast opex.

- 10.50 Regulatory costs were not separately identified in the 2009-14 regulatory control period. Regulatory compliance costs were captured under network management as part of PWC Networks' responsibility for managing legislative requirements. Funding for preparation of PWC Networks' regulatory proposal for the 2014-19 regulatory control period was capitalised.
- 10.51 PWC Networks' forecast opex for regulatory costs was based on estimated staffing requirements and costs for the preparation of PWC Networks' regulatory proposal for the Post 2019 regulatory control period (which will be incurred in the 2014-19 regulatory control period) as being similar to those for the regulatory proposal for the 2014-19 regulatory control period.
- 10.52 The NTMEU did not consider an increase in regulatory costs was justified, as PWC Networks had been subject to regulatory reviews in the past.
- 10.53 The Commission did not accept the NTMEU's contention. Due to the limited availability of documentation and data from PWC Networks, previous reviews had been undertaken with minimal reliance on input from PWC Networks. Resourcing constraints for PWC Networks and economies of scale meant that full adoption of an approach consistent with the NER requirements was also not practicable for the 2014-19 regulatory control period. However, the Commission believed that full compliance with these requirements was an appropriate objective for future regulatory control periods.
- 10.54 That said, however, the Commission considered that the staffing requirements proposed by PWC Networks were above efficient levels.
- 10.55 The Commission considered that PWC Networks' forecast regulatory costs opex should be reduced as the proposed staffing levels were not efficient.

System operations

- 10.56 System operations are the services provided by PWC System Control to PWC Networks under a SLA. Services provided include network operations, under frequency load shedding, organising access to infrastructure and operation of a fault call centre service. System operation costs accounted for 4 per cent of PWC Networks' forecast opex.
- 10.57 Costs increased in the 2009-14 regulatory control period following a review of actual costs involved in provision of these services and the finalisation of a formal SLA. Costs were forecast to remain at current levels.
- 10.58 PB found that some costs had been included relating to the operation of zone substations on non-regulated electricity networks.
- 10.59 The Commission considered that PWC Networks' forecast system operation opex should be reduced to remove the costs associated with non-regulated electricity networks.

GSL costs

- 10.60 GSL costs cover the implementation and administration of the GSL scheme established under the GSL Code and includes forecast GSL payments to retail customers and operating costs relating to the ongoing administration, reporting and retail customer interaction associated with the GSL scheme. GSL costs accounted for 1 per cent of PWC Networks' forecast opex.
- 10.61 PWC Networks' base year GSL payment estimate was sourced from a report prepared by PricewaterhouseCoopers and based on best case compliance

assumptions. The proposal noted that GSL payments are assumed to decline in line with capital expenditure on the GSL program (part of PWC Networks' feeder upgrade program).

- 10.62 GSL operating costs related to the ongoing administration, reporting and retail customer interactions associated with the GSL Code, including the assessment of retail customer eligibility, processing of applications, organising payments, recording of GSL payments and annual updates of the GSL feeder maps.
- 10.63 PB found that PWC Networks' forecast for GSL payments to be made to retail customers were over-estimated because:
- estimated outages were based on actual performance in the 2010-11 regulatory year, a regulatory year of relatively poor reliability performance; and
 - estimates of the number of retail customers affected by an outage were over-stated as PWC Networks assumed that all retail customers on a feeder experience interruptions.
- 10.64 The Commission accepts that a prudent and efficient network service provider may incur GSL payments in order to meet efficient planning goals. Planning goals are set to achieve average levels of reliability for all retail customers on the electricity network. It is inevitable that there will always be some retail customers who, for whatever reason, will experience bad service, even if the network service provider is meeting the average reliability standards. A level of average reliability that result in no GSL payments would indicate over-investment and 'gold-plating' of the electricity network.
- 10.65 The Commission considered that PWC Networks' forecast GSL costs opex should be reduced to levels commensurate with average reliability performance that meets the standards set by the Commission under the ESS Code.
- 10.66 No retrospective allowance was made for GSL Code obligations incurred in the 2009-14 regulatory control period. In its recommendation to the Minister for the establishment of a GSL scheme,⁵⁶ the Commission recommended, and PWC Networks agreed, that any GSL payments made up to and including 30 June 2014 would come out of PWC Networks profits and that the Commission would consider if an allowance for GSL payments should be made when assessing the total revenue requirement of PWC Networks for the 2014-19 regulatory control period.

Corporate and shared services

- 10.67 Corporate and shared services cover the portion of corporate overheads allocated to PWC Networks. This is PWC Networks' share of the functions undertaken by PWC at the corporate level such as human resources and recruitment, finance, economics and legal services. Corporate and shared services costs accounted for 21 per cent of PWC Networks' forecast opex.
- 10.68 There were two step changes in PWC Networks' corporate and shared service opex in the 2009-14 regulatory control period. The first occurred from the 2009-10 to 2010-11 regulatory years and was the result of PWC Networks' share of an increase

⁵⁶ Utilities Commission, [Review of Options for Implementation of a Customer Service Incentive Scheme For Electricity Customers](#), July 2010, page.27.

in the total cost of the Employee and Organisational Services corporate support unit plus an increase in PWC Networks' relative share of this allocation due to an increase in personnel related to the RAMP program. The second step change from the 2011-12 to 2012-2013 regulatory years was a result of the share of the new asset management system and its software depreciation expense allocated to PWC Networks. Costs were forecast to decrease over the early part of the 2014-19 regulatory control period, back to the 2010-11 regulatory year levels by 2016-17 regulatory year.

- 10.69 The NTMEU argued that it did not accept (as a matter of principle) that the demand made on corporate services by PWC Networks had increased as a result of the growth of PWC Networks' electricity network. The NTMEU expressed concern that PWC might maximise the allocation of overhead costs to PWC Networks so as to minimise the overhead share carried by its unregulated businesses.
- 10.70 The Commission discussed the CAM provided by PWC in Chapter 5 of this Statement of Reasons. The Commission was satisfied that the cost allocation method and rationale applied by PWC Networks are based on a suitable driver for each allocation.
- 10.71 The Commission considered that PWC Networks' forecast corporate and shared services opex was efficient.

Other

- 10.72 Other costs accounted for 0.2 per cent of PWC Networks' forecast opex.
- 10.73 The Commission considered that PWC Networks' forecast other opex was efficient.

Maintenance costs

- 10.74 PWC Networks developed its forecast for maintenance costs using a 'bottom up' approach.
- 10.75 PWC Networks submitted that the use of historical trends in overall expenditure was not appropriate, due to significant changes in cost recording methodologies during the 2009-14 regulatory control period. In addition, historical expenditure trends were not necessarily a good indication of future maintenance requirements.

Preventative maintenance

- 10.76 Preventative maintenance is maintenance which is carried out to prevent an asset failing or wearing out by providing continuous condition monitoring and systematic inspection. Preventative maintenance accounted for 8 per cent of PWC Networks' forecast opex.
- 10.77 PWC Networks based its forecast on a complete task breakdown derived from maintenance schedules extracted from its asset management system. The resultant forecast was adjusted to account for step changes to the RAB, estimated costs of new preventative maintenance activities, an allowance for travel time and associated expenses incurred in relation to remote locations and an estimate of non-trades labour related to planning, supervision and administration of maintenance programs.
- 10.78 Preventative maintenance expenditure was forecast to increase by 32 per cent over the 2009-14 regulatory control period due to a greater focus on condition based management of assets.
- 10.79 The NTMEU agreed that replacement of assets should lead to lower maintenance costs, but did not accept what it characterised as PWC Networks' comment that new assets require more maintenance.

- 10.80 The Commission did not agree with this interpretation of PWC Networks' explanation of increased maintenance costs. Rather, the Commission interpreted this as recognition by PWC Networks that increasing levels of preventative maintenance will mean that new assets will have a greater economic life than the assets being replaced, those assets having had a shorter life due to maintenance not being appropriately undertaken.
- 10.81 The Commission considered that, while the justification for the cost estimates could be significantly improved, the costs were prudent and efficient.
- 10.82 The Commission considered that PWC Networks' forecast preventative maintenance opex should be increased to allow for additional costs arising from deferral of replacement capex.

Vegetation management

- 10.83 Vegetation management is the clearance of vegetation near powerlines to maintain reliability and public safety. Vegetation management accounts for 7 per cent of PWC Networks' forecast opex.
- 10.84 Vegetation management expenditure was forecast to increase 33 per cent over the 2009-14 regulatory control period to increase the vegetation cutting profile and to target vegetation management programs in the poorly performing areas.
- 10.85 The Commission considered that the need for reliability improvement through vegetation management had not been established by PWC Networks.
- 10.86 The Commission considered that an increase was not justified and that PWC Networks' vegetation management opex should be reduced to current levels.

Planned corrective maintenance

- 10.87 Planned corrective maintenance covers maintenance on assets that are identified to be defective during the preventative maintenance or other inspection programs. Planned corrective maintenance accounted for 12 per cent of PWC Networks' forecast opex.
- 10.88 Forecast expenditure was based on actual expenditure in the 2012-13 regulatory year adjusted for the projected growth rate of asset defects.
- 10.89 There was a step increase in expenditure from the 2011-12 regulatory year to the 2012-13 regulatory year due to a stronger focus on accurately capturing the time spent on maintenance activities. Expenditure in the 2014-19 regulatory control period was expected to remain at this higher level as increased focus on the condition of assets had increased identification of assets where corrective maintenance was required. While planned asset replacement programs targeted the assets in poorest condition, an increase in planned corrective maintenance was required to address the backlog of defects in the wider electricity network.
- 10.90 The Commission considered that PWC Networks' approach to forecasting planned corrective maintenance was reasonable; however, PWC Networks did not clearly justify the change in defect growth rates.
- 10.91 The Commission considered that PWC Networks' forecast planned corrective maintenance opex should be adjusted to remove expenditure associated with the revised defect growth, and to allow for additional costs arising from deferral of replacement capex.

Unplanned corrective maintenance

- 10.92 Unplanned corrective maintenance covers maintenance on assets that fail in service in order to restore them to an acceptable condition so they can be operated safely at the required level of reliability and capacity. Unplanned corrective maintenance accounted for 10 per cent of PWC Networks' forecast opex.
- 10.93 Forecast expenditure was based on actual expenditure in the 2012-13 regulatory year adjusted for the projected growth rate of asset defects. The annual forecast expenditure was then adjusted for step changes due to a capital works program, backlog reduction programs, administration and travel.
- 10.94 A significant step change of 217 per cent occurred from the 2010-11 regulatory year to the 2011-12 regulatory year due to a stronger focus on accurately capturing the time spent on maintenance activities. A subsequent decrease in the 2012-13 regulatory year was attributed to improved definition between planned and unplanned maintenance categories. Overall expenditure in the 2014-19 regulatory control period was forecast to be slightly higher (by 3.4 per cent) than for the 2009-14 regulatory control period.
- 10.95 The Commission considered that PWC Networks' approach to forecast unplanned corrective maintenance was reasonable.
- 10.96 The Commission considered that PWC Networks' forecast unplanned corrective maintenance opex should be adjusted to allow for additional costs arising from deferral of replacement capex.

Specific maintenance

- 10.97 Specific maintenance activities address systemic or common issues across an asset class. Specific maintenance accounted for 1 per cent of PWC Networks' forecast opex.
- 10.98 Specific maintenance was forecast to decrease significantly from the 2009-14 regulatory control period, following completion of the remedial asset maintenance program and implementation of the Davies Review recommendations, to a small allowance for unforeseen contingencies.
- 10.99 The Commission considered that PWC Networks' forecast specific maintenance opex should be decreased to remove the costs of decommissioning of assets where the associated replacement capex has been deferred.

Real input cost escalation

- 10.100 PB was not required to assess forecast rates of growth in input costs but was required to ensure that forecast changes in input costs had been appropriately reflected in the cost escalation calculations performed by PWC Networks in forecasting opex.
- 10.101 PB reviewed the application of escalation in PWC Networks' forecast opex model (refer Table 10.3) and confirmed that the rates applied were those relevant to the forecast opex for the 2014-19 regulatory control period as recommended by consultants engaged by PWC Networks. PB found that PWC Networks' overall opex escalation process was reasonable, however PB did not offer a view about the reasonableness of the escalators themselves.

Table 10.3: Impact of PWC Networks real cost escalators on forecast opex (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Base opex	107.12	104.46	105.26	103.39	102.16	522.38
Real cost escalation adjustment	2.18	2.71	3.32	3.99	4.71	16.91
Total proposed opex	109.30	107.17	108.58	107.37	106.87	539.29

Source: Derived from PWC Networks, initial regulatory proposal, September 2013, RIN templates 2.1 and 2.2 (confidential)

10.102 PWC Networks applied the same real cost escalators for opex as were used for capex.

10.103 As discussed in Chapter 9 of this Statement of Reasons, the Commission considered that the real input cost escalators proposed by PWC Networks were reasonable, taking into account the higher costs generally incurred in the Territory due to its remoteness and lack of economies of scale, and in view of expected cost pressures arising from projects such as Ichthys Total.

Efficiency of Forecast Opex

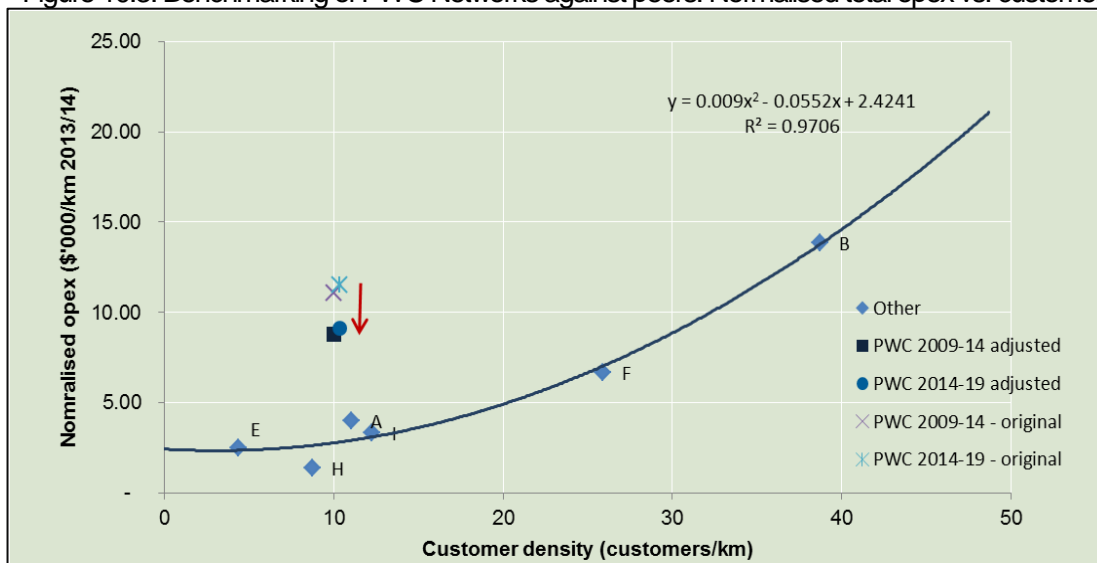
10.104 Underlying the base, step and trend modelling approach adopted by PWC Networks to develop its operating cost forecasts was the assumption that the base year represented efficient opex.

10.105 The NTMEU expressed concern as to whether opex in the base year (the 2013-14 regulatory year) was efficient.

10.106 PB's initial analysis of total opex found that PWC Networks appeared to require a high level of opex compared to its peers on a per unit basis, approximately three times the cost of DNSPs with similar customer densities.

10.107 Figure 10.3 shows the benchmarking chart for opex per km of line versus customer density, with PWC Networks' proposed opex forecast adjusted for regional uplift by applying a 30 per cent adjustment to the assumed variable cost, which was determined as the total opex less \$10 million.

Figure 10.3: Benchmarking of PWC Networks against peers: Normalised total opex vs. customer density



Source: Parsons Brinckerhoff, Supplementary advice

- 10.108 Following further analysis and after adjusting for economies of scale and regional uplift, PB found that a 27 per cent reduction in opex would be required for PWC Networks to achieve the average of its peers.
- 10.109 PWC Networks has based its contention on the assumption that the 2013-14 regulatory year represents an efficient level of operating expenditure based on benchmarking analysis undertaken by Huegin Consulting of PWC Networks' opex for the 2010-11 regulatory year. PWC Networks advised that:
- ...Power Networks' 2010/11 operating and maintenance expenditure was benchmarked by Huegin as being in the middle of Australian distribution networks (page.92)*
- 10.110 The Commission noted that the average annual opex forecast by PWC Networks for the 2009-14 regulatory control period was \$107.9 million, 21 per cent above the 2010-11 regulatory year (in real \$2013-14) actual opex that PWC Networks identified as efficient.
- 10.111 The Commission was not satisfied that PWC Networks' current opex was efficient, which in turn meant that the proposed forecast opex incorporated a level of inefficiency.
- 10.112 The specific opex adjustments identified by the Commission from the bottom up analysis set out above resulted in reduction in forecast opex of 6 per cent. Based on the analysis by PB, a further reduction of 21 per cent would be required to eliminate the difference between PWC Networks and the average of its peers.
- 10.113 A key question for the Commission was the timeframe required for such a performance gap to be removed. The Commission's view in the Draft Determination was that the answer would depend on several factors, including the size of the efficiency gap, its possible causes and the degree of cost flexibility that PWC Networks could reasonably be expected to achieve.
- 10.114 If the timeframe was set for a period which was too short, there would be scope for PWC Networks to be placed under excessive financial stress and for service quality to drop substantially as maintenance programs could be terminated to meet overly onerous annual cost reduction targets. This could impact on the significant improvement program currently underway and run the risk of retail customers seeing short term price reductions at the expense of receiving lower quality services in the future.
- 10.115 Conversely, setting the timeframe for a period which was too long would place little pressure on PWC Networks to reduce costs and see retail customers paying more than they should be for a longer period of time.
- 10.116 The Commission considered that a glidepath approach to remove 10 per cent of the difference between PWC Networks and the average of its peers across the 2014-19 regulatory control period would provide an appropriate balance between these considerations. Accordingly, in addition to the specific opex adjustments detailed above, the Commission further reduced PWC Networks' opex forecast by 2.5 per cent in the 2015-16 regulatory year, 5 per cent in the 2016-17 regulatory year, 7.5 per cent in the 2017-18 regulatory year and 10 per cent in the 2018-19 regulatory year.
- 10.117 Assessment of the scope for further efficiency improvements was expected to be undertaken as part of the Post 2019 Network Price Determination.

Commission's Draft Decision

10.118 The Commission was not satisfied that PWC Networks' proposed forecast of required opex of \$539.3 million reflected the reasonable costs that would be incurred by PWC Networks in connection with the operation and maintenance of PWC Networks' electricity network. Further, the Commission was not satisfied that PWC Networks' forecast opex, taking into account the operating expenditure factors, reasonably reflected the operating expenditure criteria in clause 6.5.6 of the NER.

10.119 Following its review of PWC Networks proposed opex forecast, the Commission made the following adjustments:⁵⁷

- a reduction of \$8 million to PWC Networks' service delivery opex forecast as some components of work were not demonstrated to be prudent;
- a reduction of \$5.8 million to PWC Networks' strategy and planning opex forecast as some components of work were not demonstrated to be prudent;
- a reduction of \$0.2 million to PWC Networks' system operations opex forecast to remove works associated with non-regulated electricity networks;
- a reduction of \$1.1 million to PWC Networks' metering opex forecast as basing the forecast on the creation of new roles to support the metering activity, rather than workloads, led to an over-estimation of the required resources;
- a reduction of \$4.9 million to PWC Networks' GSL costs opex forecast as the forecasts used were overestimated;
- a reduction of \$0.7 million to PWC Networks' regulatory costs opex forecast as many of the regulatory functions were already undertaken by the Network Management group and one full time employee would be sufficient to address any new requirements;
- an increase of \$3 million to PWC Networks' preventative maintenance opex forecast to align the preventative maintenance of zone substation assets with the deferral of some zone substation replacement works and the reallocation of some testing works that had been proposed as capex;
- a reduction of \$4.4 million to PWC Networks' planned maintenance opex forecast as the forecast growth rate of defects had not been justified. An increase to align the planned maintenance of zone substation assets with the deferral of some zone substation replacement works was included;
- an increase of \$0.1 million to PWC Networks' unplanned maintenance opex forecast to align the unplanned maintenance of zone substation assets with the deferral of some zone substation replacement works;
- a reduction of \$10.4 million to PWC Networks' vegetation management opex forecast as the need to increase the vegetation management program from historical levels had not been established;
- a reduction of \$0.4 million to PWC Networks' specific maintenance opex forecast to align the decommissioning of zone substation assets with the deferral of some zone substation replacement works; and
- a reduction of \$25.2 million as a further unallocated efficiency adjustment to bring PWC Networks' total required opex forecast closer to the average achieved by its peers.

10.120 In making these adjustments, the Commission also had regard to the operating expenditure criteria and took into account the operating expenditure factors in clause

⁵⁷ Real cost escalation applied to PB recommendations by the Commission.

6.5.6 of the NER. The Commission considered this reduction was the minimum adjustment necessary to ensure PWC Networks' opex forecast met the operating expenditure criteria.

10.121 The Commission accepted the real input cost escalators proposed by PWC Networks.

10.122 The Commission's decision in the Draft Determination is shown in Table 10.4 below.

Table 10.4: Commission's decision in the Draft Determination on PWC Networks' total required opex for the 2014-19 regulatory control period (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
PWC Networks proposed opex	109.30	107.17	108.58	107.37	106.87	539.29
Adjustment to service delivery	- 1.60	- 1.60	- 1.60	- 1.60	- 1.60	- 8.00
Adjustment to strategy and planning	- 1.15	- 1.15	- 1.15	- 1.15	- 1.15	- 5.75
Adjustment to metering	- 0.22	- 0.23	- 0.23	- 0.23	- 0.23	- 1.14
Adjustment to regulatory costs	- 0.14	- 0.14	- 0.14	- 0.14	- 0.15	- 0.72
Adjustment to GSL costs	- 0.98	- 0.98	- 0.98	- 0.98	- 0.98	- 4.92
Adjustment to system operations	- 0.05	- 0.05	- 0.05	- 0.05	- 0.05	- 0.24
Adjustment to preventative maintenance	0.83	0.92	0.93	0.18	0.27	3.12
Adjustment to vegetation management	- 2.90	- 1.84	- 1.86	- 1.88	- 1.90	- 10.38
Adjustment to planned corrective maintenance	- 0.85	- 1.05	- 0.70	- 0.83	-0.93	- 4.35
Adjustment to unplanned corrective maintenance	-	-	0.05	0.05	0.05	0.15
Adjustment to specific maintenance	-	-	-	- 0.35	-	- 0.35
Unallocated efficiency adjustment	-	- 2.53	- 5.14	- 7.53	- 10.02	- 25.22
Commission estimate of required opex forecast	102.23	98.53	97.69	92.86	90.18	481.49

Source: Utilities Commission

PWC Networks' Revised Regulatory Proposal

10.123 PWC Networks' revised regulatory proposal included a proposed opex forecast requiring a total of \$528.1 million (\$2013-14) for the 2014-19 regulatory control period, approximately \$11 million lower than the proposed opex forecast in its initial regulatory proposal. PWC Networks' revised opex proposal is set out in Table 10.5.

Table 10.5: PWC Networks original and revised proposed opex forecasts (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Original opex	109.30	107.17	108.58	107.37	106.87	539.29
Revised opex	106.43	105.29	107.11	104.72	104.60	528.14
Difference	-2.88	-1.88	-1.47	-2.65	-2.27	-11.15

Source: PWC Networks, revised regulatory proposal, January 2014, RRP: RIN templates 2.1 and 2.2 (confidential)

10.124 Table 10.6 shows PWC Networks' revised proposed opex forecast by opex category.

Table 10.6: PWC Networks' revised opex proposal by category (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Operating expenditure						
Operating	67.57	66.64	64.95	66.18	65.68	331.01
Maintenance expenditure						
Preventative	8.26	8.08	8.80	8.49	8.91	42.53
Vegetation mgmt.	6.26	6.33	6.38	6.45	6.52	31.93
Planned corrective	13.27	13.37	13.28	12.81	12.61	65.35
Unplanned corrective	10.25	10.30	10.58	10.14	9.92	51.19
Specific	0.81	0.57	3.13	0.66	0.96	6.13
Total maintenance	38.85	38.65	42.16	38.55	38.92	197.12
Total proposed opex	106.43	105.29	107.11	104.72	104.60	528.14

Source: PWC Networks, revised regulatory proposal, January 2014, RRP RIN templates 2.1 and 2.2 (confidential)

10.125 PWC Networks rejected the Commission's unallocated efficiency adjustment as arbitrary and maintained that its proposed opex forecast was prudent and efficient. PWC Networks engaged Huegin Consulting to provide a critique of the benchmarking analysis used by the Commission.

10.126 PWC Networks resubmitted all operating expenditure accounted for in its proposed opex forecast except for expenditure associated with metering and GSL costs. PWC Networks maintained that the expenditure would be necessary over the 2014-19 regulatory control period, but provided no further justification.

10.127 PWC Networks reduced the forecast opex for GSL costs proposed in its initial regulatory proposal, but forecast higher GSL costs than that allowed for in the Draft Determination where the Commission had applied a 30 per cent reduction on the

basis that not all retail customers on a feeder experience an interruption for every network outage event. PWC Networks submitted that this over-compensated as there were a negligible number of fused spur lines in its electricity network.

- 10.128 With respect to maintenance expenditure, PWC Networks accepted the adjustments applied by the Commission with the exception of those related to vegetation management. PWC Networks reduced its forecast vegetation management costs compared to that proposed in its initial regulatory proposal, but forecast higher vegetation management costs than in the Draft Determination, on the basis that additional expenditure was required to meet the new ESS targets.

Submissions on Draft Determination and Revised Regulatory Proposal

- 10.129 The NTMEU considered that PWC Networks' proposed opex forecast was too high.
- 10.130 The NTMEU did not make any specific criticisms, but expressed concern that insufficient data collection had allowed PWC Networks to seek and effectively obtain allowances reflecting a cost plus approach, rather than efficient allowances.
- 10.131 Both the Treasurer and the NTMEU noted the benchmarking analysis obtained by the Commission and its identification that PWC Networks operating costs, after adjusting for Territory conditions, were approximately 27 per cent above those of its peers. Both expressed strong support for a more aggressive reduction of costs over the 2014-19 regulatory control period.
- 10.132 The NTMEU also noted that the average costs of PWC Networks compared to its peers was not the benchmark for efficient costs.
- 10.133 No other submissions were received on forecast opex.

Issues and Commission's Further Considerations

Service delivery, strategy and planning and regulatory costs

- 10.134 PWC Networks did not accept the Commission's rejection of its forecast service delivery opex costs, noting that the Commission had taken the 'Other-remainder' amount for the 2013-14 regulatory year and applied that as an annual reduction for the 2014-19 regulatory control period. PWC Networks also provided a dot point list of the types of expenditure included in the 'Other-remainder' category.
- 10.135 The Commission notes that PWC Networks applied a base-step-trend approach in forecasting operating expenditure for the 2014-19 regulatory control period. Accordingly, it is not unreasonable to estimate that the 'Other-remainder' amount for each regulatory year is the same as that included in the base year (the 2013-14 regulatory year). The Commission has reviewed the information provided by PWC Networks and remains of the view that the remainder line item in the 'Other Cost buildup' for service delivery opex has not been justified as prudent and efficient.
- 10.136 For strategy and planning opex, the Commission accepts that determining the reduction required for prudent and efficient expenditure based on average expenditure over the 2009-14 regulatory control period over-estimated the reduction required. The Commission has reviewed the information provided and has accepted PWC Networks' revised forecast as the potential reduction amount identified is relatively small.
- 10.137 PWC Networks did not accept the Commission's rejection of its forecast regulatory costs and maintains that proposed increase in staffing is necessary. PWC Networks outlined a range of obligations associated with the Government's recently announced

package of reforms, including the transfer of economic regulation to the AER and adoption of relevant parts of the NER.

- 10.138 The Commission notes that this will lead to an increase in workload over the 2014-19 regulatory control period, but does not consider that PWC Networks has justified the need for two additional staff are required and maintains its view that the additional regulatory reporting responsibilities can be handled by a single additional officer.

GSL costs

- 10.139 PWC Networks reduced its forecast GSL costs from that proposed in its initial regulatory proposal, but forecast slightly higher costs than the Commission allowed in the Draft Determination.
- 10.140 PWC Networks disagrees with the reduction applied by the Commission to address concerns that not all customers on a feeder experience interruptions for every network outage, noting that there is a negligible number of fused spur lines in the network.
- 10.141 The Commission accepts PWC Networks' revised forecast of GSL costs.

Vegetation Management

- 10.142 PWC Networks reduced its forecast vegetation management costs from that proposed in its initial regulatory proposal, but forecast higher vegetation management costs than that allowed by the Commission in the Draft Determination, on the basis that additional expenditure is required to meet the new service standards targets established under the ESS Code.
- 10.143 The Commission has discussed the flaws in the approach used by PWC Networks to forecast the performance gap to meet ESS Code requirements in Chapter 9 of this Statement of Reasons. While not accepting the revised forecast for vegetation management submitted by PWC Networks, the Commission has allowed a small increase compared to the forecast in the Draft Determination.

Real cost escalators

- 10.144 As discussed in Chapter 9 of this Statement of Reasons, the Commission has noted the concerns raised by the NTMEU and has reviewed its acceptance of the real cost escalators submitted by PWC Networks.
- 10.145 The Commission confirms its draft decision to use the material real cost escalators submitted by PWC Networks, but has decided to apply the real labour cost escalators for 2014-19 regulatory control period as recommended by consultants engaged by PWC Networks, rather than PWC Networks' proposed real labour cost escalators which included an adjustment for PWC's enterprise bargaining agreement for the 2013-14 and 2014-15 regulatory years.

Unallocated efficiency adjustment

- 10.146 PWC Networks rejected the Commission's unallocated efficiency adjustment as arbitrary and maintained that the opex proposed by PWC Networks was prudent and efficient.
- 10.147 The Commission notes that the Huegin Consulting report did not dispute the assertion that PWC Networks' proposed opex forecasts were high. The 6 per cent reduction recommended by PB for specific cost categories provides a minimum reduction based on the specific items assessed. The benchmarking analysis adopted by the Commission provides further information about the level of efficiency that should be achieved by PWC Networks. This approach is not unreasonable in considering the efficiency of PWC Networks with respect to opex.

- 10.148 PB acknowledges as with all benchmarking, the results are not without their limitations. In this case, a limitation has arisen because the data used in the benchmarking was largely taken from publicly available sources rather than being prepared against a consistent set of definitions. Additionally, the inherent limitations of using regression analysis on small sample sizes highlights the importance of considering a range of variables and relationships and of interpreting the outcomes of benchmarking in a qualitative rather than quantitative way, as well as supporting the benchmarking analysis with a solid understanding of the business context.
- 10.149 PB's view was that PWC Networks does have suitable benchmarking peers in Australia, but that each network service provider in the benchmarking group is different and the differences need to be considered carefully when conducting the benchmarking analysis and interpreting the outcomes.
- 10.150 The issue is whether the benchmarking analysis undertaken by PB can be relied on by the Commission to inform its decision about the efficient level of opex. The Commission believes that it can. While no two network businesses will be exactly alike, the Commission accepts PB's view that the benchmark group is appropriate and is satisfied that adjustment has been made for specific issues faced by PWC Networks, notably adjustments for regional uplift and economies of scale.
- 10.151 Having accepted that a 27 per cent reduction in opex is a reasonable estimate of the adjustment required to bring PWC Networks to the level of its peers, the Commission has also reviewed the pace at which this reduction should be achieved.
- 10.152 The Commission considers that the glide path set out in the Draft Determination placed too little pressure on PWC Networks to reduce costs, and that if PWC Networks is unable to reduce costs to the level of its peers by the end of the 2014-19 regulatory control period, then the excess costs should be borne by PWC Networks (that is, by reducing the actual return on capital component of the building block), not by retail customers.
- 10.153 The Commission has revised the glidepath to remove the full 27 per cent of the difference between PWC Networks and the average of its peers by the end of the 2014-19 regulatory control period. Accordingly, in addition to the specific opex adjustments detailed in the preceding sections, the Commission has further reduced the operating cost forecast by 5 per cent in the 2014-15 regulatory year, 10 per cent in the 2015-16 regulatory year, 15 per cent in the 2016-17 regulatory year, 20 per cent in the 2017-18 regulatory year and 27 per cent in the 2018-19 regulatory year.
- 10.154 As noted by the NTMEU, this reduction in operating costs to the level of its peers, does not necessarily move PWC Networks to an efficient cost level. Assessment of the scope for further efficiency improvements is expected to be undertaken as part of the Post 2019 Network Price Determination.

Commission's Final Decision

- 10.155 The Commission is not satisfied that PWC Networks' revised proposed opex forecast requiring a total of \$528.1 million (\$2013-14) reasonably reflects the costs that will be incurred by PWC Networks in connection with the operation and maintenance of its network in the 2014-19 regulatory control period.
- 10.156 In addition, the Commission is not satisfied that PWC Networks' revised opex forecast, taking into account the operating expenditure factors, reasonably reflects the operating expenditure criteria in clause 6.5.6 of the NER.

10.157 As such, the Commission has decided to substitute PWC Networks' proposed opex forecasts with its own estimate of PWC Networks' total required opex which takes account of the following adjustments.⁵⁸

- a reduction of \$8 million to PWC Networks' service delivery opex forecast as some components of work have not been demonstrated to be prudent;
- a reduction of \$0.7 million to PWC Networks' regulatory costs opex forecast as many of the regulatory functions are already undertaken by the Network Management group and one full time employee should be sufficient to address any new requirements;
- a reduction of \$5.2 million to the vegetation management opex forecast as the need to increase the vegetation management program from historical levels has not been established;
- a reduction of \$4.8 million related to adjustments to real cost escalators; and
- a reduction of \$78.2 million as a further unallocated efficiency adjustment to bring PWC Networks' opex closer to the average achieved by its peers.

10.158 The Commission considers these adjustments are the minimum necessary to ensure PWC Networks' opex forecast reflects the reasonable costs that will be incurred by PWC Networks in connection with the operation and maintenance of its electricity network in the 2014-19 regulatory control period, having regard to the operating expenditure criteria and taking into account the operating expenditure factors.

10.159 Allowing for the adjustments listed above, the Commission's estimate of forecast opex for PWC Networks is \$431.1 million, as set out in Table 10.7.

Table 10.7: Commission's decision on PWC Networks estimated total opex forecast (\$M, 2013-14)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
PWC Networks proposed opex	106.43	105.29	107.11	104.72	104.60	528.14
Adjustment to service delivery	- 1.60	- 1.60	- 1.60	- 1.60	- 1.60	- 8.00
Adjustment to regulatory costs	- 0.14	- 0.14	- 0.14	- 0.14	- 0.15	- 0.72
Adjustment to vegetation management	-1.03	-1.04	-1.05	-1.06	-1.07	-5.24
Adjustment for real cost escalation changes	-0.96	-0.96	-0.97	-0.98	-0.98	-4.85
Unallocated efficiency adjustment	-5.14	-10.15	-15.50	-20.12	-27.22	-78.20
Commission estimate of required opex forecast	97.57	91.39	87.85	80.75	73.58	431.14

Source: Utilities Commission

⁵⁸ Real cost escalation applied to PB recommendations by the Commission

CHAPTER 11

Depreciation

Introduction

- 11.1 This chapter sets out the annual allowances for regulatory depreciation, also referred to as the return of capital, that sums the (negative) straight-line depreciation and the (positive) annual inflation effect on the opening RAB. It also sets out the Commission's assessment of PWC Networks' proposed asset lives it has used to calculate its depreciation schedules for the 2014-19 regulatory control period.
- 11.2 Regulatory depreciation is used to model the nominal asset values over a regulatory control period and provides the depreciation allowance in the annual revenue requirement. The annual regulatory depreciation allowance is an amortised value of the RAB, derived using a specified depreciation schedule that reflects the nature of the assets over their economic lives. Regulatory practice has been to assign a regulatory life (standard life) to each category of assets that equals its expected economic life.

Regulatory Requirements

Network Access Code

- 11.3 Clause 6 of Schedule 6 of the Network Access Code provides that:
- (1) *Allowing a return on capital recognises the need to recoup the capital which the network provider currently has invested in network assets over the remaining useful lives of those assets.*
 - (2) *The asset lives used for the purpose of calculating depreciation rates are to be consistent with good electricity industry practice.*
- 11.4 While Schedule 6 of the Network Access Code does not apply to the setting of the depreciation allowance for the 2014-19 regulatory control period, it provides a general indication of the objectives of this process.

National Electricity Rules

- 11.5 Clause 6.5.5 of the NER sets out the requirement for depreciation for each regulatory year. Clause 6.5.5(a) of the NER provides that depreciation must be calculated on the value of the assets included in the RAB for the relevant distribution system at the beginning of the regulatory year.
- 11.6 A building block proposal must contain depreciation schedules that conform to the following requirements set out in clause 6.5.5(b) of the NER:
- (1) *the schedules must depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets;*
 - (2) *the sum of the real value of the depreciation that is attributable to any asset or category of assets over the economic life of that asset or category of assets (such real value being calculated as at the time the value of that asset or category of*

assets was first included in the regulatory asset base for the relevant distribution system) must be equivalent to the value at which that asset or category of assets was first included in the regulatory asset base for the relevant distribution system; and

- (3) *the economic life of the relevant assets and the depreciation methods and rates underpinning the calculation of depreciation for a given regulatory control period must be consistent with those determined for the same assets on a prospective basis in the distribution determination for that period.*

11.7 To the extent that a DNSP's building block proposal does not comply with the above requirements, clause 6.5.5(a)(2)(ii) of the NER allows for the AER to determine the depreciation schedules.

Framework Statement

11.8 In its Framework Statement, the Commission stated that its preferred approach to calculating depreciation was to apply clause 6.5.5 of the NER which provides an appropriate model for PWC Networks' regulatory proposal.

PWC Networks' Initial Regulatory Proposal

11.9 PWC Networks advised that it had revised its depreciation methodology to align with the standard AER approach. This method was retrospectively applied in rolling forward the RAB to get the opening RAB for 1 July 2014.

11.10 PWC Networks consolidated its assets into 14 regulatory asset categories. PWC Networks sought advice from SKM in determining the appropriate average life, average age and remaining life to apply to the 14 asset categories as at 30 June 2013. The standard life and remaining life for each asset category proposed by PWC Networks reflected this advice.

11.11 The regulatory depreciation allowances proposed by PWC Networks for the 2014-19 regulatory control period are set out in Table 11.1.

Table 11.1: PWC Networks proposed regulatory depreciation allowances (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Depreciation (DORC)	27.73	30.37	26.24	28.01	30.39	142.74

Source: PWC Regulatory Proposal, page.140

Submissions on Initial Regulatory Proposal

11.12 No submissions were received on PWC Networks' calculation of the depreciation allowance to apply to the 2014-19 regulatory control period.

Issues and Commission's Initial Considerations

11.13 The allowance for regulatory depreciation is an output of the NTRM rather than an input to be specified or proposed by PWC Networks. The relevant inputs to the NTRM's calculation of an allowance for regulatory depreciation include:

- the standard life for each asset class;
- the remaining life for each asset class; and
- existing assets (that is, the opening RAB) and new asset values (that is, forecast capex) for each asset class.

Standard life

- 11.14 There were several asset categories for which PWC Networks proposed different standard asset lives to those used in the 2009 Network Price Determination. In response to a query from the Commission, PWC Networks advised that this was due to a different aggregation into asset categories. For the 2009 Network Price Determination, 230 different asset classes taken from PWC Networks accounting register were aggregated into 20 regulatory asset classes. For the 2014 Network Price Determination, 48 asset categories identified by SKM for valuation purposes have been aggregated into 14 regulatory asset categories.
- 11.15 This means that some regulatory asset classes included assets of various types with different standard lives and that the weighting of these assets determined the average standard life for the asset class as a whole.
- 11.16 The changed aggregation of assets into the 14 asset classes used for the RFM and NTRM for the 2014 Network Price Determination resulted in changes to the weighted average standard life across most categories.
- 11.17 However, a review of distribution determinations undertaken by the AER for DNSPs in other jurisdictions showed that the AER accepts a range of standard asset lives. The values proposed by PWC Networks were within the range that has been accepted by the AER in other determinations.

Remaining life

- 11.18 The 2013 SKM valuation has recommended values for remaining asset lives that are lower than those calculated by rolling forward the RAB values in the 2009 Network Price Determination.
- 11.19 Based on the 2013 SKM valuation, PWC Networks' RAB has, on a weighted average basis, only 48 per cent of its life remaining. By contrast, based on rolling forward the values from the 2009 Network Price Determination, the RAB would have 59 per cent of its life remaining.
- 11.20 This is generally consistent with information gained from other work undertaken by the Commission that PWC Networks' assets are in a more degraded condition than previously thought.
- 11.21 Further, for the 2009 Network Price Determination, the Commission undertook a single-year 'cost of service' building block assessment to determine a P0 adjustment to apply at the commencement of the 2009-14 regulatory control period. The regulatory depreciation allowance that formed part of this single year building block was well below the average annual depreciation allowance provided for other DNSPs (negative \$1.7 million) casting doubt on the reasonableness of the associated asset lives.
- 11.22 The Commission considered that the SKM review provided reliable asset life estimates and a level of granularity that will facilitate a greater degree of certainty in future determinations.

Commission's Draft Determination

- 11.23 The Commission assessed the remaining lives and standard lives submitted by PWC Networks and the resulting regulatory depreciation allowance calculated by the NTRM, consistent with the requirements of clause 6.5.5 of the NER.

- 11.24 The Commission accepted PWC Networks' proposed standard asset lives and remaining asset lives. The regulatory depreciation allowance was higher than that proposed by PWC Networks due to the Commission updating the expected inflation rate.
- 11.25 On the basis of the Commission's approved asset lives, opening RAB, and forecast capex, the Commission determined PWC Networks' regulatory depreciation for the 2014-19 regulatory control period as set out in Table 11.2.

Table 11.2: Commission's decision in the Draft Determination on regulatory depreciation allowance (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Depreciation (DORC)	28.49	31.13	27.13	28.92	31.18	146.85

Source: Utilities Commission

PWC Networks' Revised Regulatory Proposal

- 11.26 PWC Networks proposed a total regulatory depreciation allowance of \$146.6 million for the 2014-19 regulatory control period, reflecting revisions to its proposed capex forecast.

Submissions on Draft Determination and Revised Regulatory Proposal

- 11.27 The Treasurer noted significant movements in standard asset lives and remaining asset lives for some asset categories from the roll forward of the RAB for the 2009-14 regulatory control period and the SKM valuation. The Treasurer expressed the view that further investigation was required to ensure that the changes reflect prudent and efficient asset management.
- 11.28 The Treasurer also noted that the revision of asset lives has a significant impact on the depreciation allowance for the 2014-19 regulatory control period.
- 11.29 No other submissions were received on the regulatory depreciation allowance.

Issues and Commission's Further Considerations

Standard asset lives

- 11.30 PWC Networks has provided sample calculations of weighted average standard asset lives. The Commission has confirmed its previous view that the changes in standard lives are due to changes in the aggregation of asset classes. The Commission is satisfied that the standard asset lives submitted by PWC Networks are based on standard principles and methodology used for regulatory valuations of electricity networks in Australia.

Remaining asset lives

- 11.31 For the 2009 Network Price Determination, PWC Networks did not provide a roll forward of the RAB established by the Commission in the Off Ramp Decision, submitting an opening RAB value based on a DORC valuation undertaken in 2007.
- 11.32 In the absence of a compliant submission from PWC Networks, the Commission (through its consultant ACIL Tasman, now ACIL Allen Consulting) calculated its own roll forward of the RAB, using available information and some simplifying assumptions. Remaining asset lives were estimated by subtracting five years from the

remaining asset lives contained in the 2007 DORC valuation submitted by PWC Networks.

- 11.33 The Commission now considers that this approach was flawed and over-estimated the remaining life of PWC Networks' assets. Asset category lives are weighted, and therefore dependent upon the individual assets included in the category, which is also affected by asset additions and disposals. As noted in the Draft Determination, the regulatory depreciation allowance that formed part of the single year building block for the 2009 Network Price Determination was well below the average annual depreciation allowance provided for other DNSPs (negative \$1.7 million) casting doubt on the reasonableness of the associated asset lives.
- 11.34 A reconciliation between the remaining asset lives rolled forward from the 2009 Network Price Determination and the remaining asset lives derived from the 2013 SKM valuation is not possible, as the data sets came from two unrelated sources. In light of the flaws identified in the 2009 approach and information provided in the Davies Review and other reviews that asset condition is poorer than previously thought, the Commission considers that the remaining asset lives submitted by PWC Networks to be reasonable.

Commission's Final Decision

- 11.35 The Commission has accepted the standard asset lives and remaining asset lives for PWC Networks as set out in Table 11.3.

Table 11.3: Commission approved remaining and standard asset lives for PWC Networks (years)

Asset class	Standard life	Remaining life
<i>System Capex</i>		
Transmission terminal station	42.4	17.0
Zone substations	41.7	13.1
Transmission lines	56.6	30.2
Distribution mains	55.8	30.6
Distribution substations	45.0	23.2
Metering	22.1	6.2
Land and easements	n/a	n/a
Secondary systems - Control, communications & Protection	13.4	2.0
Other	5.0	3.0
<i>Non-System Capex</i>		
Non-network—IT and Communications Capex	11.8	6.4
Non-network—Motor Vehicles Capex	5.0	0.0
Non-network—Property Capex	5.0	0.0
Non-network—Plant & Equipment Capex	14.3	9.6
Non-network—Other capex	5.0	3.0

Source: Utilities Commission

11.36 On the basis of the Commission's approved asset lives, opening RAB, and forecast capex, the Commission has determined PWC Networks' regulatory depreciation allowances for the 2014-19 regulatory control period are as set out in Table 11.4.

Table 11.4 Commission conclusion on regulatory depreciation allowances (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Depreciation (DORC)	27.78	30.46	26.52	28.39	30.73	143.88

Source: Utilities Commission

CHAPTER 12

Cost of Capital

Introduction

12.1 This chapter sets out the Commission's calculation of the rate of return for PWC Networks for the 2014-19 regulatory control period. The key issues considered include the WACC parameters specified in the Commission's Framework Statement, and the determination of the risk-free rate, debt risk premium or DRP and inflation forecast.

Regulatory Requirements

Network Access Code

12.2 Clause 68 of the Network Access Code requires the Commission, in setting a revenue cap or price cap, to take into account the revenue requirements of PWC Networks during the relevant regulatory year or regulatory years having regard to a number of factors.

12.3 Some of these factors are:

(d) *the network provider's cost of capital applicable to the relevant network access service, having regard to the risk-adjusted rate of return required by investors in commercial enterprises facing similar business risks to those faced by the network provider in the provision of that service;*

(e) *the provision of a return on efficient capital investment undertaken by the network provider to maintain or extend network capacity to those faced by the network provider in the provision of that services;*

...

(g) *any increase in the rate of a tax or any new tax, whether it is a tax or tax equivalent imposed by the Territory, a State or the Commonwealth that directly increases the cost of providing the access services that are directly attributable to the increase in the rate of to the new tax;*

12.4 In addition, clause 1(2) of Schedule 8 of the Network Access Code provides that:

(2) *The methodology for determining any WACC for use in the second and subsequent regulatory control periods is to be determined by the regulator in a manner that most effectively achieves the outcomes in clause 63 and is consistent with generally accepted regulatory practice at the time.*

National Electricity Rules

12.5 The AER must determine the rate of return in accordance with clause 6.5.2 of the NER. This clause provides that the return on capital building block must be calculated by applying the rate of return to the value of the RAB as determined in accordance with clause 6.5.1 and schedule 6.2 of the NER.

- 12.6 In November 2012, the Australian Energy Market Commission (AEMC) made a final determination on new rules to regulate electricity network prices. This included changes to the way in which the rate of return (under the NER and the National Gas Rules) is to be determined:
- The new rate of return framework is common to electricity distribution, electricity transmission and gas distribution businesses. It requires the AER to make the best possible estimate of the rate of return at the time a regulatory determination is made. It requires the AER to take into account market circumstances, estimation methods, financial models and other relevant information.
 - The AER is also required to undertake an open and consultative process at least every three years to develop its approach to setting the rate of return.
 - The new common framework enables the regulator to take a range of different approaches to estimate the return on debt component, potentially allowing for reduced risk for debt financing for network businesses.
- 12.7 The allowed rate of return, return on equity and return on debt are to be determined such that they achieve the allowed rate of return objective which is set out in clause 6.5.2(c) of the NER as follows:
- (c) The allowed rate of return objective is that the rate of return for a Distribution Network Service Provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the Distribution Network Service Provider in respect of the provision of standard control services.*
- 12.8 Clause 6.5.2(m) requires the AER to make and publish rate of return guidelines setting out:
- (1) *the methodologies that the AER proposes to use in estimating the allowed rate of return, including how those methodologies are proposed to result in the determination of a return on equity and a return on debt in a way that is consistent the allowed rate of return objective; and*
 - (2) *the estimation methods, financial models, market data and other evidence the AER proposes to take into account in estimating the return on equity, the return on debt and the value of imputation credits referred to in clause 6.5.3.*
- 12.9 The AER published a draft Rate of Return Guideline in August 2013 and a further Equity Beta Issues Paper in October 2013. The AER released its final Rate of Return Guideline on 17 December 2013.⁵⁹
- 12.10 Clause 6.5.3 of the NER also sets out how the estimated cost of corporate income tax of a DNSP for each regulatory year must be determined. This in turn requires the AER to input its decision on the value of imputation credits (or gamma).

Framework and Approach

- 12.11 In its Framework Statement, the Commission accepted PWC Networks' arguments that the post-tax approach mandated under the NER's approach should be modified to accommodate its constraints. It argued that, given the tight timeframe for the 2014 Network Price Determination, a post-tax framework would only add to the already

⁵⁹ AER, [Better Regulation: Rate of return guideline](#), December 2013.

considerable increase in reporting requirements. However, it agreed that it should transition to a post-tax approach for the Post 2019 Network Price Determination.

- 12.12 Accordingly, the Commission's Framework Statement stated that its preferred approach was to determine the pre-tax nominal WACC based on the methodologies used by the AER to establish the parameters in its most recent distribution determination (being the 2012-17 distribution determination for Aurora Energy), except for the DRP. The DRP would be based on the methodology set out in the AER's draft 2012-17 distribution determination for Aurora Energy which estimated the DRP based on observed market data of a large representative sample of the benchmark Australian corporate bond with a 10-year term to maturity and BBB+ credit rating.

PWC Networks' Initial Regulatory Proposal

- 12.13 PWC Networks' applied the WACC parameters specified in the Commission's Framework Statement with the exception of the credit rating used to determine the DRP.
- 12.14 PWC Networks argued that the Bloomberg BBB rated fair value curve (FVC)⁶⁰ should be used to estimate the DRP, extrapolated to a 10-year term, as it was demonstrably 'generally accepted regulatory practice at the time' as applied by the AER to Aurora Energy and several other DNSPs.
- 12.15 PWC Networks did not update the market based parameters – nominal risk free rate, the debt risk premium or the inflation rate – and applied the values for those parameters used in the Aurora Energy 2012-17 final distribution determination.

Table 12.1: PWC Networks proposed WACC parameters

Set parameters	PWC Regulatory Proposal
Nominal risk-free rate	3.89%
Market risk premium (MRP)	6.00%
Equity beta	0.8
Debt risk premium	4.11%
Gearing	60:40
Inflation rate	2.60%
Corporate tax rate	30.00%
Gamma	25.00%
Pre-tax nominal WACC	8.80%

Source: PWC Networks, NTRM (ODRC)

Submissions on Initial Regulatory Proposal

- 12.16 The NTMEU expressed the view that:

⁶⁰ A proprietary fair value, or best fit, curve, for BBB rated corporate bonds developed by Bloomberg and used by subscribers to determine a theoretical value for where a selected bond should trade compared to similar bonds.

The reviews by the ERA and AER have been driven by a recognition that the previously used inputs grossly overstated the rates of return that should apply to the very low risk activities undertaken by networks. The NTMEU considers that the UC must take note of these recent changes when setting the WACC for PWC. (page.42)

12.17 The NTMEU suggested the following changes to the WACC parameters be considered:

- the risk free rate should be based on the five-year Commonwealth government security (CGS), rather than the 10 year CGS;
- inflation should be market driven by assessing the difference between inflation indexed bonds and nominal bonds;
- the DRP should reflect a five-year term for the debt and be based on the bond yields of a cohort of specific bonds rather than the Bloomberg FVC; and
- the equity beta should be lower, the NTMEU noted that the AER had recently released an issues paper indicating an equity beta of 0.7 was at the high end of the plausible range and that Economic Regulatory Authority had calculated that equity beta should be 0.65.

12.18 No other submissions were received on the WACC parameters.

Issues and Commission's Considerations

Parameters on which there was agreement

12.19 The Commission considered that there was broad agreement on the market risk premium, gearing, corporate tax rate and gamma.

12.20 Accordingly, the following parameters proposed by PWC Networks were specified in the Commission's Framework Statement and accepted by the Commission:

- market risk premium of 6.0 per cent;
- gearing of 60:40;
- corporate tax rate of 30 per cent; and
- gamma of 25 per cent.

Expected inflation

12.21 The expected inflation rate is not an explicit parameter within the WACC calculation. However, it is used in the NTRM to forecast nominal allowed revenues and to index the RAB.

12.22 The Commission estimated inflation consistent with the approach adopted by the AER (refer Table 12.2). Inflation was estimated by applying the Reserve Bank of Australia's (RBA) short-term inflation forecasts (currently extending out to two years) and adopting the mid-point of its target inflation band beyond that period (2.5 per cent) for the remaining eight years. An implied 10-year forecast was derived by a geometric average of these individual forecasts.

Table 12.2: Commission's conclusion on expected inflation (per cent)

	June 2013	June 2014	June 2015 ^(a)	June 2016	June 2017	June 2018	June 2019	June 2020	June 2021	June 2022	Geo. Mean
Forecast inflation	2.40	2.75	2.50 ^(a)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.51

Source: RBA Statement on Monetary Policy, November 2013, page.65

^(a) The RBA has not yet released a forecast for the year ending June 2015. The mid-point of the target range was assumed for the purposes of the Draft Determination.

Nominal risk free rate

- 12.23 The NTMEU suggested that the risk free rate be based on the five-year, rather than the 10-year, CGS, but advanced no arguments in support of this.
- 12.24 Use of the 10-year CGS is generally accepted regulatory practice and the Commission saw no reason to depart from that practice.
- 12.25 The Commission calculated the nominal risk free rate as 4.13 per cent, based on the 10-year CGS over a 20 day averaging period from the 4th to the 29th of November 2013.

Equity beta

- 12.26 Equity beta is a measure of expected volatility of the return on an investment in a particular asset or network service provider relative to the market as a whole. An equity beta of one implies that a network service provider's returns have the same level of systematic risk as the overall market. An equity beta of less than one implies a network service provider's returns are less sensitive to systematic risk than the overall market, and an equity beta greater than one implies a network service provider's returns are more sensitive.
- 12.27 While an equity beta of 0.8 has historically been applied for network service providers, recent research and empirical analysis, as noted by the NTMEU, strongly suggested that a lower value was appropriate.
- 12.28 In its Equity Beta Issues Paper, the AER proposed the adoption of an equity beta point estimate of 0.7 for a benchmark efficient entity, chosen from within a range of 0.4 to 0.7. This was based on conceptual analysis and empirical estimates for Australian network service providers from a range of studies.
- 12.29 The Commission considered generally accepted regulatory practice no longer supported an equity beta above 0.7.
- 12.30 The equity beta of 0.8 proposed by PWC Networks was not accepted by the Commission. The Commission applied an equity beta of 0.7.

Debt risk premium

- 12.31 The DRP is the margin above the nominal risk-free rate that a debt holder in a benchmark efficient DNSP is likely to demand as a result of issuing debt to fund a network service provider's operations. It is intended to equate to a commercial cost of debt.
- 12.32 PWC Networks proposed that the Bloomberg BBB rated FVC should be used to estimate the DRP, to a 10-year term, while the NTMEU suggested that the DRP should reflect a five year term for the debt and be based on the bond yields of a cohort of specific bonds.
- 12.33 In light of the position taken by the AER in the draft Rate of Return Guidelines, the Commission's preference was to follow regulatory precedent and base the DRP on the Bloomberg BBB rated FVC. However, the Commission did not have access to Bloomberg data at that time.
- 12.34 For the purposes of the Draft Determination, the Commission used the DRP as calculated by the AER with reference to the Bloomberg FVC in its most recent decision at the time (that was the SPAusnet 2014-17 draft transmission determination, estimated over the 20 business days commencing from 24 June 2013).

Commission's Draft Decision

- 12.35 The Commission calculated an indicative nominal pre-tax WACC of 8.12 per cent for PWC Networks.
- 12.36 This WACC was lower than that proposed by PWC Networks because the Commission adopted a lower equity beta and the market based parameters (nominal risk free rate, DRP and expected inflation) changed since the time at which PWC Networks prepared its initial regulatory proposal.
- 12.37 Table 12.3 outlines the WACC parameters used in the Draft Determination. The Commission advised that it would update the nominal risk-free rate and DRP, based on the agreed averaging period, and the expected inflation rate closer to this Final Determination.

Table 12.3: Commission's decision in the Draft Determination - WACC parameters

Set parameters	PWC initial regulatory proposal	Commission Draft Decision
Nominal risk-free rate	3.89%	4.13% ¹
Market risk premium (MRP)	6.00%	6.00%
Equity beta	0.8	0.7
Debt risk premium	4.11%	3.00% ²
Gearing	60:40	60:40
Inflation rate	2.60%	2.51% ³
Corporate tax rate	30.00%	30.00%
Gamma	25.00%	25.00%
Pre-tax nominal WACC	8.80%	8.12%

Source: Utilities Commission

¹ Calculated as the yield on 10-year CGS averaged over 20 business days from 4 November 2013 to 29 November 2013

² Taken from the most recent AER determination at the time (that is the SPAusnet 2014-17 draft determination published in August 2013).

³ RBA Statement on Monetary Policy, November 2013.

PWC Networks' Revised Regulatory Proposal

- 12.38 PWC Networks accepted the parameter values set out in the Commission's Draft Determination. PWC Networks noted that the AER's final Rate of Return Guidelines, published in December 2013, confirmed that it would use an equity beta of 0.7 in future distribution determinations.
- 12.39 PWC Networks also advised that it had corrected an inadvertent formula error in the effective tax rate on equity as part of the WACC calculation and had updated the formula in the NTRM to align with the calculation in the PTRM.

Submissions on Draft Determination and Revised Regulatory Proposal

- 12.40 The NTMEU noted that the AER's final transmission determination for SPAusnet's 2014-17 regulatory control period revised the DRP down to 2.48 per cent, and

considered that this value should be adopted by the Commission in line with the approach used in the Draft Determination. The NTMEU argued that this still provided PWC Networks with a higher implied cost of debt than what it actually pays, as a government-owned corporation borrowing through the Government's central borrowing agency.

- 12.41 The NTMEU agreed with the other parameter values used in the Commission's Draft Determination, subject to the updating of the risk free rate with latest available market data.
- 12.42 No other submissions were received on the WACC parameters.

Issues and Commission's Further Considerations

WACC calculation in NTRM

- 12.43 The Commission notes PWC Networks' error in the effective tax rate on equity.
- 12.44 However, the Commission considers that the correction proposed by PWC Networks is not correct.
- 12.45 The PTRM calculates a number of permutations of the WACC for illustrative purposes – pre-tax, post-tax, real and nominal. However, the PTRM only uses the nominal vanilla WACC in determining the required revenue for a DNSP, which is not affected by the effective tax rate on equity. The PTRM deals with tax effects in the building block, rather than through the WACC.
- 12.46 The PTRM calculates a pre-tax nominal WACC using an effective tax rate on equity derived from cash flows within the model. However, these cash flows are based on a post-tax approach.
- 12.47 The Commission developed its NTRM by modifying the PTRM to the minimum extent necessary to use a pre-tax approach. In making these modifications, the integrity of the cash flow analysis was compromised.
- 12.48 The Commission has now amended the model to remove the PTRM cash flow analysis. The Commission has confirmed with the AER that this has not affected the integrity of the model for the calculation of the total revenue requirement and X factors.
- 12.49 As specified in the Commission's Framework Statement and confirmed in the Draft Determination, the Commission has replaced the calculations for both the effective tax rate on equity and the effective tax rate on debt with the statutory corporate tax rate of 30 per cent.

Imputation credits (gamma)

- 12.50 The Commission considers that the AER's Rate of Return Guidelines reflect generally accepted regulatory practice for determining the rate of return for regulated network service providers. In the final Guideline, the AER revised its estimate of the utilisation of imputation credits (gamma) from 25 per cent to 50 per cent.
- 12.51 The Commission provided PWC Networks with an opportunity to make representations on the value for gamma.

Update market parameters

- 12.52 The Commission has updated its estimated inflation based on the RBA's short-term inflation forecasts (currently extending out to two years) set out in the February 2014 Statement on Monetary Policy.

12.53 The Commission calculated the nominal risk free rate as 4.11 per cent, based on the 10-year CGS over a 20 day averaging period from the 4th March to the 31st of March 2014.

Commission's Final Decision

12.54 The Commission has calculated a nominal pre-tax WACC of 7.86 per cent for PWC Networks.

12.55 This WACC is lower than that proposed by PWC Networks because the Commission has adopted a higher utilisation of franking credits (gamma) and a corporate tax rate of 30 per cent, and the market based parameters (that is, nominal risk free rate, DRP and expected inflation) have changed since PWC Networks prepared its revised regulatory proposal

12.56 Table 12.3 outlines the Commission's decision on the WACC parameters for the Final Determination.

Table 12.3: Commission's decision on WACC parameters

Set parameters	Commission Final Decision
Nominal risk-free rate	4.11% ¹
Market risk premium (MRP)	6.00%
Equity beta	0.7
Debt risk premium	2.48% ²
Gearing	60:40
Inflation rate	2.59 ³
Corporate tax rate	30.00%
Gamma	50.00%
Pre-tax nominal WACC	7.86%

Source: Utilities Commission

¹ Calculated as the yield on 10-year CGS averaged over 20 business days from 4 March 2014 to 31 March 2014

² Taken from the most recent AER determination (that is the SPAusnet 2014-17 final determination published in January 2014

³ RBA Statement on Monetary Policy, February 2014.

CHAPTER 13

Permitted Adjustments to the 2014 Network Price Determination

Introduction

- 13.1 This chapter sets out the Commission's basis and rationale for the inclusion in the 2014 Network Price Determination of procedures dealing with permitted adjustments to the annual revenue requirement during the 2014-19 regulatory control period (Permitted Adjustment Procedures).
- 13.2 The Permitted Adjustment Procedures specify:
- the pass through events to apply during the 2014-19 regulatory control period;
 - the contingent projects and associated trigger events for the 2014-19 regulatory control period;
 - when the 2014 Network Price Determination can be reopened for unexpected and significant capital expenditure requirements; and
 - how the 2014 Network Price Determination can be amended by the Commission to reflect changes in applicable regulatory instruments and generally accepted regulatory practice during the 2014-19 regulatory control period.
- 13.3 An objective of the incentive framework is to ensure that risks are appropriately managed. If a network service provider fails to manage risks properly and incurs additional costs, it would be expected to bear those costs. However, the NER recognises a network service provider can be exposed to risks beyond its control, which may have a material impact on its costs.
- 13.4 The Permitted Adjustment Procedures have been designed to deal with this type of risk and are consistent with similar provisions appearing in Chapter 6 of the NER and the requirements of clause 71 of the Network Access Code.

Regulatory Requirements

Network Access Code

- 13.5 The Network Access Code does not specifically provide for cost pass throughs or contingent projects during a regulatory control period.
- 13.6 However, the Commission has a broad authority under Chapter 6 of the Network Access Code to make network price determinations for regulated network access services, and this authority permits the Commission to include NER processes and procedures where the Commission considers this is required to most effectively achieve the desired outcomes set out in clause 63 of the Network Access Code.
- 13.7 The Commission's authority in this regard is discussed in Chapter 2 of this Statement of Reasons.

National Electricity Rules

Cost Pass Through

- 13.8 A pass through event is defined by clause 6.6.1(a1) of the NER to mean:
Any of the following is a pass through event:
- (a) a regulatory change event;*
 - (b) a service standard event;*
 - (c) a tax change event;*
 - (d) a retailer insolvency event; and*
 - (e) any other event specified in a distribution determination as a pass through event for the determination.*
- 13.9 A DNSP's building block proposal may include a proposal as to the 'other events' that should be defined as pass through events for the purposes of the distribution determination. In determining whether to accept additional pass through events nominated by a DNSP, the AER is required to take into account the 'nominated pass through event considerations'.
- 13.10 The nominated pass through event considerations are set out in Chapter 10 of the NER as follows:
- (a) whether the event proposed is an event covered by a category of pass through event specified in clause 6.6.1(a1)(1) to(4) (in the case of a distribution determination) or clause 6A.7.3(a1)(1) to(4) (in the case of a transmission determination);*
 - (b) whether the nature or type of event can be clearly identified at the time the determination is made for the service provider;*
 - (c) whether a prudent service provider could reasonably prevent an event of that nature or type from occurring or substantially mitigate the cost impact of such an event;*
 - (d) whether the relevant service provider could insure against the event, having regard to:*
 - (1) the availability (including the extent of availability in terms of liability limits) of insurance against the event on reasonable commercial terms; or*
 - (2) whether the event can be self-insured on the basis that:*
 - (i) it is possible to calculate the self-insurance premium; and*
 - (ii) the potential cost to the relevant service provider would not have a significant impact on the service provider's ability to provide network services; and.*
 - (e) any other matter the AER considers relevant and which the AER has notified Network Service Providers is a nominated pass through event consideration.*
- 13.11 A pass through event can be a positive pass through event or a negative pass through event. The procedures and criteria for passing through to network distribution users an amount arising as a consequence of a positive change event or negative change event after a distribution determination is made are set out in clause 6.6.1 of the NER.
- 13.12 If a positive change event occurs, a DNSP may seek the AER's approval to pass through to distribution network users the increased costs arising solely as a consequence of the positive change event if that increase is material.

- 13.13 If a negative change event occurs, a DNSP must notify the AER of certain matters, including the details of the negative change event and the costs the DNSP has saved or is likely to save. After becoming aware that a negative change event has occurred, the AER will determine the amount of those savings that should be passed through to distribution network users by reference to the materiality threshold.
- 13.14 Chapter 10 of the NER establishes a cost materiality threshold of 1 per cent of the annual revenue requirement for a DNSP for the purpose of the cost pass through rules.

Contingent Projects

- 13.15 A contingent project is a project that a DNSP will be required to undertake only if a particular trigger event occurs.
- 13.16 Clause 6.6A.1(a) of the NER provides that a DNSP may, in its regulatory proposal, include proposed contingent capital expenditure, which the DNSP considers is reasonably required for the purpose of undertaking a proposed contingent project.
- 13.17 Under clause 6.6A.1(b) of the NER, the AER is required to determine that a proposed contingent project is a contingent project for the purposes of a distribution determination if it is satisfied that:
- (1) *the proposed contingent project is reasonably required to be undertaken in order to achieve any of the capital expenditure objectives;*
 - (2) *the proposed contingent capital expenditure:*
 - (i) *is not otherwise provided for (either in part or in whole) in the total of the forecast capital expenditure for the relevant regulatory control period which is accepted in accordance with clause 6.5.7(c) or substituted in accordance with clause 6.12.1(3)(ii) (as the case may be);*
 - (ii) *reasonably reflects the capital expenditure criteria, taking into account the capital expenditure factors, in the context of the proposed contingent project as described in the regulatory proposal; and*
 - (iii) *exceeds either \$30 million or 5 per cent of the value of the annual revenue requirement for the relevant Distribution Network Service Provider for the first year of the relevant regulatory control period, whichever is the larger amount;*
 - (3) *the proposed contingent project and the proposed contingent capital expenditure, as described or set out in the regulatory proposal, and the information provided in relation to these matters, complies with the relevant requirements of any relevant regulatory information instrument; and*
 - (4) *the trigger events in relation to the proposed contingent project which are proposed by the Distribution Network Service Provider in its regulatory proposal are appropriate.*
- 13.18 The NER also sets out a number of specific factors that the AER must have regard to in determining whether a trigger event in relation to a proposed contingent project is appropriate.
- 13.19 Clause 6.6A.2 of the NER outlines the procedure for amending a distribution determination for a contingent project if the trigger event for that contingent project occurs.

Reopening of 2014 Network Price Determination for unexpected capex

- 13.20 Clause 6.6.5 of the NER allows the AER to reopen a distribution determination where an event beyond the reasonable control of a DNSP occurs during a regulatory control

period that could not have been foreseen at the time of making the distribution determination, no forecast capital expenditure was included in the distribution determination by the AER on account of that event and a number of other criteria are satisfied.

Framework Statement

- 13.21 In its Framework Statement, the Commission stated that its preferred approach was to adopt the same list of allowable pass through events as applied in the 2009 Network Price Determination, but would follow the processes and have regard to the factors set out in clause 6.6.1 of the NER when determining whether a particular cost pass through event had occurred.
- 13.22 The Commission also proposed to adopt the AER's materiality thresholds for pass through events.

PWC Networks' Initial Regulatory Proposal

- 13.23 PWC Networks noted that the Commission decided to adopt the same set of pass through provisions for the 2014-19 regulatory control period as it adopted for the 2009-14 regulatory control period, namely extraordinary events that were a consequence of change in tax or insurance events, force majeure events, regulatory compliance events, service standard events or such other events that satisfied the conditions that the occurrence of which was not anticipated at the time of the preceding determination or was not a result of the actions of PWC's Board or management or the decisions of the Territory Government in its capacity as owner or shareholder or guarantor of PWC.
- 13.24 PWC Networks also noted that the Commission proposed to adopt the AER's materiality threshold. It proposed to clarify the Commission's adoption of the AER's definition of the threshold by expressing it in the following way:

Operating costs: an additional cost of 1 per cent of the smoothed forecast revenue specified in the Commission's final decision in the years of the regulatory control period that the costs are incurred; and

Capital costs: where the cost to provide the return on and return of the additional capital using the WACC of the Commission's final decision and linear depreciation of the asset over its service life exceeds 1 per cent of the smoothed forecast revenue specified in the Commission's final decision in the years of the regulatory control period that the costs are incurred. (page. 149)

- 13.25 PWC proposed that the following events should be additional pass through events:
- change in insurance and tax events;
 - a retailer insolvency event; and
 - a major network augmentation event.

Submissions on Initial Regulatory Proposal

- 13.26 The NTMEU expressed concerns that the pass through provisions sought by PWC Networks exceeded those allowed by the Commission in the 2009 Network Price Determination. The proposed additional pass through events sought by PWC Networks for the 2014-19 regulatory control period would have the effect of reducing the risks it faced. Consequently, if the Commission allowed those pass through

events, there should be a compensating reduction in PWC Networks' risk profile, that is the equity beta parameter in the WACC.

13.27 No other submissions were received on cost pass through arrangements.

Issues and Commission's Initial Considerations

13.28 In relation to the concerns raised by the NTMEU, the Commission noted that it has reduced the equity beta to reflect the lower risk faced by PWC Networks.

13.29 In the absence of specific provisions in the Network Access Code relating to pass through events and contingent projects, the Commission advised that it was seeking legal clarification on the scope for authorising such arrangements through the 2014 Network Price Determination.

13.30 The Commission's considerations were predicated on the assumption that the Commission was authorised to include processes for dealing with cost pass throughs and contingent projects in the Final Determination. The Commission advised that its preferred approach was to set out processes and procedures in the Final Determination that mirrored the arrangements in the NER, with the exception of setting a lower threshold of \$15 million for contingent projects.

13.31 The Commission agreed to adopt the pass through provisions determined for the 2009-14 regulatory control period and the AER consistent threshold of 1 per cent of smoothed forecast revenue specified in the final decision in the regulatory years of the regulatory control period that the costs are incurred. The Commission noted that in its Framework Statement it had stated that structural separation, new technology and emissions trading scheme events were covered by existing pass through events.

13.32 The Commission did not accept PWC Networks' proposal that the materiality threshold be assessed separately for operating costs and capital costs because, in the Commission's view, this would add additional complexity for little material gain.

13.33 The Commission accepted liability above insurance cap and insurer credit risk events proposed by PWC Networks as pass through events within the category of insurance event. The Commission considered that these were both events for which the effect could not be prevented or mitigated by prudent operational risk management. The Commission did not consider that insurance deductible met the criteria for a pass through event.

13.34 The Commission did not consider that a retailer insolvency event met the criteria for a pass through event.

13.35 The Commission did not consider that a major network augmentation event met the criteria for a pass through event.

13.36 For projects such as the new Mitchell Street Switching Station, the Commission's preference was to deal with such matters as contingent projects. To facilitate this, the Commission considered that it was appropriate to set a lower threshold under the Territory regulatory framework than is set in the NER.

Commission's Draft Determination

13.37 The Commission accepted the following events as pass through events for the 2014-19 regulatory control period:

- the pass through events specified in the NER including:
 - a regulatory change event;

- a service standard event;
- a tax change event; and
- a terrorism event; and
- the following additional pass through events:
 - an insurance event;
 - a force majeure event; and
 - such other events that satisfy the following requirements: (i) the occurrence was not anticipated at the time of the network price determination was made, or were, while allowable, explicitly excluded from affecting the outcome of that determination on the grounds that the likely impact on PWC Networks was unknown or too difficult to quantify at the time; and (ii) the occurrence is not a result of actions of PWC's board or management or of decisions of the Territory Government in its capacity as owner or shareholder or guarantor of PWC.

13.38 The Commission accepted the PRD30600 – New Mitchell Street Switching Station project (for which the trigger event was a decision by City of Darwin Council not to extend the lease on the Mitchell Street site) as a contingent project for the purposes of the 2014 Network Price Determination.

13.39 If the Commission was not authorised to incorporate cost pass through arrangements and contingent projects in the Final Determination, the Commission proposed that cost pass through events and contingent projects accepted by the Commission should be taken to be guidance, by way of an example, of the types of circumstances in which clause 71(c) of the Network Access Code could potentially be applied.

13.40 If a pass through event occurs or a contingent project was required to be undertaken, PWC Networks would be able to apply to the Commission to approve a pass through amount or adjust the 2014 Network Price Determination to accommodate the amount of capital expenditure reasonably required for the purpose of undertaking the contingent project.

PWC Networks' Revised Regulatory Proposal

13.41 PWC Networks resubmitted that an insurance deductible amount should be included within the insurance event and that a retailer insolvency event should be included as it is allowed for in the NER.

13.42 PWC Networks noted the package of regulatory reform announced by the Treasurer in November 2013, including application of relevant parts of the NEL and NER, and sought confirmation from the Commission that the costs incurred in negotiating transitional arrangements would be considered a regulatory change event.

13.43 PWC Networks also sought clarification from the Commission that costs arising from the structural separation of PWC Generation and PWC Retail into separate stand-alone government owned corporations would be included in the 'such other events' category and that these costs would be explicitly excluded from the 2014 Network Price Determination

13.44 PWC Networks proposed that the PRD 30309 – Darwin – Construction Stage 2 of East Arm Zone project should be a contingent project if it was excluded from the forecast capital expenditure accepted by the Commission for the 2014-19 regulatory control period.

Submissions on Draft Determination and Revised Regulatory Proposal

- 13.45 The NTMEU again expressed concern at the extent of pass through provisions that were sought by PWC Networks over those allowed in the 2009-14 regulatory control period. The NTMEU considered that the only additional pass through provision that should be allowed was if and when the Territory Government separates retail and generation from PWC Networks.
- 13.46 The NTMEU also noted the Commission's introduction of the concept of contingent projects.
- 13.47 No other submissions were received on cost pass throughs or contingent projects from interested parties.

Issues and Commission's Further Considerations

Cost Pass Through

- 13.48 In determining whether to accept or reject the pass through events proposed by PWC Networks, and in defining the accepted pass through events for the purposes of the 2014 Network Price Determination, the Commission has had regard to:
- the events that are prescribed to be pass through events under Chapter 6 of the NER;
 - the approach taken by the AER in accepting or rejecting pass through events in recent distribution determinations; and
 - the nominated pass through event considerations set out in Chapter 6 of the NER (as repeated in paragraph 13.10 above).
- 13.49 A regulatory change event, service standard event and tax change event are prescribed pass through event under clause 6.6.1 of the NER and therefore the Commission is of the view that it is appropriate for those events to be included as pass through events during the 2014-19 regulatory control period.
- 13.50 A retailer insolvency event was not a prescribed pass through event under the NER at the time that the Framework Statement was published by the Commission.⁶¹ However, it is a prescribed pass through events under the current clause 6.6.1 of the NER.⁶² As such the Commission has decided that a retailer insolvency event should be a pass through event for the purposes of the 2014 Network Price Determination even though there are other protections in place under Territory laws to protect PWC Networks from the insolvency of a retailer (as similar protections are also in place under the NER).
- 13.51 A terrorism event was a prescribed pass through event under the NER at the time that the Framework Statement was published by the Commission.⁶³ However, it is no longer a prescribed pass through event under the NER. Despite this, taking into

⁶¹ Clause 6.6.1 of the NER was amended by the National Electricity Amendment (Cost pass through arrangements for Network Service Providers) Rule 2012 No. 4 made by the Australian Energy Market Commission on 2 August 2012.

⁶² A retailer insolvency event was not a prescribed pass through event under clause 6.6.1 of the NER at the time that the Framework Statement was published by the Commission.

⁶³ Clause 6.6.1 of the NER was amended by the National Electricity Amendment (Cost pass through arrangements for Network Service Providers) Rule 2012 No. 4 made by the Australian Energy Market Commission on 2 August 2012.

- account the nominated pass through event considerations, the Commission is of the view that a terrorism event, as previously defined under the NER, should be a pass through event for the purposes of the 2014 Network Price Determination.
- 13.52 An insurance event has been included as a pass through event in the AER's recent revenue determinations for SP AusNet's 2014-17 regulatory control period (for transmission services), Aurora Energy's 2012-17 regulatory control period (for distribution services) and the Victorian DNSPs' 2011-15 regulatory control periods. However, for DNSPs, an insurance event has been limited to a liability over the insurance cap event and an insurer credit risk event.
- 13.53 As such, having regard to the approach currently taken by the AER and the nominated pass through event considerations, the Commission has decided to reject PWC Networks' proposal that an insurance deductible amount be included as a pass through event and has defined an insurance event to include the liability over the insurance cap event and the insurer credit risk event included by the AER in its recent distribution determinations.
- 13.54 A force majeure event has been included in the AER's recent revenue determinations for SP AusNet's 2014-17 regulatory control period (for transmission services), Aurora Energy's 2012-17 regulatory control period (for distribution services) and the Victorian DNSPs' 2011-15 regulatory control periods. However, the term 'natural disaster event' has been used to describe this type of event. The Commission has decided to include a 'natural disaster event' as defined by the AER in its recent revenue determinations in the 2014 Network Price Determination.
- 13.55 In the Draft Determination the Commission included a pass through event that is essentially a 'general pass through event'. However, it has come to the attention of the Commission that it is no longer generally accepted regulatory practice to include this type of general pass through event within a revenue determination. Rather, the AER requires that specific and clearly definable pass through events must be proposed and then assessed against the nominated pass through event considerations.
- 13.56 In the AER's draft distribution determination for Victorian DNSPs 2011-2015 regulatory control period, the AER advised that:
- the AER no longer considers it appropriate to include a general nominated pass through event for DNSPs as the general pass through event does not meet the following assessment criteria:*
- *the passing through of the costs associated with the event would not undermine the incentive arrangements within the regulatory regime (refer discussion of the ESCV's concerns with information asymmetry, and SCO policy positions discussed above)*
 - *the event is foreseeable in that the nature or type of event can be clearly identified (see discussion of AER's transmission guideline above).*
- The AER considers that events of this nature can be captured through the inclusion of a nominated pass through event, that is, the 'natural disaster' pass through event (p.722)*
- 13.57 Further, although couched in general terms, the inclusion of the general pass through event in the 2009 Network Price Determination was a direct response to the Casuarina zone substation incident in late 2008, where costs were not settled in time for inclusion in the 2009 Network Price Determination.
- 13.58 As such, the Commission has decided not to include a 'general pass through event' in the 2014 Network Price Determination.

- 13.59 In removing the general provision, however, the Commission has accepted a structural separation event should be separately defined in the 2014 Network Price Determination as a pass through event.
- 13.60 In its revised regulatory proposal, PWC Networks sought clarification from the Commission as to whether certain specific activities would fall within the accepted pass through events. The Commission has defined the pass through events for the 2014 Network Price Determination and considers that the definitions are sufficiently clear for PWC Networks to determine whether a particular event would in fact be a pass through event. However, whether a particular event satisfies the requirements for a pass through event will depend upon the circumstances and characteristics of the event and can only be conclusively determined at the relevant time.

Contingent Projects

- 13.61 The Commission has considered the criteria in clause 6.6A.1(b) of the NER when determining whether the projects proposed by PWC Networks should be contingent projects for the purposes of the 2014 Network Price Determination.
- 13.62 However, the Commission has decided that the contingent project threshold should be lower than the threshold set out in clause 6.6A.1(b)(2)(iii) of the NER because of the lack of economies of scale in the Northern Territory.
- 13.63 On this basis, the Commission has considered whether the PRD30600 – New Mitchell Street Switching Station project and the PRD 30309 – Darwin – Construction Stage 2 of East Arm Zone Substation project should be contingent projects for the purposes of the 2014 Network Price Determination.

PRD30600 – New Mitchell Street Switching Station project

- 13.64 The driver for the New Mitchell Street Switching Station project is the possibility that PWC Networks will need to vacate the existing Mitchell Street Switching Station site if the Darwin City Council does not agree to extend the term of the lease which PWC Networks has over this site for at least five years (to 2023). The Mitchell Street Switching Station is used by PWC Networks to supply electricity to the Darwin CBD.
- 13.65 The scope of the proposed contingent project involves the construction of a new switching station on a block of land owned by PWC Networks adjacent to the existing Mitchell Street Switching Station site. PWC Network's current forecast of the total capital expenditure for this contingent project is \$15.2 million (nominal).
- 13.66 The trigger event for this proposed contingent project is PWC Networks receiving a formal notification from Darwin City Council that it will not agree to extend the term of the current lease until at least 2023 having exhausted all other reasonable avenues for securing the necessary tenure for the Mitchell Street Switching Station site.
- 13.67 The Commission is of the view that the New Mitchell Street Switching Station project is reasonably required to be undertaken in order to achieve the capital expenditure, the trigger event is appropriate and the contingent project satisfies all of the criteria under clause 6.6A.1 of the NER.

PRD 30309 – Darwin – Construction Stage 2 of East Arm Zone Substation

- 13.68 The driver for this contingent project is that following completion of Stage One Works⁶⁴ (including installation of a Nomad or equivalent substation and design of Stage Two Works⁶⁵), Berrimah Zone Substation, Palmerston Zone Substation and high voltage feeders in the East Arm area may be unable to meet the projected growth in the areas of East Arm, Robertson Barracks, Wishart and Berrimah.
- 13.69 The scope of this proposed contingent project involves the construction of a new zone substation in the East Arm area. PWC Networks' current forecast of the total capital expenditure for this contingent project is \$15.8 million (nominal).
- 13.70 The trigger event for this proposed contingent project is PWC Networks having completed the Stage One works including:
- installation of a Nomad or equivalent substation;
 - detailed design for the Stage Two new Zone Substation, and
 - Berrimah Zone Substation, Palmerston Zone Substation and high voltage feeders in the East Arm area being unable to meet the projected load growth, based on demand projections developed in accordance with good electricity industry practice, in the areas of East Arm, Robertson Barracks, Wishart and Berrimah, which confirm that the cyclic rating of the modular transformer installed in Stage One will be exceeded.
- 13.71 The Commission is of the view that construction of Stage 2 of the East Arm Zone Substation project is reasonably required to be undertaken in order to achieve the capital expenditure, the trigger event is appropriate and the contingent project satisfies all of the criteria under clause 6.6A.1 of the NER.

Reopening of 2014 Network Price Determination for unexpected capex

- 13.72 The Commission has considered that in order to determine the 2014 Network Price Determination in a manner that is consistent with generally accepted regulatory practice as required by clause 66(3) of the Network Access Code, it must adopt Chapter 6 of the NER.
- 13.73 To ensure that the Commission can properly apply the procedures and rules set out in Chapter 6 of the NER it has decided to include a provision in the 2014 Network Price Determination which allows the Commission to reopen the 2014 Network Price Determination in accordance with clause 6.6.5 of the NER.
- 13.74 The Commission is of the view that this is not inconsistent with other applicable Territory laws provided that it appears to the Commission that the event otherwise satisfies the requirements of clause 71(c) of the Network Access Code. The Commission has drafted the 2014 Network Price Determination on the basis that this condition must be satisfied before the Commission can exercise any discretion to reopen the 2014 Network Price Determination for capex.

⁶⁴ PWC, August 2013, 'Business Needs Identification PRD30309 – Darwin East Arm Zone Substation', Appendix B Network Planning Report East Arm Zone Substation (ref D2012/636415), Section 4.1, page 13.

⁶⁵ *ibid*, page 14.

Changes in applicable regulatory instruments and generally accepted regulatory practice

- 13.75 As noted above, the 2014 Network Price Determination adopts a number of administrative and procedural rules contained within Chapter 6 of the NER.
- 13.76 However unlike the NEL, the Network Access Code does not contain any provisions which expressly allow for these administrative and procedural rules to be modified during the term of the 2014 Network Price Determination to reflect changes to applicable regulatory instruments or generally accepted regulatory practice.
- 13.77 It is likely that a number of changes will be required to the administrative and procedural rules set out in the 2014 Network Price Determination during the 2014-19 regulatory control period, particularly given the current intention of the Territory Government to further align the Territory's regulatory arrangements with the NER.
- 13.78 For this reason the Commission has included a general amendment power in the 2014 Network Price Determination. This power requires the Commission to consult with stakeholders in the normal way before modifying the 2014 Network Price Determination and limits the extent to which the Commission can modify the 2014 Network Price Determination in response to various regulatory changes.

Commission's Final Decision

Cost pass throughs

- 13.79 The Commission accepts the following events as pass through events for the purposes of the 2014 Network Price Determination:
- a regulatory change event;
 - a service standard event;
 - a tax change event;
 - a retailer insolvency event;
 - a terrorism event;
 - an insurance event;
 - a natural disaster event; and
 - a structural separation event.

Contingent Projects

- 13.80 The Commission accepts the following projects as contingent projects for the purposes of the 2014 Network Price Determination:
- PRD30600 - New Mitchell Street Switching Station project; and
 - PRD30309 – Darwin - construction Stage 2 of East Arm Zone Substation project.

Reopening of 2014 Network Price Determination for Unexpected Capex

- 13.81 The Commission has the discretion to reopen the 2014 Network Price Determination for unexpected capex in accordance with Chapter 3 of the Network Price Determination.

CHAPTER 14

Building Block Revenue Requirements

Introduction

- 14.1 This chapter sets out the Commission's calculation of annual revenue requirements for PWC Networks for the provision of regulated network access services for each regulatory year of the 2014-19 regulatory control period.
- 14.2 This chapter also sets out X factor values forming part of the revenue cap applying to the regulated network access services provided by PWC Networks during the 2014-19 regulatory control period.

Regulatory Requirements

Network Access Code

- 14.3 Clause 1A of schedule 6 of the Network Access Code provides that:
- (1A) *The methodology for determining revenue or price caps in the second and subsequent regulatory control periods is to be determined by the regulator in a manner that most effectively achieves the outcomes in clause 63 and is consistent with generally accepted regulatory practice at the time.*

National Electricity Rules

Building block

- 14.4 Clause 6.3.2(a) of the NER states that the AER's building block determination must specify:
- the DNSP's annual revenue requirement for each regulatory year of the regulatory control period;
 - appropriate methods for the indexation of the RAB;
 - how any applicable efficiency benefit sharing scheme, capital expenditure sharing scheme, service target performance incentive scheme, demand management and embedded generation incentive scheme or small-scale incentive scheme is to apply to the DNSP;
 - the commencement and length of the regulatory control period; and
 - any other amounts, value or inputs on which the building block determination is based.
- 14.5 Clause 6.4.3 of the NER then goes on to specify the details relating to each of those building blocks.
- 14.6 A DNSP's building block proposal must be prepared in accordance with the PTRM and the requirements of Part C of Chapter 6 of the NER.
- 14.7 The building block proposal must also comply with the requirements of any relevant regulatory information instrument.
- 14.8 Under clause 6.12.3(d) of the NER, the AER must approve the total revenue requirement for a DNSP for a regulatory control period, and the annual revenue

requirement for each regulatory year of a regulatory control period, as set out in the DNSP's building block proposal, if it is satisfied that those amounts have been properly calculated using the PTRM on the basis of amounts calculated, determined or forecast in Part C of Chapter 6 of the NER.

X Factors

14.9 The AER's building block determination must also include the X factor for each regulatory control mechanism for each regulatory year of the regulatory control period, subject to the requirements of clause 6.5.9 of the NER.

14.10 In particular, the X factors must:

- have regard to each DNSPs' total revenue requirement for the regulatory control period;
- minimise, as far as reasonably possible, the difference between the annual revenue requirement and expected revenue for the last regulatory year of the regulatory control period; and
- equalise, in NPV terms, the total revenue requirement and expected revenues over the regulatory control period under the applicable form of control.

14.11 Clause 6.5.9(c) of the NER also provides for different X factors to be set for each regulatory year of the regulatory control period.

Framework Statement

14.12 The Commission's Framework Statement provided that it would adopt a forward-looking building block approach using similar processes and practices as applied by the AER, but noting that full adoption of the AER processes may not be possible and variations may be required.

14.13 The Commission also proposed in the Framework Statement to adopt a pre-tax revenue model for use by PWC Networks in the 2014 Network Price Determination, as a post-tax approach cannot currently be met by PWC Networks without introducing unwarranted complexity.

14.14 The Commission, in consultation with PWC Networks and seeking assistance from the AER where necessary, proposed to modify the PTRM to accommodate a pre-tax approach for the purposes of the 2014 Network Price Determination. All other information requirements underlying the PTRM would remain unchanged, and a modified pre-tax model suitable for publication would form part of PWC Networks' regulatory proposal, consistent with requirements in the NER.

PWC Networks' Initial Regulatory Proposal

14.15 PWC Networks' calculation of annual revenue requirements and X factors is contained in its NTRM and summarised in Table 14.1 and Table 14.2.

Table 14.1: PWC Networks' roll forward of regulatory asset base (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening RAB	930.06	988.21	1,035.18	1,068.93	1,092.09
Net capex ^(a)	85.88	77.34	59.99	51.17	63.21
Indexation of the opening RAB	24.18	25.69	26.91	27.79	28.39
Straight-line depreciation	51.91	56.06	53.15	55.81	58.78
Closing RAB	988.21	1,035.18	1,068.93	1,092.09	1,124.91

Source: PWC Networks' initial regulatory proposal, NTRM (ODRC)

Note: the straight-line depreciation less the indexation of the opening RAB provides the regulatory depreciation allowance

^(a) In accordance with the timing assumptions of the NTRM (and the PTRM), the nominal capex values include a half WACC allowance to compensate for the average six-month period before capex is added to the RAB for revenue modelling purposes.

Table 14.2: PWC Networks' proposed annual revenue requirements and X factors (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Return on capital		81.85	86.97	91.10	94.07	96.11	450.10
Regulatory depreciation		27.73	30.37	26.24	28.01	30.39	142.74
Operating and maintenance expenditure		113.63	114.39	118.92	120.69	123.25	590.90
Unsmoothed annual revenue requirement		223.22	231.73	236.26	242.78	249.75	1 183.74
Expected revenues (smoothed revenue)	142.01	220.50	228.50	236.79	245.37	254.27	
Forecast CPI (%)		2.60	2.60	2.60	2.60	2.60	
X factors (%) ^(a)		- 51.34	- 1.00	- 1.00	- 1.00	- 1.00	

Source: PWC Networks' initial regulatory proposal, NTRM (ODRC)

(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

14.16 The Commission's 2013 Cost Pass Through Determination⁶⁶ provided for the approved cost pass through amount to be recovered in two stages: \$25 million to be recovered in the 2013-14 regulatory year (the final regulatory year of the 2009-14 regulatory control period), and the remaining \$29.92 million (\$2012-13) to be recovered over the 2014-19 regulatory control period. PWC Networks proposed that the remaining \$29.92 million be recovered in equal parts (adjusted for the time value of money) in each year of the 2014-19 regulatory control period.

⁶⁶ Utilities Commission, [Cost Pass Through Application: Final Determination](#), May 2013.

Table 14.3: PWC Networks' proposed annual revenue requirements and X factors, including carryover from cost pass through decision (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	
Unsmoothed annual revenue requirement		223.22	231.73	236.26	242.78	249.75	1 183.74
Carryover adjustment (2013 cost pass through)		7.37	8.23	9.28	10.25	11.44	46.47
Total unsmoothed annual revenue requirement		230.59	239.95	245.44	253.03	261.19	1 230.20
Expected revenues (smoothed revenue)	142.01	229.03	237.33	245.94	254.86	264.10	
Forecast CPI (%)		2.60	2.60	2.60	2.60	2.60	
X factors (%) ^(a)		- 57.20	- 1.00	- 1.00	- 1.00	- 1.00	

Source: PWC Networks' initial regulatory proposal, NTRM (ODRC)

^(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

14.17 PWC Networks proposed an X factor of -57.20 per cent (that is, a real increase) for the first regulatory year of the 2014-19 regulatory control period to account for the increase in the annual revenue requirement between the 2013-14 and 2014-15 regulatory years. It proposed an X factor of -1.00 per cent for the 2015-16 to 2018-19 regulatory years.

14.18 As required under the NER, the annual revenue requirements and expected revenues are equalised in NPV terms, and the difference between the annual revenue requirement and expected revenue in the final regulatory year of the regulatory control period is 1.12 per cent, as shown in Table 14.4.

Table 14.4: PWC Networks' proposed annual revenue requirements and expected revenue, including cost pass through carryover (\$M, nominal)

	NPV	2014-15	2015-16	2016-17	2017-18	2018-19
Unsmoothed annual revenue requirement	957.10	230.59	239.95	245.44	253.03	261.19
Expected revenues (smoothed revenue)	957.10	229.03	237.33	245.94	254.86	264.10
Difference (%)		- 0.67	- 1.10	0.21	0.72	1.12

Source: PWC Networks' initial regulatory proposal, NTRM (ODRC)

Submissions on Initial Regulatory Proposal

14.19 Submissions from both the NTMEU and NTCOSS expressed concern about the significant increases in prices resulting from PWC Networks' regulatory proposal.

14.20 NTCOSS expressed particular concern about detrimental social impacts on low income and disadvantaged retail customers in the Territory.

14.21 The NTMEU noted that operating and maintenance costs comprised a larger proportion of the total revenue requirement than is typical for most regulated network service providers:

In most regulated networks, opex is typically ~30% of the required revenue with return on capital being typically 50 per cent or more and regulatory depreciation up to 20 per cent.

PWC forecasts for its break down are:

- *opex ~50%,*
- *return on capital ~40% and*
- *regulatory depreciation ~10%. (page.45)*

Issues and Commission's Initial Considerations

- 14.22 The Commission advised that it was mindful of the potential impact of price increases on low income retail customers. However, the Network Access Code requires the Commission to determine efficient costs of supply and that these costs should be recovered from retail customers in a cost-reflective manner. It does not allow the Commission to take into account social policy matters. These are currently dealt with by the Territory Government through regulated retail prices and pensioner concession schemes for which PWC Retail receives community service obligation funding.
- 14.23 The Commission did not consider that the relative components of the building block analysis provide any relevant information on the prudence or efficiency of the building block determination as there were a range of variables that could impact on the revenue required by PWC Networks.
- 14.24 Given that electricity networks have a significant proportion of fixed costs, smaller networks are likely to exhibit a relatively higher proportion of operating costs than larger networks. Further, there has been a significant fall in interest rates in Australia over recent years, so that the proportion of capital related costs will be lower.
- 14.25 The Commission accepted PWC Networks' proposal that the remaining cost pass through be recovered in equal parts (adjusted for the time value of money) in each regulatory year of the 2014-19 regulatory control period. However, the Commission corrected an error in PWC Networks' calculation which had resulted in a double counting of indexation for inflation.

Commission's Draft Decision

- 14.26 The Commission's decision in the Draft Determination resulted in a total revenue requirement (exclusive of cost pass through carryovers) over the 2014-19 regulatory control period of \$1 074.0 million, compared to \$1 183.7 million proposed by PWC Networks. Inclusion of the cost pass through carryover increases these figures to \$1 116.2 million and \$1 230.2 million respectively. The main reasons for these differences reflect the net effect of:
- removal of \$57.8 million from PWC Networks' forecast capex;
 - removal of \$57.8 million from PWC Networks forecast opex, which includes a global efficiency adjustment of \$25.2 million to bring PWC Networks closer to the average efficiency achieved by its peers;
 - a lower WACC of 8.12 per cent than the proposed 8.80 per cent by PWC Networks, due to the adoption of equity beta of 0.7 and updating of WACC parameters based on observed market data; and
 - a reduction of \$4.3 million to remove double counting of indexation for inflation on the carryover of the cost pass through previously approved by the Commission.

Table 14.5: Commission's decision in the Draft Determination on roll forward of PWC Networks' RAB (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening RAB	930.06	975.82	995.86	1 009.90	1 028.01
Net capex ^(a)	74.25	51.17	41.17	47.02	59.24
Indexation of the opening RAB	23.38	24.53	25.03	25.39	25.84
Straight-line depreciation	51.87	55.66	52.16	54.30	57.02
Closing RAB	975.82	995.86	1 009.90	1 028.01	1 056.07

Source: Utilities Commission, NTRM

Note: the straight-line depreciation less the indexation of the opening RAB provides the regulatory depreciation allowance

^(a) In accordance with the timing assumptions of the NTRM (and the PTRM), the nominal capex values include a half WACC allowance to compensate for the average six-month period before capex is added to the RAB for revenue modelling purposes.

Table 14.6: Commission's decision in the Draft Determination on PWC Networks' annual revenue requirement and X factors (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Return on capital		75.49	79.21	80.84	81.98	83.44	400.96
Regulatory depreciation		28.49	31.13	27.13	28.92	31.18	146.85
Operating and maintenance expenditure		106.29	105.10	106.84	104.17	103.74	526.15
Unsmoothed annual revenue requirement		210.28	215.44	214.80	215.06	218.37	1 073.95
Expected revenues (smoothed revenue)	142.01	200.97	208.08	215.45	223.07	230.97	
Forecast CPI (%)		2.51	2.51	2.51	2.51	2.51	
X factors (%) ^(a)		- 38.05	- 1.00	- 1.00	- 1.00	- 1.00	

Source: Utilities Commission, NTRM

^(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

Table 14.7: Commission's decision in the Draft Determination on PWC Networks' proposed annual revenue requirements and X factors, including carryover from cost pass through decision (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Unsmoothed annual revenue requirement		210.28	215.44	214.80	215.06	218.37	1 073.95
Carryover adjustment (2013 cost pass through)		7.18	7.76	8.39	9.07	9.81	42.21
Total unsmoothed annual revenue requirement		217.45	223.20	223.19	224.13	228.18	1 116.16
Expected revenues (smoothed revenue)	142.01	208.78	216.17	223.82	231.74	239.94	
Forecast CPI (%)		2.51	2.51	2.51	2.51	2.51	
X factors (%) ^(a)		- 43.42	- 1.00	- 1.00	- 1.00	- 1.00	

Source: Utilities Commission, NTRM

^(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

14.27 The difference between the annual revenue requirement and expected revenue in the final regulatory year of the 2014-19 regulatory control period is 5.16 per cent.

PWC Networks' Revised Regulatory Proposal

14.28 PWC Networks' calculation of annual revenue requirements and X factors was contained in its NTRM and is summarised in tables 14.8 and 14.9.

Table 14.8: PWC Networks' roll forward of regulatory asset base (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening RAB	930.06	981.59	1 019.13	1 038.99	1 054.99
Net capex ^(a)	80.03	68.69	46.90	44.81	63.41
Indexation of the opening RAB	23.38	24.67	25.62	26.12	26.52
Straight-line depreciation	51.87	55.82	52.66	54.93	57.57
Closing RAB	981.59	1 019.13	1 038.99	1 054.99	1 087.25

Source: PWC Networks' revised regulatory proposal, NTRM

Note: the straight-line depreciation less the indexation of the opening RAB provides the regulatory depreciation allowance

^(a) In accordance with the timing assumptions of the NTRM (and the PTRM), the nominal capex values include a half WACC allowance to compensate for the average six-month period before capex is added to the RAB for revenue modelling purposes.

Table 14.9: PWC Networks' proposed annual revenue requirements and X factors (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Return on capital		84.14	88.81	92.20	94.00	95.45	454.60
Regulatory depreciation		28.49	31.15	27.04	28.81	31.15	146.64
Operating and maintenance expenditure		109.64	111.21	115.98	116.25	119.03	572.11
Unsmoothed annual revenue requirement		222.27	231.17	235.22	239.07	245.62	1 173.35
Expected revenues (smoothed revenue)	132.65	197.73	233.10	241.35	249.89	258.73	
Forecast CPI (%)		2.51%	2.51%	2.51%	2.51%	2.51%	
X factors (%) ^(a)		-45.41	- 15.00	- 1.00	- 1.00	- 1.00	

Source: PWC Networks' revised regulatory proposal, NTRM

^(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

14.29 PWC Networks again noted that the remaining \$29.92 million was to be recovered in equal parts (adjusted for the time value of money) in each regulatory year of the 2014-19 regulatory control period.

Table 14.10: PWC Networks' proposed annual revenue requirements and X factors, including carryover from cost pass through decision (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Unsmoothed annual revenue requirement		222.27	231.17	235.22	239.07	245.62	1 173.35
Carryover adjustment (2013 cost pass through)		7.18	7.76	8.39	9.07	9.81	42.21
Total unsmoothed annual revenue requirement		229.45	238.93	243.62	248.14	255.43	1 215.56
Expected revenues (smoothed revenue)	132.65	204.77	241.41	249.95	258.80	267.95	
Forecast CPI (%)		2.51%	2.51%	2.51%	2.51%	2.51%	
X factors (%) ^(a)		- 50.59	- 15.00	- 1.00	- 1.00	- 1.00	

Source: PWC Networks' revised regulatory proposal, NTRM

^(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

14.30 PWC Networks' proposed an X factor of -50.59 per cent (that is, a real increase) for the first regulatory year and -15.00 per cent for the second regulatory year of the 2014-19 regulatory control period to account for the increase in annual revenue requirement between the 2013-14 regulatory year and the 2014-15 regulatory year. It proposed an X factor of -1.00 per cent for the 2016-17 regulatory year to the 2018-19 regulatory year.

14.31 As required under the NER, the annual revenue requirements and expected revenues are equalised in NPV terms, and the difference between the annual revenue

requirement and expected revenue in the final regulatory year of the regulatory control period is 1.12 per cent, as shown in Table 14.11.

Table 14.11: PWC Networks' proposed annual revenue requirements and expected revenue, including cost pass through carryover (\$M, nominal)

	NPV	2014-15	2015-16	2016-17	2017-18	2018-19
Unsmoothed annual revenue requirement	940.35	229.45	238.93	243.62	248.14	255.43
Expected revenues (smoothed revenue)	940.35	204.77	241.41	249.95	258.80	267.95
Difference (%)		10.46	-1.04	-2.60	-4.20	-4.90

Source: PWC Networks' revised regulatory proposal, NTRM

Submissions on Draft Determination and Revised Regulatory Proposal

- 14.32 The NTMEU considered that the step increase in the first regulatory year of the 2014-19 regulatory control period provides a massive price shock to retail customers and suggested that if such a large increase was to be allowed, then it would be preferable for increases in the annual revenue requirement to be more consistent.
- 14.33 The Treasurer also suggested that consideration be given to price paths that phase in the required increase over the 2014-19 regulatory control period with a view to minimising price shocks for retail customers.
- 14.34 No other submissions were received on building block revenue requirements.

Issues and Commission's Further Considerations

- 14.35 PWC Networks made a substantial downward revision of its estimated revenue for the 2013-14 regulatory year. While this does not affect the annual revenue requirement for the 2014-19 regulatory control period, it impacts on the increase in prices required to recover the annual revenue requirement as it must jump from a lower base.
- 14.36 The Commission sought further information from PWC Networks on the revision to expected revenue for the 2013-14 regulatory year.
- 14.37 PWC Networks was unable to provide an explanation for the difference between the two estimates, but provided details of the components of the revised estimate. The revised estimate appears to be based on there being little change in consumption from that experienced in the 2011-12 regulatory year.
- 14.38 The Commission has substituted its own estimate of revenue for the 2013-14 regulatory year, based on actual revenue for the 2012-13 regulatory year escalated for the approved increase in the weighted average price cap and a conservative estimate of 1 per cent growth in quantities sold. This does not affect the required revenue for the 2014-19 regulatory control period but may impact the proposed price path. If actual revenue in the 2013-14 regulatory year is higher than estimated, then PWC Networks' revenue in the 2014-15 regulatory year will also be higher. This over-recovery will then be offset by lower reference tariffs in later years of the regulatory control period. Conversely, if actual revenue in the 2013-14 regulatory year is lower than estimated, then PWC Networks' revenue in the 2014-15 regulatory year

will also be lower and reference tariffs in future years higher to make up for the under-recovery of required revenue.

- 14.39 The Commission notes the concerns raised by the NTMEU and the Treasurer regarding price shocks for retail customers and the suggestion that increases be phased in over time.
- 14.40 The Commission is mindful of the impact on retail customers. However, the Commission faces conflicting objectives in this regard.
- 14.41 The NER requires that, as far as possible, the difference between the annual revenue requirement and expected revenue in the final regulatory year of the 2014-19 regulatory control period be minimised. This is to avoid volatility between regulatory control periods.
- 14.42 The Commission has also applied a glide path of efficiency adjustments to PWC Networks opex. Moderating price increases, and therefore PWC Networks revenue, in the early years of the 2014-19 regulatory control period means that prices, and therefore revenue, will need to be higher in subsequent regulatory years to make up for it. This will mask the incentives the Commission has built in to the substituted opex forecast for PWC Networks.
- 14.43 The Commission has balanced these objectives by putting in place a revenue path that will allow PWC Networks' annual revenue requirement to increase in nominal terms by the CPI plus 29.8 per cent in the 2014-15 regulatory year compared to the 2013-14 regulatory year, of which 5.2 per cent is the effect of the cost pass through.
- 14.44 For the remaining years of the regulatory control period, PWC Networks' revenues will by increase in nominal terms by the CPI plus 8 per cent in the 2015-16 regulatory year and by CPI plus 3 per cent in the 2016-17 regulatory year. For the 2017-18 and 2018-19 regulatory years, PWC Networks' annual revenue requirement will decrease in real terms, with nominal revenues to be adjusted by CPI minus 2 per cent each regulatory year.
- 14.45 Under the NER, a decision is also required on the appropriate method for escalating the RAB. Consistent with the approach adopted by the AER, the Commission considers that the appropriate methodology for the indexation of PWC Networks' RAB should be the same as that used to escalate the form of control mechanism for the relevant regulatory year.
- 14.46 For the 2009-14 regulatory control period, the CPI in the CPI minus X was calculated as follows:

$$\text{CPI} = \left(\frac{\text{CPI}_{t-1}}{\text{CPI}_{t-2}} \right)$$

where:

CPI_{t-1} is the average of the four quarterly CPI published by the ABS for the most recent 12 months; and

CPI_{t-2} is the average of the four quarterly CPI published by the ABS for the immediately preceding 12 months.

- 14.47 The single year roll forward undertaken to determine the opening RAB for 1 July 2014 has calculated the CPI used to index the RAB on this basis.
- 14.48 For the 2014-19 regulatory control period, the Commission will adopt the approach used by the AER and calculate the CPI in CPI minus X as the annual

change in the CPI for the March quarter immediately preceding the start of the regulatory year.

14.49 The roll forward of the RAB in the NTRM, on which the return of and return on capital are based, has been calculated on this basis.

Commission's Final Decision

14.50 The Commission has calculated PWC Networks' annual revenue requirement and X factors based on its decisions regarding the building block components.

14.51 The Commission's decision results in a total revenue requirement (exclusive of cost pass through carryovers) over the 2014-19 regulatory control period of \$992.2 million, compared to \$1 173.4 million proposed by PWC Networks in its revised regulatory proposal. Inclusion of the cost pass through carryover increases these figures to \$1 034.2 million and \$1 215.6 million respectively. The main reasons for these differences reflect the net effect of:

- removal of \$18.4 million from PWC Networks' forecast capex with two projects totaling \$31.0 million approved as contingent projects (that is, the Mitchell Street switching station project which is forecast to cost \$15.2 million and East Arm substation project which is forecast to cost \$15.8 million);
- removal of \$97.0 million from PWC Networks forecast opex, which includes a global efficiency adjustment of \$78.2 million to bring PWC Networks to the average efficiency achieved by its peers by the end of the 2014-19 regulatory control period; and
- a lower WACC of 7.86 per cent than the proposed 9.05 per cent by PWC Networks, due to the adoption of a utilisation of franking credits (gamma) of 50 per cent and a corporate tax rate of 30 per cent, and updating of parameters based on observed market data.

Table 14.12: Commission's decision on roll forward of PWC Networks' regulatory asset base (\$M, nominal)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening RAB	928.34	966.49	977.94	982.09	993.82
Net capex ^(a)	65.93	41.91	30.67	40.12	50.37
Indexation of the opening RAB	24.04	25.03	25.33	25.44	25.74
Straight-line depreciation	51.82	55.49	51.85	53.82	56.47
Closing RAB	966.49	977.94	982.09	993.82	1 013.46

Source: Utilities Commission, NTRM Final Decision

Note: the straight-line depreciation less the indexation of the opening RAB provides the regulatory depreciation allowance

^(a) In accordance with the timing assumptions of the NTRM (and the PTRM), the nominal capex values include a half WACC allowance to compensate for the average six-month period before capex is added to the RAB for revenue modelling purposes.

Table 14.13: Commission's decision on PWC Networks' annual revenue requirement and X factors (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Return on capital		73.01	76.01	76.91	77.24	78.16	381.33
Regulatory depreciation		27.78	30.46	26.52	28.39	30.73	143.88
Operating and maintenance expenditure		100.63	96.74	95.42	90.02	84.19	466.99
Unsmoothed annual revenue requirement		201.41	203.21	198.85	195.64	193.08	992.20
Expected revenues (smoothed revenue)	138.75	177.33	196.47	207.61	208.72	209.85	
Forecast CPI (%)		2.59	2.59	2.59	2.59	2.59	
X factors (%) ^(a)		- 24.58	- 8.00	- 3.00	2.00	2.00	

Source: Utilities Commission, NTRM Final Decision

Table 14.14: Commission's decision on PWC Networks annual revenue requirement and X factors, including carryover from cost pass through decision (\$M, nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Unsmoothed annual revenue requirement		201.41	203.21	198.85	195.64	193.08	922.20
Carryover adjustment (2013 cost pass through)		7.18	7.75	8.36	9.02	9.72	42.03
Total unsmoothed annual revenue requirement		208.60	210.96	207.21	204.66	202.80	1 034.23
Expected revenues (smoothed revenue)	138.75	184.74	204.68	216.29	217.45	218.62	
Forecast CPI (%)		2.59	2.59	2.59	2.59	2.59	
X factors (%) ^(a)		- 29.78	- 8.00	- 3.00	2.00	2.00	

Source: Utilities Commission, NTRM

^(a) Negative values for X indicate real revenue increases under the CPI minus X formula.

14.52 The difference between the annual revenue requirement and expected revenue in the final regulatory year of the 2014-19 regulatory control period is 7.80 per cent.

14.53 The appropriate methodology for the indexation of PWC Networks' asset base is the same as that used to escalate the form of control mechanism for the relevant regulatory year.

CHAPTER 15

Capital Contributions Principles and Methods Statement

Introduction

- 15.1 In accordance with clause 79(2) of the Network Access Code, PWC Networks may require a network user to make a capital contribution (in the form of assets or a financial payment) where the:
- provision of network access services to the network user requires new or upgraded connection assets or network system assets (involving asset augmentation or extension of connection equipment); and
 - cost of the assets (including design, construction, installation and commissioning) cannot be fully recovered by PWC Networks through future tariff revenue.
- 15.2 The Commission is required to oversee the application of principles for setting of capital contributions and charges.⁶⁷
- 15.3 Prior to the commencement of each regulatory control period, PWC Networks must submit to the Commission for approval, a statement providing details of principles and methods for establishing capital contributions.⁶⁸
- 15.4 Clause 81(3) of the Network Access Code provides that:
- The regulator must approve the statement for use by the network provider unless, in the opinion of the regulator, the statement does not comply with the requirements set out in this Chapter or is inconsistent with the requirements elsewhere in the Code.*
- 15.5 PWC Networks submitted a statement setting out its NCCP to be applied during the 2009-14 regulatory control period as part of its regulatory proposal for the 2009 Network Price Determination. In accordance with clause 81(3) of the Network Access Code, the Commission approved the NCCP on 31 March 2009 as part of its 2009 Network Price Determination.
- 15.6 Capital contributions are also applied by PWC Networks under a separate policy, the Distribution System Extension Policy, to meet the capital contribution provisions where the Minister declares an area to be an electricity supply distribution extension area under section 86 of the *Electricity Reform Act*.
- 15.7 In July 2006, the Commission approved PWC Networks' current Distribution System Extension Policy as complying with the provisions of section 86(7) of the *Electricity Reform Act*. The Distribution System Extension Policy includes a schedule of financial contribution fee components.⁶⁹

⁶⁷ Network Access Code clause 62(1)(c).

⁶⁸ Network Access Code clause 81(2).

⁶⁹ Utilities Commission, Electricity Distribution System Extension: Approval, 1 July 2006.

Regulatory Requirements

15.8 Clause 81(3) of the Network Access Code requires the Commission to approve PWC Networks' capital contribution principles and methods statement for use from 1 July 2014 unless the statement does not comply with the requirements set out in Chapter 8 of the Network Access Code, or is inconsistent with the requirements elsewhere in the Network Access Code, in particular the objectives of network pricing set out in clause 74.

PWC Networks' Initial Regulatory Proposal

- 15.9 PWC Networks' regulatory proposal includes a proposed capital contribution principles and methods statement and capital contributions policy. PWC Networks has also provided to the Commission a separate submission on the proposed policy and principles and methods statement.
- 15.10 In November 2013, the Commission consulted separately on the proposed policy and principles and methods statement. A consultation paper was distributed to stakeholders, advertised publicly and made available on the Commission's website.
- 15.11 The high level objectives of the revised NCCP are to:
- provide appropriate economic pricing signals to network users that reflect the true cost of connection to PWC Networks' electricity network or any new or upgraded network access services;
 - ensure the commercial viability of connections made to PWC Networks' electricity network, in order to provide a return to the shareholders commensurate with the required investment; and
 - ensure more equitable outcomes for both new and existing network users.
- 15.12 PWC Networks' revised policy submitted to the Commission outlines plans to levy a capital contribution on a network user for any new or upgraded network access service it provides.
- 15.13 PWC Networks' submission identifies that the changes proposed to the NCCP aim to align the policy with those adopted in other Australian jurisdictions.
- 15.14 Key elements of the proposed NCCP include:
- merging of the existing NCCP and DSEP to a single policy applying to all network users;
 - recovery of full capital costs incurred by PWC Networks;
 - that all network users will be required to pay the capital contribution in full prior to PWC Networks commencing the works;
 - maximum capital contributions for large users to be based upon the present value (PV) of the costs associated with the connection, less the PV of the project future tariff revenues earned from the connection offset by the shared network costs;
 - that upgrades to serviced properties by small individual network users will be based on the revised NPV approach to determine the maximum capital contribution;
 - that extensions to unserved areas by small individual network users will be based on a revised NPV approach to determine the maximum capital contributions;

- an NPV approach used to set the maximum amount of a capital contribution comprising the shortfall in the viability of the required works modified to offset the shared network costs from the projected future tariff revenues earned from the connection;
- an investment timeframe of 15 years, or less if PWC Networks reasonably considers that the project is characterised by a short asset life, risk of asset stranding or a high risk of default, used to calculate present value of the maximum capital contribution;
- that the option to repay the capital contribution over time through interest-free loan will no longer be available; and
- introduction of a cost sharing scheme to divide electricity network extension costs between all the beneficiaries of the electricity network extension, within a five year timeframe of the original network user making the capital contribution.

Submissions on Initial Regulatory Proposal

- 15.15 The Commission received one submission from the PCNT.
- 15.16 The PCNT advocated fair costing for new and redeveloped networks in the Territory, with one of the recurring concerns raised by members being a lack of transparency and clear policies from PWC Networks for utilities augmentation works to service new or redeveloped sites. PCNT advised that the lack of clear policies has led to considerable uncertainty and financial risk for its members.
- 15.17 PCNT expressed concern with some definitions and the operation of the proposed policy, and identified areas which required further clarification.
- 15.18 PCNT also sought clarification on co-generation options available to property owners and how excess electricity can be transmitted back into the electricity network.

Issues and Commission's Initial Considerations

- 15.19 The Commission must approve the principles and methods statement contained in the NCCP unless the Commission finds the principles and methods:
- did not meet the requirements of Chapter 8 of the Network Access Code;
 - was inconsistent with other requirements of the Network Access Code; or
 - was inconsistent with section 86(2) of the *Electricity Reform Act*.
- 15.20 The submission from the PCNT did not identify any major concerns with the NCCP or areas of inconsistency between the principles and methods of the NCCP and the Network Access Code or *Electricity Reform Act*.
- 15.21 The Commission engaged Deloitte to provide high level advice on PWC Networks' proposed NCCP and NPPS. The Commission sought advice from Deloitte on the consistency of the NCCP with the network pricing objectives, capital contributions principles and high level pricing objectives of cost reflective price signals, simplicity, stability and equity.
- 15.22 Deloitte's view was that the level of detail included in the NCCP was comparable to that provided in other network service providers' (and regulators, where appropriate) policies.
- 15.23 Deloitte did identify some areas where there were, possibly, inconsistencies with the revised NCCP and relevant sections of the Network Access Code or *Electricity Reform Act*. These areas were:

- that the assumed 15-year connection life for small individual network users may be too short and should be amended to 30 years to be consistent with the Network Access Code; and
 - that retail customers should not be charged for the full cost of a connection if other retail customers can benefit from the connection at that time or in the future.
- 15.24 The Commission did not find any significant inconsistencies with the Network Access Code or the *Electricity Reform Act*, but identified a number of issues which it considered should be addressed by PWC Networks including:
- connection life for small individual network users should be amended to 30 years or further justification supporting a shorter timeframe be provided by PWC Networks; and
 - confirmation that retail customers would not be charged for the full cost of a connection if retail other customers could benefit from the connection at that time or in the future.
- 15.25 The Commission encouraged PWC Networks to dialogue with the PCNT to improve its understanding of the proposed NCCP characteristics.

Commission's Draft Determination

- 15.26 The Commission's decision in the Draft Determination was that it would approve PWC Networks' NCCP for use from 1 July 2014 in accordance with clause 81(3) of the Network Access Code, subject to amendments being made to address the issues raised by Deloitte in December 2013.

PWC Networks' Revised Regulatory Proposal

- 15.27 PWC Networks submitted a revised draft NCCP amended to address the issues raised by the Commission in its Draft Determination.

Submissions on Draft Determination and Revised Regulatory Proposal

- 15.28 No submissions were received on the capital contribution principles and methods statement from interested parties.

Commission's Final Decision

- 15.29 The Commission approves PWC Networks' capital contribution principles and methods statement for use from 1 July 2014 in accordance with clause 81(3) of the Network Access Code.

CHAPTER 16

Network Pricing Principles and Methods Statement and Indicative Pricing Proposal

Introduction

- 16.1 In the lead up to the commencement of each regulatory control period, the Commission is required to oversee the application by PWC Networks of principles for setting reference tariffs to apply to standard network access services.⁷⁰
- 16.2 While PWC Networks is responsible for establishing the pricing structure that best gives effect to the principles set out in the Network Access Code, PWC Networks' proposed reference tariffs for standard network access services must be provided to the Commission for approval.⁷¹

Regulatory Requirements

Network Access Code

- 16.3 Clause 75(1) of the Network Access Code stipulates that PWC Networks is to be responsible for establishing the pricing structure that best gives effect to the pricing principles set out in clause 74 of the Code:
- (1) *The reference tariffs are:*
- (a) *to reflect efficient costs of supply;*
 - (b) *to involve a common approach for all network users, with the actual tariff with respect to a particular network access service only differing between users because of:*
 - (i) *the user's geographical and electrical location;*
 - (ii) *the quantities in which the relevant network access service is to be supplied or is supplied;*
 - (iii) *the pattern of network usage;*
 - (iv) *the technical characteristics or requirements of the user's load or generation;*
 - (v) *the nature of the plant or equipment required to provide the network access service; and*
 - (vi) *the periods for which the network access service is expected to be supplied;*

⁷⁰ Network Access Code clause 62(b).

⁷¹ Network Access Code clause 75(1).

- (c) *to be transparent and published in order to provide pricing signals to network users;*
- (d) *to promote price stability; and*
- (e) *to reflect a balancing of the quest for detail against the administrative costs of doing so which would be passed through to end-use customers.*

(2) *In the event that the regulator considers there to be a conflict between the requirements set out in subclause (1) and the requirements set out in clause 63, the requirements in clause 63 are to take precedence.*

- 16.4 However, prior to the commencement of each regulatory control period, PWC Networks is required to provide to the Commission for approval a statement setting out the details of the principles and methods to be used for defining the individual standard network access services to be supplied by PWC Networks and for establishing the reference tariffs to apply to those services.⁷² This is referred to as the NPPS.
- 16.5 Further, at least 60 days prior to the start of each regulatory year, PWC Networks must provide to the Commission for approval a statement setting out its proposed reference tariffs for the standard network access services for that regulatory year, with the statement detailing how the reference tariffs and charges have been calculated by application of the principles in the Network Access Code.⁷³
- 16.6 Clause 78(3) of the Network Access Code provides that:
- (3) *The regulator must approve the tariffs and charges, or individual tariffs and charges, unless in the opinion of the regulator the tariffs and charges would result in the network provider not complying with the principles laid down in this Chapter or is inconsistent with requirements elsewhere in this Code.*
- 16.7 In the event that the Commission considers there to be a conflict between the requirements of clause 74(1) of the Network Access Code and those set out in clause 63, the requirements of clause 63 are to take precedence.

National Electricity Rules

- 16.8 The NER does not require DNSPs to provide a stand-alone document setting out the principles and methods for defining individual network access services.
- 16.9 Instead, the pricing principles underlying the manner in which revenue is to be recovered from each tariff class are set out in the clause 6.18.5 of the NER.
- 16.10 However, clause 6.18.4 of the NER requires the AER to formulate provisions of a distribution determination governing the assignment or reassignment of retail customers to tariff classes.
- 16.11 The DNSP is required to submit a comprehensive pricing proposal each regulatory year which includes definitions of the tariffs and tariff classes into which retail customers for direct control services are divided and their charging parameters, and which demonstrates that its prices comply with the NER pricing principles. The range of matters that must be included in the pricing proposal is listed in clause 6.18.2 of the NER.

⁷² Network Access Code clause 75(5).

⁷³ Network Access Code clause 78(1).

Framework Statement

- 16.12 The Commission's Framework Statement set out its preferred approach, which is to assess the NPPS that details PWC Networks' proposed structure for reference tariffs, against the requirements of the Network Access Code and relevant provisions of the NER.
- 16.13 Mindful of the constrained timeframe for approval of reference tariffs set out in the Network Access Code, the Commission also proposed that PWC Networks provide an indicative tariff proposal for the first regulatory year of the 2014-19 regulatory control period as part of its regulatory proposal. This would enable the Commission to assess the pricing model underlying the proposed structure of reference tariffs against the requirements of the Network Access Code and relevant provisions of the NER. If the Commission was satisfied that the pricing model correctly calculated reference tariffs and charges in line with the principles in the Network Access Code, updating the pricing model with the values from the 2014 Network Price Determination should then be a relatively simple exercise.

PWC Networks' Initial Regulatory Proposal

- 16.14 PWC Network's draft NPPS and Pricing Proposal were provided in a single document that set out:
- the principles and methods used for establishing the reference tariffs to apply to regulated network access services and excluded network access services that would, if classified under the NER, be alternative control services;
 - the proposed pricing strategy for the 2014-19 regulatory control period; and
 - indicative reference tariffs to apply to standard network access services for the 2014-15 regulatory year.
- 16.15 PWC Networks identified the principles for establishing reference tariffs as:
- enhancing cost reflectivity and reducing cross subsidies through reference tariffs;
 - curtailing peak demand growth and, thereby, network costs;
 - improving demand side participation and energy efficiency;
 - rolling out smart meters and time-based pricing, to reduce demand during peak periods;
 - keeping prices as simple as possible and readily understandable by retail customers and market participants;
 - keeping prices stable and predictable; and
 - aligning prices and price components that are designed to signal to retail customers the need to moderate demand with the long-run marginal cost of supply to retail customers.
- 16.16 In the 2009-14 regulatory control period, there was no formal assignment of customers to tariff classes. PWC Networks has four existing network tariffs:
- Domestic (all domestic customers);
 - Commercial (commercial customers using less than 750 MWh per annum);
 - Street lighting and other unmetered supplies; and
 - Commercial kVA (commercial customers using more than 750 MWh per annum).
- 16.17 PWC Networks proposed to establish the following three tariff classes in the 2014-19 regulatory control period:
- Domestic (all domestic customers);
 - Commercial HV (high voltage connected commercial kVA customers); and

- Commercial LV (commercial customers using less than 750 MWh per annum, low voltage connected commercial kVA customers and street lighting and other unmetered supplies).
- 16.18 PWC Networks proposed to make alterations to some reference tariffs over the 2014-19 regulatory control period. The proposed changes were set out in the NPPS.
- 16.19 The proposed reference tariff structure changes were based on analysis conducted by PWC Networks using its new Cost of Supply model.
- 16.20 PWC Networks submitted that the proposed reference tariff changes would:
- improve the cost reflectivity of the reference tariffs concerned;
 - improve equity between retail customers;
 - provide price signals intended to encourage retail customers to moderate their demand; and
 - in the case of the commercial kVA tariffs, simplify their existing structure.
- 16.21 PWC Networks submitted that proposed revenue through reference tariffs for each tariff class lies between the stand-alone cost and the avoidable cost of supplying that tariff class and was therefore economically efficient.
- 16.22 PWC Networks proposed a uniform increase in all reference tariffs in the first regulatory year of the 2014-19 regulatory control period, with rebalancing to occur gradually in later years of the 2014-19 regulatory control period.

Submissions on Initial Regulatory Proposal

- 16.23 NTCOSS expressed concern at the emphasis on cost reflective pricing and the impact this may have on older and disadvantaged retail customers in the Territory. NTCOSS argued:
- ...that attempts to limit peak load at the household level have the potential to cause older people to increase their focus on 'energy conserving' rather than 'energy efficient'. This response may have other undesirable consequences. (page.10)*
- 16.24 NTCOSS submitted that low income households may not have the financial means to take advantage of energy efficiency schemes. In addition, there is little incentive for landlords to make energy efficiency improvements when the cost of poor thermal efficiency in older accommodation is borne by renters.
- 16.25 The NTMEU argued that:
- ...PWC provides no evidence as to how it has concluded the current tariffs are not cost reflective, other than to provide a table purporting to show the recoveries by each class and compares these to its assessment of the allowances for each customer class. (page.46)*
- 16.26 The NTMEU submitted that PWC Networks had not provided any explanation or evidence to support the derivations of the allowances.
- 16.27 In his submission, Dr Clark noted that network costs over time are strongly related to utilisation of overall capacity and the key driver was peak network load (in relation to the average load). Dr Clark stated that analysis of the Darwin-Katherine electricity network indicated that most network costs are tied to the top 20 per cent of demand, which occurs in the top 10 per cent of hours. Dr Clark further commented that perhaps 70 per cent of Darwin-Katherine electricity network system load was understood as cooling load, and this portion would be higher at times of peak demand. Dr Clark commented that any reduction of peak demand (or reduction in its

growth), acts to reduce network costs and is therefore important for the long-run cost of electricity that economic signals give focus to the mechanisms that can flatten or reduce cooling load at peak times.

- 16.28 Dr Clark noted that, time of use metering can provide a powerful mechanism for imposing cost reflectivity onto patterns of demand, and driving rational medium- and long-term economic responses. Dr Clark suggested that the case for strong cost reflectivity can drive the market to identify and deliver solutions that increase utility to society overall faster than otherwise.
- 16.29 Dr Clark noted that costs associated with a rollout of smart meters, and social aspects of maintaining simplicity in tariff arrangements, require a careful approach. Dr Clark agreed with PWC Networks' proposed roll-out of smart meters and Inclining Block Tariffs for the 2014-19 regulatory control period.
- 16.30 Dr Clark advised that PWC Networks' proposal appeared to discard any considered discussion on a flat 58 per cent increase to existing reference tariffs, that he did not understand the justification for a large proposed increase, but if required it would be best to move to inclined block structures as soon as possible.

Issues and Commission's Initial Considerations

- 16.31 The Commission must approve the NPPS unless it is inconsistent with the principles in clause 74 of the Network Access Code.
- 16.32 Likewise, the Commission must approve the reference tariffs and charges proposed by PWC Networks unless the Commission finds that the reference tariff and charges:
- do not comply with the principles laid down in Chapter 7 of the Network Access Code; or
 - are inconsistent with requirements elsewhere in the Network Access Code.
- 16.33 Deloitte was asked to provide the Commission with a high-level view on whether or not:
- the NPPS is consistent with the principles in clause 74 of the Network Access Code; and
 - the indicative reference tariffs and charges set out in the pricing proposal for the 2014-15 regulatory year would result in PWC Networks complying with the principles in Chapter 7 of the Network Access Code and requirements elsewhere in the Network Access Code.
- 16.34 Deloitte did not provide a comprehensive assessment of every proposed reference tariff or policy, but rather addressed only those areas where PWC Networks' proposal had shortcomings or was inconsistent or did not meet the requirements of the Network Access Code.
- 16.35 The Commission did not find any significant inconsistencies with the Network Access Code, but did identify some minor issues:
- PWC Networks' proposal to move to commercial kVA capacity tariffs might not be consistent with the Network Access Code as it does not necessarily appropriately balance the interests of PWC Networks and network users or promote price stability; and
 - the approach to apply a charge for provision of network capacity in excess of Network Technical Code requirements is inconsistent with clauses 74 (1)(a) and (1)(b) of the Network Access Code.

Commission's Draft Decision

16.36 The Commission's decision in the Draft Determination was that it would approve PWC Networks' NPPS for use from 1 July 2014 in accordance with clause 78(3) of the Network Access Code, subject to amendments being made to address the issues raised by Deloitte in December 2013.

PWC Networks' Revised Regulatory Proposal

16.37 PWC Network's draft NPPS and Pricing Proposal were provided in a single document. PWC Networks also provided its Cost of Supply model to the Commission.

16.38 PWC Networks did not accept the Commission's decision in relation to the proposed charge for provision of network capacity in excess of the Network Technical Code requirements for the reasons set out below:

- the relationship between kVA demand tariff and a kVA capacity tariff is simply that the retail customer is billed for the monthly maximum kVA in the case of the former;
- a capacity tariff more accurately and equitably reflects the costs of providing network access services to a retail customer than a demand tariff;
- there is a greater degree of cost reflectivity in capacity tariffs which are commonplace throughout the electrical industry;
- capacity charges are offered by the NEM transmission network service providers as an option for the non-locational component of transmission charges, at high load factor locations; and
- a capacity tariff will result in greater pricing stability for retail customers.

Submissions on Draft Determination and Revised Regulatory Proposal

16.39 The NTMEU pointed out to the Commission that the pricing methodology used for electricity distribution is currently under review by the AEMC and considered that the Commission should look into the issue of pricing in much greater detail to ensure that pricing is cost-reflective.

16.40 The LGANT and TTEG submitted that the rebalancing of reference tariffs, particularly between street lighting and unmetered 24 hour supplies, should be undertaken from the start of the 2014-15 regulatory year, not later in the 2014-19 regulatory control period as proposed by PWC Networks.

16.41 No comments were made with respect to PWC Networks' NPPS.

Issues and Commission's Further Considerations

16.42 The Commission's considerations on the proposed charge for provision of network capacity in excess of Network Technical Code requirements are discussed in Chapter 3 of this Statement of Reasons.

16.43 The Commission notes the arguments of the NTMEU that there should be more scrutiny of PWC Networks' pricing methodology, particularly in light of reviews being undertaken elsewhere. The Commission also notes the LGANT and TTEG submissions that reference tariff rebalancing should be undertaken from the start of the 2014-15 regulatory year.

16.44 However, the Commission is constrained by the requirements of the Network Access Code. The Network Access Code assigns responsibility for establishing the pricing

structure to PWC Networks. The Commission can only reject PWC Networks' proposal if considers that the reference tariffs and charges do not comply with the principles laid down in Chapter 7 of the Network Access Code or are inconsistent with requirements elsewhere in the Network Access Code.

- 16.45 Deloitte was asked to provide the Commission with a soundness check of PWC Networks' Cost of Supply model. Deloitte was unable to comment on whether the indicative reference tariffs for the 2014-15 regulatory year submitted by PWC Networks are compliant with the relevant requirements as some spreadsheet cells relating to stand-alone and avoidable costs were hard-coded and PWC Networks has not provided information to trace these hard-coded numbers back to the relevant source material.
- 16.46 PWC Networks has advised the Commission that its pricing proposal for the 2014-15 regulatory year, to be submitted by 1 May 2014, will demonstrate compliance of the proposed reference tariffs for the 2014-15 regulatory year with the annual revenue requirement and side constraint control mechanisms, and provide background calculations for the stand alone and avoidable costs.
- 16.47 As PWC Networks has submitted its draft NPPS and pricing proposal in a single document, the Commission is unable to approve the NPPS at this time as the document may require further amendment following review of PWC Networks' Cost of Supply model.

Commission's Final Decision

- 16.48 The Commission is unable to approve PWC Networks statement setting out the details of principles and methods to be used for defining the individual standard network access services to be supplied by PWC Networks and for establishing the reference tariffs to apply to those services at this time as the draft NPPS may require further amendment following review of PWC Networks' Cost of Supply model.
- 16.49 The Commission will consider the draft NPPS when PWC Networks submits its proposed reference tariffs for standard network access services for the 2014-15 regulatory year, due by 1 May 2014.

APPENDIX A

Network Service Classification

PWC Networks service classification

Regulated network access services

Service group	Activities description
Network service (mandated standard)	<p>Network services include:</p> <ul style="list-style-type: none"> • planning, designing and constructing the electricity network; • maintaining and operating the electricity network; and • emergency response and administrative support; <p>to the standards provided for in the Network Technical Code, and in accordance with good electricity industry practice.</p> <p>Network Services are services provided using the shared electricity network, to all users connected to the electricity network. They do not include Connection Services which make use of assets dedicated to the supply of a single network user.</p>
Unmetered supply (energy delivery) service	<p>Network services (energy delivery) provided to unmetered supplies such as street lights, traffic lights, advertising signs, CCTV cameras and similar applications where energy consumption may reasonably be estimated and it is not economic or practical to install, maintain and read a meter.</p>
Connection services (mandated standard)	<p>Connection services include:</p> <ul style="list-style-type: none"> • commissioning of connection assets; • service connection; • installation inspection; and • operating and maintaining connection assets, <p>to the standard provided for in the Network Technical Code, and in accordance with good electricity industry practice.</p> <p>Connection Services are provided at the request of a network user and are dedicated to the individual network user. Connection assets include all of the dedicated electrical equipment that is used to transfer electricity to (entry) or from (exit) the shared electricity network at the connection point.</p>

Service group	Activities description
Metering services (mandated standard)	<p>Metering services, including meter data services, provide the means by which the electricity that is transferred to or from a network user is measured at a connection point.</p> <p>Metering services include, but are not necessarily limited to:</p> <ul style="list-style-type: none"> • provision, installation and commissioning of metering assets; and • periodic accuracy testing, maintenance and replacement of metering assets, <p>to meet legislated accuracy requirements and conform to good electricity industry practice.</p> <p>Meter data services include by are not necessarily limited to:</p> <ul style="list-style-type: none"> • meter reading, either locally or remotely; • collection, storage and management of metering data; and • routine transfer of data to participant billing systems, <p>to meet legislated accuracy requirements and conform to good electricity industry practice.</p> <p>Where supply is unmetered, consumption is estimated at the connection point.</p>

Excluded network access services not subject to effective competition

Service group	Activities description
<u>Quoted services</u>	
Quoted network services	<p>Network services provided at the request of a network user with higher (or lower, where permissible) quality or reliability standards than are required under applicable legislation, codes or other regulatory instruments</p> <p>Quoted Network Services include above standard or non-standard services associated with:</p> <ul style="list-style-type: none"> • planning, designing and constructing the electricity network; • maintaining and operating the electricity network; • emergency response and administrative support; and • other associated services, <p>to the performance standard agreed with the network user.</p> <p>Under Quoted Network Services, network users are only charged the incremental cost of the work above the cost of the mandated standard Network Service.</p> <p>Quoted Network Services exclude above standard or non-standard Connection Services which make use of dedicated assets.</p>

Service group	Activities description
Quoted connection services	<p>Connection services provided at the request of a network user with higher (or lower, where permissible) quality or reliability standards than are required under applicable legislation, codes or other regulatory instruments</p> <p>Quoted connection services include above standard or non-standard services associated with:</p> <ul style="list-style-type: none"> • commissioning of connection assets; • service connection; • installation inspection; and • operating and maintaining connection assets <p>to the performance standard agreed with the network user.</p> <p>Quoted Connection Services also include:</p> <ul style="list-style-type: none"> • supply abolishment; and • ancillary Connection Services. <p>Associated services for which PWC Networks may seek payment from the user include, but are not necessarily limited to:</p> <ul style="list-style-type: none"> • responding to enquiries in relation to the provision of the above standard or non-standard connection services; • provision of technical specifications in relation to the connection; • provision of duplicate or underground supply where requested by a network user; and • preliminary communications with potential or existing network user where more than 6 hours work is or is likely to be required. <p>Under Quoted Connection Services, network users are only charged the incremental cost of the work above the cost of the mandated standard Connection Service.</p> <p>Connection Services are provided at the request of a network user and are dedicated to the individual network user. Connection assets include all of the dedicated electrical equipment that is used to transfer electricity to (entry) or from (exit) the shared electricity network at the connection point.</p>

Service group	Activities description
Quoted metering services	<p>Metering services, including meter data services, provided at the request of a network user of a type that exceeds the normal requirements for the type of network user.</p> <p>Quoted metering services include, but are not necessarily limited to:</p> <ul style="list-style-type: none"> • provision, installation and commissioning of additional or above standard or non-standard metering assets; • periodic accuracy testing of additional of additional or above standard or non-standard metering assets; and • maintenance and replacement of additional or above standard or non-standard metering assets. <p>Quoted meter data services include:</p> <ul style="list-style-type: none"> • reading, either locally or remotely, of additional or above standard or non-standard meters provided at the request of the network user; • installing and maintaining communications for additional or above standard or non-standard remotely read meters; and • transfer of meter data to the meter data system and management of the stored meter data, for additional or above standard or non-standard meters. <p>Quoted ancillary Metering Services include:</p> <ul style="list-style-type: none"> • non-standard read of a standard meter, either locally or remotely; and • non-routine transfer of meter data to participant billing systems or network users. <p>Under Quoted Metering Services, network users are only charged the incremental cost of the work above the cost of the mandated standard Metering Service.</p> <p>Several of the more commonly provided excluded metering services are subject to standard fees (Fee based services).</p>
Asset relocation, temporary disconnection and reconnection	Removal, relocation or other permanent or temporary change to PWC Network assets at the request of a network user.
Emergency recoverable works	Repairs to shared electricity network or network connections caused by a third party (for example, due to vehicle accident).
Services associated with temporary supply	<p>Services associated with temporary supply include:</p> <ul style="list-style-type: none"> • provision electric plant or stand-by generator for temporary supply at the request of a network user; and • provision of temporary supplies at both low and high voltage at the request of a network user.
Illegal connections and damage to network equipment	<p>Costs incurred by PWC Networks as a result of a network user not complying with relevant contractual obligations.</p> <p>Repair of equipment damaged by a network user or third party.</p>
Provision of non-standard street light assets	Provision, construction and maintenance of street light assets based on non-standard designs or new technology such as LED.

Service group	Activities description
Wasted attendance	Additional costs incurred by PWC Networks where service provision could not be undertaken and/or completed as planned due to action or inaction of a network user or their agent.
Asset location and identification services	PWC Networks' identification of its assets, including location of buried cables, at the request of a network user.
High load transport escorts	Provision of high load transport escort, including administration costs.
Covering of low voltage mains	Insulation coverage of low voltage mains at the request of a network user or other person.
<u>Fee-based services</u>	
Fee-based metering services	<p>Fee-Based Metering service provided at the request of a network user include, but are not necessarily limited to:</p> <ul style="list-style-type: none"> • out of sequence (unscheduled) meter reading services; • meter program changes; • testing or inspection of metering assets; • removal or relocation of metering assets; • the exchange or replacement of metering assets; • installation of prepayment meters; and • provision of a permanent three-phase service. <p>The provision of less routine services is subject to quotation (Quoted Services).</p>
Street light services	Provision, construction and maintenance of street lighting assets.
Non-standard data services	Provision of non-standard data services of a routine nature.
Disconnection and reconnection	Providing temporary disconnection and reconnection of supply at a connection point at the request of a network user or market participant and in accordance with the terms of the Network Technical Code.
Fault response – not PWC Networks' equipment	Attendance in response to advice of a fault by a network user where the fault is not associated with PWC Networks' assets or metering equipment.
Installation of minor equipment to the network	<p>This includes but is not necessarily limited to:</p> <ul style="list-style-type: none"> • installation of tiger tails on PWC Networks assets; • polylogger test equipment at the user's premises; and • rental cost of minor equipment.
Travel costs	Where PWC Networks' personnel are required to attend rural locations more than 100kms from the relevant PWC Networks depot.

Excluded network access services subject to effective competition

Service group	Activities description
Equipment rental for non-network purposes	Equipment rental charges may be but are not necessarily limited to the following: <ul style="list-style-type: none">• for the attachment of communications services such as coaxial or fibre optic cables;• for pole attachments, ducts or conduits; and• for the use of tunnels or ducts by communications or other services.
Investigation and testing services	Investigation and testing services requested by a network user.
Contestable networks engineering consulting services	Consulting services provided by PWC Networks to network users and third parties.

APPENDIX B

Annual Reporting Requirements

In a number of chapters of this Statement of Reasons, the Commission has indicated that certain information will be required to be reported by PWC Networks on an annual basis. This information is generally required to ensure the correct application of the approved control mechanisms, or for annual pricing purposes, amongst other reasons.

The purpose of this Appendix is to provide a summary of the information the Commission has indicated would need to be reported by the PWC Networks during the 2014-19 regulatory control period to ensure compliance with the 2014 Network Price Determination.

Additionally, the Commission will work with PWC Networks over the 2014-19 regulatory control period to develop annual reporting requirements to ensure that there is sufficient data collection and granularity to provide a better dataset for the Post 2019 Network Price Determination.

The Commission anticipates that this information will be collected via a regulatory information notice issued pursuant to the Commission's information gathering powers set out in section 25 of the *Utilities Commission Act*.

Information contained in the table below has been drawn from the chapters in this decision.

Chapter	Reporting requirement	Purpose
Annual inflation adjustment – Chapter 4	The percentage change in the CPI from March in regulatory year t-2 to March in regulatory year t-1.	Adjustment to the annual revenue requirement each regulatory year.
Unders and overs – Chapter 4	Information as set out in Schedule 5 of the 2014 Network Price Determination.	Any under/over recovery of network revenue from the provision of regulated network access services in the past should be accounted for each regulatory year.
Pricing proposal – Chapter 16	Statement setting out proposed reference tariffs for standard network access services for the next regulatory year, including details of how the reference tariffs and charges have been calculated by application of the principles set out in the Network Access Code.	Approval of reference tariffs and charges for regulated network access services.

APPENDIX C

Submissions

The Commission received submissions on PWC Networks' initial regulatory proposal from the following interested parties:

- Northern Territory Major Energy Users Group
- Northern Territory Council of Social Service Inc.
- Dr Francis Clark
- The Honorable David Tollner MLA, Treasurer
- Property Council of Australia – Northern Territory Division

The Commission received submissions on its Draft Determination and PWC Networks' revised regulatory proposal from the following interested parties:

- Northern Territory Major Energy Users Group
- The Honorable David Tollner MLA, Treasurer
- Local Government Association of the Northern Territory
- Trans Tasman Energy Group
- Power and Water Corporation (Draft Determination only)