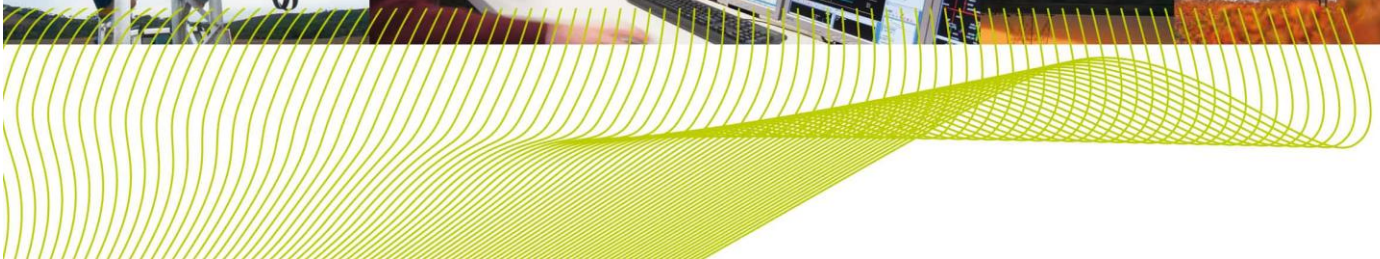# ElectraNet Transmission Network Revenue Reset Regulatory Information Notice

ElectraNet Forecast Expenditure Preparation Overview Assumption Information

1 July 2018 to 30 June 2023

March 2017

Version 1

Company Information

ElectraNet Pty Ltd (ElectraNet) is the principal electricity transmission network service provider (TNSP) in South Australia.

For information about ElectraNet visit www.electranet.com.au.

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Note

This basis of preparation forms part of our Revenue Proposal for the 2018-19 to 2022-23 regulatory control period. It should be read in conjunction with the other parts of the Revenue Proposal.

Our Revenue Proposal comprises the attachments listed below, and the supporting documents that are listed in Attachment 15:

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Pricing methodology

Attachment 13 – Pass through events

Attachment 14 – Negotiated services

Attachment 15 – List of supporting documents

In addition to the Revenue Proposal and above mentioned documents our Regulatory Information Notice comprises the documents listed below:

PwC Audit and Review Opinions

Statutory Declaration

Basis of Preparation – Historical

Workbook 1 – Regulatory Determination

MIC Data Template 2010

MIC Data Template 2011

MIC Data Template 2012

MIC Data Template 2013

MIC Data Template 2014

MIC Data Template 2015

MIC Data Template 2016

Non – coincident and MVA Maximum Demand Measures Methodology

Map of Transmission System

Corporate Structure

Service Target Performance Incentive Scheme Network Capability Component: Network Limits Information

ElectraNet Enterprise Agreement 2016

Forecast Expenditure Preparation Overview Assumption Information (this document)

Contents

1. ElectraNet Forecast Expenditure Preparation Overview Assumption Information

Assumption	Basis	Relevance to Reset RIN	Expenditure Impact	Supporting Documentation
Capital Expenditure				
Demand forecasts	Forecast demand is an important driver for reliability driven capital expenditure. ElectraNet has adopted the Australian Energy Market Operator's (AEMO) 2016 state-wide and connection point level demand forecasts and estimates of the value of customer reliability.	2.3 Augex 2.5 Connections and 5.4 MD Utilisation & Spatial 3.4.1 Energy Delivery 3.4.3 System Demand	Yes	AEMO 2016 state-wide and connection point level demand forecast, NTNDP 2016
Network models, planning standards and design standards	The requirements specified in the National Electricity Rules (version 82) and the South Australian Electricity Transmission Code (as in force at 1 July 2018).	2.3 Augex 2.5 Connections	Yes	NER
	ElectraNet also uses the Siemens Power Technologies International PSS/E suite of power system analysis programs as its primary network model for identifying operational and future network limitations.			
Load and generation developments	As per AEMO's National Transmission Network Development Plan (NTNDP) 2016 and current connection enquiries.	2.3 Augex 2.5 Connections and 5.4 MD Utilisation & Spatial	Yes	AEMO National Transmission Network Development Plan (NTNDP) 2016
Asset condition data and risk assessments	A decision to replace an asset is driven by detailed asset condition assessment, risk and reliability considerations, balanced against cost. This risk analysis uses an investment risk tool and considers: · probability of an asset failure · likelihood of adverse consequence(s) · likely cost(s) of the consequence(s)	2.2 Repex	Yes	ENET058 ElectraNet - Asset Risk Cost Modelling Guideline - March 2017 - Public

	This is based on a systematic process for collecting, recording and analysing detailed information on the condition of network assets, and balances the expected risk reduction against the costs of the proposed expenditure to ensure safety and reliability requirements are met at lowest cost. This framework has been developed with input from asset management experts AMCL.			
	ElectraNet has relied upon detailed asset condition and risk information to develop specific plans for capital replacement and refurbishment projects for different asset categories and key risk areas, such as asset operational integrity, and safety and environmental issues.			
Asset condition data and risk assessments	The key input assumptions to the asset risk cost evaluation framework are as noted and agreed by the Board. In particular, the assumptions are based on the following, amongst other factors:	2.2 Repex	Yes	ENET058 - ElectraNet - Asset Risk Cost Modelling Guideline - March 2017 - Public
	· the agreed approach to adoption of a Value of Statistical Life (VSL) for modelling purposes based on the Australian Government's Best Practice Guidance Note for using the VSL approach (December 2014) together with appropriate sensitivity assumptions and disproportionate factors; and	2.2 Repex 2.3 Augex 2.5 Connections	Yes	ENET029 - ElectraNet - Houston Kemp - Review of ElectraNet Economic Assessment Framework and its Application - March 2017 - Public
	· other key cost inputs outlined in the paper with respect to value of customer reliability, potential bushfire property damage and environmental costs noting that other cost inputs are not material in the risk cost assessments undertaken as input to the economic justification of projects for inclusion in the proposal.			

Economic Assessments	For all large projects, an economic assessment is undertaken to determine whether the benefits of undertaking the project exceed the costs, including review of all available options. This also considers the optimal timing of the project, to ensure maximum net benefit from the proposed expenditure.	2.2 Repex 2.3 Augex 2.5 Connections	Yes	ENET029 - ElectraNet - Houston Kemp - Review of ElectraNet Economic Assessment Framework and its Application - March 2017 - Public
	These economic assessments have been externally reviewed by economic experts Houston Kemp to ensure they are robust and reasonable. AEMO also conducts an independent technical assessment of a portion of the network capital program and its findings will be contained in a published report.			
Project scopes and cost estimates	Project cost estimates are derived from ElectraNet's internal estimating system based on a range of information from internal and external sources.	2.2 Repex 2.3 Augex 2.5 Connections	Yes	Success Estimator
	All projects are developed with reference to a comprehensive set of design and construction standards which comply with legislated safety and technical obligations.			
	These solutions reflect scopes of work which identify the inputs required to deliver each project.			
	Project cost estimates are developed for each solution based on a detailed database of materials and transmission construction costs.			
Current information on project timing and delivery	ElectraNet continuously seeks to improve efficiency and effectiveness of project delivery through optimisation of project scopes and timings.	2.2 Repex 2.3 Augex 2.5 Connections	Yes	Reset 2019-23 Capex Model / Project Server
	The forecasts reflect the latest information on the timing of current projects, which is continually updated as projects proceed.			
Forecasts of wages and materials	The forecast real change in input costs (labour and materials) is based on prevailing market estimates and applied to capital costs.	3.2 Operational Expenditure	Yes	Revenue Reset expenditure methodology 2019 to

growth	A real rate of change for escalation of expenditure has been applied (refer operating expenditure assumptions).			2023
Inflation	A market based forecast of inflation of 1.97% per annum has been applied for the purposes of the forecasts, based on market data as at end December 2016, reflecting the 'Fisher Equation' approach, subject to the review of the prevailing inflation methodology to be undertaken by the AER in 2017.	All nominal expenditure forecasts	Yes	Revenue Reset expenditure methodology 2019 to 2023
Equity raising costs	An allowance for these costs has been determined by applying the benchmark methodology approved by the AER.	Capital Expenditure forecast		AER Guidelines - Equity Raising Costs
Operating Expenditure				
Efficient base year	Year three of the current period (2015-16) has been used as the nominal base year.	3.2 Operational Expenditure	Yes	Revenue Reset expenditure methodology 2019 to 2023
	A net total of $3.6 million in one-off and non-recurrent items have been removed from the base year, including maintenance backlog expenditure and other one off items.			
Operational refurbishment projects	Identification and assessment of required planned maintenance project activities to mitigate medium term risks.	3.2 Operational Expenditure	No	Asset Management Strategy, UAR Strategies
	Project cost estimates are derived from ElectraNet's internal estimating system based on a range of information from internal and external sources.			
	These programs of work are additional maintenance effort, over and above ongoing routine and short-term corrective maintenance, undertaken on a project basis.			
	The opex forecast has been calculated using a base step trend approach. Programs of work are adjusted to fit within the operational refurbishment forecast allowance.			
Rate of	Rate of change is calculated as;	3.2 Operational Expenditure	Yes	

change assumptions	output change + real price (input) change – productivity change
	based on the following:
	Output Change
	This represents the expected change in weighted network output due to growth in network size and utilisation. Applying the standard AER methodology to our forecasts produces an assumed output change averaging 0.44% across the five years of the forthcoming regulatory period. This assumed output change equates to a real increase in operating expenditure totalling $6.1m over the five year period. However, we have applied an annual output change of 0%. We note that adopting this assumption effectively builds additional efficiencies of $6.1m into our forecast relative to a trend forecast applying the standard AER methodology over the forthcoming regulatory period.
	Input Change
	This represents the forecast real change in input costs (labour and materials) based on external estimates.
	A real increase averaging 0.9% per annum for labour costs across the 2018-19 to 2022-23 period is assumed (which equates to a weighted average increase across the total operating expenditure forecast of 0.6% per annum).

ENET057 – BIS Shrapenl – Report on Expected Wage Changes to 2022/23 – Feb 17 - Public

This assumption is based on the AER's prevailing decision approach as reflected in the Australian Gas Networks (AGN) determination (May 2016) which took the average of a Deloitte Access Economics Utilities forecast for SA (engaged by the AER) and the Electricity, Gas, Water and Waste Services (EGWWS) forecast for SA for BIS Shrapnel (engaged by AGN).

ElectraNet has secured from BIS Shrapnel an updated EGWWS forecast for SA (Jan 2017) for this purpose.

No real increase in materials costs has been assumed for the purposes of the expenditure forecasts, consistent with recent AER determinations.

Productivity Change

This represents the expected productivity change over the forecast period. The productivity assumption applied by the AER is generally informed by the Transmission Network Service Provider (TNSP) operating expenditure partial factor productivity index published in the AER's latest annual benchmarking report (Nov 2016) and further analysis. An annual average productivity improvement based on recent observed industry average productivity performance of 0.2% has been applied by the AER in recent transmission determinations,

Rate of change assumptions	Significant efficiencies achieved during the current period mean that the current productivity level is assumed to be maintained throughout the forecast period (i.e. a productivity change of 0%) for the purposes of the operating expenditure forecast. In applying a base year trend approach to the insurance and self-insurance allowances in the face of higher forecasts provided by insurance experts, and in applying a zero output change assumption as below, savings equivalent to an annual productivity factor of 0.5% from the first year of the next regulatory period have been built into the controllable operating expenditure forecast (or approximately $7.1m in total across the period).	3.2 Operational Expenditure	Yes	
	Variations in insurance premiums do not necessarily follow similar escalation profiles to other costs and are influenced by a range of factors beyond the control of ElectraNet. For this reason ElectraNet has sourced independent bottom up forecasts of insurance costs and self-insurance exposures based on independent expert estimates.			
Insurance and self-insurance forecasts	The bottom up forecasts we have obtained from independent experts of our expected insurance and self-insurance costs in aggregate exceed the base year trend forecast by a total of approximately $0.9m (or 4%) over the forthcoming regulatory period. However, when considering this shortfall in the context of the overall operating expenditure forecast, we have adopted the base year trend forecast for our insurance and self-insurance costs. This forecasting method is consistent with the AER's preferred approach.	3.2 Operational Expenditure 2.15 Insurance / Self Insurance	Yes	Independent actuarial assessment - Finity

	As noted above, in applying a base year trend approach to the insurance and self-insurance. Allowances in the face of higher forecasts provided by insurance experts combined with the adoption of a zero output change factor as explained above, result in savings equivalent to an annual productivity factor of 0.5% from the first year of the next regulatory period have been built into the controllable operating expenditure forecast (or approximately $7.1m in total across the period).			
Debt raising costs	An allowance for these costs has been determined by applying the benchmark methodology approved by the AER. The calculation of this allowance is included in the AER's Post Tax Revenue Model (PTRM).	3.2 Operational Expenditure	Yes	PTRM model
Network support forecast	Costs are forecast for the next regulatory period based on a base step trend approach, noting that actual costs incurred will be subject to full pass through, and is calculated at approximately $9m pa.	3.2 Operational Expenditure	Yes	Revenue Reset expenditure methodology 2019 to 2023
Other 'bottom up' forecast components	Costs such as those incurred in preparing the Revenue Proposal have been removed from the base year costs where they are not recurrent expenditure throughout the period. Revenue reset costs for the forthcoming regulatory period are based on the actual and expected costs of the current revenue reset process in the relevant years and have been added to the forecast at a total value of approximately $1.1m over the final three years.	3.2 Operational Expenditure	Yes	Revenue Reset expenditure methodology 2019 to 2023
Step Changes	No step changes have been assumed for the forecast 2019 to 2023 regulatory period	2.17 Step Changes	No	Revenue Reset expenditure methodology 2019 to 2023
Non-network / Other				
Motor Vehicles	Number of motor vehicles assumed to remain the same from FY2016 to FY2021. Fleet assumed to decline by 2 vehicles by end of FY2023 in comparison with FY2016	2.6 Non-network	No	

IT	Costs reflect forecast IT capex and opex identified in the Revenue Reset proposal	2.6 Non-network	No	FY2016 Category Analysis Basis of Prep / Revenue Proposal
	Assume that number of devices per user number remains constant over the period. Number of users changes relative to forecast employee numbers			
IT	Forecast employee numbers over the Reset RIN period reflect business forecast employee numbers set.	2.6 Non-network	No	FY2016 Category Analysis Basis of Prep / Revenue Proposal
Overheads	Enet identify overhead component of total expenditure as per FY 2016 Category Analysis Basis of Prep. Total expenditure reflects expenditure forecast as per the Revenue Proposal	2.10 Overheads	No	FY2016 Category Analysis Basis of Prep / Revenue Proposal
Forecast price changes	No materials price changes have been forecast.	2.14 Forecast price changes	No	Revenue Reset expenditure methodology 2019 to 2023
	A market based forecast of inflation of 1.97% per annum has been applied for the purposes of the forecasts, based on market data as at end December 2016, reflecting the 'Fisher Equation' approach, subject to the review of the prevailing inflation methodology to be undertaken by the AER in 2017.			
Connection Points	AEMO's National Transmission Network Development Plan (NTNDP) 2015 and current connection enquiries.	3.4 Operational Data	No	AEMO National Transmission Network Development Plan (NTNDP) 2015
Transmission System Capacities	Review capital expenditure scopes and estimates to forecast capacities	3.5 Physical Assets	No	Revenue Reset 2019 to 2023 capex model / Success Estimator
Terrain Factors	Only required to be provided for 2016-17	3.7.1 Terrain Factors	No	FY2016 Basis of Preparation / Business Plan
Network Characteristics	Review capital expenditure scopes and estimates to forecast capacities	3.7.2 Network Characteristics	No	Revenue Reset 2019 to 2023 capex model / Success Estimator

Indicative Bill Impact	Assumes $1,800 per annum for average household bill (Market Offer) and $3,500 for average Small Business bill (Market Offer) per annum as per ESCOSA, South Australian Energy Retail Offer Prices Ministerial Report 2015, August 2015	7.6 Indicative Bill Impact	No	ESCOSA, South Australian Energy Retail Offer Prices Ministerial Report 2015, August 2015
Maximum Allowed Revenue	Assumes the Maximum Allowed Revenue is increased by the X-factor derived from the PTRM, the relevant forecast inflation, and STPIS a bonus of 1.5%.	3.1 Revenue	No	PTRM model
Revenue	Revenue charges and groupings are based on the average estimated portion of the Maximum Allowed Revenue for two most recent financial years except for a trend of 1.5% for STPIS revenue.	3.1 Revenue	No	Revenue Reset 2013 to 2018, Revenue Reset 2019 to 2023 PTRM, Pricing Methodology 2019-2023, AEMO Settlements Residue