

## APPENDIX 2

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1.1 HISTORIC OPEX by expenditure category

\$ million nominal	Financial Year						Total	Revenue Cap Allowance	Key cost drivers and explanation for material differences over time
	Jan to Jun 2004	2004-05	2005-06	2006-07	2007-08	2008-09			
<b>Direct Operating and Maintenance</b>									
<b>Field Operations and Maintenance</b>									
<b>Substations</b>									
Labour	1.7	3.4	2.7	3.7	3.2	3.7	18.4		
Non Labour	0.9	1.9	1.5	2.0	1.7	2.0	9.9		
<b>Sub-Totals</b>	2.6	5.3	4.2	5.6	4.9	5.7	28.3		Relatively stable, efficiencies delivered through revised asset management practices and implementation of a new asset management information system.
<b>Protection and Control</b>									
Labour	0.4	0.7	0.8	1.0	0.7	0.8	4.5		
Non Labour	0.1	0.2	0.3	0.3	0.2	0.3	1.5		
<b>Sub-Totals</b>	0.6	1.0	1.1	1.3	1.0	1.1	6.0		Increase in earlier years due to changes in maintenance strategy, relatively stable in latter years due to efficiencies delivered through revised asset management practices and implementation of a new asset management information system.
<b>Communications</b>									
Operational Communications	0.9	1.9	2.5	2.5	2.4	3.1	13.3		
<b>Sub-Totals</b>	0.9	1.9	2.5	2.5	2.4	3.1	13.3		Increased operational communications costs due to increase in requirements
<b>Transmission Lines</b>									
Labour	0.8	1.9	1.8	1.8	3.5	2.9	12.8		
Non Labour	0.4	0.8	0.8	0.8	1.5	1.2	5.5		
<b>Sub-Totals</b>	1.2	2.7	2.6	2.6	5.0	4.2	18.3		Efficiencies delivered through revised asset management practices and implementation of a new asset management information system, increase in latter years due to timing of dismantling program.
<b>Easements</b>									
Labour	0.4	1.1	1.1	1.2	1.2	1.4	6.5		
Non Labour	0.3	0.8	0.8	0.8	0.8	0.9	4.4		
<b>Sub-Totals</b>	0.7	1.9	1.9	2.0	2.0	2.4	10.9		Relatively stable, efficiencies delivered through revised asset management practices
<b>Summary</b>									
<b>Sub-Total Labour</b>	3.4	7.2	6.5	7.7	8.6	8.7	42.2		
<b>Sub-Total Non Labour</b>	1.7	3.7	3.3	3.9	4.3	4.4	21.3		
<b>Sub-Total Operational Communications</b>	0.9	1.9	2.5	2.5	2.4	3.1	13.3		
<b>Total Field Operations and Maintenance</b>	6.0	12.8	12.3	14.1	15.3	16.3	76.8		
<b>Transmission Services</b>									
Engineering Services	1.3	3.4	4.5	4.1	4.3	4.8	22.4		Increase in latter years due to general growth factors, asset management practices and to support of the integrated works program.
Works Planning and Coordination	0.5	1.1	1.7	1.9	2.1	2.5	9.8		Increase in latter years due to general growth factors, asset management practices and to support of the integrated works program.
<b>Total Transmission Services</b>	1.8	4.5	6.1	6.0	6.4	7.4	32.3		
<b>Transmission Operations</b>									
Transmission Operations	0.8	2.4	5.8	4.4	4.8	4.9	23.1		Change in transmission operations requirements due to NEM entry and other regulatory obligations
<b>Total Transmission Operations</b>	0.8	2.4	5.8	4.4	4.8	4.9	23.1		
<b>Total Direct Operating and Maintenance</b>	8.7	19.8	24.2	24.4	26.6	28.6	132.3		
<b>Other Controllable</b>									
<b>Asset Management</b>									
Customer & Asset Management	1.1	2.9	3.1	3.6	4.2	5.5	20.4		Strengthened strategic and mid-term system planning, and strategic and tactical asset management capacity and capability. Includes the cost of preparation of Transend's revenue proposal for the forthcoming regulatory control period.
Regulation & Compliance	0.4	0.8	0.8	1.5	3.7	2.7	9.8		
<b>Sub-Total Asset Management</b>	1.5	3.6	3.9	5.0	7.9	8.2	30.2		
<b>Corporate</b>									
Business Services	2.0	3.9	5.2	5.4	5.8	6.4	28.7		Delivery of IT strategy and systems to support NEM entry and other business imperatives, skills development and training programs
Corporate Governance and Business Planning	0.4	0.8	1.4	1.4	2.3	2.2	8.6		Includes one off separation costs in the last year due to organisation restructure
Insurance	0.4	0.9	0.8	0.8	0.8	0.9	4.6		Relatively stable, latter years based on actuarial report for insurance premiums
<b>Sub-Total Corporate</b>	2.8	5.6	7.5	7.5	8.9	9.5	41.8		
<b>Total Other Controllable</b>	4.4	9.3	11.4	12.5	16.8	17.7	72.1		
<b>Summary</b>									
<b>Total Direct Operating and Maintenance</b>	8.7	19.8	24.2	24.4	26.6	28.6	132.3		
<b>Total Other Controllable</b>	4.4	9.3	11.4	12.5	16.8	17.7	72.0		
<b>TOTAL CONTROLLABLE OPEX</b>	13.0	29.0	35.6	37.0	43.4	46.3	204.3		
<b>Other Operating Expenditure</b>									
Network Support	-	0.2	1.2	0.6	2.9	3.6	8.5		Network support actuals and estimated requirements for latter years.
Equity Raising	-	-	-	-	-	-	-		
Debt Raising	-	-	-	-	-	-	-		
Self-insurance	-	-	-	0.1	0.1	1.0	1.2		Essential remedial foundation work required on a number of transmission line towers.
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	0.2	1.2	0.7	3.0	4.6	9.7		
<b>TOTAL OPERATING EXPENDITURE</b>	13.0	29.2	36.9	37.7	46.3	50.9	214.0		
<b>Revenue Cap Allowance<sup>1</sup></b>	13.4	29.4	34.8	33.9	34.3	35.8	181.6		

1. Revenue cap allowance includes network support

1.2 HISTORIC OPEX by expenditure category

\$ million nominal	Jan to June 2004						
	Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
	Planned	Condition Assessment	Corrective				
<b>Direct Operating and Maintenance</b>							
<b>Field Operations and Maintenance</b>							
<b>Substations</b>							
Labour	1.2	0.3	0.2			1.7	
Non Labour	0.6	0.2	0.1			0.9	
<b>Sub-Totals</b>	1.8	0.5	0.3	-	-	2.6	
<b>Protection and Control</b>							
Labour	-	0.2	0.2			0.4	
Non Labour	-	0.1	0.1			0.1	
<b>Sub-Totals</b>	-	0.3	0.3	-	-	0.6	
<b>Communications</b>							
Operational Communications	0.9					0.9	
<b>Sub-Totals</b>	0.9	-	-	-	-	0.9	
<b>Transmission Lines</b>							
Labour	0.6	0.2	0.0			0.8	
Non Labour	0.3	0.1	0.0			0.4	
<b>Sub-Totals</b>	0.9	0.3	0.1	-	-	1.2	
<b>Easements</b>							
Labour	0.4	0.0	-			0.4	
Non Labour	0.3	0.0	-			0.3	
<b>Sub-Totals</b>	0.7	0.1	-	-	-	0.7	
<b>Summary</b>							
<b>Sub-Total Labour</b>	2.2	0.8	0.5	-	-	3.4	
<b>Sub-Total Non Labour</b>	1.2	0.3	0.2	-	-	1.7	
<b>Sub-Total Operational Communications</b>	0.9	-	-	-	-	0.9	
<b>Total Field Operations and Maintenance</b>	4.3	1.1	0.6	-	-	6.0	
<b>Transmission Services</b>							
Engineering Services				1.3		1.3	
Works Planning and Coordination				0.5		0.5	
<b>Total Transmission Services</b>	-	-	-	1.8	-	1.8	
<b>Transmission Operations</b>							
Transmission Operations				0.8		0.8	
<b>Total Transmission Operations</b>	-	-	-	0.8	-	0.8	
<b>Total Direct Operating and Maintenance</b>	4.3	1.1	0.6	2.6	-	8.7	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management				1.1		1.1	
Regulation & Compliance				0.4		0.4	
<b>Sub-Total Asset Management</b>	-	-	-	1.5	-	1.5	
<b>Corporate</b>							
Business Services					2.0	2.0	
Corporate Governance and Business Planning					0.4	0.4	
Insurance					0.4	0.4	
<b>Sub-Total Corporate</b>	-	-	-	-	2.8	2.8	
<b>Total Other Controllable</b>	-	-	-	1.5	2.8	4.4	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	4.3	1.1	0.6	2.6	-	8.7	
<b>Total Other Controllable</b>	-	-	-	1.5	2.8	4.4	
<b>TOTAL CONTROLLABLE OPEX</b>	4.3	1.1	0.6	4.1	2.8	13.0	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	-	-	-	
Equity Raising	-	-	-	-	-	-	
Debt Raising	-	-	-	-	-	-	
Self-insurance	-	-	-	-	-	-	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	-	-	-	-	-	
<b>TOTAL OPERATING EXPENDITURE</b>	4.3	1.1	0.6	4.1	2.8	13.0	
<b>Revenue Cap Allowance<sup>1</sup></b>						13.4	

1. Revenue cap allowance includes network support

1.3 HISTORIC OPEX by expenditure category

\$ million nominal

	Field Operations and Maintenance			2004-05		TOTAL	Revenue Cap Allowance
	Planned	Condition Assessment	Corrective	Network	Non Network		
<b>Direct Operating and Maintenance</b>							
<b>Field Operations and Maintenance</b>							
<b>Substations</b>							
Labour	2.4	0.6	0.4	-	-	3.4	
Non Labour	1.3	0.3	0.2	-	-	1.9	
<b>Sub-Totals</b>	<b>3.8</b>	<b>1.0</b>	<b>0.6</b>	<b>-</b>	<b>-</b>	<b>5.3</b>	
<b>Protection and Control</b>							
Labour	-	0.3	0.4	-	-	0.7	
Non Labour	-	0.1	0.1	-	-	0.2	
<b>Sub-Totals</b>	<b>-</b>	<b>0.5</b>	<b>0.5</b>	<b>-</b>	<b>-</b>	<b>1.0</b>	
<b>Communications</b>							
Operational Communications	1.9	-	-	-	-	1.9	
<b>Sub-Totals</b>	<b>1.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.9</b>	
<b>Transmission Lines</b>							
Labour	1.4	0.5	0.1	-	-	1.9	
Non Labour	0.6	0.2	0.0	-	-	0.8	
<b>Sub-Totals</b>	<b>1.9</b>	<b>0.7</b>	<b>0.1</b>	<b>-</b>	<b>-</b>	<b>2.7</b>	
<b>Easements</b>							
Labour	1.0	0.1	-	-	-	1.1	
Non Labour	0.7	0.1	-	-	-	0.8	
<b>Sub-Totals</b>	<b>1.7</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.9</b>	
<b>Summary</b>							
<b>Sub-Total Labour</b>	<b>4.8</b>	<b>1.5</b>	<b>0.9</b>	<b>-</b>	<b>-</b>	<b>7.2</b>	
<b>Sub-Total Non Labour</b>	<b>2.6</b>	<b>0.7</b>	<b>0.4</b>	<b>-</b>	<b>-</b>	<b>3.7</b>	
<b>Sub-Total Operational Communications</b>	<b>1.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.9</b>	
<b>Total Field Operations and Maintenance</b>	<b>9.3</b>	<b>2.3</b>	<b>1.2</b>	<b>-</b>	<b>-</b>	<b>12.8</b>	
<b>Transmission Services</b>							
Engineering Services				3.4		3.4	
Works Planning and Coordination				1.1		1.1	
<b>Total Transmission Services</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.5</b>	<b>-</b>	<b>4.5</b>	
<b>Transmission Operations</b>							
Transmission Operations				2.4		2.4	
<b>Total Transmission Operations</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.4</b>	<b>-</b>	<b>2.4</b>	
<b>Total Direct Operating and Maintenance</b>	<b>9.3</b>	<b>2.3</b>	<b>1.2</b>	<b>7.0</b>	<b>-</b>	<b>19.8</b>	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management	-	-	-	2.9		2.9	
Regulation & Compliance	-	-	-	0.8		0.8	
<b>Sub-Total Asset Management</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Corporate</b>							
Business Services	-	-	-		3.9	3.9	
Corporate Governance and Planning	-	-	-		0.8	0.8	
Insurance	-	-	-		0.9	0.9	
<b>Sub-Total Corporate</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.6</b>	<b>5.6</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.6</b>	<b>5.6</b>	<b>9.3</b>	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	<b>9.3</b>	<b>2.3</b>	<b>1.2</b>	<b>7.0</b>	<b>-</b>	<b>19.8</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.6</b>	<b>5.6</b>	<b>9.3</b>	
<b>TOTAL CONTROLLABLE OPEX</b>	<b>9.3</b>	<b>2.3</b>	<b>1.2</b>	<b>10.6</b>	<b>5.6</b>	<b>29.0</b>	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	0.2	-	0.2	
Equity Raising	-	-	-	-	-	-	
Debt Raising	-	-	-	-	-	-	
Self-insurance	-	-	-	-	-	-	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.2</b>	<b>-</b>	<b>0.2</b>	
<b>TOTAL OPERATING EXPENDITURE</b>	<b>9.3</b>	<b>2.3</b>	<b>1.2</b>	<b>10.8</b>	<b>5.6</b>	<b>29.2</b>	
<b>Revenue Cap Allowance<sup>1</sup></b>						<b>29.4</b>	

1. Revenue cap allowance includes network support

1.4 HISTORIC OPEX by expenditure category

\$ million nominal	2005-06						
	Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
	Planned	Condition Assessment	Corrective				
<b>Direct Operating and Maintenance</b>							
<b>Field Operations and Maintenance</b>							
<b>Substations</b>							
Labour	1.9	0.5	0.3	-	-	2.7	
Non Labour	1.0	0.3	0.2	-	-	1.5	
<b>Sub-Totals</b>	3.0	0.8	0.5	-	-	4.2	
<b>Protection and Control</b>							
Labour	-	0.4	0.4	-	-	0.8	
Non Labour	-	0.1	0.1	-	-	0.3	
<b>Sub-Totals</b>	-	0.5	0.6	-	-	1.1	
<b>Communications</b>							
Operational Communications	2.5	-	-	-	-	2.5	
<b>Sub-Totals</b>	2.5	-	-	-	-	2.5	
<b>Transmission Lines</b>							
Labour	1.3	0.4	0.1	-	-	1.8	
Non Labour	0.5	0.2	0.0	-	-	0.8	
<b>Sub-Totals</b>	1.8	0.6	0.1	-	-	2.6	
<b>Easements</b>							
Labour	1.0	0.1	-	-	-	1.1	
Non Labour	0.7	0.1	-	-	-	0.8	
<b>Sub-Totals</b>	1.7	0.2	-	-	-	1.9	
<b>Summary</b>							
<b>Sub-Total Labour</b>	4.2	1.4	0.8	-	-	6.5	
<b>Sub-Total Non Labour</b>	2.3	0.7	0.3	-	-	3.3	
<b>Sub-Total Operational Communications</b>	2.5	-	-	-	-	2.5	
<b>Total Field Operations and Maintenance</b>	9.0	2.1	1.2	-	-	12.3	
<b>Transmission Services</b>							
Engineering Services	-	-	-	4.5	-	4.5	
Works Planning and Coordination	-	-	-	1.7	-	1.7	
<b>Total Transmission Services</b>	-	-	-	6.1	-	6.1	
<b>Transmission Operations</b>							
Transmission Operations	-	-	-	5.8	-	5.8	
<b>Total Transmission Operations</b>	-	-	-	5.8	-	5.8	
<b>Total Direct Operating and Maintenance</b>	9.0	2.1	1.2	11.9	-	24.2	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management	-	-	-	3.1	-	3.1	
Regulation & Compliance	-	-	-	0.8	-	0.8	
<b>Sub-Total Asset Management</b>	-	-	-	3.9	-	3.9	
<b>Corporate</b>							
Business Services	-	-	-	-	5.2	5.2	
Corporate Governance and Planning	-	-	-	-	1.4	1.4	
Insurance	-	-	-	-	0.8	0.8	
<b>Sub-Total Corporate</b>	-	-	-	-	7.5	7.5	
<b>Total Other Controllable</b>	-	-	-	3.9	7.5	11.4	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	9.0	2.1	1.2	11.9	-	24.2	
<b>Total Other Controllable</b>	-	-	-	3.9	7.5	11.4	
<b>TOTAL CONTROLLABLE OPEX</b>	9.0	2.1	1.2	15.8	7.5	35.6	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	1.2	-	1.2	
Equity Raising	-	-	-	-	-	-	
Debt Raising	-	-	-	-	-	-	
Self-insurance	-	-	-	-	-	-	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	-	-	1.2	-	1.2	
<b>TOTAL OPERATING EXPENDITURE</b>	9.0	2.1	1.2	17.1	7.5	36.9	
<b>Revenue Cap Allowance<sup>1</sup></b>						34.8	

1. Revenue cap allowance includes network support

1.5 HISTORIC OPEX by expenditure category

\$ million nominal

Direct Operating and Maintenance	
Field Operations and Maintenance	
Substations	
Labour	2.6
Non Labour	1.4
<b>Sub-Totals</b>	<b>4.0</b>
Protection and Control	
Labour	-
Non Labour	-
<b>Sub-Totals</b>	<b>-</b>
Communications	
Operational Communications	2.5
<b>Sub-Totals</b>	<b>2.5</b>
Transmission Lines	
Labour	1.3
Non Labour	0.6
<b>Sub-Totals</b>	<b>1.9</b>
Easements	
Labour	1.1
Non Labour	0.7
<b>Sub-Totals</b>	<b>1.8</b>
Summary	
Sub-Total Labour	5.0
Sub-Total Non Labour	2.7
Sub-Total Operational Communications	2.5
<b>Total Field Operations and Maintenance</b>	<b>10.2</b>
Transmission Services	
Engineering Services	
Works Planning and Coordination	
<b>Total Transmission Services</b>	<b>-</b>
Transmission Operations	
Transmission Operations	
<b>Total Transmission Operations</b>	<b>-</b>
<b>Total Direct Operating and Maintenance</b>	<b>10.2</b>
Other Controllable	
Asset Management	
Customer & Asset Management	
Regulation & Compliance	
<b>Sub-Total Asset Management</b>	<b>-</b>
Corporate	
Business Services	
Corporate Governance and Planning	
Insurance	
<b>Sub-Total Corporate</b>	<b>-</b>
<b>Total Other Controllable</b>	<b>-</b>
Summary	
Total Direct Operating and Maintenance	10.2
Total Other Controllable	-
<b>TOTAL CONTROLLABLE OPEX</b>	<b>10.2</b>
Other Operating Expenditure	
Network Support	-
Equity Raising	-
Debt Raising	-
Self-insurance	-
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>

2006-07						
Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
Planned	Condition Assessment	Corrective				
					3.7	
					2.0	
			-	-	5.6	
					1.0	
					0.3	
			-	-	1.3	
					2.5	
			-	-	2.5	
					1.8	
					0.8	
			-	-	2.6	
					1.2	
					0.8	
			-	-	2.0	
					7.7	
					3.9	
					2.5	
			-	-	14.1	
			4.1		4.1	
			1.9		1.9	
			6.0	-	6.0	
			4.4		4.4	
			4.4	-	4.4	
			10.4	-	24.4	
			3.6		3.6	
			1.5		1.5	
			5.0	-	5.0	
				5.4	5.4	
				1.4	1.4	
				0.8	0.8	
			-	7.5	7.5	
			-	7.5	12.5	
			10.2	-	24.4	
			-	-	12.5	
			5.0	7.5	37.0	
			15.4	7.5		
			0.6	-	0.6	
			-	-	-	
			-	-	-	
			-	0.1	0.1	
			0.6	0.1	0.7	
			10.2	2.5	1.4	
			16.0	7.6	37.7	
					33.9	

**TOTAL OPERATING EXPENDITURE**

**Revenue Cap Allowance<sup>1</sup>**

1. Revenue cap allowance includes network support



1.6 HISTORIC OPEX by expenditure category

2007-08							
\$ million nominal	Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
	Planned	Condition Assessment	Corrective				
<b>Direct Operating and Maintenance</b>							
Field Operations and Maintenance							
Substations							
Labour	2.3	0.6	0.4			3.2	
Non Labour	1.2	0.3	0.2			1.7	
<b>Sub-Totals</b>	3.5	0.9	0.5	-	-	4.9	
Protection and Control							
Labour	-	0.3	0.4			0.7	
Non Labour	-	0.1	0.1			0.2	
<b>Sub-Totals</b>	-	0.4	0.5	-	-	1.0	
Communications							
Operational Communications	2.4	-	-			2.4	
<b>Sub-Totals</b>	2.4	-	-	-	-	2.4	
Transmission Lines							
Labour	2.5	0.8	0.2			3.5	
Non Labour	1.1	0.4	0.1			1.5	
<b>Sub-Totals</b>	3.6	1.2	0.3	-	-	5.0	
Easements							
Labour	1.1	0.1	-			1.2	
Non Labour	0.7	0.1	-			0.8	
<b>Sub-Totals</b>	1.8	0.2	-	-	-	2.0	
Summary							
Sub-Total Labour	5.9	1.9	0.9	-	-	8.6	
Sub-Total Non Labour	3.0	0.9	0.4	-	-	4.3	
Sub-Total Operational Communications	2.4	-	-	-	-	2.4	
Total Field Operations and Maintenance	11.3	2.7	1.3	-	-	15.3	
Transmission Services							
Engineering Services				4.3		4.3	
Works Planning and Coordination				2.1		2.1	
<b>Total Transmission Services</b>	-	-	-	6.4	-	6.4	
Transmission Operations							
Transmission Operations				4.8		4.8	
<b>Total Transmission Operations</b>	-	-	-	4.8	-	4.8	
<b>Total Direct Operating and Maintenance</b>	11.3	2.7	1.3	11.2	-	26.6	
<b>Other Controllable</b>							
Asset Management							
Customer & Asset Management				4.2		4.2	
Regulation & Compliance				3.7		3.7	
<b>Sub-Total Asset Management</b>	-	-	-	7.9	-	7.9	
Corporate							
Business Services					5.8	5.8	
Corporate Governance and Planning					2.3	2.3	
Insurance					0.8	0.8	
<b>Sub-Total Corporate</b>	-	-	-	-	8.9	8.9	
<b>Total Other Controllable</b>	-	-	-	7.9	8.9	16.8	
Summary							
Total Direct Operating and Maintenance	11.3	2.7	1.3	11.2	-	26.6	
Total Other Controllable	-	-	-	7.9	8.9	16.8	
<b>TOTAL CONTROLLABLE OPEX</b>	11.3	2.7	1.3	19.2	8.9	43.4	
Other Operating Expenditure							
Network Support	-	-	-	2.9		2.9	
Equity Raising	-	-	-			-	
Debt Raising	-	-	-			-	
Self-insurance	-	-	-		0.1	0.1	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	-	-	2.9	0.1	3.0	
<b>TOTAL OPERATING EXPENDITURE</b>	11.3	2.7	1.3	22.0	9.0	46.3	
<b>Revenue Cap Allowance<sup>1</sup></b>						34.3	

1. Revenue cap allowance includes network support

1.7 HISTORIC OPEX by expenditure category

\$ million nominal

<b>Direct Operating and Maintenance</b>			
<b>Field Operations and Maintenance</b>			
<b>Substations</b>			
Labour	2.6	0.7	0.4
Non Labour	1.4	0.4	0.2
<b>Sub-Totals</b>	<b>4.0</b>	<b>1.0</b>	<b>0.6</b>
<b>Protection and Control</b>			
Labour	-	0.4	0.4
Non Labour	-	0.1	0.1
<b>Sub-Totals</b>	<b>-</b>	<b>0.5</b>	<b>0.6</b>
<b>Communications</b>			
Operational Communications	3.1	-	-
<b>Sub-Totals</b>	<b>3.1</b>	<b>-</b>	<b>-</b>
<b>Transmission Lines</b>			
Labour	2.1	0.7	0.1
Non Labour	0.9	0.3	0.1
<b>Sub-Totals</b>	<b>3.0</b>	<b>1.0</b>	<b>0.2</b>
<b>Easements</b>			
Labour	1.3	0.1	-
Non Labour	0.8	0.1	-
<b>Sub-Totals</b>	<b>2.1</b>	<b>0.2</b>	<b>-</b>
<b>Summary</b>			
Sub-Total Labour	6.0	1.9	1.0
Sub-Total Non Labour	3.1	0.9	0.4
Sub-Total Operational Communications	3.1	-	-
<b>Total Field Operations and Maintenance</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>
<b>Transmission Services</b>			
Engineering Services			
Works Planning and Coordination			
<b>Total Transmission Services</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Transmission Operations</b>			
Transmission Operations			
<b>Total Transmission Operations</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Direct Operating and Maintenance</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>
<b>Other Controllable</b>			
<b>Asset Management</b>			
Customer & Asset Management			
Regulation & Compliance			
<b>Sub-Total Asset Management</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Corporate</b>			
Business Services			
Corporate Governance and Planning			
Insurance			
<b>Sub-Total Corporate</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Summary</b>			
Total Direct Operating and Maintenance	12.2	2.7	1.4
Total Other Controllable	-	-	-
<b>TOTAL CONTROLLABLE OPEX</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>
<b>Other Operating Expenditure</b>			
Network Support	-	-	-
Equity Raising	-	-	-
Debt Raising	-	-	-
Self-insurance	-	-	1.0
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL OPERATING EXPENDITURE</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>
<b>Revenue Cap Allowance<sup>1</sup></b>			

2008-09						
Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
Planned	Condition Assessment	Corrective				
Labour	2.6	0.7	0.4		3.7	
Non Labour	1.4	0.4	0.2		2.0	
<b>Sub-Totals</b>	<b>4.0</b>	<b>1.0</b>	<b>0.6</b>	<b>-</b>	<b>5.7</b>	
Labour	-	0.4	0.4		0.8	
Non Labour	-	0.1	0.1		0.3	
<b>Sub-Totals</b>	<b>-</b>	<b>0.5</b>	<b>0.6</b>	<b>-</b>	<b>1.1</b>	
Operational Communications	3.1	-	-		3.1	
<b>Sub-Totals</b>	<b>3.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.1</b>	
Labour	2.1	0.7	0.1		2.9	
Non Labour	0.9	0.3	0.1		1.2	
<b>Sub-Totals</b>	<b>3.0</b>	<b>1.0</b>	<b>0.2</b>	<b>-</b>	<b>4.2</b>	
Labour	1.3	0.1	-		1.4	
Non Labour	0.8	0.1	-		0.9	
<b>Sub-Totals</b>	<b>2.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>2.4</b>	
Sub-Total Labour	6.0	1.9	1.0	-	8.7	
Sub-Total Non Labour	3.1	0.9	0.4	-	4.4	
Sub-Total Operational Communications	3.1	-	-	-	3.1	
<b>Total Field Operations and Maintenance</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>	<b>-</b>	<b>16.3</b>	
Engineering Services				4.8	4.8	
Works Planning and Coordination				2.5	2.5	
<b>Total Transmission Services</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7.4</b>	<b>7.4</b>	
Transmission Operations				4.9	4.9	
<b>Total Transmission Operations</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.9</b>	<b>4.9</b>	
<b>Total Direct Operating and Maintenance</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>	<b>12.3</b>	<b>28.6</b>	
Customer & Asset Management				5.5	5.5	
Regulation & Compliance				2.7	2.7	
<b>Sub-Total Asset Management</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.2</b>	<b>8.2</b>	
Business Services					6.4	
Corporate Governance and Planning					2.2	
Insurance					0.9	
<b>Sub-Total Corporate</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9.5</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.2</b>	<b>17.7</b>	
Total Direct Operating and Maintenance	12.2	2.7	1.4	12.3	28.6	
Total Other Controllable	-	-	-	8.2	17.7	
<b>TOTAL CONTROLLABLE OPEX</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>	<b>20.5</b>	<b>46.3</b>	
Network Support	-	-	-	3.6	3.6	
Equity Raising	-	-	-	-	-	
Debt Raising	-	-	-	-	-	
Self-insurance	-	-	-	-	1.0	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.6</b>	<b>4.6</b>	
<b>TOTAL OPERATING EXPENDITURE</b>	<b>12.2</b>	<b>2.7</b>	<b>1.4</b>	<b>24.1</b>	<b>50.9</b>	
<b>Revenue Cap Allowance<sup>1</sup></b>					<b>35.8</b>	

1. Revenue cap allowance includes network support

2.1 FORECAST OPEX by expenditure category

\$ million 2008-09

	Financial Year					Total	Revenue Cap Allowance	Key cost drivers and explanation for material differences over time
	2009-10	2010-11	2011-12	2012-13	2013-14			
<b>Direct Operating and Maintenance</b>								
<b>Field Operations and Maintenance</b>								
<b>Substations</b>								
Labour	3.7	4.1	4.3	4.2	4.3	20.5		
Non Labour	2.0	2.2	2.3	2.3	2.3	11.0		
<b>Sub-Totals</b>	5.7	6.3	6.5	6.4	6.6	31.5		Relatively stable, general growth associated with labour cost escalation
<b>Protection and Control</b>								
Labour	0.8	0.8	0.9	0.9	1.0	4.5		
Non Labour	0.3	0.3	0.3	0.3	0.3	1.5		
<b>Sub-Totals</b>	1.1	1.0	1.2	1.3	1.3	5.9		Relatively stable, general growth associated with labour cost escalation
<b>Communications</b>								
Operational Communications	3.4	3.6	3.8	4.1	4.1	19.0		
<b>Sub-Totals</b>	3.4	3.6	3.8	4.1	4.1	19.0		General increase associated with new requirements
<b>Transmission Lines</b>								
Labour	3.0	3.3	3.1	3.3	3.7	16.4		
Non Labour	1.3	1.4	1.3	1.4	1.6	7.0		
<b>Sub-Totals</b>	4.3	4.7	4.4	4.7	5.2	23.4		Cost of transmission line dismantling and general growth associated with labour cost escalation.
<b>Easements</b>								
Labour	1.4	1.4	1.4	1.4	1.5	7.1		
Non Labour	0.9	0.9	0.9	1.0	1.0	4.7		
<b>Sub-Totals</b>	2.3	2.3	2.4	2.4	2.4	11.8		General growth increase associated with labour cost escalation.
<b>Summary</b>								
<b>Sub-Total Labour</b>	8.9	9.6	9.7	9.8	10.4	48.4		Relatively stable, general growth associated with labour cost escalation
<b>Sub-Total Non Labour</b>	4.5	4.8	4.9	4.9	5.2	24.3		
<b>Sub-Total Operational Communications</b>	3.4	3.6	3.8	4.1	4.1	19.0		
<b>Total Field Operations and Maintenance</b>	16.8	18.0	18.4	18.8	19.7	91.7		
<b>Transmission Services</b>								
Engineering Services	5.0	5.3	5.4	5.6	5.7	27.0		Increased cost associated with wage, asset growth and scope changes.
Works Planning and Coordination	2.9	3.0	3.1	3.2	3.2	15.4		Increased cost associated with wage, asset growth and scope changes.
<b>Total Transmission Services</b>	7.9	8.3	8.5	8.8	8.9	42.5		
<b>Transmission Operations</b>								
Transmission Operations	5.2	5.4	5.6	5.8	5.9	27.8		
<b>Total Transmission Operations</b>	5.2	5.4	5.6	5.8	5.9	27.8		Relatively stable, general growth associated with labour cost escalation
<b>Total Direct Operating and Maintenance</b>	29.8	31.8	32.5	33.4	34.5	161.9		
<b>Other Controllable</b>								
<b>Asset Management</b>								
Customer & Asset Management	5.9	6.2	6.3	6.3	6.5	31.1		Increased cost associated with wage, asset growth and scope changes.
Regulation & Compliance	0.8	0.9	2.4	4.2	3.1	11.4		Increased cost associated with wage, asset growth and scope changes.
<b>Sub-Total Asset Management</b>	6.7	7.0	8.7	10.6	9.6	42.6		
<b>Corporate</b>								
Business Services	7.3	7.3	7.3	7.5	7.6	37.1		Increased cost associated with wage, asset growth and scope changes.
Corporate Governance and Planning	1.6	1.7	1.7	1.8	1.8	8.5		Increased cost associated with wage, asset growth and scope changes.
Insurance	1.0	1.1	1.2	1.3	1.4	5.8		Forecast insurance premiums based on actuarial advice.
<b>Sub-Total Corporate</b>	9.9	10.1	10.2	10.5	10.8	51.4		
<b>Total Other Controllable</b>	16.6	17.1	18.9	21.1	20.4	94.0		
<b>Summary</b>								
<b>Total Direct Operating and Maintenance</b>	29.8	31.8	32.5	33.4	34.5	161.9		
<b>Total Other Controllable</b>	16.6	17.1	18.9	21.1	20.4	94.0		
<b>TOTAL CONTROLLABLE OPEX</b>	46.3	48.9	51.4	54.5	54.8	255.9		
<b>Other Operating Expenditure</b>								
Network Support	3.9	2.6	-	-	-	6.6		Estimated network support needs.
Equity Raising	2.3	2.3	2.3	2.3	2.3	11.4		Benchmarked cost.
Debt Raising	0.9	1.0	1.1	1.2	1.2	5.4		Benchmarked cost.
Self-insurance	0.8	0.8	0.8	0.8	0.8	4.0		Forecast self-insurance allowance based on actuarial advice.
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	7.9	6.7	4.2	4.3	4.3	27.4		
<b>TOTAL OPERATING EXPENDITURE</b>	54.2	55.6	55.6	58.7	59.2	283.3		
<b>Revenue Cap Allowance</b>								

2.2 FORECAST OPEX by expenditure category

\$ million 2008-09

	2009-10						
	Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
	Planned	Condition Assessment	Corrective				
<b>Direct Operating and Maintenance</b>							
<b>Field Operations and Maintenance</b>							
<b>Substations</b>							
Labour	2.6	0.7	0.4			3.7	
Non Labour	1.4	0.4	0.2			2.0	
<b>Sub-Totals</b>	4.0	1.0	0.6	-	-	5.7	
<b>Protection and Control</b>							
Labour	-	0.4	0.4			0.8	
Non Labour	-	0.1	0.1			0.3	
<b>Sub-Totals</b>	-	0.5	0.6	-	-	1.1	
<b>Communications</b>							
Operational Communications	3.4					3.4	
<b>Sub-Totals</b>	3.4	-	-	-	-	3.4	
<b>Transmission Lines</b>							
Labour	2.2	0.7	0.2			3.0	
Non Labour	0.9	0.3	0.1			1.3	
<b>Sub-Totals</b>	3.1	1.0	0.2	-	-	4.3	
<b>Easements</b>							
Labour	1.2	0.1	-			1.4	
Non Labour	0.8	0.1	-			0.9	
<b>Sub-Totals</b>	2.1	0.2	-	-	-	2.3	
<b>Summary</b>							
<b>Sub-Total Labour</b>	6.0	1.9	1.0	-	-	8.9	
<b>Sub-Total Non Labour</b>	3.2	0.9	0.4	-	-	4.5	
<b>Sub-Total Operational Communications</b>	3.4	-	-	-	-	3.4	
<b>Total Field Operations and Maintenance</b>	12.5	2.8	1.4	-	-	16.8	
<b>Transmission Services</b>							
Engineering Services				5.0		5.0	
Works Planning and Coordination				2.9		2.9	
<b>Total Transmission Services</b>	-	-	-	7.9	-	7.9	
<b>Transmission Operations</b>							
Transmission Operations				5.2		5.2	
<b>Total Transmission Operations</b>				5.2	-	5.2	
<b>Total Direct Operating and Maintenance</b>	12.5	2.8	1.4	13.0	-	29.8	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management				5.9		5.9	
Regulation & Compliance				0.8		0.8	
<b>Sub-Total Asset Management</b>	-	-	-	6.7	-	6.7	
<b>Corporate</b>							
Business Services				-	7.3	7.3	
Corporate Governance and Planning				-	1.6	1.6	
Insurance				-	1.0	1.0	
<b>Sub-Total Corporate</b>	-	-	-	-	9.9	9.9	
<b>Total Other Controllable</b>	-	-	-	6.7	9.9	16.6	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	12.5	2.8	1.4	13.0	-	29.8	
<b>Total Other Controllable</b>	-	-	-	6.7	9.9	16.6	
<b>TOTAL CONTROLLABLE OPEX</b>	12.5	2.8	1.4	19.7	9.9	46.3	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	3.9	-	3.9	
Equity Raising	-	-	-	-	2.3	2.3	
Debt Raising	-	-	-	-	0.9	0.9	
Self-insurance	-	-	-	-	0.8	0.8	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	-	-	3.9	4.0	7.9	
<b>TOTAL OPERATING EXPENDITURE</b>	12.5	2.8	1.4	23.7	13.8	54.2	
<b>Revenue Cap Allowance</b>							

2.3 FORECAST OPEX by expenditure category

\$ million 2008-09

2010-11							
Field Operations and Maintenance				Network	Non Network	TOTAL	Revenue Cap Allowance
Planned	Condition Assessment	Corrective					
<b>Direct Operating and Maintenance</b>							
Field Operations and Maintenance							
Substations							
	Labour	2.9	0.7	0.5			4.1
	Non Labour	1.6	0.4	0.2			2.2
	<b>Sub-Totals</b>	<b>4.5</b>	<b>1.1</b>	<b>0.7</b>	<b>-</b>	<b>-</b>	<b>6.3</b>
Protection and Control							
	Labour	-	0.4	0.4			0.8
	Non Labour	-	0.1	0.1			0.3
	<b>Sub-Totals</b>	<b>-</b>	<b>0.5</b>	<b>0.6</b>	<b>-</b>	<b>-</b>	<b>1.0</b>
Communications							
	Operational Communications	3.6					3.6
	<b>Sub-Totals</b>	<b>3.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.6</b>
Transmission Lines							
	Labour	2.3	0.8	0.2			3.3
	Non Labour	1.0	0.3	0.1			1.4
	<b>Sub-Totals</b>	<b>3.3</b>	<b>1.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>4.7</b>
Easements							
	Labour	1.3	0.1	-			1.4
	Non Labour	0.8	0.1	-			0.9
	<b>Sub-Totals</b>	<b>2.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.3</b>
<b>Summary</b>							
	<b>Sub-Total Labour</b>	<b>6.5</b>	<b>2.0</b>	<b>1.0</b>	<b>-</b>	<b>-</b>	<b>9.6</b>
	<b>Sub-Total Non Labour</b>	<b>3.4</b>	<b>1.0</b>	<b>0.5</b>	<b>-</b>	<b>-</b>	<b>4.8</b>
	<b>Sub-Total Operational Communications</b>	<b>3.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.6</b>
	<b>Total Field Operations and Maintenance</b>	<b>13.6</b>	<b>3.0</b>	<b>1.5</b>	<b>-</b>	<b>-</b>	<b>18.0</b>
Transmission Services							
	Engineering Services				5.3		5.3
	Works Planning and Coordination				3.0		3.0
	<b>Total Transmission Services</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.3</b>	<b>-</b>	<b>8.3</b>
Transmission Operations							
	Transmission Operations				5.4		5.4
	<b>Total Transmission Operations</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.4</b>	<b>-</b>	<b>5.4</b>
	<b>Total Direct Operating and Maintenance</b>	<b>13.6</b>	<b>3.0</b>	<b>1.5</b>	<b>13.8</b>	<b>-</b>	<b>31.8</b>
<b>Other Controllable</b>							
Asset Management							
	Customer & Asset Management				6.2		6.2
	Regulation & Compliance				0.9		0.9
	<b>Sub-Total Asset Management</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7.0</b>	<b>-</b>	<b>7.0</b>
Corporate							
	Business Services				-	7.3	7.3
	Corporate Governance and Planning				-	1.7	1.7
	Insurance				-	1.1	1.1
	<b>Sub-Total Corporate</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.1</b>	<b>10.1</b>
	<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7.0</b>	<b>10.1</b>	<b>17.1</b>
<b>Summary</b>							
	<b>Total Direct Operating and Maintenance</b>	<b>13.6</b>	<b>3.0</b>	<b>1.5</b>	<b>13.8</b>	<b>-</b>	<b>31.8</b>
	<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7.0</b>	<b>10.1</b>	<b>17.1</b>
	<b>TOTAL CONTROLLABLE OPEX</b>	<b>13.6</b>	<b>3.0</b>	<b>1.5</b>	<b>20.8</b>	<b>10.1</b>	<b>48.9</b>
Other Operating Expenditure							
	Network Support	-	-	-	2.6	-	2.6
	Equity Raising	-	-	-	-	2.3	2.3
	Debt Raising	-	-	-	-	1.0	1.0
	Self-insurance	-	-	-	-	0.8	0.8
	<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.6</b>	<b>4.1</b>	<b>6.7</b>
	<b>TOTAL OPERATING EXPENDITURE</b>	<b>13.6</b>	<b>3.0</b>	<b>1.5</b>	<b>23.4</b>	<b>14.2</b>	<b>55.6</b>
	<b>Revenue Cap Allowance</b>						

2.4 FORECAST OPEX by expenditure category

\$ million 2008-09

2011-12							
Field Operations and Maintenance	Planned	Condition Assessment	Corrective	Network	Non Network	TOTAL	Revenue Cap Allowance
<b>Field Operations and Maintenance</b>							
<b>Substations</b>							
Labour	3.0	0.8	0.5			4.3	
Non Labour	1.6	0.4	0.3			2.3	
<b>Sub-Totals</b>	<b>4.6</b>	<b>1.2</b>	<b>0.7</b>	<b>-</b>	<b>-</b>	<b>6.544</b>	
<b>Protection and Control</b>							
Labour	-	0.4	0.5			0.9	
Non Labour	-	0.1	0.2			0.3	
<b>Sub-Totals</b>	<b>-</b>	<b>0.6</b>	<b>0.7</b>	<b>-</b>	<b>-</b>	<b>1.2</b>	
<b>Communications</b>							
Operational Communications	3.8					3.8	
<b>Sub-Totals</b>	<b>3.8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.8</b>	
<b>Transmission Lines</b>							
Labour	2.2	0.7	0.2			3.1	
Non Labour	0.9	0.3	0.1			1.3	
<b>Sub-Totals</b>	<b>3.1</b>	<b>1.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>4.4</b>	
<b>Easements</b>							
Labour	1.3	0.1	-			1.4	
Non Labour	0.9	0.1	-			0.9	
<b>Sub-Totals</b>	<b>2.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.4</b>	
<b>Summary</b>							
Sub-Total Labour	6.5	2.1	1.1	-	-	9.7	
Sub-Total Non Labour	3.4	1.0	0.5	-	-	4.9	
Sub-Total Operational Communications	3.8	-	-	-	-	3.8	
<b>Total Field Operations and Maintenance</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>-</b>	<b>-</b>	<b>18.4</b>	
<b>Transmission Services</b>							
Engineering Services				5.4		5.4	
Works Planning and Coordination				3.1		3.1	
<b>Total Transmission Services</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.5</b>	<b>-</b>	<b>8.5</b>	
<b>Transmission Operations</b>							
Transmission Operations				5.6		5.6	
<b>Total Transmission Operations</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.6</b>	<b>-</b>	<b>5.6</b>	
<b>Total Direct Operating and Maintenance</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>14.1</b>	<b>-</b>	<b>32.5</b>	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management				6.3		6.3	
Regulation & Compliance				2.4		2.4	
<b>Sub-Total Asset Management</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.7</b>	<b>-</b>	<b>8.7</b>	
<b>Corporate</b>							
Business Services				-	7.3	7.3	
Corporate Governance and Planning				-	1.7	1.7	
Insurance				-	1.2	1.2	
<b>Sub-Total Corporate</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.2</b>	<b>10.2</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.7</b>	<b>10.2</b>	<b>18.9</b>	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>14.1</b>	<b>-</b>	<b>32.5</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.7</b>	<b>10.2</b>	<b>18.9</b>	
<b>TOTAL CONTROLLABLE OPEX</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>22.8</b>	<b>10.2</b>	<b>51.4</b>	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	-	-	-	
Equity Raising	-	-	-	-	2.3	2.3	
Debt Raising	-	-	-	-	1.1	1.1	
Self-insurance	-	-	-	-	0.8	0.8	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.2</b>	<b>4.2</b>	
<b>TOTAL OPERATING EXPENDITURE</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>22.8</b>	<b>14.4</b>	<b>55.6</b>	
<b>Revenue Cap Allowance</b>							

2011-12							
Field Operations and Maintenance	Planned	Condition Assessment	Corrective	Network	Non Network	TOTAL	Revenue Cap Allowance
<b>Field Operations and Maintenance</b>							
<b>Substations</b>							
Labour	3.0	0.8	0.5			4.3	
Non Labour	1.6	0.4	0.3			2.3	
<b>Sub-Totals</b>	<b>4.6</b>	<b>1.2</b>	<b>0.7</b>	<b>-</b>	<b>-</b>	<b>6.544</b>	
<b>Protection and Control</b>							
Labour	-	0.4	0.5			0.9	
Non Labour	-	0.1	0.2			0.3	
<b>Sub-Totals</b>	<b>-</b>	<b>0.6</b>	<b>0.7</b>	<b>-</b>	<b>-</b>	<b>1.2</b>	
<b>Communications</b>							
Operational Communications	3.8					3.8	
<b>Sub-Totals</b>	<b>3.8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.8</b>	
<b>Transmission Lines</b>							
Labour	2.2	0.7	0.2			3.1	
Non Labour	0.9	0.3	0.1			1.3	
<b>Sub-Totals</b>	<b>3.1</b>	<b>1.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>4.4</b>	
<b>Easements</b>							
Labour	1.3	0.1	-			1.4	
Non Labour	0.9	0.1	-			0.9	
<b>Sub-Totals</b>	<b>2.1</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.4</b>	
<b>Summary</b>							
Sub-Total Labour	6.5	2.1	1.1	-	-	9.7	
Sub-Total Non Labour	3.4	1.0	0.5	-	-	4.9	
Sub-Total Operational Communications	3.8	-	-	-	-	3.8	
<b>Total Field Operations and Maintenance</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>-</b>	<b>-</b>	<b>18.4</b>	
<b>Transmission Services</b>							
Engineering Services				5.4		5.4	
Works Planning and Coordination				3.1		3.1	
<b>Total Transmission Services</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.5</b>	<b>-</b>	<b>8.5</b>	
<b>Transmission Operations</b>							
Transmission Operations				5.6		5.6	
<b>Total Transmission Operations</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.6</b>	<b>-</b>	<b>5.6</b>	
<b>Total Direct Operating and Maintenance</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>14.1</b>	<b>-</b>	<b>32.5</b>	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management				6.3		6.3	
Regulation & Compliance				2.4		2.4	
<b>Sub-Total Asset Management</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.7</b>	<b>-</b>	<b>8.7</b>	
<b>Corporate</b>							
Business Services				-	7.3	7.3	
Corporate Governance and Planning				-	1.7	1.7	
Insurance				-	1.2	1.2	
<b>Sub-Total Corporate</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.2</b>	<b>10.2</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.7</b>	<b>10.2</b>	<b>18.9</b>	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>14.1</b>	<b>-</b>	<b>32.5</b>	
<b>Total Other Controllable</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.7</b>	<b>10.2</b>	<b>18.9</b>	
<b>TOTAL CONTROLLABLE OPEX</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>22.8</b>	<b>10.2</b>	<b>51.4</b>	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	-	-	-	
Equity Raising	-	-	-	-	2.3	2.3	
Debt Raising	-	-	-	-	1.1	1.1	
Self-insurance	-	-	-	-	0.8	0.8	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.2</b>	<b>4.2</b>	
<b>TOTAL OPERATING EXPENDITURE</b>	<b>13.7</b>	<b>3.1</b>	<b>1.6</b>	<b>22.8</b>	<b>14.4</b>	<b>55.6</b>	
<b>Revenue Cap Allowance</b>							

## 2.5 FORECAST OPEX by expenditure category

		2012-13						
		Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
		Planned	Condition Assessment	Corrective				
\$ million 2008-09								
<b>Direct Operating and Maintenance</b>								
<b>Field Operations and Maintenance</b>								
<b>Substations</b>								
	Labour	3.0	0.8	0.5			4.2	
	Non Labour	1.6	0.4	0.2			2.3	
	<b>Sub-Totals</b>	4.6	1.2	0.7	-	-	6.4	
<b>Protection and Control</b>								
	Labour	-	0.4	0.5			0.9	
	Non Labour	-	0.1	0.2			0.3	
	<b>Sub-Totals</b>	-	0.6	0.7	-	-	1.3	
<b>Communications</b>								
	Operational Communications	4.1					4.1	
	<b>Sub-Totals</b>	4.1	-	-	-	-	4.1	
<b>Transmission Lines</b>								
	Labour	2.3	0.8	0.2			3.3	
	Non Labour	1.0	0.3	0.1			1.4	
	<b>Sub-Totals</b>	3.3	1.1	0.2	-	-	4.7	
<b>Easements</b>								
	Labour	1.3	0.1	-			1.4	
	Non Labour	0.9	0.1	-			1.0	
	<b>Sub-Totals</b>	2.2	0.2	-	-	-	2.4	
<b>Summary</b>								
	<b>Sub-Total Labour</b>	6.6	2.1	1.1	-	-	9.8	
	<b>Sub-Total Non Labour</b>	3.5	1.0	0.5	-	-	4.9	
	<b>Sub-Total Operational Communications</b>	4.1	-	-	-	-	4.1	
	<b>Total Field Operations and Maintenance</b>	14.1	3.1	1.6	-	-	18.8	
<b>Transmission Services</b>								
	Engineering Services				5.6		5.6	
	Works Planning and Coordination				3.2		3.2	
	<b>Total Transmission Services</b>	-	-	-	8.8	-	8.8	
<b>Transmission Operations</b>								
	Transmission Operations				5.8		5.8	
	<b>Total Transmission Operations</b>				5.8	-	5.8	
	<b>Total Direct Operating and Maintenance</b>	14.1	3.1	1.6	14.5	-	33.4	
<b>Other Controllable</b>								
<b>Asset Management</b>								
	Customer & Asset Management				6.3		6.3	
	Regulation & Compliance				4.2		4.2	
	<b>Sub-Total Asset Management</b>	-	-	-	10.6	-	10.6	
<b>Corporate</b>								
	Business Services				-	7.5	7.5	
	Corporate Governance and Planning				-	1.8	1.8	
	Insurance				-	1.3	1.3	
	<b>Sub-Total Corporate</b>	-	-	-	-	10.5	10.5	
	<b>Total Other Controllable</b>	-	-	-	10.6	10.5	21.1	
<b>Summary</b>								
	<b>Total Direct Operating and Maintenance</b>	14.1	3.1	1.6	14.5	-	33.4	
	<b>Total Other Controllable</b>	-	-	-	10.6	10.5	21.1	
	<b>TOTAL CONTROLLABLE OPEX</b>	14.1	3.1	1.6	25.1	10.5	54.5	
<b>Other Operating Expenditure</b>								
	Network Support	-	-	-	-	-	-	
	Equity Raising	-	-	-	-	2.3	2.3	
	Debt Raising	-	-	-	-	1.2	1.2	
	Self-insurance	-	-	-	-	0.8	0.8	
	<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	-	-	-	4.3	4.3	
	<b>TOTAL OPERATING EXPENDITURE</b>	14.1	3.1	1.6	25.1	14.8	58.7	
	<b>Revenue Cap Allowance</b>							

2.6 FORECAST OPEX by expenditure category

\$ million 2008-09	2013-14						
	Field Operations and Maintenance			Network	Non Network	TOTAL	Revenue Cap Allowance
	Planned	Condition Assessment	Corrective				
<b>Direct Operating and Maintenance</b>							
<b>Field Operations &amp; Maintenance</b>							
<b>Substations</b>							
Labour	3.0	0.8	0.5			4.3	
Non Labour	1.6	0.4	0.3			2.3	
<b>Sub-Totals</b>	4.7	1.2	0.7	-	-	6.6	
<b>Protection and Control</b>							
Labour	-	0.5	0.5			1.0	
Non Labour	-	0.2	0.2			0.3	
<b>Sub-Totals</b>	-	0.6	0.7	-	-	1.3	
<b>Communications</b>							
Operational Communications	4.1					4.1	
<b>Sub-Totals</b>	4.1	-	-	-	-	4.1	
<b>Transmission Lines</b>							
Labour	2.6	0.9	0.2			3.7	
Non Labour	1.1	0.4	0.1			1.6	
<b>Sub-Totals</b>	3.7	1.3	0.3	-	-	5.2	
<b>Easements</b>							
Labour	1.3	0.1	-			1.5	
Non Labour	0.9	0.1	-			1.0	
<b>Sub-Totals</b>	2.2	0.2	-	-	-	2.4	
<b>Summary</b>							
<b>Sub-Total Labour</b>	7.0	2.3	1.2	-	-	10.4	
<b>Sub-Total Non Labour</b>	3.6	1.0	0.5	-	-	5.2	
<b>Sub-Total Operating Communications</b>	4.1	-	-	-	-	4.1	
<b>Total Field Operations and Maintenance</b>	14.7	3.3	1.7	-	-	19.7	
<b>Transmission Services</b>							
Engineering Services				5.7		5.7	
Works Planning and Coordination				3.2		3.2	
<b>Total Transmission Services</b>	-	-	-	8.9	-	8.9	
<b>Transmission Operations</b>							
Transmission Operations				5.9		5.9	
<b>Total Transmission Operations</b>				5.9	-	5.9	
<b>Total Direct Operating and Maintenance</b>	14.7	3.3	1.7	14.8	-	34.5	
<b>Other Controllable</b>							
<b>Asset Management</b>							
Customer & Asset Management				6.5		6.5	
Regulation & Compliance				3.1		3.1	
<b>Sub-Total Asset Management</b>	-	-	-	9.6	-	9.6	
<b>Corporate</b>							
Business Services				-	7.6	7.6	
Corporate Governance and Planning				-	1.8	1.8	
Insurance				-	1.4	1.4	
<b>Sub-Total Corporate</b>	-	-	-	-	10.8	10.8	
<b>Total Other Controllable</b>	-	-	-	9.6	10.8	20.4	
<b>Summary</b>							
<b>Total Direct Operating and Maintenance</b>	14.7	3.3	1.7	14.8	-	34.5	
<b>Total Other Controllable</b>	-	-	-	9.6	10.8	20.4	
<b>TOTAL CONTROLLABLE OPEX</b>	14.7	3.3	1.7	24.4	10.8	54.8	
<b>Other Operating Expenditure</b>							
Network Support	-	-	-	-	-	-	
Equity Raising	-	-	-	-	2.3	2.3	
Debt Raising	-	-	-	-	1.2	1.2	
Self-insurance	-	-	-	-	0.8	0.8	
<b>TOTAL OTHER OPERATING EXPENDITURE</b>	-	-	-	-	4.3	4.3	
<b>TOTAL OPERATING EXPENDITURE</b>	14.7	3.3	1.7	24.4	15.1	59.2	
<b>Revenue Cap Allowance</b>							



### 3.1 HISTORIC CAPEX by project category

\$ million nominal

Project Category		Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL
<b>NETWORK</b>								
<b>DEVELOPMENT</b>	Augmentation	0.2	3.5	14.7	36.8	3.2	15.0	73.5
	Connection	1.0	0.8	11.4	4.9	0.5	6.3	25.1
	Land and Easements		0.2		3.6	0.1		3.9
<b>RENEWAL</b>	Asset Renewal	19.7	24.9	29.8	45.9	43.7	35.8	199.7
	Physical Security / Compliance	6.6	9.9	7.7	2.4	4.2	14.7	45.5
	Inventory / Spares				0.1	0.2	4.0	4.3
	Operational Support Systems	1.3	2.9	0.9	1.9	3.4	0.1	10.5
<b>NON NETWORK</b>								
<b>BUSINESS IT</b>	Information Technology	0.7	1.5	1.8	0.4	0.5	3.9	8.8
<b>SUPPORT THE BUSINESS</b>	Business Support	0.5	8.5	1.3	0.9	3.7	0.5	15.3
<b>TOTAL FDC</b>		2.0	2.8	4.0	5.8	3.6	5.3	23.5
<b>TOTAL HISTORIC CAPEX</b>		29.9	52.3	67.6	96.8	59.6	80.4	386.6

**3.2 HISTORIC CAPEX by asset class**

\$ million nominal

	Jan to June 2004		2004-05		2005-06		2006-07		2007-08		2008-09		TOTAL	
	Cost	FDC	Cost	FDC	Cost	FDC	Cost	FDC	Cost	FDC	Cost	FDC	Cost	FDC
Transmission Lines & Cables	11.8	0.9	0.8	0.1	6.5	0.5	37.0	2.8	23.3	1.2	3.1	0.2	82.4	5.7
Transmission Substations	2.9	0.2	19.4	1.5	28.8	2.2	29.2	2.2	20.1	1.5	56.3	4.2	156.7	11.8
Protection & Control	0.1	0.0	11.6	0.9	5.2	0.4	8.7	0.7	3.3	0.3	8.5	0.6	37.4	2.8
Refurbishment	11.6	0.9	5.2	0.4	12.0	0.9	2.3	0.2					31.1	2.3
Other - IT	0.5		3.3		5.3		4.3		7.9	0.6	4.5	0.0	25.7	0.6
Other - General	0.7		2.0		1.2		1.0		0.7				5.6	
Other - Building	0.4		7.1		4.7		4.9		0.7	0.1	2.8	0.2	20.6	0.3
Land and Easements							3.6		0.1		0.0	0.0	3.7	0.0
<b>Subtotal</b>	<b>27.9</b>	<b>2.0</b>	<b>49.5</b>	<b>2.8</b>	<b>63.7</b>	<b>4.0</b>	<b>91.0</b>	<b>5.8</b>	<b>56.0</b>	<b>3.6</b>	<b>75.1</b>	<b>5.3</b>	<b>363.1</b>	<b>23.5</b>
<b>TOTAL CAPEX</b>	<b>29.9</b>		<b>52.3</b>		<b>67.6</b>		<b>96.8</b>		<b>59.6</b>		<b>80.4</b>		<b>386.6</b>	

3.3 HISTORIC CAPEX - NETWORK - by project

\$ million nominal

Project ID	Project Description	Commissioning Date	Category^	Yearly expenditure by project (inclusive of FDC)							Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date	
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
CORP	Document and Standards Management System Enhancements	Jun-14	Operational Support System							0.1	0.1	n		0.4 Ongoing
ND0035	Trevallyn Substation redevelopment	Jul-04	Asset Renewal		0.0						0.0	y		2.7 Project commissioned prior to current revenue period.
ND0036	Mowbray Substation construction	May-06	Augmentation			8.0	2.2				10.3	y		11.1 land acquired prior to current regulatory control period
ND0037	Hadspen-Trevallyn 110kV Transmission lines	Jul-04	Asset Renewal		0.0						0.0	n		0.0 Project commissioned prior to current revenue period.
ND0073	Access Track Trans line - South	Jul-04	Asset Renewal		0.0						0.0	y		0.4 Project commissioned prior to current revenue period - post commissioning spend
ND0080	Fire Hydrant Upgrades	Jul-04	Operational Support System		0.0						0.0	n		0.0 Project commissioned prior to current revenue period - some ongoing spend in current revenue period
ND0099	Substation Operational Earthing system Upgrade	Jul-04	Asset Renewal	0.1	0.0						0.1	y		0.9 Project commissioned in prior revenue period - post commissioning
ND0134	DC Supply assessment and installation	Jul-04	Asset Renewal		0.0						0.0	n		0.0 Project commissioning in prior revenue period
ND0144	Risdon Major Industrial Project	Mar-06	Connection			0.6		0.0			0.7	y		18.4 Project commenced and commissioned prior to the current revenue period
ND0165	DC System Standard Documents & Drawings & Equipment	Apr-05	Operational Support System		0.0			0.0			0.1	y		0.1 Ongoing
ND0170	Power System Protection program	Jul-04	Asset Renewal		0.0						0.0	y		3.0 Commissioning in prior revenue period
ND0198	Chapel Street Substation: circuit breaker replacements	Jul-04	Asset Renewal		0.1						0.1	y		2.0 Commissioning in prior revenue period
ND0217	George Town Substation- replace B452 and C452 circuit breakers	Jul-04	Asset Renewal		0.0						0.0	n		0.0 Commissioning in prior revenue period
ND0230	Ulverstone Substation - Oil containment	Jul-04	Physical Security / Compliance		0.0						0.0	y		0.2 Commissioning in prior revenue period
ND0240	George Town Substation - CT Replacement A196	Jul-04	Asset Renewal		0.0						0.0	y		0.1 Commissioning in prior revenue period
ND0241	Creek Road Substation- Voltage transformer replacements	Jul-04	Asset Renewal		0.1						0.1	y		0.3 Commissioning in prior revenue period
ND0252	George Town Substation - Post Insulator Replacement	Jul-04	Asset Renewal		0.0						0.0	y		0.2 Commissioning in prior revenue period
ND0266	George Town Substation: circuit breaker replacement	Jul-04	Asset Renewal		0.0						0.0	n		0.0 Commissioning in prior revenue period
ND0273	Sorell Substation 22kV indoor Switchgear / Protection / Control & Metering	Jul-04	Asset Renewal	0.5	0.0						0.5	y		0.5
ND0289	Chapel Street Substation - Voltage transformer Replacements C797 and D797	Jul-04	Asset Renewal	0.3	0.0						0.3	y		0.3
ND0303 - NOCS	NOCS hard drives	Aug-05	Operational Support System			0.0					0.0	y		0.0 Commissioning in prior revenue period
ND0306	Substandard Clearances program		Asset Renewal	3.7	0.4	0.4					4.5	y		26.9 Ongoing program of work that commenced prior to the current revenue period. Approved amount \$25m of which \$20m has been commissioned prior to the current regulatory period
ND0310	Creek Road Substation: 33 kV Connection Supply	Jul-04	Connection		0.0						0.0	y		8.9 Project commenced and commissioned prior to the current revenue period
ND0313	Chapel Street Substation: circuit breaker replacements and protection upgrade	Jul-04	Asset Renewal		0.0						0.0	y		1.1 Commissioning in prior revenue period
ND0314	Sheffield Substation: B152 circuit breaker replacement	Jul-04	Asset Renewal		0.0						0.0	y		0.4 Commissioning in prior revenue period
ND0321	Lindisfarne Substation: transformer refurbishment ( T2 and T3)	Jul-04	Asset Renewal		0.0						0.0	y		0.5 Commissioning in prior revenue period
ND0325	Norwood Substation: Oil Containment for transformers T1 and T2	Jul-04	Physical Security / Compliance		0.0						0.0	y		0.3 Commissioning in prior revenue period

\$ million nominal

Project ID	Project Description	Commissioning Date	Category^	Yearly expenditure by project (inclusive of FDC)							Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date	
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
ND0326	Burnie Substation - 22 kV switchgear replacement	Mar-04	Asset Renewal	3.3	0.0			0.0			3.3	y	3.6	
ND0327	Queenstown Substation HV switchgear and protection	Nov-04	Asset Renewal		4.4		0.1	0.0			4.6	y	4.7	
ND0328	Queenstown Substation: T2 transformer replacement	Jul-04	Asset Renewal		0.0			0.0			0.0	y	1.0	Commissioning in prior revenue period
ND0329	Smithton Substation redevelopment	Nov-04 May-05 Jun-06	Asset Renewal		1.5		0.1	0.0			1.6	y	11.1	Commissioning in prior revenue period
ND0330	Sheffield 220 kV Substation: S752 circuit breaker Replacement S752	Jul-04	Asset Renewal		0.1						0.1	y	0.4	Commissioning in prior revenue period
ND0331	Sheffield 220 kV Substation: C152 circuit breaker replacement	Jul-04	Asset Renewal	0.5	0.1						0.5	y	0.8	Commissioning in prior revenue period
ND0332	Sheffield 220 kV Substation: D152 circuit breaker replacement	Jul-04	Asset Renewal		0.0						0.0	y	0.4	Commissioning in prior revenue period
ND0333	Sheffield Substation: E152 circuit breaker replacement	Jul-04	Asset Renewal		0.1						0.1	y	0.4	Commissioning in prior revenue period
ND0334	Liapootah Substation: Post Insulator Replacement	Jul-04	Asset Renewal		-0.1						-0.1	y	0.2	Commissioning in prior revenue period, negative commissioning dollars in period due to adjustment for accruals
ND0335	Chapel St Substation: replacement of post Insulator	Jul-04	Asset Renewal		0.0						0.0	y	0.1	Commissioning in prior revenue period
ND0338	Kingston and Raiton Substations: Inter Company Metering	Jul-04	Asset Renewal		0.1			0.0			0.1	y	0.2	Commissioning in prior revenue period
ND0339	Norwood Substation: Transformer midlife Refurbishment (T4 & T5 )	Jul-04	Asset Renewal		0.0						0.0	y	0.3	Commissioning in prior revenue period
ND0341	Burnie Substation: C797 and D797 voltage transformer replacements	Jul-04	Asset Renewal		0.1			0.1			0.2	y	0.2	Commissioning in prior revenue period
ND0352	Waddamana - Lindisfarne Protection Upgrade	Dec-05	Asset Renewal			0.2					0.2	y	0.3	
ND0353	Gordon Substation: Special Protection Scheme	Jul-04	Asset Renewal		0.0						0.0	y	0.5	Commissioning in prior revenue period
ND0354	Disconnectors and earth switch	Dec-04	Asset Renewal		0.1						0.1		0.1	
ND0354	Documentation & updating substation drawings into AutoCad	Jul-04	Operational Support System		0.0						0.0	y	0.0	Commissioning in prior revenue period
ND0356	Integrated Data Monitors - George Town, Farrell, Liapootah and Creek Road Substations	Jul-04	Asset Renewal		0.0						0.0	y	0.5	Commissioning in prior revenue period
ND0358	Transline General Program	2008-09	Asset Renewal	3.8	1.8	1.2	1.7	0.8			9.3	y	7.8	Exp prior revenue period and ongoing expenditure in current period.
ND0361	Bridgewater Substation: upgrade of protection and control systems on the Bridgewater - Risdon transmission circuit	Feb-04	Asset Renewal	0.3							0.3	y	0.3	
ND0362	Chapel Street Substation: upgrade of protection and control systems on the Chapel street - Risdon transmission circuit	Mar-04	Asset Renewal	0.2				0.0			0.3	y	0.3	Commissioning in prior revenue period
ND0368	Norwood Substation: Surge Diverter replacement on Transformers (T1, T2, T3, T5)	Jul-04	Asset Renewal		0.0						0.0	y	0.2	Commissioning in prior revenue period
ND0375	A network operation and control system (NOCS)	Jul-04	Operational Support System		0.0						0.0	y	8.3	Commissioning in prior revenue period
ND0381	Plant Restricted Outage management system (PROMS) project: Phase 1, Phase 2, Phase 3	Apr-05	Operational Support System		0.2			0.0			0.2	y	0.4	Commissioning in prior revenue period
ND0388	Redevelopment of Waddamana Substation	Jun-04, Jun-05, Jun-06	Asset Renewal	4.7	0.5	0.1	0.1	0.0			5.5	y	5.2	

\$ million nominal

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				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
ND0389	Asset Management Information System (AMIS) Program	2008-09	Operational Support System		1.2	0.1					1.3	y	1.1	
ND0390	Installation of supervisory control and data acquisition (SCADA) at Boyer Substation	Jul-04	Operational Support System	0.8	0.1			0.0			0.9	y	1.0	
ND0391	George Town Substation: T5 Transformer replacement	Jul-04	Asset Renewal		0.1						0.1	y	2.2	Commissioning in prior revenue period
ND0392	Chapel Street Substation: upgrade of protection & control systems on 110kV Bus Coupler B752 Circuit	Jul-04	Asset Renewal	0.2	0.0						0.2	y	0.2	
ND0395	George Town & TEMCO Substations: replace Protection & Control systems	Jun-05	Asset Renewal		2.8			0.0			2.8	y	2.8	
ND0396	Bridgewater Substation: Replacement of Security Fence	Jul-04	Physical Security / Compliance		0.0			0.0			0.1	y	0.3	Commissioning in prior revenue period
ND0397	Devonport Substation: replacement of Security Fence	Jul-04	Physical Security / Compliance		0.0						0.0	y	0.2	Commissioning in prior revenue period
ND0398	Ulverstone Substation: replacement of Security Fence	Jul-04	Physical Security / Compliance		0.0						0.0	y	0.0	Commissioning in prior revenue period
ND0400	Sheffield Substation: replacement of Security Fence	Jul-04	Physical Security / Compliance	0.5	0.0						0.5	y	0.5	
ND0401	Derby Substation: replacement of Security Fence	Mar-05	Physical Security / Compliance		0.3						0.3	y	0.3	
ND0414	Tungatinah Substation: replacement of B752, D752, F752 circuit breakers	Jul-04	Asset Renewal		0.0						0.0	y	0.5	Project commissioned prior to current revenue period.
ND0415	Chapel Street Substation: replacement of Security Fence	Sep-03	Physical Security / Compliance		0.1						0.1	y	0.5	Project commissioned prior to current revenue period.
ND0416	Miscellaneous Protection & Control Upgrades at Substations	Jul-04	Asset Renewal		0.0						0.0	y	0.1	Project commissioned prior to current revenue period.
ND0418	George Town Substation: replacement of Security Fence	Jul-04	Physical Security / Compliance	0.4	0.0						0.4	y	0.4	
ND0419	Palmerston Substation: replacement of Security Fence	Jan-04	Physical Security / Compliance	0.7							0.7	y	0.7	
ND0420	Operational Diagrams for all Substation Sites	Jul-04	Operational Support System		0.0						0.0	y	0.1	Project commissioned prior to current revenue period.
ND0422	Tungatinah Substation: replacement of D797 voltage transformer	Jul-04	Asset Renewal		0.0						0.0	y	0.1	Project commissioned prior to current revenue period.
ND0424	Installation of Safety Flags on Earth Switches at Transend Substations	Jul-04	Physical Security / Compliance		0.0						0.0	y	0.0	Project commissioned prior to current revenue period.
ND0427	Wesley Vale Substation: Oil Containment & Blast Wall System		Physical Security / Compliance		0.0						0.0	y	0.3	Project commissioned prior to current revenue period.
ND0428	Smithton 2nd transmission circuit and OPGW	Jun-03, Apr-04	Augmentation		0.1		0.1				0.2	y	6.8	Project commissioned prior to current revenue period.
ND0429	Liapootah-Palmerston and Waddamana-Palmerston transmission lines upgrade	Jun-04	Physical Security / Compliance	4.3	0.4			0.0			4.7	y	6.0	Project commissioned prior to current revenue period.
ND0430	Chapel Street Substation: Reactive Support	Jan-04	Augmentation	0.0	0.0			0.0			0.1	y	3.4	Project commissioned prior to current revenue period.
ND0431	National Electricity Market (NEM) Entry with Aurora	Apr-05	Connection	0.8	0.4		0.4	0.0			1.6	y	2.2	Project commenced prior to the current revenue period

\$ million nominal

Project ID	Project Description	Commissioning Date	Category^	Yearly expenditure by project (inclusive of FDC)							Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date		
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL					
ND0432	Waddamana-Bridgewater 110 kV transmission line upgrade	Aug-06	Physical Security / Compliance			4.8	0.3					5.1	y	5.1	
ND0433	Tungatinah - Lake Echo-Waddamana 110 kV transmission lines upgrade	May-06	Physical Security / Compliance			3.0	0.1	0.1				3.2	y	5.3	
ND0436	Sheffield Substation 220 kV security upgrade	Jun-09	Augmentation							3.2		3.2	y	11.3	Delay in commissioning due to outage constraints by Hydro.
ND0437, ND0827	Substation security upgrade	Jun-10	Physical Security / Compliance					3.6		13.6		17.2	y	29.0	Program of work carries over into next regulatory period
ND0438	Burnie Substation: Capacitor bank installation	Jun-05	Augmentation		1.6			0.0				1.6	y	1.7	
ND0441	Liapootah Switchyard: replacement of current transformer and disconnectors and associated works for F Bay	Jul-04	Asset Renewal		0.0							0.0	y	0.3	Project commissioned prior to revenue period
ND0443	Liapootah Switchyard: replacement of current transformer and disconnectors and associated works for G Bay	Jul-04	Asset Renewal		0.0							0.0	y	0.3	Project commissioned prior to revenue period
ND0450, ND0473	Gordon Substation: Oil Containment T6	Jan-05	Physical Security / Compliance		0.3							0.3	y	0.4	
ND0450, ND0474	Tungatinah Substation: provision of oil containment and blast wall facilities	Jul-04	Physical Security / Compliance	0.6	-0.2							0.4	y	0.4	
ND0452	Creek Rd Substation: 33 kV Feeder Cutovers	Apr-04	Connection	0.2	0.0			0.0				0.3	y	0.3	Project commissioned prior to revenue period
ND0459	Emu Bay 110kv Substation: replacement post insulators	Jul-04	Asset Renewal		0.0							0.0	y	0.4	Project commissioned prior to revenue period
ND0460	Burnie 110kv Substation: replacement post insulators	Jul-04	Asset Renewal		0.0							0.0	y	0.3	Project commissioned prior to revenue period
ND0461	Wesley Vale 110kV String Insulators	Dec-04	Asset Renewal		0.2							0.2	y	0.1	Project commissioned prior to revenue period, accrual adjustment
ND0471	Queenstown 110kV Substation: Post Insulator replacement	Feb-05	Asset Renewal		0.2			0.1				0.3	y	0.4	Project commenced prior to the current revenue period
ND0475	Derby Substation redevelopment	May-06	Asset Renewal				1.8					1.8	y	2.0	
ND0476	Devonport Substation: voltage transformer replacement	Jul-04	Asset Renewal		0.0							0.0	y	0.2	Project commissioned prior to current Revenue period
ND0477	George Town 110kV Substation: Voltage transformer replacement	Jul-04	Asset Renewal	0.2	0.0							0.2	y	0.2	
ND0479	Derwent Bridge Substation: A496 current transformer replacement	Jul-04	Asset Renewal		0.0							0.0	y	0.1	Project commissioned prior to current Revenue period
ND0481	Scottsdale Substation Upgrade	May-06	Asset Renewal				4.8					4.8	y	5.1	
ND0483	Southern substations climate control	Jul-05	Asset Renewal		0.0							0.0	y	0.1	Project commenced prior to the current revenue period
ND0484	Derwent Bridge Substation: Replacement of T1 bushings	Jul-04	Asset Renewal		0.0							0.0	y	0.0	Project commenced prior to the current revenue period
ND0485	Replacement of 125 volt DC supply Trevallyn Substation	Jul-04	Asset Renewal		0.1							0.1	y	0.1	Project commenced prior to the current revenue period
ND0486	Farrell Substation: relocate Mitsubishi Compressors	Jul-04	Asset Renewal	0.1	-0.0							0.1	y	0.0	Cost of equipment underestimated. Also accrual adjustment in 2004-05
ND0492	Northern Substations: Install Climate Control	Jul-04	Asset Renewal		0.0							0.0	y	0.1	Project commenced prior to the current revenue period

\$ million nominal

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				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
ND0493	Statewide: Installation of hand driers	Jul-04	Asset Renewal		0.0						0.0	y	0.0	Project commenced prior to the current revenue period
ND0494	Provision of trailing earth leads in Transend substations	Jul-04	Asset Renewal		0.1						0.1	y	0.1	
ND0495	George Town, Palmerston and Sheffield Substations: Modifications to 220 kV bus zone	Jul-04	Asset Renewal		0.1						0.1	y	0.1	Project commissioning in prior revenue period
ND0496	Palmerston, Devonport, Rosebery Substation: Gantry Crane Upgrade	Nov-04	Asset Renewal		0.1						0.1	y	0.1	
ND0499	Palmerston Substation: replacement of the protection on the Poatina - Palmerston 110 kV transmission lines	Aug-04	Asset Renewal		0.6						0.6	y	0.6	
ND0499	Palmerston Substation: Poatina - Palmerston No 6 220 kV transmission line protection and control system replacement	Jul-05	Asset Renewal			0.4					0.4	y	0.4	
ND0501	Sheffield 110 kV Substation: replacement A552 circuit breaker	Dec-04	Asset Renewal		0.3			0.2			0.5	y	0.5	Project commissioning in prior revenue period
ND0502	Sheffield 110 kV Substation: replacement of B752 circuit breaker	Oct-04	Asset Renewal		0.3			0.2			0.5	y	0.5	Project commenced prior to the current revenue period, ongoing program of replacement
ND0503	Que Substation: A152 Circuit breaker replacement	Dec-04	Asset Renewal		0.3						0.3	y	0.3	
ND0505	Norwood Substation redevelopment	May-06	Asset Renewal				2.3	0.1			2.3	y	2.6	
ND0506	Palmerston Substation: 415 Volt metal-clad main switchboard and control room distribution board replacement	Mar-04	Asset Renewal	0.2							0.2	y	0.2	Project commenced prior to current revenue period
ND0508	Triabunna Substation: replacement of earthing Switches A429 & B429	Oct-06	Asset Renewal				0.0				0.0	y	0.0	
ND0509	Que Substation: replace of 110kV A129 Disconnecter A129	Dec-04	Asset Renewal		0.0						0.0	y	0.1	Project commissioning in prior revenue period
ND0511	Establishment of a 33 kV connection point at Risdon Substation	Jan-07	Connection			3.9	2.9	0.3			7.1	y	9.5	Project implementation delayed by 15 months due to Aurora rearranging their distribution schedule which resulted in connection point not being required until Jan 06. Project commenced prior to current RP.
ND0514	Lindisfarne Substation: 33kV switchgear replacement	May-06	Asset Renewal			3.0	0.4	0.0			3.5	y	3.8	
ND0515	Anode Installation Replacement Project	Jun-04	Asset Renewal	0.2							0.2	y	0.2	
ND0516	Provision of operator earth grates	May-05	Physical Security / Compliance	0.2	0.2						0.4	y	0.4	
ND0518	Chapel Street Substation: AC upgrade	Jul-04	Asset Renewal	0.2	0.0						0.2	y	0.2	
ND0519	North East Transmission Line - Norwood-Scottsdale-Derby 110 kV transmission line	Jun-07	Augmentation				30.5	3.0			33.5	y	33.5	
ND0519	Norwood-Scottsdale-Derby 110 kV transmission line - Land procurement	Jun-07	Land & Easements				3.6				3.6	y	3.6	
ND0520	George Town Substation: 415V main switchboard and control room distribution board replacement	Jul-04	Asset Renewal	0.2	0.0						0.2	y	0.2	Project commissioning in prior revenue period
ND0521	George Town Substation: 125 Volt DC System Replacement	Jul-04	Asset Renewal	0.1	0.1						0.2	y	0.2	
ND0522	Tasmanian Wholesale Electricity Market (TWEM) Capital Project	Jun-05	Operational Support System		1.2						1.2	y	3.6	
ND0522	Monitoring ongoing quality of Supply	Nov-04	Operational Support System		0.1			0.7			0.8	y	0.3	Additional expenditure incurred in equipment

\$ million nominal

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				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL					
ND0523	Wholesale Metering	Mar-05	Asset Renewal		1.9						1.9	y		3.8	Savings on equipment costs, commissioning in previous revenue period
ND0524	Palmerston Substation: 125 Volt DC Distribution System	Apr-04	Asset Renewal	0.2							0.2	y		0.3	Project commenced prior to current revenue period
ND0525	Modification of 220kV transmission circuit automatic reclose schemes	Dec-05	Asset Renewal			0.3		0.0			0.3	y		0.3	
ND0526	George Town Substation: upgrade MicroSCADA	Jul-04	Operational Support System	0.1	0.0						0.1	y		0.1	
ND0530	Substation Drawing Upgrade	Jul-04	Operational Support System	0.1	0.0						0.2	y		0.2	
ND0532	Lindisfarne Substation: DC Distribution System Upgrade	Jul-04	Asset Renewal	0.0	0.0						0.0	y		0.1	Project commissioning in prior revenue period,
ND0534	Chapel Street Substation 110 kV disconnector replacements	Apr-04	Asset Renewal	0.3							0.3	y		0.4	Project commenced prior to current revenue period
ND0535	Trevallyn Substation: 22kV protection and Control and; DC rearrangement	Jul-04	Asset Renewal	0.0	0.0						0.0	y		0.0	Project commenced prior to current revenue period
ND0536	Standard for Signal names to NOCS and SCADA	Oct-04	Operational Support System		0.0		0.0	0.0			0.1	y		0.1	Project commenced prior to current revenue period
ND0539	Chapel Street Substation: Upgrade of Remote Terminal Unit (RTU)	Jul-04	Operational Support System		0.0						0.0	y		0.1	
ND0543	Lindisfarne 110 kV Substation redevelopment	Apr-06	Asset Renewal			6.3	0.3				6.7	y		8.1	Completed under existing contract using experienced contractors. - Part of Pack B
ND0545	Sheffield 220 kV Substation: Disconnector & Post Insulator replacements	Mar-07	Asset Renewal		0.0		0.3	0.1			0.4	y		0.4	Project commenced prior to current revenue period
ND0547	Sheffield Substation: replace protection on Sheffield - Devils Gate 110kV Transmission circuit	Mar-05	Asset Renewal		0.2			0.3			0.4	y		0.4	Project commenced prior to current revenue period
ND0548	George Town Substation: Voltage transformer installation on Hadspen-George Town 220kV transmission line	Feb-05	Asset Renewal		0.1			0.2			0.3	y		0.5	Project commenced prior to current revenue period
ND0550	Statewide UFLS installation	Oct-04, Jun-05	Augmentation		1.7		0.9	0.0			2.6	y		3.2	Project commenced prior to current revenue period
ND0551	Liapootah Substation: Switching Upgrade	Apr-05	Asset Renewal		3.1		0.2	0.0			3.4	y		4.1	Project commenced prior to current revenue period
ND0552	Chapel Street Substation: replacement of network transformers	Mar-06	Asset Renewal			3.3		0.7			4.0	y		10.2	Part of ongoing program of work for George Town substation. Part commissioned, project approved prior to current revenue period
ND0553	Wesley Vale Savage River & Port Latta 11kV switchboard replacement	Jul-06	Asset Renewal			9.0	1.4	0.0			10.4	y		10.8	
ND0554	New Norfolk - South transmission line redevelopment	Jun-05	Physical Security / Compliance		7.1			0.1			7.3	y		2.5	Part of ongoing compliance program
ND0555	Electrona Substation: 415 volt AC replacement	Jul-04	Asset Renewal	0.0	0.1						0.2	y		0.2	
ND0558	Electrona Substation: 125 Volt DC replacement	Jul-04	Asset Renewal	0.1	0.1						0.2	y		0.2	
ND0559	Chapel Street Substation: 125 volt DC supply replacement	Jul-04	Asset Renewal	0.1	0.1						0.2	y		0.2	
ND0561	Knights Road Substation: Oil Containment & Blast Wall systems for transformers T1 and T2	Jul-04	Physical Security / Compliance		0.5			0.0			0.5	y		0.5	
ND0562	Kermandie Substation: high voltage switchgear replacement	May-06	Asset Renewal			3.4	0.1	0.0			3.6	y		3.4	



\$ million nominal

Project ID	Project Description	Commissioning Date	Category^	Yearly expenditure by project (inclusive of FDC)							Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date		
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL					
ND0563	Triabunna Substation HV switchgear and 110/22 kV transformer replacement	May-06	Asset Renewal				4.3	0.1				4.4	y	4.5	
ND0564	Palmerston Substation HV switchgear and transformer replacement	Oct-06	Asset Renewal				4.0	0.0				4.1	y	4.5	
ND0565	Palmerston Substation: 5 tonne auxiliary crane	Nov-04	Asset Renewal		0.1							0.1	y	0.1	
ND0569	Sheffield Substation: Q152 Circuit Breaker replacement	Feb-05	Asset Renewal		0.4							0.4	y	0.4	
ND0571	Creek Rd Substation - security fencing & earthing upgrade	Apr-07	Physical Security / Compliance		0.0		0.2					0.2	y	0.2	
ND0572	Devonport 110 kV Substation Redevelopment	May-06	Asset Renewal				13.2	0.0				13.3	y	13.5	
ND0573	Upgrade of the 110kV Creek Rd to Risdon transmission line	Jul-04	Augmentation	0.2	0.1			0.0				0.3	y	0.3	Project commenced prior to current revenue period
ND0576	Creek Road Substation: Additional 33 kV feeder panel	Jan-05	Connection		0.4			0.0				0.4	y	0.4	
ND0578	Chapel Street Substation: replacement G196 current transformer	Jul-04	Asset Renewal		0.1							0.1	y	0.1	
ND0579	New Norfolk 110 kV Substation: capacitor bank replacement	Nov-05	Augmentation			1.6	0.1					1.6	y	1.9	Savings found, used same contractor to complete the work as Burnie
ND0581	Tarraleah - New Norfolk No.1 110 kV transmission line upgrade to 75 degrees	Jun-05	Physical Security / Compliance		1.0		0.2					1.2	y	1.5	
ND0582	Chapel Street Substation: Line voltage transformer installation, protection and control system replacement	Jul-05	Asset Renewal		0.3	0.1						0.4	y	0.5	
ND0583	Chapel Street Substation: Line voltage transformer installation, protection and control system replacement	Feb-06	Asset Renewal			0.4						0.4	y	0.5	
ND0585	Weather station installations for Farrell and Sheffield substations	Dec-04	Asset Renewal		0.2							0.2	y	0.3	
ND0586	Waddamana Ancillary works	Apr-07	Asset Renewal				0.0					0.0	y	0.4	Project commenced prior to current revenue period
ND0588	Hadspen substation: 22kV connection	Apr-07	Connection			6.9	0.9	0.1				7.9	y	8.0	
ND0589	Chapel Street - Risdon: upgrade of 110 kV transmission circuits	Jun-06	Augmentation			5.1	0.9	0.0				6.0	y	5.9	
ND0590	George Town Substation B bus replacement	May-05	Asset Renewal		2.6			1.6	2.0			6.3	y	6.3	
ND0591	New Norfolk Substation: earthing system upgrade	Jul-06	Asset Renewal				0.1					0.1	y	0.1	
ND0592	West Coast and Mersey Forth OPGW project		Asset Renewal			0.1	6.8	0.1				7.0	y	8.9	Part of program of work to install OPGW - ongoing
ND0593	Queenstown Substation: 110 kV protection and control system upgrade	Nov-06	Asset Renewal				0.9	0.0				0.9	y	0.9	
ND0594	Chapel Street Substation: Line Voltage transformer installation	Apr-06	Asset Renewal		0.1	0.3		0.0				0.4	y	0.4	
ND0597	Upgrade of security system - 110kV Bus zone protection Queenstown Substation	Dec-04	Asset Renewal		0.1			0.0				0.1	y	0.3	Project commenced prior to current revenue period

\$ million nominal

Project ID	Project Description	Commissioning Date	Category^	Yearly expenditure by project (inclusive of FDC)							Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date	
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
ND0600	Chapel Street Substation: Voltage transformer replacement	Nov-05	Asset Renewal			0.4		0.0			0.4	y	0.5	
ND0602	George Town - TEMCO 110kV transmission line circuits repositioning and future development	Dec-04	Asset Renewal		0.4						0.4	y	0.4	
ND0603 / ND0531	George Town Substation Network Transformers T1, T2 and T3 replacement	Jun-09	Asset Renewal					5.4		14.8	20.2	y	17.7	
ND0604	Burnie-Port Latta 110 kV transmission line re-conductor	Apr-08	Asset Renewal					17.4			17.4	y	18.0	
ND0606	Palmerston 110kV Switchyard: Conduit Installation	Oct-05	Asset Renewal			0.2					0.2	y	0.2	
ND0607	Palmerston and Sheffield Substation: Sliding Gate Automation	Feb-05	Physical Security / Compliance		0.2						0.2	y	0.2	
ND0609	Scottsdale 110kV Substation: Transformer cable box installation	Oct-05	Asset Renewal				0.1				0.1	y	0.1	
ND0611	Purchase of Land from Kemp & Denning Ltd at Maria St	Dec-04	Land & Easements		0.2			0.1			0.2	y	0.2	Project commenced prior to current revenue period
ND0614	Asset Management Information Phase 2	2008-09	Operational Support System			0.8	0.4	1.4			2.6	y	1.7	Ongoing development of modules - each sub project has a business case that is part of this program of work
ND0618	Avoca, North Hobart, Boyer, Palmerston Substation: Protection & Control Upgrades	Apr-05	Asset Renewal		0.1			0.0			0.1	y	0.1	
ND0619	George Town Substation: System Contingency protection on A752 220kV Bus coupler	Apr-05	Asset Renewal		0.0			0.0			0.1	y	0.1	
ND0620	Operator Training simulator (OTS)	Jul-06	Operational Support System				0.1	0.0			0.1	y	0.1	
ND0621	Sheffield Substation 110 kV redevelopment	Jun-09	Asset Renewal					4.9		2.1	7.0	y	6.8	
ND0625	Gordon Substation: Voltage Transformer replacements	Oct-05	Asset Renewal			0.6		0.0			0.6	y	0.8	
ND0627	Combined Voltage and Current Transformers within WASP	Mar-07	Operational Support System				0.0				0.0	y	0.0	
ND0629	Sheffield Substation: 110 kV capacitor bank and installation of conduits in 110kV switchyard	Feb-07	Augmentation				2.0	0.2			2.2	y	2.3	
ND0630	HV capacitor Bank Installations-Statewide	Jun-09	Augmentation							11.6	11.6	y	10.3	
ND0633	Hadspen Substation: weather station	Jul-06	Asset Renewal				0.1				0.1	y	0.1	
ND0634	Hadspen, Tarraleah & Trevallyn SCADA Upgrades	Sep-06	Operational Support System				0.6	0.0			0.6	y	0.6	
ND0635	Schedule of Planned Operations (SOPO) Tool development	Jun-05	Operational Support System			0.0		0.1			0.1	y	0.1	Development of SOPO tool - Stage 1 complete, Stage 2 yet to be completed
ND0640	Palmerston 220 kV Substation: primary equipment upgrade	Jun-08	Asset Renewal					4.8			4.8	y	8.4	
ND0644	NOCS hardware & software upgrade	Jul-06	Operational Support System				0.5				0.5	y	0.7	

\$ million nominal

Project ID	Project Description	Commissioning Date	Category^	Yearly expenditure by project (inclusive of FDC)							Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date	
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
ND0653	Farrell, Meadowbank and Queenstown substations: security fence replacement	Sep-06	Physical Security / Compliance				1.5	0.1			1.6	y	2.3	Savings found - 'bundled' work for one contractor
ND0655	Liapootah Substation: Bus Bar protection project	May-07	Asset Renewal				1.1	0.3			1.4	y	1.6	Savings found
ND0656	Post Basslink Under frequency load shedding (UFLS )	Jul-06	Operational Support System				0.2				0.2	y	0.4	Savings found
ND0663	WASP Defect Management System Implementation	Feb-07	Operational Support System				0.1				0.1	y	0.1	
ND0667	Sorell Substation: Supply Transformer & Feeder protection upgrade	Dec-06	Connection				0.5	0.0			0.5	y	0.6	Savings found
ND0670	Purchase of SF6 recovery equipment	Dec-06	Inventory / Spares				0.1				0.1	y	0.1	
ND0679 / ND0699	Electrona Substation redevelopment	Jun-09	Asset Renewal							8.4	8.4	y	11.4	
ND0681	Mowbray Substation Stage 2 Development	Jun-09	Connection							6.3	6.3	y	6.6	
ND0687	Foundation Replacement – Tarraleah - New Norfolk and Tarraleah - Meadowbank and Meadowbank - New Norfolk 110	Nov-06	Asset Renewal				0.4	0.1			0.5	y	0.7	Savings found
ND0690	Que Substation: 22kV Circuit Breaker Replacement and Post Insulator Replacement	Sep-06	Asset Renewal				0.2				0.2	y	0.2	
ND0700	Queenstown Substation: transformers T3 and T4 replacements	Jun-09	Asset Renewal							3.4	3.4	y	3.4	
ND0702	Chapel Street Substation: F197 voltage transformer replacement	Jul-06	Asset Renewal				0.1	0.0			0.1	y	0.1	
ND0705	Wesley Vale Substation: Additional 11 kV circuit breaker installation	Nov-06	Connection				0.2				0.2	y	0.3	
ND0708	Additional Works - OPGW West Coast - Mersey Forth	Jan-07	Asset Renewal				0.3				0.3	y	0.3	
ND0715	Boyer Substation Oil Containment	Jun-09	Physical Security / Compliance							0.6	0.6	y	0.6	
ND0717	22kV Fisher feeder modifications for OPGW on Sheffield Fisher Line	Jan-07	Asset Renewal				0.5	0.0			0.5	y	0.5	OPGW program - West coast - Mersey Forth
ND0743	WASP Asset Register Reporting to support SunSystems Asset Register	Aug-07	Operational Support System				0.0				0.0	y	0.1	Part of AMIS Program - underspent
ND0764	Ulverstone Substation 110 kV 110 kV 'A' bay Asset Replacements	Jun-09	Asset Renewal							1.4	1.4	y	1.2	Commissioning 2008-09
ND0765	Secondary equipment store	Jun-09	Inventory / Spares							3.0	3.0	y	2.6	Commissioning 2008-09
ND0791	Derwent Bridge Substation: T1 transformer replacement	Jun-08	Asset Renewal					1.5			1.5	y	1.9	
ND0822	Transmission Line Danger Signs Replacement Program	Jun-10	Physical Security / Compliance							0.5	0.5	y	1.0	Commissioning 2009-10
ND0829	Develop of policies , procedures etc		Operational Support System	0.2	0.1						0.3	n	0.3	
ND0906	Railton Substation AC/DC upgrades	Jun-09	Asset Renewal							0.6	0.6	y	0.6	
ND0922	Substation HMI Replacement Program	Jun-11	Asset Renewal							0.1	0.1	n		Program of work
ND0924	Transmission Line Insulator Assembly Replacement Program	Jun-14	Asset Renewal							1.1	1.1	y	13.1	Insulator replacement program , commissioning 2013-14

\$ million nominal

				Yearly expenditure by project (inclusive of FDC)									
Project ID	Project Description	Commissioning Date	Category^	Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL	Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date
ND0925	Transmission lines: Access Track Refurbishment Program	Jun-15	Asset Renewal						0.5	0.5	n		ongoing management and maintenance of transmission lines
ND0926	Transmission lines: Support Assembly Replacement Program	Jun-15	Asset Renewal						0.3	0.3	y		1.5 Part of asset management plans for Translines - ongoing program
ND0927	Weather Stations Replacement Program	Jun-15	Asset Renewal						0.3	0.3	y		1.3 Part of asset management plan for weather stations - ongoing program
ND0929	Transmission Lines Tower Foundations Refurbishment Program	Jun-15	Asset Renewal						0.6	0.6	y		5.5 Part of asset management plans for Translines - ongoing program
ND0980	George Town Substation: 220 kV Automation of voltage control	Jun-09	Augmentation						0.2	0.2	y		0.2
ND0990	Substation VESDA & Fire Suppression Program	Jun-15	Asset Renewal						0.2	0.2	n		4.5 Program of work
SPARES	General Inventory / Spares	Jun-14	Inventory / Spares					0.2	1.0	1.3	n		1.6 Part of asset management plan for Substations
SUBS	Substation Upgrades, replacements	Jun-09	Asset Renewal					4.6		4.6	n		
TRANS	Transmission Line General Works	Jun-09	Asset Renewal					1.1		1.1	n		3.6 Part of asset management plans for Translines - ongoing program
<b>Subtotal</b>				<b>28.8</b>	<b>42.3</b>	<b>64.6</b>	<b>95.5</b>	<b>55.4</b>	<b>76.0</b>	<b>362.5</b>			

^refers to Categories set out in table 3.1 (e.g. Augmentation etc)

3.4 HISTORIC CAPEX - Non-Network - by project

\$ million nominal

Project ID	Project Description	Commissioning Date	Category*	Yearly expenditure by project (inclusive of FDC)										
				Jan to June 2004	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL				
Corporate Assets IT & Business Applications	Corporate Assets IT & Business Applications	Jun-08 Jun-08	Business Support Information technology					0.6 1.9		0.6 1.9	Minor asset purchases Business systems infrastructure	n n	0.7 2.5	
ND0303 - BLD	Buildings	Apr-07	Business Support			0.0	0.0	0.0		0.1	Facilities infrastructure	n	0.0	
ND0303 - CCN	Corporate Computer Network		Information Technology	0.0		0.0				0.2	Corporate infrastructure	n	0.0	
ND0303 - ECS	Air conditioning upgrade - Hydro Tasmania ECS area	Apr-06	Business Support			0.0				0.0	Facilities infrastructure	y	0.0	
ND0303 - ITS	IT Systems		Information Technology	0.2	0.1	0.0	0.0	0.0		0.3	Information Systems	n	0.3	
ND0303 - MOT	Mobile Phones		Business Support	0.0	0.0	0.0	0.0	0.0		0.1	Corporate infrastructure	n	0.1	
ND0303 - OEQ	Minor Assets - Office Equipment		Business Support	0.1	0.2	0.1	0.0	0.0		0.5	Facilities infrastructure	n	0.5	
ND0303 - OFF	Minor Assets - Office Furniture		Business Support	0.1	0.1	0.2	0.1	0.2		0.6	Facilities infrastructure	n	0.4	
ND0303 - PC	Minor Assets - Personal Computers		Information Technology	0.2	0.2	0.3	0.1			0.7	Information Systems	n	0.7	
ND0303 - PTE	Plant & Equipment		Business Support		0.1	0.1	0.1			0.2	Minor purchases	n	0.2	
ND0303, ND0789	Purchase of Motor Vehicles		Business Support	0.3	0.9	0.8	0.6	0.3	0.5	3.4	Fleet management	n	3.4	
ND0393	Strategic Accommodation South	May-05	Business Support		6.4					6.4	Business operating efficiencies and corporate presence	y	6.7	
ND0439	Creek Rd Building Mods for Hydro	Jul-04	Business Support		0.0					0.0	Facilities infrastructure	n	0.0	Project commissioned prior to revenue period
ND0478	Transend Archive storage facilities	Jul-04	Business Support		0.2			0.0		0.2	Archival storage requirement	y	0.2	Project commenced prior to the current revenue period
ND0527	Install & commission high speed data network	Dec-04	Information Technology		0.1					0.1	Business systems	y	0.1	
ND0528	Installation & Commission of storage area network	Jul-05	Information Technology			0.1				0.1	Business systems	y	0.5	Project commenced prior to current revenue period
ND0537	Implementation of Transend IT Domain	Jul-04	Information Technology	0.1	0.0					0.1	Business systems	y	0.2	Project commenced prior to current revenue period
ND0544	Standard transmission line protection panel	Dec-04	Information Technology		0.4					0.4	Asset condition - spare	y	0.4	
ND0566	Installation and commission of Internet Connection Service	Mar-05	Information Technology	0.0	0.0			0.0		0.0	Business systems infrastructure	y	0.0	Project commenced prior to current revenue period
ND0567	Installation and commission of Local Area Network infrastructure at Creek Road and Bowen road	Jul-04	Information technology	0.1	0.1					0.2	Business systems infrastructure	y	0.2	
ND0570	relocate the WAN infrastructure (Wide area network)	Jul-04	Information technology	0.0	0.0					0.0	Business Systems	y	0.0	
ND0574	Remaining Network Separation links	Jul-04	Information technology		0.0					0.0	Business systems	y	0.0	
ND0577	Intranet Redevelopment	Jul-04	Information technology	0.1	0.0					0.1	IT infrastructure	y	0.1	
ND0587	IT Security, Internet Security Appliance Upgrade	Dec-04, Nov-05	Information technology		0.3	0.3				0.6	Business systems	y	0.6	
ND0595	Accommodation Building LAN Infrastructure	Dec-04	Information technology		0.2					0.2	Business system infrastructure	y	0.3	
ND0596	Expansion of Trevallyn office	Jul-05	Business Support		0.0					0.0	Facilities infrastructure	y	0.0	
ND0598	Trevallyn office & Substation landscaping	Sep-04	Business Support		0.0					0.0	Facilities infrastructure	y	0.0	
ND0608	Additional Civil works Maria street	Dec-04	Business Support		0.2					0.2	Business operating efficiencies and corporate presence	y	0.2	
ND0613	IT Disaster Recovery	May-06	Information technology			0.7				0.7	Mitigate business disruption	y	0.7	
ND0616	Additional landscaping new building	Feb-07	Business Support		0.2	0.1	0.1			0.4	Business operating efficiencies and corporate presence	y	0.4	
ND0617	Operations Building renovations	Feb-05	Business Support		0.1					0.1	Facilities infrastructure	y	0.1	
ND0649	Network Outages Voice Recording and IP Telephony	Oct-06	Information technology				0.1			0.1	Operational systems	y	0.1	
ND0675	IT Infrastructure Capacity Upgrade	Feb-07	Information Technology			0.4	0.3			0.7	Business systems	y	0.7	
ND0718	Emergency Power Supply	Jun-08	Business Support					1.0		1.0	Safety, security and compliance	y	1.3	
ND0900	Corporate IT - Server Systems	Jun-14	Information technology						0.0	0.0	Upgrade server systems	y	1.4	
ND0904	Corporate IT - Security Systems	Jun-14	Information technology						0.4	0.4	IT System security	y	1.1	
ND1003	Corporate IT - Outage Management Systems	Jun-14	Information technology						0.0	0.0	Outage management application	y	0.3	
ND1004	Corporate IT - Custom Applications	Jun-14	Information technology						0.0	0.0	Development contract management system	y	4.6	
ND1006	Corporate IT - Service Management Program	Jun-14	Information technology						0.3	0.3	Develop service management program	y	0.7	
ND1008	Corporate IT - Data Communications	Jun-14	Information technology						2.3	2.3	Data communications	y	4.1	
ND1009	Corporate IT - Power Analysis Systems	Jun-14	Information technology						0.0	0.0	Development of power analysis systems	y	0.3	
ND1010	Corporate IT - Information Management Systems	Jun-14	Information technology						0.1	0.1	Management of information systems	y	1.7	
ND1011	Corporate IT - Package Systems	Jun-14	Information technology						0.1	0.1	Development of compliance system	y	4.0	
ND1023	Corporate IT - Data Storage Systems	Jun-14	Information technology						0.2	0.2	Development of data storage system	y	2.8	
ND1024	Corporate IT - Document Systems & Workstations	Jun-14	Information technology						0.3	0.3	Development of document system	y	2.4	
ND1038	Corporate IT - NEM Metering System	Jun-14	Information technology						0.0	0.0	Development of NEM metering	y	0.4	
<b>Subtotal</b>				1.2	10.0	3.1	1.3	4.2	4.4	24.1				

\*refers to Categories in table 3.1 (e.g Information Technology etc)

#### 4.1 FORECAST CAPEX by project category

\$ million 2008-09

Project Category		2009-10	2010-11	2011-12	2012-13	2013-14	TOTAL
<b>NETWORK</b>							
<b>DEVELOPMENT</b>	Augmentation	85.5	94.3	30.0	16.0	28.0	253.8
	Connection	31.6	35.7	37.7	16.5	1.7	123.2
	Land and Easements	-	0.0	0.0	10.9	10.7	21.6
<b>RENEWAL</b>	Asset Renewal	29.5	41.0	23.6	61.9	66.7	222.7
	Physical Security / Compliance	14.3	2.0	2.5	0.8	0.4	20.0
	Inventory / Spares	9.7	0.4	0.5	0.2	1.0	11.8
	Operational Support Systems	4.6	4.9	3.2	3.7	6.2	22.6
<b>NON NETWORK</b>							
<b>BUSINESS IT</b>	Information Technology	2.7	5.2	3.6	2.4	3.1	17.0
<b>SUPPORT THE BUSINESS</b>	Business Support	3.9	4.2	4.6	4.4	1.0	18.0
<b>TOTAL FORECAST CAPEX</b>		<b>181.8</b>	<b>187.6</b>	<b>105.7</b>	<b>116.9</b>	<b>118.7</b>	<b>710.8</b>

#### 4.2 FORECAST CAPEX by asset class

\$ million 2008-09

	2009-10	2010-11	2011-12	2012-13	2013-14	TOTAL
Transmission line assets - long life (60)	61.9	61.7	17.1	18.6	15.9	175.3
Transmission line assets - medium life (45)	1.2	14.1	9.6	-	-	24.9
Transmission line assets - short life (10)	5.4	5.0	1.3	0.8	0.7	13.2
Substation assets - long life (60)	16.8	18.0	14.4	15.2	16.8	81.1
Substation assets - medium life (45)	48.5	44.8	35.2	39.3	37.0	204.8
Substation assets - short life (15)	11.3	4.1	4.6	5.6	4.1	29.7
Protection and control - short life (15)	20.2	23.7	10.3	15.2	20.1	89.6
Protection and control - short life (4)	0.3	0.1	-	-	-	0.4
Transmission operations - short life (10)	3.5	3.9	2.7	2.6	5.8	18.6
Transmission operations - short life (4)	0.2	0.0	0.1	0.0	0.0	0.4
Other - medium life (40)	7.2	2.9	3.2	2.9	-	16.2
Other - short life (5)	2.8	2.0	2.3	3.1	1.8	11.9
Other - short life (4)	1.8	4.7	2.8	1.8	2.6	13.7
Land	0.8	2.6	2.1	11.7	13.9	31.1
<b>TOTAL CAPEX</b>	<b>181.8</b>	<b>187.6</b>	<b>105.7</b>	<b>116.9</b>	<b>118.7</b>	<b>710.8</b>





Yearly expenditure by project					
2009-10	2010-11	2011-12	2012-13	2013-14	TOTAL
0.6	0.8	1.0	1.5	1.7	5.6
-	-	-	3.3	16.2	19.5
2.5	5.9	-	-	-	8.4
0.8	-	-	-	-	0.8
8.2	9.6	-	-	-	17.8
63.8	56.2	-	-	-	120.0
0.5	-	-	-	-	0.5
-	-	-	-	0.0	0.0
-	-	-	-	0.1	0.1
0.4	0.4	0.1	0.2	0.1	1.1
-	1.1	10.4	5.7	-	17.1
-	0.9	13.5	9.0	-	23.4
<b>Subtotal</b>	<b>175.3</b>	<b>178.3</b>	<b>97.5</b>	<b>110.1</b>	<b>114.6</b>

Project ID	Project Description	Commissioning Date	Category*
ND0929	Transmission Line Tower Foundation Refurbishment Program	2014	Asset Renewal
ND0709	Tungatimah Substation 110kV Redevelopment	2015	Asset Renewal
ND0986	Tungatimah Substation 22kV redevelopment	2011	Asset Renewal
ND0729-8	Ulverstone HV protection upgrade	2010	Connection
ND0575-2	Waddamana - Lindsfarne 220 kV TL 2nd circuit	2011	Augmentation
ND0575	Waddamana - Lindsfarne 220kV Transmission line & Substation	2011	Augmentation
ND0983	Waddamana Substation 110kV Ring Bus Establishment	2010	Augmentation
ND0959	Waddamana Substation Transformer T1 replacement	2016	Asset Renewal
ND0951	Wayatnah Substation 220kV Current Transformer A196 Replacement	2015	Asset Renewal
ND0927	Weather station replacement program	2014	Asset Renewal
ND0730	Wesley Vale Substation new 110/22kV connection point	2013	Connection
ND0749	Wynyard Substation new 110/22kV connection point	2013	Connection

REASON FOR PROJECT	Reg Test / Business Case (Y/N)	Reg Test / Business Case Cost Estimate	Reason for Variance from Cost Estimate / Expected Commissioning Date
Asset condition, safety, security of supply			
Asset condition, safety and reliability, operational efficiency			
Asset Condition and reliability			
Customer Requirements, Reliability			
Security of Supply, Capacity Issues			
Reliability and security of supply			
Asset Condition and reliability			
Asset Condition and reliability			
Compliance, Market benefits (dynamic ratings)			
Customer requirements, demand growth and reliability of supply			
Customer requirements, demand growth and reliability of supply			

\*refers to Categories set out in table 5.1 (e.g Augmentation, Renewal etc)

**4.4 FORECAST CAPEX - Non-Network - by project**

\$ million 2008-09

Project ID	Project Description	Commissioning Date	Category^
ND1040	Chapel Street Control Centre Backup	2012	Business Support
ND1024	Corporate IT - Document Systems & V	2014	Information technology
ND0904	Corporate IT - Security Systems	2014	Information technology
ND1004	Corporate IT - Custom Applications	2014	Information technology
ND1010	Corporate IT - Information Managemer	2014	Information technology
ND1038	Corporate IT - NEM Metering System	2014	Information technology
ND1003	Corporate IT - Outage Management Sy	2014	Information technology
ND1011	Corporate IT - Package Systems	2014	Information technology
ND1009	Corporate IT - Power Analysis System	2014	Information technology
ND0900	Corporate IT - Server Systems	2014	Information technology
ND1006	Corporate IT - Service Management P	2014	Information technology
ND1008	Corporate IT -Data Communications	2014	Information technology
ND1023	Corporate IT- Data Storage Systems	2014	Information technology
ND0763	Maria Street campus - Administration	2011	Business Support
ND0723	Maria Street Control Centre Modernisa	2013	Business Support
ND0789	Motor Vehicles	2014	Business Support
ND0704	Northern Facility Development	2013	Business Support
ND0901	Voice Communications	2013	Business Support

Yearly expenditure by project						TOTAL
2009-10	2010-11	2011-12	2012-13	2013-14		
0.4	2.9	3.1	-	-	6.4	
0.5	0.4	0.4	0.5	0.5	2.3	
0.1	0.0	0.1	0.3	0.2	0.8	
0.0	0.1	0.1	0.0	0.0	0.2	
0.5	0.2	0.5	0.3	0.2	1.7	
0.2	0.0	0.1	0.0	0.0	0.4	
0.0	0.0	0.0	0.1	0.1	0.3	
0.1	3.6	0.1	0.3	0.1	4.2	
0.1	0.0	0.0	0.0	0.1	0.3	
0.4	0.0	0.7	0.1	0.3	1.5	
0.2	0.1	0.1	0.1	0.1	0.4	
0.4	0.1	0.2	0.2	1.2	2.1	
0.2	0.6	1.4	0.3	0.2	2.8	
2.6	0.3	-	-	-	2.9	
-	-	0.3	0.9	-	1.2	
0.9	1.0	1.0	1.0	1.0	5.0	
-	-	0.2	2.0	-	2.2	
-	-	0.0	0.4	-	0.4	
<b>Subtotal</b>	<b>6.6</b>	<b>9.3</b>	<b>8.2</b>	<b>6.8</b>	<b>4.1</b>	<b>35.0</b>

^refers to the categories used in table 4.1 (eg Information Technology etc)

REASON FOR PROJECT	Business Case (Y/N)
Business Needs	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Compliance, Market obligations	
Compliance, Network Planning	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Reliability, functionality, process improvement	
Reliability, Compliance	
Business Needs, Staff Accomodation	
Business Optimisation	
Business Needs	
Business Needs, Staff Accomodation	
Business Optimisation	

## 5.1 Historic and Forecast Opex Commentary proforma: key cost drivers

This pro forma is designed to allow the TNSP to provide context and background for the quantitative opex templates.

The historic opex tables (1.1 - 1.7) provide a column where the key cost drivers for *historic opex* should be briefly listed. This commentary pro forma provides opportunity for more detailed explanations regarding material changes in particular expenses over the relevant regulatory period.

The forecast opex tables (2.1 - 2.7) provide a similar column where the key cost drivers for *forecast opex* should be briefly listed. This commentary pro forma provides the opportunity for more detailed explanations regarding material changes in particular forecast expenses.

The commentary should address the following:

- >The main cost drivers for the particular opex item (eg changes in CPI, legislative and regulatory requirements, environmental factors).
- >Were these increases foreseeable? If not, why not?
- >Details of management induced opex efficiencies achieved.
- >Major opex risks and mitigation strategies.
- >Key Performance Indicators – are these benchmarked against other transmission companies?

In addition, the TNSP is requested to provide:

- >Definitions of ‘opex’ and ‘capex’ used by the business. Further, the TNSP should provide definitions for the categories and activities used in the opex templates. These definitions should be
- >A discussion on the relationship between opex and capex.
- >Details of changes in accounting policies over the past regulatory period and how they may have impacted on opex in general or specific opex items.

### Commentary on cost drivers and material changes over the current regulatory period

Expense item eg. salaries

Expense item

Expense item

### Supporting information

Please list documentation substantiating the reason for change  
(eg. asset management plan/strategy.)

### Commentary on cost drivers and material changes affecting the upcoming regulatory period

Expense item eg. salaries

Expense item

Expense item

### Supporting information

Please list documentation substantiating the reason for change

## 5.2 Historic Capex Commentary Proforma: reasons for variance

This pro forma is designed to allow TNSP's to provide context and background for the quantitative historic capex templates.

Tables 3.3 & 3.4 provide a column where reasons for capex cost variances may be briefly listed. This pro forma provides the opportunity for more detailed reasons to be given for material differences between actual project costs and amounts included in the regulatory test/business case assessment.

The commentary should address the following:

- >The main reasons for the project being undertaken (eg. demand growth)
- >The main reasons for material cost variances for the particular project (eg changes in material costs, legislative and regulatory requirements, environmental factors, technology changes) and whether they were foreseeable.
- >The main reason for any material variance in commissioning date (e.g delays in supply of materials, environmental approvals etc) and whether they were foreseeable.
- >How does the project align with the TNSP's asset management strategy/plan?
- >Reference to the project's assessment in the TNSP's Annual Planning Reports.
- >Details of management induced capex efficiencies which have reduced costs.
- >Major project risks and strategies undertaken to mitigate them.

### **Commentary on reasons for variance**

Project (unique identifying number or name)

Project

Project

### **Supporting information**

Please list documentation in support of reasons

### 5.3 Forecast Capex Commentary Proforma: reasons for project

This pro forma is designed to provide context and background for the quantitative forecast capex templates, by specifying matters that the AER will take into account in assessing the TNSP's proposed expenditure.

Table 4.3 provides a column where reasons for the project can be provided. This pro forma provides the opportunity for more detailed reasons to be given for factors influencing the proposed spend, including load growth, planned generation and the range of foreseeable scenarios and their probabilities of occurring.

The commentary should address the following:

- >The theme sets upon which the proposed capex spend is based
- > The scenarios derived from the above theme sets and their relevant probabilities.
- > Project specific information in addition to the cost information provided in the forward capex templates.

In addition, the TNSP is requested to provide:

- >Details of its capital expenditure and approvals processes.
- >Details of its overall asset management strategy/plan.
- >Relevant Annual Planning Reports.
- >Consultants reports on the probabilistic methodology adopted, its assumptions, inputs and detailed information on the outcomes.

#### **Theme sets and Scenarios modelled**

Scenario

Scenario

Scenario

Scenario

Scenario

#### **Supporting information**

Please list documentation in support of reasons

## 6.1 OPEX - Instructions and definitions

Note: These definitions are a guide only. TNSPs can adapt the definition section as necessary, given consultation with the AER.

<b>PURPOSE OF INFORMATION AND USE BY THE AER:</b>	<p>The historic worksheets (1.1 to 1.7) are a key input into the AER's assessment of a TNSP's historic opex performance to assist it in establishing a starting point from which to set efficient opex for the next regulatory period.</p> <p>The forecast worksheets (2.1 to 2.6) are a key input into the AER's assessment of a TNSP's proposed forecast opex.</p> <p>Key cost drivers for expenditure are important to the AER's understanding of what has happened in the current regulatory period and any step changes in opex claimed for the next regulatory period.</p>
<b>INSTRUCTIONS</b>	<p>Data to be input on the basis of the definitions provided.</p> <p>All expenditure must relate to the provision of prescribed transmission services.</p> <p>Key cost drivers for expenditure: reasons for material changes in costs should be expanded upon in the relevant opex commentary proforma.</p> <p>Templates must be completed in accordance with the instructions contained in the AER's Submission Guidelines and Cost Allocation Guidelines.</p> <p>Values for years 2007-08 and 2008-09 are estimated values only</p> <p>All cells must be filled out where possible, especially in relation to any commentary on variances.</p>
<b>DEFINITIONS</b>	<p><b>Asset management:</b> Includes the functions of operational activities that support the development and ongoing management of transmission system assets. This includes asset strategy, customer management, grid planning, project initiation, regulation and compliance, and system modelling and planning.</p> <p>The asset management category includes the following sub-categories – customer and asset management and regulation and compliance.</p> <p><b>Condition Assessment:</b> Includes field inspection and testing of transmission system assets to ascertain their condition.</p> <p><b>Corporate:</b> Includes the functions of accounting, administration, audit, business planning, corporate governance, corporate IT, facilities management, finance, human resources, insurance, legal, office of managing director and company secretary, and public relations.</p> <p>The corporate category includes the following sub-categories – business services, corporate governance and business planning and insurance.</p> <p><b>Corrective:</b> Includes field activities to restore a failed transmission system asset, or component, to a satisfactory operating state.</p> <p><b>Debt raising:</b> Benchmark debt raising allowance.</p> <p><b>Equity raising:</b> Benchmark equity raising allowance.</p> <p><b>Field operations and maintenance:</b> Includes all field-based operations and maintenance functions (planned, condition assessment and corrective). The field maintenance category includes the following sub-categories – substations, protection and control, operational communications, transmission lines and easements.</p> <p><b>Labour:</b> Labour costs in respect of an employee includes each of the following that applies to the employee: (a) salary or wages, (b) allowances, bonuses, overtime and penalty rate payments, (c) leave payments for annual leave, sick leave and long service leave, (d) superannuation fund contributions, payroll tax and workers' compensation insurance premiums, and (e) cost of providing any vehicle or other benefits included in the employee's remuneration package. Labour costs in respect of a external provider would be the cost for the employment of labour.</p> <p><b>Network:</b> Includes all activities directly related to the operation and maintenance of the transmission system. This includes transmission services, transmission operations, asset management and network support as defined.</p> <p><b>Network support:</b> Payment for cost-effective alternatives to transmission system augmentation.</p> <p><b>Non-Labour:</b> Non-labour costs include costs that are not classified as labour costs (includes materials, fuel, stationary and parts).</p> <p><b>Non-Network:</b> Includes all activities not directly related to the operation and maintenance of the transmission system.</p> <p><b>Planned:</b> Scheduled field operations and maintenance activities that are completed to a predetermined scope to sustain the satisfactory operation of transmission system performance.</p> <p><b>Transmission operations:</b> Includes the functions of managing the real time operation of the Tasmanian power system. This includes planned outage analysis, power system incident analysis, assessment of power system technical envelope, formation of limit equations for NEMMCO, preparation of switching sheets, coordination of field switching activities and technical support for the Network Operations Control System (NOCS).</p> <p><b>Transmission services:</b> Includes the functions associated with providing engineering and asset services, management of field operating and maintenance contracts, environment and safety management, asset condition monitoring and analysis, works planning and coordination.</p> <p>The transmission services category includes the following sub-categories – engineering services and works planning and coordination.</p>

## 6.2 HISTORIC CAPEX - Instructions and definitions

Note: These definitions are a guide only. TNSPs can adapt the definition section as necessary, given consultation with the AER.

<b>PURPOSE OF INFORMATION AND USE BY THE AER:</b>	<p>The templates are key inputs into the AER's assessment of historic capex and will assist in the analysis of the TNSP's forecast capex claim.</p> <p>Specifying expenditure by project enables the AER to select projects on which to undertake more detailed analysis.</p> <p>The capex categories are essentially divided between Network and Non-network. Network includes augmentation capex which is subject to the Regulatory Test.</p>
<b>INSTRUCTIONS:</b>	<p>Data to be input on the basis of the definitions provided.</p> <p>All expenditure must relate to the provision of prescribed transmission services.</p> <p>Categorisation of capex should be performed according to the primary reason for expenditure.</p> <p>Capex amounts should be entered exclusive of customer contributions.</p> <p>Reasons for variance: if actual expenditure materially varies from the amount determined under the Regulatory Test/Business case, or the date of commissioning was later than planned, then reasons should be given on the Historic Capex Commentary pro forma with a brief reference in the 'Reasons for variance' column of Table 3.3 and 3.4.</p> <p>Templates must be completed according to the instructions contained in the AER's Submission Guidelines.</p> <p>Values for years 4 and 5 are estimated values only.</p> <p>All cells must be filled out where possible, especially in relation to any commentary on variances.</p>
<b>DEFINITIONS:</b>	<p><b>Asset Renewal:</b> Works to replace or refurbish prescribed transmission system assets to maintain reliability and quality of supply.</p> <p><b>Augmentation:</b> Works to enlarge the transmission system or to increase the capability of the transmission system to transmit or distribute active energy, as defined in the NER.</p> <p><b>Business support:</b> Works to procure, replace or upgrade non-transmission system assets including land, buildings, vehicles and minor assets in line with business needs.</p> <p><b>Connection:</b> Works to either establish new prescribed connections or to modify existing prescribed connections.</p> <p><b>Information technology:</b> Works to develop and maintain corporate IT capacity and to improve the functionality of IT systems to support business needs in line with good electricity industry practice.</p> <p><b>Inventory/spares:</b> Transmission system assets acquired to enable timely response to asset failures in accordance with the network performance criteria and good electricity industry practice.</p> <p><b>Land and Easements:</b> Land and easement acquisitions for future prescribed transmission system augmentations or connections.</p> <p><b>Operational support systems:</b> Works required to create or replace operational IT support systems, required for efficient operation of the transmission system.</p> <p><b>Physical security/compliance:</b> Works to improve the physical security of transmission system assets and/or compliance with technical, safety, environmental and other relevant obligations.</p>

### 6.3 FORECAST CAPEX - Instructions and definitions

Note: These definitions are a guide only. TNSPs can adapt the definition section as necessary, given consultation with the AER.

<b>PURPOSE OF INFORMATION AND USE BY THE AER:</b>	<p>The templates are key inputs into the AER's assessment of forecast capex and will enable an analysis of the proposed expenditure.</p> <p>Specifying expenditure by project enables the AER to select projects on which to undertake more detailed analysis.</p>
<b>INSTRUCTIONS:</b>	<p>Data to be input on the basis of the definitions provided.</p> <p>All expenditure must relate to the provision of prescribed transmission services.</p> <p>Categorisation of capex should be performed according to the primary reason for expenditure.</p> <p>Capex amounts should be entered on an as-incurred basis, excluding customer contributions.</p> <p>Customer contributions are to be noted separately.</p> <p>Templates must be completed according to the instructions contained in the AER's Submission Guidelines.</p> <p>The TNSP is also requested to provide consultants' reports on the probabilistic methodology adopted, including information on theme sets and scenarios upon which the proposed capex spend is based. Further, details on the consultants assumptions, inputs and detailed information on the outcomes are requested.</p>
<b>DEFINITIONS:</b>	<p><b>Asset Renewal:</b> Works to replace or refurbish prescribed transmission system assets to maintain reliability and quality of supply.</p> <p><b>Augmentation:</b> Works to enlarge the transmission system or to increase the capability of the transmission system to transmit or distribute active energy, as defined in the NER.</p> <p><b>Business support:</b> Works to procure, replace or upgrade non-transmission system assets including land, buildings, vehicles and minor assets in line with business needs.</p> <p><b>Connection:</b> Works to either establish new prescribed connections or to modify existing prescribed connections.</p> <p><b>Information technology:</b> Works to develop and maintain corporate IT capacity and to improve the functionality of IT systems to support business needs in line with good electricity industry practice.</p> <p><b>Inventory/spares:</b> Transmission system assets acquired to enable timely response to asset failures in accordance with the network performance criteria and good electricity industry practice.</p> <p><b>Labour:</b> Labour costs in respect of an employee includes each of the following that applies to the employee: (a) salary or wages, (b) allowances, bonuses, overtime and penalty rate payments, (c) leave payments for annual leave, sick leave and long service leave, (d) superannuation fund contributions, payroll tax and workers' compensation insurance premiums, and (e) cost of providing any vehicle or other benefits included in the employee's remuneration package. Labour costs in respect of a external provider would be the cost for the employment of labour</p> <p><b>Land and Easements:</b> Land and easement acquisitions for future prescribed transmission system augmentations or connections.</p> <p><b>Materials:</b> Costs of construction components, equipment, tools, signs and supplies required for carrying out Transend business activities.</p> <p><b>Operational support systems:</b> Works required to create or replace operational IT support systems, required for efficient operation of the transmission system.</p> <p><b>Physical security/compliance:</b> Works to improve the physical security of transmission system assets and/or compliance with technical, safety, environmental and other relevant obligations.</p>