



Queensland Competition Authority

Ergon's Pass-Through Application for Cyclone Larry

Review of Ergon Energy's Application

9 April 2008

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1 EXECUTIVE SUMMARY

1.1 Background

On 20 March 2005, Severe Tropical Cyclone Larry crossed the Queensland coast near Innisfail, causing significant damage to Ergon Energy's (Ergon) electricity distribution network. Ergon has subsequently applied to the Queensland Competition Authority (QCA) to recover some of the capital and operating expenses incurred in restoring the network using the general pass-through mechanism set out in the QCA's 2005 Determination relating to Ergon's pricing.

To assist with the assessment of Ergon's application, the QCA engaged Evans & Peck to:

- identify the extent to which capital and operating costs identified by Ergon are incremental, with incremental costs being those costs that:
 - can be specifically attributed to responding to Cyclone Larry; and
 - have not previously been allowed for in the capital and/or operating expenditure included in the Final Determination;
- determine whether the capital and operating costs identified by Ergon as being incurred in response to Cyclone Larry were prudent and efficient given the nature of Ergon's network, the magnitude of Cyclone Larry and the urgency needed to complete the works, or at least particular works; and
- where Evans & Peck considers there is a material difference between Ergon's proposal and the level of expenditure deemed prudent and efficient, provide a detailed explanation.

1.2 Ergon Energy's Application

Ergon's original application as submitted to the QCA on 21 May 2007 calculated the eligible pass-through amount as \$29.3 Million.

Following QCA's request for additional information, Ergon amended some aspects of their original application which resulted in the pass-through amount being reduced to \$20.7 Million. This was further amended to \$20.1 Million after an error detected by Evans & Peck was corrected.

QCA were of the view that Ergon's original application did not contain sufficient detail to meet the QCA's requirements, and even after a request for further information there was insufficient substantiation to enable a decision to be made. Understandably, Ergon's initial priorities following the cyclone were operational rather than regulatory, and cost data collected reflects this. Significant effort has since been required to re-aggregate this data into a form which will provide the information to the standard required by QCA to assess the pass-through application.

1.3 Analysis of Ergon Energy's Application

At Evans & Peck's request Ergon has provided more detailed data and the model used to calculate the amounts sought in their pass-through application. Whilst some information deficiencies still exist, Evans & Peck has coupled the information that is available with our own experience and judgement to draw conclusions in relation to the validity of the amount sought by Ergon.

Table 1.1 below shows Ergon's corrected application data for 2005/06 and 2006/07.

Table 1.1: Ergon's Corrected Pass-Through Application data

	2005/06	2006/07
Operations & Maintenance	\$7.85M	\$0.08M
Return on Assets	\$0.28M	\$0.28M
Regulatory Depreciation	\$0.07M	\$8.04M
Less CPI Escalator	-\$0.18M	\$0.00M
Total	\$8.02M	\$8.40M
Total after Escalation	\$10.25M	\$9.89M

As highlighted in Table 1.1, the major items in Ergon's application arise from the OPEX incurred in 2005/06 (\$7.85M) and the Depreciation claimed in 2006/07 (\$8.04M). These two components account for 97% of the total application, after escalation.

An accelerated depreciation amount of \$7.96 is the major component of the 2006/07 Regulated Depreciation. This is for those assets destroyed by Cyclone Larry in March 2005. Ergon amended their asset records in 2006/07 and have written the destroyed assets off in that year. Given that these assets were destroyed in 2005/06 it is more appropriate that the assets be treated as being disposed at this time. It follows that any accelerated depreciation of these assets should also occur in 2005/06, or be deferred to the end of the regulatory period.

1.4 Findings

Three key factors drive the values appropriate to the pass-through calculation:

- Operating Costs
- New Capital Expenditure
- Written Off (Destroyed) Asset Valuation and allocation to asset classes

Once these values are established, depreciation and return on asset calculations follow to determine the appropriate pass-through amount, if any.

In summary, our findings in relation to these three parameters are as follows:

Operating Costs – Analysis of the supporting data leads us to conclude that the amount claimed in the pass-through application (**\$7.85M in 05/06 and \$0.08M in 06/07**):

- can reasonably be attributed to Cyclone Larry,
- has been conservatively adjusted to remove overlaps between “Business As Usual” operating expenditure allowed under the 2005 Determination and that incurred as a result of cyclone Larry, and
- reflects prudent and efficient expenditures in the context of the operational difficulties faced by Ergon following Cyclone Larry.

New Capital Expenditure – analysis of supporting data leads us to conclude that the amount claimed in the pass-through application requires adjustment. We have concluded:

- That detailed data supports that the total expenditure recorded by Ergon in relation to Cyclone Larry was actually incurred;
- Allocation to asset classes, which was based solely on the value of asset disposals, may not accurately reflect the correct allocation;
- Adjustments to remove overheads were appropriate, albeit conservative;
- The adjustment to remove “Defect Replacement” capital expenditure approved under the 2005 Determination is overstated to the extent there is an assumption that all assets in the original programme were replaced following Cyclone Larry.
- The appropriate incremental CAPEX adjustment is \$9.5M in 05/06 and \$1.18M in 06/07
- That this level of CAPEX reflects prudent and efficient expenditures in the context of Cyclone Larry.

Written Off (Destroyed) Asset Valuation

Ergon has applied for accelerated depreciation relating to the write off of assets valued at \$8.0M in 2006/07. Based on disposal records, Ergon attributed these assets to three broad asset categories – poles, wires and other. Whilst we have some concerns with the methodology applied, analysis of the data leads us to the conclusion that:

- The total value is reasonable;
- The allocation between asset classes is incorrect, and should be extended to include, house services, meters and street lighting, but this does not make a material change to the pass-through values;
- Two approaches to the timing of the accelerated depreciation are possible. The first is to apply the depreciation in the year that the assets were physically destroyed (with subsequent adjustments to return on asset and depreciation allowances for the balance of the current regulatory period) or to defer the application of the depreciation to the end of the current regulatory period (without adjusting returns and depreciation for the balance of the current regulatory period);

- We do not concur with Ergon's approach which is to claim all of the accelerated depreciation in 2006/07; and
- In calculating the depreciation impact on the existing AARR determination, Ergon has used the written down value of the destroyed assets and depreciated them on the basis that they have 45 years of remaining life. We are of the view that the remaining life is approximately 20 years, resulting in a higher depreciation deduction.

Calculated Pass-Through Amounts

Depending on which approach is taken to the timing of the accelerated depreciation, two outcomes are possible. Evans & Peck considers either methodology provides an outcome which meets the tests we have been asked to apply in examining the validity of the pass-through application.

Method 1 – Accelerated Depreciation in 2005/06

Table 1.2: Evans & Peck's estimation of Pass-Through amounts.

Year	Pass-Through Claim	1% of AARR	
2005/06	\$19.33M	\$7.3M	Meets materiality test.
2006/07	\$0.41M	\$7.9M	Does not meet materiality test.

Method 2 – Deferred Write Off

Table 1.3: Evans & Peck's Estimation of Pass-Through amounts – Deferred Write off.

Year	Pass-Through Claim	1% of AARR	
2005/06	\$14.95M	\$7.3M	Meets materiality test.
2006/07	\$0.41M	\$7.9M	Does not meet materiality test.

Both methods of calculating the pass-through amount result in 2006/07 not meeting the materiality test of being greater than 1% of the AARR for the year.

The difference between the two methods is \$4.4 Million. This difference is due to the accelerated depreciation of the destroyed assets in 2005/06 and the associated differences in ROA and Depreciation already in the 2005 Determination for those assets.

See Table 1.4 below.

Table 1.4: Difference between Two Methods of Handling Write-Off of Destroyed Assets

Description	Accelerated Depreciation Method	Deferred Write-Off Method	Difference
OPEX	\$7,849,289	\$7,849,289	None
ROA of New Assets	\$3,244,641	\$3,244,641	None
ROA of Destroyed Assets already in AARR	-\$2,706,824	\$0	-\$2,706,824
Depreciation of New Assets	\$851,765	\$851,765	None
Depreciation of Destroyed Assets already in AARR	-\$1,990,312	\$0	-\$1,990,312
Accelerated Depreciation	\$7,961,246	\$0	\$7,961,246
CPI Escalator	-\$75,082	-\$239,880	-\$164,798
Total	\$15,134,720	\$11,705,812	\$3,428,909
Escalation	\$4,196,693	\$3,245,894	\$950,799
Total Pass-Through	\$19,331,414	\$14,951,706	\$4,379,708

At the next AARR Determination in 2010 the Deferred Write-Off Method should result in Ergon's assets being written off by the residual value of the destroyed assets at that time, which should be approximately \$6 Million in 2005/06 dollars.

Our concern with the methodology used to allocate disposed assets to asset classes leads us to conclude that the deferred write off approach is slightly more robust.

2 INTRODUCTION

On 20 March 2005, Severe Tropical Cyclone Larry crossed the Queensland coast near Innisfail. There was significant damage to the communities impacted due to the high velocity winds and rain. The majority of the damage to Ergon Energy's (Ergon) electricity distribution network was due to the high velocity winds along with flying debris which caused the destruction of power poles and powerlines.

The resultant damage caused Ergon to expend significant resources on restoring the network as quickly as possible. These expenses would not have been required under normal foreseeable circumstances. Ergon has subsequently applied to the Queensland Competition Authority (QCA) to recover some of the capital and operating expenses incurred in restoring the network using the general pass-through mechanism set out in the QCA's 2005 Determination relating to Ergon's pricing.

Ergon sent a pass-through application to QCA on 21 May 2007 detailing the information about the effects of Cyclone Larry on their network. On 29 June 2007, QCA requested further information from Ergon to allow them to make a decision on the pass-through application. Ergon replied on 6 November 2007 to the request for additional information.

To assist with the assessment of Ergon's application, the QCA engaged Evans & Peck to:

- identify the extent to which capital and operating costs identified by Ergon are incremental, with incremental costs being those costs that;
 - can be specifically attributed to responding to Cyclone Larry; and
 - have not previously been allowed for in the capital and/or operating expenditure included in the Final Determination;
- determine whether the capital and operating costs identified by Ergon Energy as being incurred in response to Cyclone Larry were prudent and efficient given the nature of Ergon Energy's network, the magnitude of Cyclone Larry and the urgency needed to complete the works, or at least particular works; and
- where Evans & Peck considers there is a material difference between Ergon's proposal and the level of expenditure deemed prudent and efficient, provide a detailed explanation.

3 METHODOLOGY AND ASSUMPTIONS

After an initial meeting with QCA to establish objectives, data availability and confirm the intended approach, Evans & Peck met with Ergon to establish and obtain management buy-in, communications protocols, key contacts, and request detailed data and data sources.

Ergon provided the model used to calculate the pass-through application, as well as other relevant reports and data. The list of documentation and data reviewed by Evans & Peck is listed in Appendix 1.

Analysis of this data resulted in further questions and requests for information from Evans & Peck to Ergon. At the time of writing of this report Evans & Peck have still not received responses to many of these requests.

Whilst some information deficiencies still exist, Evans & Peck has coupled the information that is available with our own experience and judgement to draw conclusions in relation to the validity of the amount sought by Ergon.

4 ERGON ENERGY'S APPLICATION

Ergon Energy's original application for a pass-through as submitted to the QCA on 21 May 2007 calculated the eligible pass-through amounts as \$29.3 Million, made up of:

- \$19.1 Million in 2005/06; and
- \$10.2 Million in 2006/07.

Following QCA's request for additional information, Ergon amended some aspects of their original application which resulted in the pass-through amount being reduced.

Their letter states:

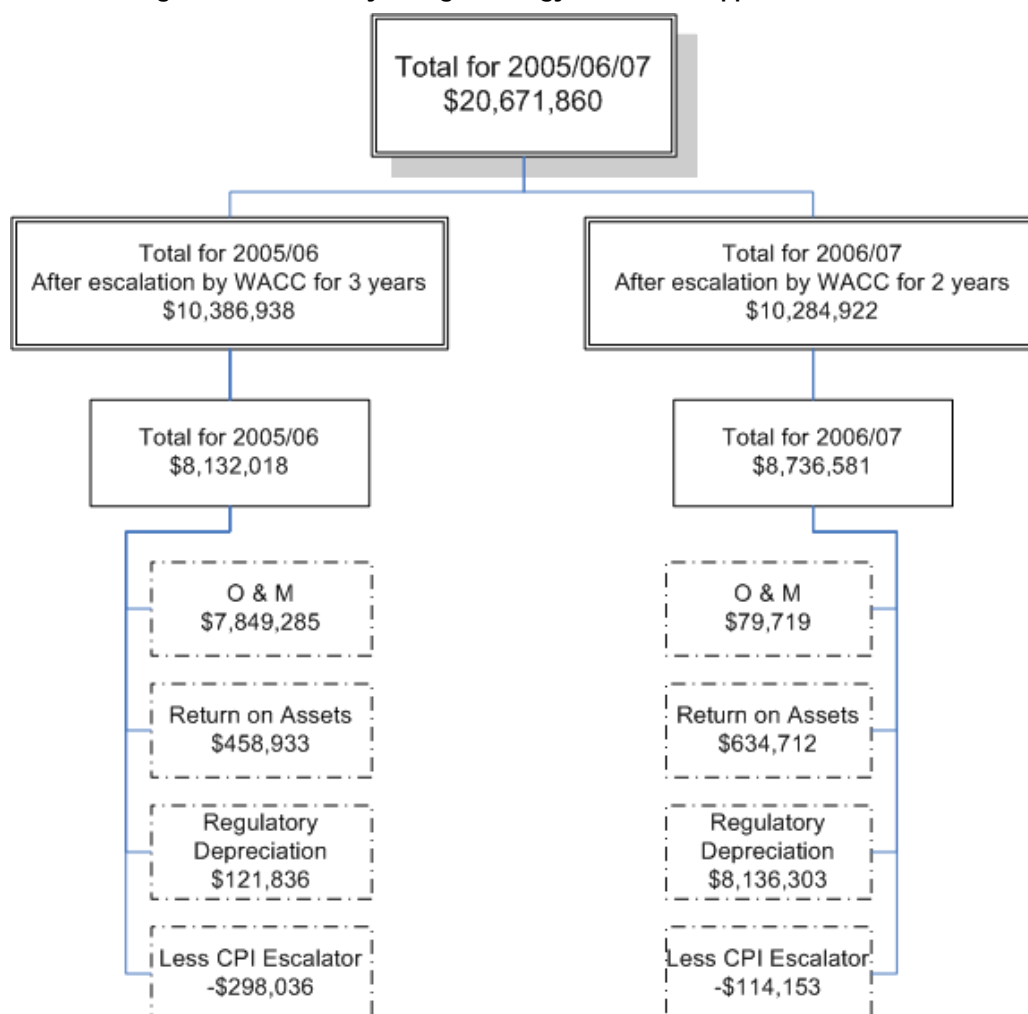
"Specifically, Ergon Energy has:

- Sought to 'cleanse' operations and maintenance expenditure (OPEX) and capital expenditure (CAPEX) for any costs that may have been included in the OPEX and CAPEX 'building blocks' for the 2005 Determination. This has resulted in reduced request for additional 'allowable' OPEX and CAPEX for Cyclone Larry; and
- Undertaken 'cleansing' of depreciation costs, as a consequence of changes to the capital expenditure data. This is because the AARR approved by the Authority included an allowance for the assets that were disposed of, and this depreciation needs to be removed."

The amended application was reduced to \$20.7 Million.

A summary of the breakdown of the amended pass-through amount submitted by Ergon Energy is provided in Figure 4.1 below. A more detailed breakdown of these figures is provided in Appendix 2.

Figure 4.1: Summary of Ergon Energy's Amended Application to QCA



While validating these values, Evans & Peck discovered an error in the allocation of "CAPEX already in AARR for Defect Replacement". The application stated that this amount was calculated to be \$8,517,841 and that it had removed this amount by deducting half in 2005/06 and half in 2006/07. The analysis showed that while it had been correctly deducted in 2005/06 it had not been deducted in 2006/07. This affected the Return on Assets, the Regulatory Depreciation and CPI Escalator calculations.

This error was referred to Ergon and after acknowledging that it was an oversight they resubmitted their calculations to Evans & Peck with the \$8.5 Million all being removed in 2005/06. The application then became:

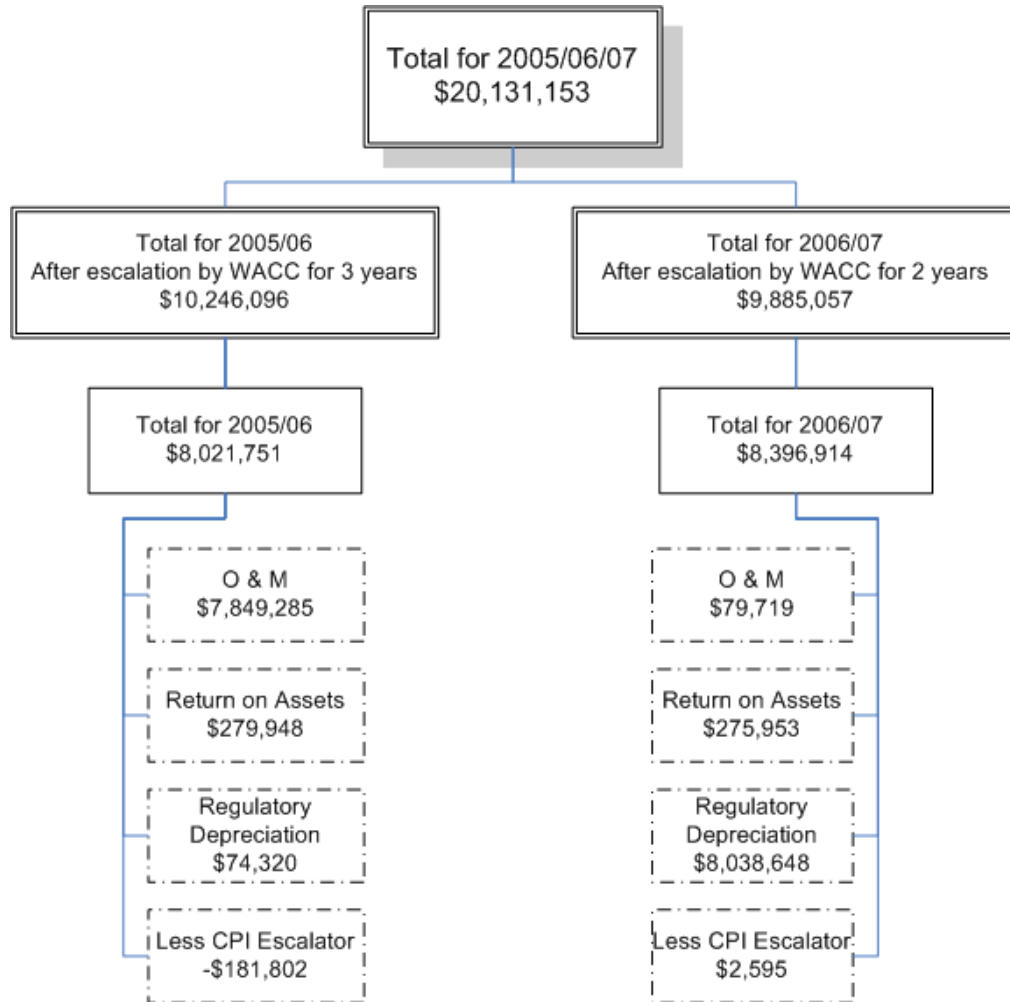
- \$10.2 Million in 2005/06 ; and
- \$9.9 Million in 2006/07.

The corrected total pass-through application is now \$20.1 Million.

This is a reduction of \$540,000 in the pass-through amount being sought by Ergon.

A summary of the breakdown of the corrected pass-through amount is provided in Figure 4.2 below. A more detailed breakdown of these figures is provided in Appendix 3.

Figure 4.2: Summary of Ergon Energy's Corrected Application



5 OPERATIONS AND MAINTENANCE

Ergon's original application for Operations and Maintenance costs was for \$13.25M in 2005/06 and \$0.12M in 2006/07.

Ergon has provided Evans & Peck with detailed data on the bookings to the Cyclone Larry OPEX accounts on an area basis. A summary of the breakdown of bookings to the Cyclone Larry Operations and Maintenance accounts is shown in Table 5.1 below.

Table 5.1: Cyclone Larry Operations & Maintenance Expenditure for 2005/06/07

Expense Category	2005/06	2006/07	Percentage of Total Expenditure (less Overheads)
Accommodation, Travel, Entertainment and Training	\$172,058	\$5,697	2.0%
Computer & Communications	\$2,121	\$20	0.0%
Consultants / Contractors	\$3,870,921	\$11,534	43.6%
Health & Safety	\$115,088	\$375	1.3%
Internal Labour (less overtime)	\$971,509	\$4,727	10.9%
Internal Overtime Labour	\$2,060,083	\$4,712	23.2%
Marketing	\$107,076	\$5,603	1.3%
Materials	\$842,359	\$12,467	9.6%
Other	\$99,079	\$5,720	1.2%
Other Employee	\$430	\$0	0.0%
Overheads	\$4,429,878	\$36,724	Not included.
Property, Plant & Equipment	\$280,949	\$16,418	3.3%
Transport	\$299,122	\$17,173	3.6%
Total O & M Expenditure	\$13,250,673	\$121,169	
Total O & M Expenditure less Internal Labour and Overheads	\$7,849,285	\$79,719	

In response to QCA's request for additional information, which questioned the incremental cost of Cyclone Larry, Ergon amended their Operation and Maintenance costs to \$7.8M in 2005/06 and \$0.08M in 2006/07.

To calculate the incremental costs Ergon removed overhead and internal labour components of the expenditure booked to the Cyclone Larry accounts.

5.1 Analysis

The breakdown of costs for Operations and Maintenance relating to activities such as line rebuilding for a typical organisation in the power or communications industry, and those incurred by Ergon are shown in Table 5.2 below. These typical percentages are based on the experience of Evans & Peck on the proportion of labour in line rebuilding works which come from some work done for interstate distributors in preparing regulatory submissions. Specifically, to understand both past and future escalation factors, a number of work types were broken down by labour materials, plants etc. Some of these were specific "Line Rebuild" activities, others were Service Installations. The range of values quoted comes from this work.

The labour component for such work tends to be higher while the material component tends to be lower than overall organisational values. The labour costs are higher due to the plant being more dispersed and requiring more physical labour to maintain (eg removing and replacing spans of wire).

The material component is less due to the plant being less complex or smaller than compared to the material required in a sub-station (eg poles and wires verses large transformers and switch gear).

Table 5.2: Percentage Breakdown of Operations & Maintenance Costs

Expenditure Category	Typical Percentage	Ergon (for Cyclone Larry)
Labour		34.1%
Consultants / Contractors		43.6%
<i>Total Labour plus Contractors</i>	<i>60-70%</i>	<i>77.7%</i>
Fleet	5-10%	6.9%
Materials	10-15%	9.6%
Other	5-10%	5.8%

The table above shows that Ergon's Operations and Maintenance expenditure breakdown is consistent with those expected given that Ergon was operating under emergency and disaster recovery conditions. In those circumstances, labour tends to be a higher proportion of costs as there is a need to recover as quickly as possible, resulting in a higher proportion of overtime and higher costs for contractors.

5.1.1 Accommodation, Travel, Entertainment and Training

Whilst this category includes Entertainment and Training, the majority of the costs recorded against this account were for Accommodation, Meals and Travel. There were minimal Entertainment and no Training costs at all.

Approximately 250 staff were moved to the Cyclone affected areas from other regions and from within the region. Most of these were deployed on CAPEX work, but a proportion was

deployed on Operations & Maintenance. The OPEX component was \$178K (15.5%) while the CAPEX component was \$968K (84.5%). This accommodation and travel cost equates to less than \$200 per person per day. By comparison, the Domestic Travelling & Relieving Expenses approval under Section 34(2) of the Public Service Act 1996 (Qld) Directive No. 10/06 September 2006, shows the following allowances in the Cairns area:

▪ Accommodation	\$89.00
▪ Breakfast	\$17.50
▪ Lunch	\$20.05
▪ Dinner	\$34.55
▪ Incidentals	\$4.95
TOTAL	\$176.05

Under the circumstances, and given that the \$176.05 allowance does not include the cost of travel, we conclude that the expenses were reasonable.

In total the cost per staff is approximately \$4,584. These staff were utilised for approximately 1 month. Some needed to be accommodated many kilometres from their work locations due to the lack of suitable local accommodation which was also affected by the cyclone.

Given the cost to move staff to and from the cyclone affected areas, the daily travel and accommodation, the conclusion of this review is that this cost is necessary, incremental, efficient and prudent.

5.1.2 Computer & Communications

This expenditure is only \$2.2K and given the need to set up a Disaster Response Centre, it appears to be an understated expense.

The conclusion of this review is that this cost is necessary, incremental, efficient and prudent.

5.1.3 Consultants / Contractors

This expenditure was the largest O & M category at \$3.88M. The majority of this is for Field Service contractors (\$3.81M).

This expenditure includes services provided by other network operators and external contractors.

Ergon have advised that the majority of costs incurred by Field Service contractors were for the clean up of damage from vegetation debris. Eastern Tree Services and Vegetation Solutions were two of the principal contractors appointed by Ergon through a process of commercial evaluation of tenders. As contractors were unable to carry out their normal works program they were redeployed to assist in the emergency clean up effort given these contractors had qualified personnel able to assist. Claims for these contractors' services were reviewed and compared against normal existing contractors' schedule of rates by Ergon's appointed superintendent to ensure commercial probity.

Other contractor costs included helicopter charter for the transfer of crews and equipment to Russell Heads, backhoe hire, bus charter to transfer crews between Innisfail to Cairns, fencing hire and erection, delivery of power poles and gensets, tree trimming equipment, and road traffic management services.

While some of the work performed by these contractors, such as vegetation management, would have been included in business as usual, it would have been a small fraction of the costs incurred. Also the standing down of the contractors during this time would have incurred costs. The differential is more than accounted for by Ergon's decision to remove all internal labour at normal rates

We conclude that the expenditure used to engage contractors to increase the speed of the clean up and hence the repair work was necessary, incremental, efficient and prudent.

5.1.4 Health & Safety

The main expenditure under this category is the provision of Personal Protection Equipment (PPE) which accounted for more than \$110K. The remainder was for the replenishment of First Aid Kits and the provision of safety equipment.

Because of the volume of the work required during this period, many of the staff and contractors would have been diverted from their normal duties and required to undertake work they would not normally perform. Hence, many of them would not have had the necessary safety and PPE equipment.

Once disaster response crews were deployed pallets of protective clothing and wet weather gear were sent to effected areas. Due to heavy rainfall and significant flooding, crews were exposed to wet and difficult working conditions placing heavy wear and tear on clothing and footwear. Leech, tick and insect repellent were supplied along with medical supplies such as Tinea cream and talcum powder to combat dermatological injuries such as chafing and tinea. Water coolers were also provided to field crews to alleviate water shortages.

Other general Personal Protective Equipment supplied included items such as Drill Shirts, Trousers, Gum Boots, High Visibility Shirts & Vests, Safety Glasses, Socks and Rain Coats. There were up to 1000 people assigned to the response effort. This is considered to be prudent and necessary expenditure in a disaster response situation.

Ergon's management of Health and Safety resulted in no lost time injuries occurring during the restoration effort.

The business as usual expenditure for the provision of PPE would be minimal during the period of the application as it would only have involved the replacement of existing PPE. The vast majority of PPE is therefore incremental and given that Ergon have chosen to exclude all normal time labour expenses and overhead costs more than compensates for the level of expenditure that was not incremental.

Ergon has not provided any specific data with respect to the details of this expenditure but an expenditure of \$110K for 1,000 people averages to \$110 per person, which is considered reasonable.

This expense was considered necessary, predominantly incremental, efficient and prudent.

5.1.5 Internal Labour

The removal of all Internal Labour at normal rates is a very conservative view that understates the real costs to Ergon. While the labour costs would have been incurred in business as usual, a proportion of the work performed would not have been required if Cyclone Larry had not struck.

Staff moved from other Ergon regions would not have otherwise worked in the area affected by Cyclone Larry and much of their time booked was at normal labour rates.

Regions supplying staff for Cyclone Larry would have incurred overtime costs or extra contractor costs to maintain their operations in their own regions or they would have deferred maintenance work.

Whilst Ergon have not been able to substantiate this with data, the removal of all of internal labour costs would result in a lower pass-through outcome than was actually incurred.

Given that there Ergon has not been able to supply supporting data, the removal of all normal labour rates seems a reasonable conservative assumption.

We have concluded that this expense was necessary, incremental, efficient and prudent.

5.1.6 Internal Overtime Labour

Overtime was driven by the need to rapidly make the network safe and to restore power as quickly as possible.

The majority of the overtime was required in the early stages following the cyclone and this is reflected by 96% of the total overtime bookings occurring in the first few weeks after the cyclone.

Ergon's application makes no allocation for the use of overtime in other regions to compensate them for lending staff to the cyclone affected area even though this would have occurred.

An initial opinion could conclude that the normal overtime allocation for the cyclone affected area should be removed to calculate the incremental cost. This is not appropriate given the extent and urgency of the repair work and is balanced by the extra overtime incurred in other regions which has not been claimed by Ergon in their application, and the removal of all Internal Labour at normal rates.

It is therefore concluded that the costs were necessary, incremental, efficient and prudent.

5.1.7 Marketing

Cyclone Larry was a high profile media event, both within the region and nationally. The appointment of Major General Peter Cosgrove, to oversee the reconstruction of the areas affected, ensured it remained high profile for a considerable period.

Ergon's Marketing costs were for Advertising, TV and Radio Media. They were necessary to keep the community and the nation informed about the ongoing status of the work being carried out by Ergon.

The figure of \$130K for this category of expenditure was considered necessary, incremental, efficient and prudent.

5.1.8 Materials

The total materials cost represents about 10% of the Operational and Maintenance expenditure which is consistent with normal operations.

This material was required to repair assets where the damage resulting from the cyclone was not deemed to be sufficient to require replacement of the asset. The majority of costs classified as materials are stores issues to repair poles and wires.

The accounting treatment applied by Ergon to poles and wires resulted in these costs being treated as OPEX during the first few days of the clean up effort prior to treating them as capital costs thereafter.

For example these items include insulators, crossarms, and stays.

Ergon has not provided any details of the specific materials used and the normal planned usage of this material in a business as usual situation. Whilst there would be a small component of business as usual in this expenditure it is compensated by the fact that Ergon have chosen to exclude all normal time labour expenses and overhead costs to account for the level of expenditure that was not incremental.

An expenditure of \$855K for materials appears to be necessary, incremental, efficient and prudent.

5.1.9 Overheads

Ergon has chosen to remove all overhead costs from their application. This is a conservative view that understates the incremental Operations and Maintenance expenditure experienced by Ergon during Cyclone Larry.

Whilst many of the overhead costs would have been incurred in business as usual, there were incremental costs. For example:

- setting up and operation of the Emergency Response centre;
- additional management supervision and involvement; and
- negotiation and organisation of the provision of extra staff from other Ergon regions as well as other organisations such as ENERGEX.

The setting of Overheads to zero for the sake of this application understates Ergon real incremental costs, but given that Ergon's records cannot easily distinguish the incremental nature of this expenditure, they cannot provide sufficient evidence to justify any other figure.

While it is difficult to recommend a figure for this expenditure (and we have not done so), it should be considered in the context of the entire application to balance other assumptions that may not have sufficient evidentiary support.

5.1.10 Property, Plant & Equipment

The majority of Property, Plant and Equipment expenditure was for equipment hire (\$295K) while the remainder was for plant and equipment cleaning (\$2K).

The majority of equipment hire was for the supply of generators as a replacement electricity source. Approximately 60 generators from Ergon and Energex were trucked into the worst hit areas. Mobile generators were installed at critical sites of severe network damage, to approximately 1000 customers. Ergon managed prompt supply of electricity (via generators) to key essential services in 48 hours of the cyclone. Statistics during April show a total of 100 generators on hire.

An expenditure of \$297K for this category of expenditure is therefore considered necessary, incremental, efficient and prudent.

5.1.11 Transport

This expenditure was made up of Internal Transport Costs (\$274K), Vehicle Hire (\$26K) and Fuel (\$17K) which together totalled \$316K. The majority of these costs were Ergon's internal transport costs assigning over 300 line trucks and heavy vehicles to the relief effort. Over 100km of new powerline cable and 300 power poles were trucked in.

Other costs were associated with the movement of staff into the area from other parts of the state. Staff movements were internally co-ordinated to ensure efficient use of fleet vehicles.

The fuel costs are very low for the work required and the timeframe involved

These total transport costs are within Evans' & Peck's expected range of the percentage of total OPEX.

The expense is considered necessary, incremental, efficient and prudent.

5.1.12 Other

Of the \$105K in Other Costs, the majority is for General Freight (\$84K) with the remainder being for sundry items such as postage, stationary, printing and taxi hire.

These other costs represent only 1.2% of the total OPEX costs (only 0.24% if general freight is excluded).

This expense was necessary, incremental, efficient and prudent.

6 CAPEX

Ergon's original application indicated that the CAPEX incurred in 2005/06 was \$16.64M with a further \$2.45M in 2006/07.

After the QCA's request for additional information, which questioned the incremental cost of Cyclone Larry, Ergon subsequently amended their CAPEX to \$10.9M in 2005/06 and \$1.2M in 2006/07.

To calculate the incremental costs Ergon removed overhead and internal labour components of the expenditure booked to the Cyclone Larry accounts. The amount estimated to already be included in the current AARR for Defect Replacement was also removed.

Ergon has provided Evans & Peck with detailed data on the bookings to the Cyclone Larry CAPEX accounts on an area basis. There was an error in the handling of the Defect Replacement which has since been corrected by Ergon.

A summary of the breakdown of bookings to the Cyclone Larry CAPEX accounts, with the correction, is shown in Table 6.1 below.

Table 6.1: Cyclone Larry Capital Expenditure for 2005/06/07.

CAPEX Category	2005/06	2006/07	Percentage of Total Expenditure (less Overheads)
Travel & Accommodation	\$954,173	\$13,888	5.1%
Contract Labour	\$6,155,899	\$146,257	33.1%
Internal Labour (less overtime)	\$2,274,665	\$398,430	24.2%
Internal Overtime Labour	\$4,386,883	\$220,395	14.0%
<i>Total Labour</i>	<i>\$12,817,447</i>	<i>\$765,082</i>	<i>71.3%</i>
Purchases (Materials)	\$2,519,591	\$546,687	16.1%
Other Costs	\$328,939	\$6,777	1.8%
Overheads	\$8,923,664	\$915,402	Not included.
Transport	\$833,689	\$241,818	5.7%
Total CAPEX	\$26,377,504	\$2,489,654	
Total CAPEX Less Internal Labour and Overheads	\$15,179,174	\$1,175,823	
CAPEX already included in AARR for Defect Replacement. (Ergon's assessment)	\$8,517,841	\$0	
Adjusted Total CAPEX less that already in AARR for Defect Replacement	\$6,661,334	\$1,175,823	

6.1 Analysis

Ergon's CAPEX calculations in its application show a total of \$8M of assets being disposed. Ergon has calculated this using a First In First Out methodology for writing off their assets. This is a conservative assessment as the Cyclone Larry would have destroyed relatively new assets as well as old assets. If on average these disposals were written off at half life value, it would be expected that the cost to replace these assets would be in the order of \$16 to \$20M at normal rates. This is also a conservative assumption which tends to balance that above. It is only used to provide a broad assessment of the order of magnitude of the CAPEX Ergon claims to have spent.

The CAPEX data provided by Ergon shows a total of \$28.8 Million being expended. This is 50% to 80% higher than would be required under normal construction conditions. Under emergency or urgent conditions it is reasonable to expect that rates will be significantly higher due to the long hours worked by the staff and contractors to restore the assets as quickly as possible, and the need to cope with the general level of destruction in the region.

The productivity rates are also reduced due to adverse and potentially dangerous conditions, imported staff and contractors not having local knowledge and the use of staff not normally performing this work on a regular basis. On that basis 50% to 80% of additional cost is within a reasonable range.

The typical breakdown of capital costs for mains rebuilding projects in the electrical industry and those incurred by Ergon are shown in Table 6.2 below. The typical percentages stated in this table are based on Evans & Peck's experience with distribution entities as they relate to building lines plant which includes poles and wires. Our experience is that these projects have a higher percentage of labour compared to projects such as building sub-stations.

As stated previously, Evans & Peck's experience on the proportion of labour in line rebuilding works comes from some work done for interstate distributors in preparing regulatory submissions. Specifically, to understand both past and future escalation factors, a number of work types were broken down by labour materials, plants etc. Some of these were specific "Line Rebuild" activities, others were Service Installations. The range of values quoted comes from this work.

Table 6.2: Percentage Breakdown of Mains Rebuild CAPEX

Expenditure Category	Typical Percentage	Ergon (for Cyclone Larry)
Labour		38.2%
Consultants / Contractors		33.1%
<i>Total Labour plus Contractors</i>	<i>60-70%</i>	<i>71.3%</i>
Fleet	5-10%	5.7%
Materials	15-20%	16.1%
Other	5-10%	6.9%

The table above shows that Ergon's CAPEX breakdown is consistent with those expected for mains rebuilding projects given that Ergon was operating under emergency and disaster recovery conditions. In those circumstances, labour tends to be a higher proportion of costs as there is a need to rebuild the assets as quickly as possible.

There is no evidence that any of Ergon's capital expenditure during this period was demand related (an allowance has been made for CAPEX for Defect Replacement and this is discussed below).

Under emergency and disaster recovery conditions, the construction driver is to re-build the damaged or destroyed network and restore service as quickly as possible. Hence, there is little or no time for any demand related design activity to take place. While there may be some increases in network capacity, this is predominately due to the immediate availability of material or components required. Due to changes over time, some material or equipment can no longer be replaced with "like for like" and the nearest currently available material or component is used. In any case, Ergon's exclusion of the internal labour rate at normal rates and overhead costs, would compensate for any capital expenditure that resulted in any subsequent increase in network capacity.

6.1.1 Accommodation, Travel, Entertainment and Training

As stated in the OPEX analysis, approximately 250 staff were moved to the Cyclone affected areas from other regions and from other areas within the region. Most of these were deployed on CAPEX work. The CAPEX component was \$968K or 84.5% of the total expenditure in this category.

Within 14 days of the cyclone by the 4th of April 700 beds were provided to accommodate crews. Several providers were used for accommodation and meals such as motels, hotels and bed and breakfasts, Meals were also sourced from Malanda Snack Bar, Subway, and Roscoe's Plaza Italian Restaurant. Flights costs were also incurred through BTI Australia.

While there would be some business as usual expenditure for this category it would be minimal compared to that incurred during the disaster recovery period. This is more than compensated for by the fact that Ergon has chosen to exclude all normal time labour expenses and overhead costs to account for the level of expenditure that was not incremental.

At \$4,584 per staff for travel and accommodation the expenditure is considered necessary, incremental, efficient and prudent.

6.1.2 Labour (Contract and Internal)

This is the largest CAPEX item at a total of \$13.8M of which \$6.5M is for Contract labour and the remaining \$7.3M is internal labour which includes both normal and overtime rates.

While the data provided by Ergon demonstrates that over 500 new power poles, 550 cross arms, more than 100 Km of conductor, and 60 high voltage transformers were brought into the affected area, there is no data that clearly identifies what was constructed.

As stated earlier and shown in Table 6.2 Evans & Peck would expect the labour component of a rebuild programme under normal circumstances to be in the order of 60-70% of the cost of construction. Our experience is that lines rebuilding activities have a higher percentage of labour compared to projects such as building sub-stations.

For Ergon the labour component was 71.3% which under the circumstances is considered reasonable.

The reasons for the excess labour costs are rates being significantly higher due to:

- longer hours worked by staff and contractors to restore the assets as quickly as possible;
- labour productivity rates being lower due to:
 - adverse and potentially dangerous conditions;
 - imported staff and contractors not having local knowledge; and
 - the use of staff not normally performing this work on a regular basis.

Claims for these contractors' services were reviewed and compared against normal existing contractors' schedule of rates by Ergon's appointed superintendent to ensure commercial probity.

In response to QCA's question, Ergon has chosen to remove all internal labour at normal rates as a means to account for the incremental work carried out, which means Ergon is only claiming a total of \$10.9M for labour costs (contract and internal) before the removal of CAPEX already in the AARR for Defect Replacement.

The costs appear necessary, incremental, efficient and prudent, but there is no specific data which has been made available to confirm the actual assets that were constructed on this programme.

6.1.3 Exclusion of Internal Labour at Normal Rates

As stated for the OPEX consideration, the removal of all Internal Labour at normal rates is a conservative view that understates the real costs.

The removal of the CAPEX already on the AARR for Defect Replacement determines the incremental CAPEX spent on this programme. By removing all internal labour at normal rates, Ergon has deducted this CAPEX a second time and has thus understated their true incremental CAPEX due to Cyclone Larry.

6.1.4 Purchases (Materials)

The materials purchased include items such as transformers, conductors, insulators, air brake switches, batteries, cross arms and cross arm braces, insulators, surge arrestors, and hardwood poles plus many other smaller items.

The total material costs incurred represents 16% of the total CAPEX which is consistent with Evans & Peck's expectations based on our experience of mains rebuild activities in the power industry.

6.1.5 Overheads

Ergon has chosen to remove all overhead cost from their application. This is a very conservative view that understates the incremental CAPEX required to rebuild the network after Cyclone Larry.

The removal of the CAPEX already on the AARR for Defect Replacement would have removed the overhead component of that part of the CAPEX budget. By removing all overheads, Ergon has deducted a proportion of the overheads already included in the AARR for Defect Replacement a second time and has thus understated their true incremental CAPEX due to Cyclone Larry.

6.1.6 Transport

Similarly to the OPEX analysis these costs are well within the range to be expected and are due predominately to the costs associated with the movement of staff into the area from other parts of the state.

This expense is considered necessary, incremental and reasonable.

6.1.7 Other

The other costs are well within the expected range and are of a similar nature to costs incurred in the OPEX component. The majority is for General Freight with the remainder being for sundry items such as postage, stationary, printing and taxi hire.

These other costs represent only 1.8% of the total CAPEX costs.

These costs are considered incremental and reasonable.

6.1.8 CAPEX already included in AARR for Defect Replacement

Ergon considered 5 different scenarios in an attempt to calculate the level of CAPEX that was already in the AARR Determination for Defect Replacement to determine how much was incremental CAPEX incurred due to Cyclone Larry.

The following scenarios are Ergon's calculations of how much CAPEX was already in the AARR Determination for Defect replacement. Each of the 5 scenarios used the same replacement volumes. These volumes and their associated costs for each scenario are shown in Table 6.3 below.

Table 6.3: Defect Replacement Scenario Estimates to end of 2005 Determination period

Items	Volume	Scenario Costing				
		1	2	3	4	5
Pole Replacement	1124	\$3,866,560	\$4,244,308	\$4,226,240	\$4,727,424	\$3,533,856
Cross Arm Replacement High Voltage	355	\$585,750	\$585,750	\$585,750	\$585,750	\$585,750
Cross Arm Replacement Low Voltage	426	\$284,000	\$284,000	\$284,000	\$284,000	\$284,000
Insulator Replacement	416	\$277,333	\$277,333	\$277,333	\$277,333	\$277,333
Substation Structure	135	\$2,565,000	\$2,565,000	\$2,565,000	\$2,565,000	\$2,565,000
Surge Diverters	94	\$78,333	\$78,333	\$78,333	\$78,333	\$78,333
Total		\$7,656,977	\$8,034,725	\$8,016,657	\$8,517,841	\$7,324,273

The only difference in the 5 scenarios is in the assumptions of the Pole Replacements. The assumptions vary from 40% to 80% of the poles being High Voltage, the assumed percentage of the HV LV strain type varying from 20% to 40%, and the package cost based on either 1 Strain and 4 Pin poles or 2 Strain and 2 Pin poles.

Ergon chose the most expensive and conservative scenario to include in their application, which implied that the existing AARR had \$8.5M included in the CAPEX Determination for Defect Replacement.

Given that Ergon's application states that at least 300 poles were replaced, the calculation of the costs incurred, that were already in the AARR for Defect Replacement, are grossly overstated as the Defect Replacement programme was based on 1124 poles being replaced. SKM's report suggests that up to 500 poles may have been replaced due to Cyclone Larry, well short of the 1124 in the Defect Replacement Programme.

If all of the poles replaced due to Cyclone Larry were on the Defect list and programmed to be replaced during the determination period the number of poles would be between 300 and 500, not 1124. For the sake of this calculation the conservative view of all 500 poles booked out from stores were used and were on the Defected list.

The same is also true for cross arms where the actual number replaced was approximately 550 according to Ergon's data and SKM's report. The calculations above assume 781 cross arms were replaced. Using similar logic to that above and using a conservative assumption, the number of crossarms used that were on the Defect Replacement programme was 550.

Given there is no specific data on any of the other items on the Defect Replacement programme a conservative view of it being as per the programme has been assumed.

This results in the total CAPEX already included in the AARR for Defect Replacement becoming \$5.6 Million. The summary can be seen in Table 6.4 below.

Table 6.4: Defect Replacement – Evans & Peck's Scenario Estimate

Items	Volume in Defect Replacement Plan	Assumed Volumes Replaced due to Cyclone Larry	Costing
Pole Replacement	1124	500	\$2,102,947
Cross Arm Replacement High Voltage	355	250	\$412,500
Cross Arm Replacement Low Voltage	426	300	\$200,000
Insulator Replacement	416	416	\$277,333
Substation Structure	135	135	\$2,565,000
Surge Diverters	94	94	\$78,333
Total			\$5,636,113

We have used this value to determine the level of incremental CAPEX in 2005/06 which is in turn used to calculate the Return on Assets and Depreciation values in our estimates below.

7 RETURN ON ASSETS

Ergon's application on the Return on Assets (ROA) is calculated on the basis that the destroyed assets are written off in 2006/07. The CAPEX spent to rebuild the network, less the CAPEX already in the AARR for Defect Replacement, is added to the asset base in 2005/06 and 2006/07.

The calculations of ROA as submitted by Ergon in their response to QCA's request for additional information were incorrect as they did not correctly account for the CAPEX already included in the AARR for Defect Replacement. The error was corrected by Ergon and the correct Return on Assets can be seen in Table 7.1. This allocates \$8.5M of CAPEX already in the AARR to 2005/06.

**Table 7.1: Ergon's Calculations for Return on Assets
(after correct allocation of CAPEX already in the AARR)**

	2005/06	2006/07
Opening asset value	\$0	\$6,587,014
Inflation of opening asset base	\$0	\$181,802
CAPEX	\$6,661,334	\$1,175,823
Regulatory Depreciation	\$74,320	\$8,038,648
Closing asset value	\$6,587,014	-\$94,010
Average Asset Value	\$3,293,507	\$3,246,502
Return on Assets	\$279,948	\$275,953

7.1 Analysis

The calculations provided by Ergon consider the ROA of the nett CAPEX spent to rebuild the network. It increases the asset base by the CAPEX spent in 05/06 and 06/07 and reduces the asset base in 2006/07 by writing off the destroyed assets valued at \$7.961M. Given that the assets were destroyed in 2005/06, they should be written off in that year and not the following year irrespective of when the information was entered into any database.

It also ignores the current AARR determination which is providing an ROA on the destroyed assets until 2009/10. Table 7.2 below calculates the ROA that is already in the AARR for the disposed assets. If these assets are written off, it follows that Ergon is not entitled to the ROA for the rest of the determination period.

Table 7.2: ROA of the disposed assets already in the AARR Determination

Description	2005/06	2006/07
Value of disposed assets	\$7,961,246	\$0
Annual ROA at 8.5%	\$676,706	\$0
Total ROA in 2005 Determination	\$2,706,824	\$0
Ergon's calculated ROA for disposed assets	\$0	\$338,352

Total ROA on disposed assets already in the AARR up to the end of the 2005 Determination is \$2,706,824.

The amount deducted by Ergon in their calculations was \$338,352.

The extra ROA not accounted in Ergon's application is therefore \$2,368,472.

Similarly the ROA for the new assets installed is not in the determination of AARR to the end of the 2005 Determination period.

Ergon's application assumed \$8,517,841 as the CAPEX already in the AARR for Defect Replacement, making the nett CAPEX \$6,661,334. The ROA from these assets is included in the calculations for 2005/06 and 2006/07 but not for the following 3 years.

Using the Defect Replacement value of \$5,636,113, as calculated in Table 6.4 above, the nett value of the new assets installed is \$9,543,061 in 2005/06 and \$1,175,822 in 2006/07.

At a return rate of 8.5%, the ROA, up to the end of the Determination period, is \$3,244,641 for the assets installed in 2005/06 and \$299,836 for assets installed in 2006/07 (see Table 7.3 below).

Table 7.3: ROA of the new assets not in the AARR Determination

Description	2005/06	2006/07
Value of new assets installed	\$9,543,061	\$1,175,822
Annual ROA at 8.5%	\$811,160	\$99,945
Total ROA to end of 2005 Determination	\$3,244,641	\$299,835
Ergon's calculated ROA for new assets	\$279,948	\$614,305

Ergon's calculations are lower because they have only considered the two years in calculating the ROAs.

The nett result of the ROA already in the 2005 Determination for the disposed assets and the ROA not accounted for the new assets is an increase in ROA of \$282K making the final ROA \$537,817 in 2005/06 and \$299,835 in 2006/07 (see Table 7.4 below).

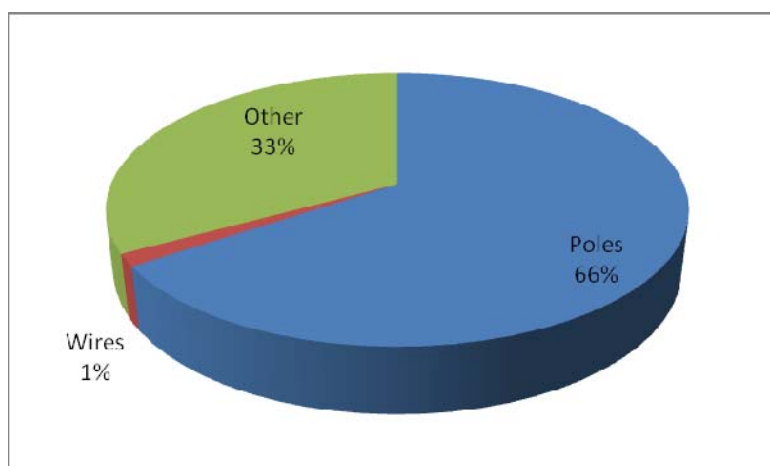
Table 7.4: Nett ROA of new assets and disposed assets to end of 2005 Determination period

Description	2005/06	2006/07
ROA of new assets to end of 2005 Determination.	\$3,244,641	\$299,835
less ROA of Disposed already in 2005 Determination	\$2,706,824	\$0
Nett ROA to end of 2005 Determination	\$537,817	\$299,835
Ergon's calculated Nett ROA	\$279,948	\$275,953

8 DEPRECIATION

The documentation provided by Ergon to Evans & Peck did not show the level of CAPEX by asset category. Ergon advised it was not captured in that form. Ergon provided data on disposal assets which were categorised into 'Poles', 'Wires' and 'Other'. Initially 'Other' was listed as 'Substations'. Figure 8.1 below shows the ratios of the 3 categories.

Figure 8.1: Disposed Assets by 3 Categories chosen by Ergon



The ratio of the value of the disposals was used by Ergon to proportion the CAPEX into those three categories. This resulted in the following values being calculated for the CAPEX for each of the three categories (see Table 8.1).

Table 8.1: Calculation of the break up of CAPEX for Depreciation Purposes

Item	Disposal Value	Percentage of Total	Calculated CAPEX for 2005/06	Calculated CAPEX for 2006/07
Poles	\$5,219,968	65.6%	\$4,367,652 (65.6%)	\$770,954 (65.6%)
Wires	\$114,742	1.4%	\$96,007 (1.4%)	\$16,947 (1.4%)
Other/Substations	\$2,626,536	33.0%	\$2,197,675 (33.0%)	\$387,922 (33%)
Total	\$7,961,246	100%	\$6,661,334	\$1,175,822

The depreciation expenses were then calculated based on an average life of 45 years for Poles and Other, and on 35 years for Wires for both the new and disposed assets.

Using these values Ergon calculated its depreciation, as shown in Table 8.2.

Table 8.2: Depreciation Amounts included in Ergon's Pass-Through Calculations

	2005/06	2006/07	2007/08	2008/09	2008/09
Depreciation on new assets	\$74,320	\$165,860	\$183,918	\$188,945	\$194,211
Less Depreciation on disposed assets	\$0	\$88,458	\$181,800	\$186,817	\$191,973
Accelerated Depreciation		\$7,961,246			
Nett Depreciation	\$74,320	\$8,038,648	\$2,118	\$2,128	\$2,238

8.1 Classification of Assets

In calculating the pass-through amounts Ergon chose to break up their CAPEX into Poles, Wires and Other and when requested by QCA to provide the data by asset class, advised that the way in which records were kept "on the ground" was not (and could not be) recorded by asset class. They instead included all CAPEX related to Cyclone Larry in the statutory asset base against only one asset class, namely 22KV poles. The application goes on to say that Ergon has since embarked on the time consuming basis of separating the CAPEX into asset classes after the event.

The methodology used to allocate disposals is based on an internal policy document. They have assessed the extent of rebuild required and applied this percentage to the asset value to determine the write down. The extent of rebuild varies from 7.5% to 25%, within the range of our expectations.

In response to a request by Evans & Peck, Ergon provided an Excel Workbook that detailed the data and logic used to prepare their pass-through application. In essence, the disposals calculation has been based on the write down of twenty seven (27) feeders in the affected area. The apportionment to asset classes is based on an Ergon Policy Document "*Accounting for System Assets Replaced in Service Work Instruction*". Sub-assets within the broad feeder asset grouping are written off using a "First In First Out" methodology driven by residual life. Whilst detailed and structured and possibly achieving broad accounting objectives over a large asset base, it does not necessarily reflect the actual physical assets written off in an event such as Cyclone Larry. Notwithstanding, it forms the basis of Ergon's application. The following table shows the disposed assets classified in their asset class. From this they were bundled into the 3 classes of Poles, Wires and Other.

Table 8.3: Value of Disposed Assets by Asset Class

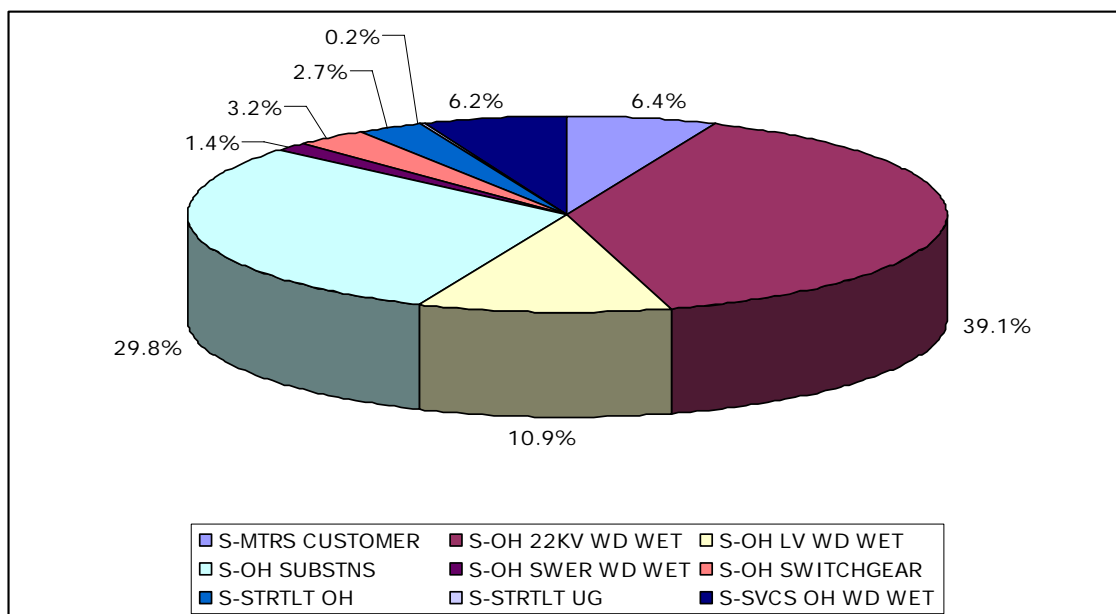
Raw Categories (from General Ledger)	Description	Totals	Poles, Wires or Other
S-MTRS CUSTOMER	Customer meters	\$513,433	Poles
S-OH 22KV WD WET	22 KV wood poles & wires	\$3,111,240	Poles
S-OH LV WD WET	Low voltage wood poles & wires	\$867,221	Poles
S-OH SUBSTNS	Distribution transformers and associated equipment	\$2,375,266	Other
S-OH SWER WD WET	Single Wire Earth Return wood poles & wires	\$114,742	Wires
S-OH SWITCHGEAR	Switchgear located on overhead feeders	\$251,270	Other
S-STRTLT OH	Streetlights located on an overhead feeder	\$213,162	Poles
S-STRTLT UG	Streetlights that receive their supply from an underground feeder	\$19,436	Poles
S-SVCS OH WD WET	Services coming off an overhead wood feeder	\$495,476	Poles
TOTAL		\$7,961,247	

Whilst the descriptions outlined above are entirely in line with the range of assets expected to be damaged during the cyclone, the rationale used to allocate such assets to "poles, wires and other" does not seem logical. Further explanation of this rationale has been sought but has not been forthcoming. It is not clear to Evans & Peck why Ergon have not retained the original descriptions in support of their application.

We have two primary concerns in relation to the disposed assets. The first is the overall value and the second is in relation to the mix of lives that is used to calculate depreciation allowances incorporated both in the existing AARR Determination and in relation to new capital expenditure.

Figure 8.2 below shows the break up of disposed assets in accordance with the descriptions provided above. The majority of disposals relates to the 22kV overhead network, followed by substations and low voltage lines.

Figure 8.2: Percentage Break Up of Disposed Assets by Asset Class



Given our concern over the allocation methodology and in order to assess the reasonableness of the results, we have referenced a report prepared by SKM for the QCA in 2003 titled "*Queensland Competition Authority Valuation of Queensland Distributors - ERGON ENERGY REGULATORY ASSET - VALUATION REFERENCE DATE - 31 DECEMBER 2003 - Final Report - 18 November 2004*". On the assumption that there has been no material change in the age profile of Ergon's overall asset base, this has enabled us to calculate the average age of the assets listed as "disposals", assuming that those in the affected area are typical of the overall asset base. The results are shown in Table 8.3 below.

Table 8.3: Evans & Peck's Calculation of the Residual Life of Disposed Assets

Raw Categories (from General Ledger)	Written Down Value	Asset Life	Residual Life – SKM 2003 report		Replacement Value \$million
			%	Years	
S-MTRS CUSTOMER	\$513,433	25	23%	5.8	\$2.23
S-OH 22KV WD WET	\$3,111,240	45	57%	25.7	\$5.46
S-OH LV WD WET	\$867,221	45	57%	25.7	\$1.52
S-OH SUBSTNS	\$2,375,266	35	45.6%	16	\$5.21
S-OH SWER WD WET	\$114,742	45	57%	25.7	\$0.20
S-OH SWITCHGEAR	\$251,270	35	40.8%	14.3	\$0.62
S-STRTLT OH	\$213,162	45	50%	11.4	\$0.37
S-STRTLT UG	\$19,436	20	50%	11.4	\$0.03
S-SVCS OH WD WET	\$495,476	35	38.5%	13.5	\$1.29
Weighted Average		37.6 years		19.4 years	\$16.93

The total replacement cost of \$16.93 million calculated is well within the range that we would expect on the basis of the actual capital expenditures incurred. In order to gain some insight into how these values translate to physical units, we have attributed an indicative "unit" replacement cost to each asset type (solely based on Evans & Peck's experience), and divided this into the estimated expenditure in each category. The results are shown in table 8.4.

Table 8.4: Indicative Number of Disposed Assets by Asset Class

Description	Units	Indicative Replacement Value	Indicative Units Replaced based on disposal value, residual life and indicative replacement
S-MTRS CUSTOMER	meter	\$300	7441 meters
S-OH 22KV WD WET	km	\$75,000	73 km
S-OH LV WD WET	km	\$50,000	30 km
S-OH SUBSTNS	unit	\$40,000	130 substations
S-OH SWER WD WET	km	\$50,000	4 km
S-OH SWITCHGEAR	n/a	n/a	n/a
S-STRTLT OH	unit	\$800	467 units
S-STRTLT UG	unit	\$800	43 units
S-SVCS OH WD WET	unit	\$700	1839 services

With the exception of meter and substation numbers which we consider a little high, the remaining values are intuitively consistent with our expectations based on reports of the physical damage sustained. The values are also slightly higher than would be expected based on Ergon's estimates that 300 to 500 poles, 550 cross arms and 100 KM of conductor were used in the rebuilding exercise.

Notwithstanding some residual concern that the estimate is at the higher end of our expectations based on the materials actually used during the rebuilding program and in the context of the difficulties of capturing accurate disposal data under the circumstances prevailing during and after Cyclone Larry, on balance we consider that the methodology applied by Ergon has provided a credible estimate of both the total value and the mix of assets written off.

8.2 Depreciation of New Assets

As outlined above, the mix of assets is important for two reasons. Firstly, it is used to support the calculation of depreciation on new assets. Secondly, should an asset Write Off be brought to account, it forms the basis of calculation of the depreciation amount that must be removed from the existing AARR Determination. Ergon's calculation of the depreciation of the new assets is on the basis that the total CAPEX spent was in the ratio of the disposed assets in the three categories of Poles, Wires or Other. Given the new assets installed replace the destroyed assets, we have calculated that the weighted average life of the new assets is 37 years as shown in Table 8.3 above. The asset life for the new assets used in Ergon's application is 45 years for all assets. As this is a more conservative view, Evans & Peck has accepted Ergon's asset life for the new assets and calculated the total depreciation to the end of the 2005 Determination period.

The depreciation for the new assets becomes as shown in Table 8.6 below.

Table 8.6: Evans & Peck's Assessment of Depreciation Amounts of New Assets

	2005/06	2006/07
Value of New Assets installed	\$9,543,061	\$1,175,822
Depreciation per year	\$212,941	\$26,129
Depreciation on new assets to end of 2005 Determination	\$851,765	\$78,388

8.3 Depreciation of Disposed Assets

Ergon has chosen to handle the depreciation of the disposed assets by writing them off in 2006/07 through an accelerated depreciation. This has resulted in \$7,961,247 being included in the depreciation amount for 2006/07.

To account for the fact that the disposed assets were depreciated in advance of the 2010 determination date, Ergon calculated the depreciation that would have been included in the AARR.

The calculation for the depreciation on the disposed assets has 45 years of remaining life, which is not the case. As shown in Table 8.3 above the weighted average remaining life is 19.4 years. Evans & Peck has therefore assumed a weight average life of 20 years in its calculations.

This difference in depreciation in one year for assets with a current valuation of approximately \$8M, having either 45 years of life remaining or 20 years of life remaining, is approximately \$220K per year.

Table 8.7 below calculates the depreciation expense if it is assumed that the disposed assets had a remaining life of 20 years.

Table 8.7: Evans & Peck's Assessment of Depreciation Amount of Disposed Assets in AARR (assuming average 20 years of life remaining).

Description	Value
Current value of disposed assets	\$7,961,246
Depreciation per year for 20 remaining years	\$398,062
Total Depreciation from 2005/06 to end of 2005 Determination.	\$1,990,310
Ergon's assessment of depreciation in AARR for disposed assets.	\$88,458

The table above shows that the depreciation already in the AARR for the disposed assets has been underestimated by Ergon because their calculations have assumed that the disposed assets have 45 years of life remaining and they have only considered the two financial years of 2005/06 and 2006/07.

The result is that Ergon's depreciation of the new assets and of the disposed asset already in the 2005 Determination was understated. Evans & Peck's assessment of the nett depreciation along with Ergon's is shown below.

Table 8.8: Evans & Peck's Assessment of Nett Depreciation to end of 2005 Determination.

	2005/06	2006/07
Depreciation on new assets to end of 2005 Determination	\$851,765	\$78,388
Less Depreciation of disposed assets already in 2005 Determination	\$1,990,310	\$0
Accelerated Depreciation of Disposed Assets	\$7,961,246	\$0
Evans & Peck's assessment of Nett Depreciation to end of 2005 Determination	\$6,822,701	\$78,388
Ergon's estimate of Nett Depreciation to end of 2005 Determination	\$74,320	\$8,038,648

9 ALTERNATE METHOD OF DEALING WITH DISPOSED ASSETS

In light of residual concerns over the methodology used to allocate disposed assets, the impact of any errors can be reduced if the Write Off is deferred to the end of the current determination. The QCA has the option to allow the assets to stay on Ergon's Asset base and deal with the write off issue at the time of the next AARR Determination in 2010. Ergon would continue to earn the ROA and maintain the depreciation that is in the current AARR Determination relating to the disposed assets until then. At that time the Asset base would be re-valued, albeit by a lower amount, to take the disposed assets into account.

10 ESCALATION

Two escalation factors have been used in calculating the pass-through amount submitted.

The first is a CPI Escalator which has been used as a deduction for inflation of the asset base. This is in line with the methodology used by the QCA in the 2005 Determination.

The second escalation factor is the Weighted Average Cost of Capital (WACC) which is used to index the submitted pass-through amounts to 2008/09.

The WACC used is 8.5% and the 2005/06 pass-through amount is escalated by 3 years (27.7%) while the 2006/07 pass-through amount is escalated for 2 years (17.7%).

Using these factors Ergon's pass-through application for 2005/06 from \$8.0M to \$10.2M and the 2006/07 pass-through amount increases from \$8.4M to \$9.9M.

Both of these escalation factors are considered reasonable.

Using the same factors, Evan's & Peck's assessment of the pass-through (before consideration of the 1% AARR threshold) amount becomes:

- With Accelerated Depreciation in 2005/06: \$19.33 Million in 2005/06 and \$0.41 Million in 2006/07
- With Deferred Write Off: \$14.95 Million in 2005/06 and \$0.41 Million in 2006/07

11 CONCLUSION

There is little doubt that Cyclone Larry caused significant damage to Ergon's electricity distribution network and affected Ergon's operations resulting in Ergon applying for a pass-through consideration.

Ergon's original application did not contain sufficient detail to meet QCA's requirements and even after a request for further information there was insufficient substantiation to enable QCA to make a decision.

After discussions with Ergon and considering further data supplied to Evans & Peck, it is concluded that Ergon does have sufficient evidence to enable a pass-through decision.

Three key factors drive the values appropriate to the pass-through calculation:

- Operating Costs
- New Capital Expenditure
- Written Off (Destroyed) Asset Valuation

Once these values are established, depreciation and return on asset calculations follow to determine the appropriate pass-through amount, if any.

Our findings are as follows:

11.1 OPEX

Analysis of the supporting data leads us to conclude that the amount claimed in the pass-through application (\$7.85M in 05/06 and \$0.08M in 06/07) can reasonably be attributed to Cyclone Larry and reflects prudent and efficient expenditures in the context of the operational difficulties faced by Ergon following Cyclone Larry.

The amount has been conservatively adjusted by Ergon to remove overlaps between "Business As Usual" operating expenditure allowed under the 2005 Determination and that incurred as a result of cyclone Larry.

The data supplied is at a level that can provide confidence that the expenses were incurred, and were required. Because they could not present any other records, Ergon chose to remove all overheads and normal labour costs in an attempt to provide the incremental OPEX cost. While Evans & Peck concludes that this has resulted in Ergon understating the real OPEX incurred, no other data or evidence has been made available to calculate a more accurate amount.

11.2 CAPEX

Analysis of supporting data leads us to conclude that the amount claimed in the pass-through application requires adjustment. We have concluded that detailed data supports that the total expenditure recorded by Ergon in relation to Cyclone Larry was actually incurred.

The allocation to asset classes, which was based solely on the value of asset disposals, may not accurately reflect the correct allocation.

Adjustments to remove overheads were appropriate, albeit conservative, while the adjustment to remove "Defect Replacement" capital expenditure approved under the 2005 Determination is overstated to the extent there is an assumption that all assets in the original programme were replaced following Cyclone Larry. The appropriate incremental CAPEX adjustment is \$9.5M in 05/06 and \$1.18M in 06/07

This level of CAPEX reflects prudent and efficient expenditures in the context of Cyclone Larry.

11.3 Return on Assets

Ergon's calculation for the Return on Assets is dependant on the timing of the disposal of the destroyed assets. The assets were destroyed by Cyclone Larry in March 2005. It follows that if the assets are to be written off, this should be done in 2005/06 and not in 2006/07.

The calculations on the ROA are also affected by the allocation of the CAPEX already in the AARR due to Defect Replacement. We conclude that the ROA for the new assets has been understated.

The ROA already in the AARR for the disposed assets until the end of the determination period and the value of the ROA for the new assets until the end of the determination period have not been included by Ergon.

The nett result of these factors is an ROA of \$538K in 2005/06 and \$300K in 2006/07. This is an increase in the ROA of approximately \$280K.

11.4 Depreciation

Ergon has applied for accelerated depreciation relating to the write off of assets valued at \$8.0M in 06/07. Based on disposal records, Ergon attributed these assets to three broad asset categories – poles, wires and other. Analysis of the data leads us to the conclusion that the total value is reasonable.

The allocation between asset classes is incorrect, and should be extended to include, house services, meters and street lighting, but this does not make a material change to the pass-through values.

In calculating the depreciation impact on the existing AARR determination, Ergon has used the original asset lives (45 year). We are of the view that the remaining life of the destroyed assets is approximately 20 years, resulting in a higher depreciation value.

We also do not concur with Ergon's approach which is to claim all of the accelerated depreciation in 2006/07.

The nett result of these depreciation factors is \$6.8 Million in 2005/06 and \$0.08 Million in 2006/07.

11.5 Alternate Method of dealing with Disposed Assets

Two approaches to the timing of the accelerated depreciation are possible. The first is to apply the depreciation in the year that the assets were physically destroyed. This requires adjustments to return on asset and depreciation allowances for the balance of the current regulatory period.

The alternative method is to defer the application of the depreciation to the end of the current regulatory period, without adjusting return on assets and depreciation for the balance of the current regulatory period.

11.6 Calculated Pass-Through Amounts

Depending on which approach is taken to the timing of the accelerated depreciation, two outcomes are possible. Evans & Peck considers either methodology provides an outcome which meets the tests we have been asked to apply in examining the validity of the pass-through application.

Method 1 – Accelerated Depreciation in 2005/06

Table 11.1: Evans & Peck's Estimated Pass-Through for Accelerated Depreciation in 2005/06

Description	2005/06	2006/07
OPEX	\$7,849,289	\$79,719
ROA of New Assets	\$3,244,641	\$299,835
ROA of Destroyed Assets already in AARR	-\$2,706,824	\$0
Depreciation of New Assets	\$851,765	\$78,711
Depreciation of Destroyed Assets already in AARR	-\$1,990,310	\$0
Accelerated Depreciation	\$7,961,246	\$0
CPI Escalator	-\$75,082	-\$107,443
Total	\$15,134,720	\$350,498
Escalation	\$4,198,680	\$62,117
Total Pass-Through	\$19,331,415	\$412,625
1% of AARR	\$7.3 Million	\$7.9 Million
	Meets materiality test.	Does not meet materiality test.

The details can be found in Appendix 4.

Method 2 – Deferred Write Off**Table 11.2: Evans & Peck's Estimated Pass-Through for Deferred Write Off**

Description	2005/06	2006/07
OPEX	\$7,849,289	\$79,719
ROA of New Assets	\$3,244,641	\$299,835
ROA of Destroyed Assets already in AARR	\$0	\$0
Depreciation of New Assets	\$851,765	\$78,711
Depreciation of Destroyed Assets already in AARR	\$0	\$0
Accelerated Depreciation	\$0	\$0
CPI Escalator	-\$67,917	-\$107,443
Total	\$11,877,774	\$350,499
Escalation	\$3,293,578	\$62,117
Total Pass-Through	\$15,171,352	\$412,616
1% of AARR	\$7.3 Million	\$7.9 Million
	Meets materiality test.	Does not meet materiality test.

These details can be found in Appendix 5.

Both methods of calculating the pass-through amount result in 2006/07 not meeting the materiality test of being greater than 1% of the AARR for the year.

The difference between the two methods is \$4.4 Million. This difference is predominately due to the accelerated depreciation of the destroyed assets in 2005/06 and the associated differences in ROA and Depreciation already in the 2005 Determination for those assets. See Table 11.3 below.

Table 11.3: Difference between Two Methods of Handling Write-Off of Destroyed Assets

Description	Accelerated Depreciation Method	Deferred Write-Off Method	Difference
OPEX	\$7,849,289	\$7,849,289	None
ROA of New Assets	\$3,244,641	\$3,244,641	None
ROA of Destroyed Assets already in AARR	-\$2,706,824	\$0	-\$2,706,824
Depreciation of New Assets	\$851,765	\$851,765	None
Depreciation of Destroyed Assets already in AARR	-\$1,990,312	\$0	-\$1,990,312
Accelerated Depreciation	\$7,961,246	\$0	\$7,961,246
CPI Escalator	-\$75,082	-\$239,880	-\$164,798
Total	\$15,134,720	\$11,705,812	\$3,428,909
Escalation	\$4,196,693	\$3,245,894	\$950,799
Total Pass-Through	\$19,331,414	\$14,951,706	\$4,379,708

At the next Determination in 2010 the Deferred Write-Off Method should result in Ergon's assets being written off by the residual value of the disposed assets at that time. The written down value of the disposed assets at that time should be approximately \$6 Million in 2005/06 dollars.

Our concern with the methodology used to allocate disposed assets to asset classes leads us to conclude that the deferred write off approach is slightly more robust.

Appendix 1 Documentation and Data Reviewed

List of Documentation and Data Reviewed

1. Letter to QCA from Tony Pfeiffer titled "Ergon Energy Pass-Through Application: Severe Tropical Cyclone Larry" dated 21 May 2007.
2. Letter to QCA from Tony Pfeiffer titled "Additional Information Request – Pass-Through Application: Severe Tropical Cyclone Larry" dated 6 November 2007.
3. Cyclone Defect Replacement Estimate Calcs_CLawson_QCA.xls which has the 5 scenarios of the Defect Replacement costs.
4. Cyclone Defect Replacement Estimate Calcs_CLawson_QCA.xls. Excel spreadsheet which has the 5 scenarios of the Defect Replacement costs.
5. EECL_Larry Passthrough Calcs_Final_QCA.xls. Excel workbook with raw data and model used in the calculation of the pass-through.
6. EECL_Larry Passthrough Calcs_Final_QCA (V2 corrected).xls. Corrected version of the Excel workbook with raw data and model used in the calculation of the pass-through.
7. Review of Network Performance and Corporate Disaster Response - Part A: Investigation of Cyclone Larry Response – Assets. Report by SKM dated 12 September 2006.
8. Review of Network Performance and Corporate Disaster Response - Part B: Investigation of Cyclone Larry Response – Organisational Response. Report by SKM dated 5 September 2006.
9. Network Asset Data Validation Project Report dated 20 June 2006.
10. Ergon Energy's 5 Year Sub transmission Network Augmentation Plan - Far North Region 2005 dated December 2005.
11. Ergon Energy's 5 Year Sub transmission Network Augmentation Plan - Far North Region 2006 dated January 2007.
12. DVD Video – Cyclone Larry Souvenir Edition and Storm Centre Web Site.
13. Ergon Energy's Emergency Management Plan - Northern Region
14. Ergon Energy's Emergency Management Plan – Far Northern Region
15. Email from Marcel Knop titled Financial Treatment of Cyclone Costs dated 21 March 2006.
16. Work Instruction P61J05B01 Version 2 - Financial Treatment of Disaster Data Work Instruction.
17. Email from Marcel Knop titled URGENT NOTICE - Cyclone Larry costing rules at 23 March 2006 dated 23 March 2006.
18. Cyclone Larry costing rules as at 23 March 2006.doc. Document attached to previous email.
19. Email from Marcel Knop titled Coding of Disaster Costs- clarification dated 29 March 2006.

20. Cyclone Larry costing rules as at 29 March 2006.doc. Document Attached to previous email.
21. Email from Alison Polkinghorne titled Financial treatment of disaster work dated 29 March 2006.
22. Larry Final CAPEX to Reg detailed.xls. Excel workbook with raw CAPEX data used in the model for the calculation of the pass-through.
23. Email from Kim Casey titled CAPEX Raw data clarification dated 28 February 2008.
24. Email from Kim Casey titled Valuation of Disposed assets dated 7 March 2008.
25. TC Larry_how value disposals.doc. A Word document attachment to previous email.
26. Work Instruction P89M01B23 Version 2 - Accounting for System Assets Replaced in Service.
27. Cyclone asset split (by feeder) for asset.xls. Excel work book calculating disposals by feeder.
28. Disposals calculations.xls. Excel work book calculating disposals by asset class.
29. Queensland Competition Authority Valuation of Queensland Distributors - ERGON ENERGY REGULATORY ASSET –VALUATION REFERENCE DATE ~ 31 DECEMBER 2003 - Final Report - 18 November 2004



Appendix 2 Breakdown of Amended Pass-Through Submitted by Ergon



2005/06 O&M \$7,849,285		2005/06 Return on Assets \$458,933		Total for 2005/06 After Escalation by WACC for 3 Years \$10,386,938					
Accom Travel Entertain & Training \$172,058		Opening Asset Value \$0		Total 2005/06 \$8,132,018		2005/06 Regulatory Depreciation \$121,836		Less CPI Escalator -\$298,036	
Computer & Comms \$2,121		Inflation of Opening Asset Value \$0		2006/07 Depreciation on new assets \$121,836		Poles \$79,557		Poles CAPEX for Depreciation Purposes \$7,160,108	
Consultants/Contractors \$3,870,921		Capex \$10,920,254		Wires \$2,248		Wires CAPEX for Depreciation Purposes \$157,389		Poles Disposals \$5,219,968	
Health & Safety \$115,088		Contract Labour \$6,155,899		Substations/Other \$40,031		Substations/Other CAPEX for Depreciation Purposes \$3,602,758		Wires Disposals \$114,742	
Labour \$2,060,082		Internal Labour \$4,386,883		Depreciation on disposed assets \$0		Other Disposals \$2,626,536			
Marketing \$107,076		Other \$328,939		Accelerated Depreciation \$0					
Materials \$842,359		Overhead \$0							
Other \$99,079		Purchases \$2,519,591							
Other Employee \$430		Stores \$0							
Overheads \$0		Travel/Accomm \$954,173							
Property Plant & Equip \$280,949		Transport \$833,689							
Transport \$299,122		Less CAPEX already in AARR for Defect Replacement -\$4,258,920							
		Reg Depreciation -\$121,836							
		Closing Asset Value \$10,798,419							
		Average Asset Value (for ROA) \$5,399,209							
		Return on Assets \$458,933							

Ergon's Amended Calculation of Pass Through Amount for 2005/06



2006/07 O&M \$79,719		2006/07 Return on Assets \$634,712		Total for 2006/07 After Escalation by WACC for 2 Years \$10,284,921		
Accom Travel Entertain & Training \$5,697		Opening Asset Value \$10,798,418		Total 2006/07 \$8,736,581		
Computer & Comms \$20		Inflation of Opening Asset Value \$298,036		2006/07 Regulatory Depreciation \$8,136,303		
Consultants/Contractors \$11,534		Capex \$1,175,823		2006/07 Depreciation on new assets \$263,515		
Health & Safety \$375		Contract Labour \$146,257		Poles \$172,071		
Labour \$4,712		Internal Labour \$220,395		Poles CAPEX for Depreciation Purposes \$770,955		
Marketing \$5,603		Other \$6,777		Poles Disposals \$5,219,968		
Materials \$12,467		Overhead \$0		Wires \$4,863		
Other \$5,720		Purchases \$546,687		Wires CAPEX for Depreciation Purposes \$16,947		
Other Employee \$0		Stores \$0		Wires Disposals \$114,742		
Overheads \$0		Travel/Accomm \$13,888		Substations/Other \$86,581		
Property Plant & Equip \$16,418		Transport \$241,818		Substations/Other CAPEX for Depreciation Purposes \$387,922		
Transport \$17,173		Less CAPEX already in AARR for Defect Replacement 0 (-\$4,258,920)		Other Disposals \$2,626,536		
		Reg Depreciation -\$8,136,303		Depreciation on disposed assets -\$88,458		
		Closing Asset Value \$4,135,974		Accelerated Depreciation \$7,961,246		
		Average Asset Value (for ROA) \$7,467,196				
		Return on Assets \$634,712				
				Less CPI Escalator -\$114,153		

Ergon's Amended Calculation of Pass Through Amount for 2006/07



Appendix 3 Breakdown of Corrected Pass-Through Submitted by Ergon



2005/06 O&M \$7,849,285		2005/06 Return on Assets \$279,948		Total for 2005/06 After Escalation by WACC for 3 Years \$10,246,096		
Accom Travel Entertain & Training \$172,058		Opening Asset Value \$0		Total 2005/06 \$8,021,751		
Computer & Comms \$2,121		Inflation of Opening Asset Value \$0		2005/06 Regulatory Depreciation \$74,320		
Consultants/Contractors \$3,870,921		Capex \$6,661,334		2006/07 Depreciation on new assets \$74,320		
Health & Safety \$115,088		Contract Labour \$6,155,899		Poles \$48,529	Poles CAPEX for Depreciation Purposes \$4,367,652	Poles Disposals \$5,219,968
Labour \$2,060,082		Internal Labour \$4,386,883		Wires \$1,372	Wires CAPEX for Depreciation Purposes \$96,007	Wires Disposals \$114,742
Marketing \$107,076		Other \$328,939		Substations/Other \$24,419	Substations/Other CAPEX for Depreciation Purposes \$2,197,675	Other Disposals \$2,626,536
Materials \$842,359		Overhead \$0		Depreciation on disposed assets \$0		
Other \$99,079		Purchases \$2,519,591		Accelerated Depreciation \$0		
Other Employee \$430		Stores \$0				
Overheads \$0		Travel/Accomm \$954,173				
Property Plant & Equip \$280,949		Transport \$833,689				
Transport \$299,122		Less CAPEX already in AARR for Defect Replacement -\$8,517,841				
		Reg Depreciation -\$74,320				
		Closing Asset Value \$6,587,014				
		Average Asset Value (for ROA) \$3,293,507				
		Return on Assets \$279,948				
				Less CPI Escalator -\$181,802		

Ergon's Corrected Calculation of Pass Through Amount for 2005/06



2006/07 O&M \$79,719		2006/07 Return on Assets \$275,953		Total for 2006/07 After Escalation by WACC for 2 Years \$9,885,057					
Accom Travel Entertain & Training \$5,697		Opening Asset Value \$6,587,014		Total 2006/07 \$8,396,914					
Computer & Comms \$20		Inflation of Opening Asset Value \$181,802		2006/07 Regulatory Depreciation \$8,038,648			Less CPI Escalator \$2,595		
Consultants/Contractors \$11,534		Capex \$1,175,822		2006/07 Depreciation on new assets \$165,860					
Health & Safety \$375		Contract Labour \$146,257		Poles \$108,304		Poles CAPEX for Depreciation Purposes \$770,954		Poles Disposals \$5,219,968	
Labour \$4,712		Internal Labour \$220,395		Wires \$3,061		Wires CAPEX for Depreciation Purposes \$16,947		Wires Disposals \$114,742	
Marketing \$5,603		Other \$6,777		Substations/Other \$54,495		Substations/Other CAPEX for Depreciation Purposes \$387,922		Other Disposals \$2,626,536	
Materials \$12,467		Overhead \$0		Depreciation on disposed assets -\$88,458					
Other \$5,720		Purchases \$546,687		Accelerated Depreciation \$7,961,246					
Other Employee \$0		Stores \$0							
Overheads \$0		Travel/Accomm \$13,888							
Property Plant & Equip \$16,418		Transport \$241,818							
Transport \$17,173		Less CAPEX already in AARR for Defect Replacement \$0							
		Reg Depreciation -\$8,038,648							
		Closing Asset Value -\$94,010							
		Average Asset Value (for ROA) \$3,246,502							
		Return on Assets \$275,953							

Ergon's Corrected Calculation of Pass Through Amount for 2006/07

Appendix 4 Evans & Peck's Calculation of Pass-Through using Accelerated Depreciation Method

2005/06 O&M \$7,049,285		2005/06 Return on Assets \$537,817		Total for 2005/06 After Escalation by WACC for 3 Years \$19,331,415	
Accom Travel Entertain & Training \$172,058		Opening Asset Value \$0		Total 2005/06 \$15,134,721	
Computer & Comms \$2,121		Inflation of Opening Asset Value \$0		2005/06 Regulatory Depreciation \$6,822,701	
Consultants/Contractors \$3,870,921		Capex \$9,543,061		Less CPI Escalator -\$75,082	
Health & Safety \$115,088		Contract Labour \$6,155,899		Total Depreciation on new assets to 2010 \$851,765	
Labour \$2,060,082		Internal Labour \$4,386,883		Depreciation on disposed assets to 2010 -\$1,990,310	
Marketing \$107,076		Other \$328,939		Accelerated Depreciation \$7,961,246	
Materials \$842,359		Overhead \$0			
Other \$99,079		Purchases \$2,519,591			
Other Employee \$430		Stores \$0			
Overheads \$0		Travel/Accomm \$954,173			
Property Plant & Equip \$280,949		Transport \$833,689			
Transport \$299,122		Less CAPEX already in AARR for Defect Replacement -\$5,636,113			
		Reg Depreciation -\$6,822,701			
		Closing Asset Value \$2,720,360			
		Average Asset Value (for ROA) \$1,360,180			
		Return on Assets \$115,615			
		Remainder of ROA for Disposed assets already in the AARR until 2009/10 -\$2,706,824			
		Remainder of ROA of new assets not in the AARR until 2009/10 \$3,129,026			

Evans & Peck Calculation of Pass Through Amount for 2005/06

Does NOT meet materiality test

2006/07 O&M \$79,719	2006/07 Return on Assets \$299,835
Accom Travel Entertain & Training \$5,697	Opening Asset Value \$2,720,360
Computer & Comms \$20	Inflation of Opening Asset Value \$75,082
Consultants/Contractors \$11,534	Capex \$1,175,822
Health & Safety \$375	Contract Labour \$146,257
Labour \$4,712	Internal Labour \$220,395
Marketing \$5,603	Other \$6,777
Materials \$12,467	Overhead \$0
Other \$5,720	Purchases \$546,687
Other Employee \$0	Stores \$0
Overheads \$0	Travel/Accomm \$13,888
Property Plant & Equip \$16,418	Transport \$241,818
Transport \$17,173	Less CAPEX already in AARR for Defect Replacement \$0
	Reg Depreciation -\$78,711
	Closing Asset Value \$3,892,553
	Average Asset Value (for ROA) \$3,306,457
	Return on Assets \$281,049
	Return on Disposed Assets already in AARR \$0
	Remainder of ROA of new assets not in the AARR until 2009/10 \$18,786

Total for 2006/07 After Escalation by WACC for 2 Years \$413,006	
Total 2006/07 \$350,830	
2006/07 Regulatory Depreciation \$78,711	Less CPI Escalator -\$107,434
2006/07 Depreciation on new assets to 2010 \$78,711	
Depreciation on disposed assets \$0	
Accelerated Depreciation \$0	

Evans & Peck Calculation of Pass Through Amount for 2006/07



Appendix 5 Evans & Peck's Calculation of Pass-Through using Deferred Write Off Method

2005/06 O&M \$7,849,285		2005/06 Return on Assets \$3,244,641		Total for 2005/06 After Escalation by WACC for 3 Years \$14,951,706	
Accom Travel Entertain & Training \$172,058		Opening Asset Value \$0		Total 2005/06 \$11,705,812	
Computer & Comms \$2,121		Inflation of Opening Asset Value \$0		2005/06 Regulatory Depreciation \$851,765	
Consultants/Contractors \$3,870,921		Capex \$9,543,061		Less CPI Escalator -\$239,880	
Health & Safety \$115,088		Contract Labour \$6,155,899		Total Depreciation on new assets to 2010 \$851,765	
Labour \$2,060,082		Internal Labour \$4,386,883		Depreciation on disposed assets to 2010 \$0	
Marketing \$107,076		Other \$328,939		Accelerated Depreciation \$0	
Materials \$842,359		Overhead \$0			
Other \$99,079		Purchases \$2,519,591			
Other Employee \$430		Stores \$0			
Overheads \$0		Travel/Accomm \$954,173			
Property Plant & Equip \$280,949		Transport \$833,689			
Transport \$299,122		Less CAPEX already in AARR for Defect Replacement -\$5,636,113			
		Reg Depreciation -\$851,765			
		Closing Asset Value \$8,691,296			
		Average Asset Value (for ROA) \$4,345,648			
		Return on Assets \$369,380			
		Remainder of ROA for Disposed assets already in the AARR until 2009/10 \$0			
		Remainder of ROA of new assets not in the AARR until 2009/10 \$2,875,261			

Evans & Peck Calculation of Pass Through Amount for 2005/06 for Deferred Write Off

Does NOT meet materiality test

2006/07 O&M \$79,719	2006/07 Return on Assets \$299,835
Accom Travel Entertain & Training \$5,697	Opening Asset Value \$2,720,360
Computer & Comms \$20	Inflation of Opening Asset Value \$75,082
Consultants/Contractors \$11,534	Capex \$1,175,822
Health & Safety \$375	Contract Labour \$146,257
Labour \$4,712	Internal Labour \$220,395
Marketing \$5,603	Other \$6,777
Materials \$12,467	Overhead \$0
Other \$5,720	Purchases \$546,687
Other Employee \$0	Stores \$0
Overheads \$0	Travel/Accomm \$13,888
Property Plant & Equip \$16,418	Transport \$241,818
Transport \$17,173	Less CAPEX already in AARR for Defect Replacement \$0
	Reg Depreciation -\$78,711
	Closing Asset Value \$3,892,553
	Average Asset Value (for ROA) \$3,306,457
	Return on Assets \$281,049
	Return on Disposed Assets already in AARR \$0
	Remainder of ROA of new assets not in the AARR until 2009/10 \$18,786

Total for 2006/07 After Escalation by WACC for 2 Years \$413,006
Total 2006/07 \$350,830
2006/07 Regulatory Depreciation \$78,711
Less CPI Escalator -\$107,434
2006/07 Depreciation on new assets to 2010 \$78,711
Depreciation on disposed assets \$0
Accelerated Depreciation \$0

Evans & Peck Calculation of Pass Through Amount for 2006/07 for Deferred Write Off