

Independent Pricing and Regulatory Tribunal  
of New South Wales

Review of Integral Energy's Public  
Lighting Capital and Operating  
Expenditure  
**(FINAL REPORT)**

October 2007

**Wilson Cook & Co**  
Engineering and Management Consultants  
Advisers and Valuers

# Wilson Cook & Co

Engineering and Management Consultants  
Advisers and Valuers

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30 October 2007

Mr Dennis Mahoney  
Program Manager, Energy Networks  
Independent Pricing and Regulatory Tribunal of New South Wales  
Level 2, 44 Market Street  
Sydney NSW 2000

Dear Mr Mahoney,

## **REVIEW OF INTEGRAL ENERGY'S PUBLIC LIGHTING CAPITAL AND OPERATING EXPENDITURE (FINAL REPORT)**

We are pleased to submit to the Tribunal our final report on the review of Integral Energy's public lighting capital and operating expenditure for use in your review of Integral's public lighting price proposal.

Our opinion is that Integral Energy's capital expenditure on public lighting in FYs 2005 to 2007 was prudent and that its proposed levels of capital and operating expenditure in FYs 2008 and 2009 are efficient, subject to certain adjustments that we have proposed.

A key point to emerge in the review was that Integral's actual expenditure for FY 2007 was lower than that assumed in its price proposal – hence the main reason for the adjustments that we have made. A further reason for the adjustments related to our concern over the distribution of capital expenditure arising from the steel column replacement programme that was undertaken over the period FY 2005 to 2007. These considerations led to our selection of FY 2007 expenditure in place of FY 2006 expenditure as the base for calculation of the projected expenditures in FY 2008 and FY 2009.

The second key point arising was that the uplift in opex from and including FY 2005 was found to be attributable mainly to the re-allocation to public lighting of costs, including corporate allocations and Asset Management business unit costs, that were previously carried by the network business under the 'prescribed services' heading. The company provided us with details of the calculation of these re-allocated overheads and costs and a written assurance that they had not been double-counted within the public lighting expenditures that it presented to us for review.

These conclusions and other points that we wish to draw to the Tribunal's attention are summarised in section 4 of the report.

Our conclusions are based on the information presented to us, the representations made by Integral and our own assessments and judgement.

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We believe that all the submissions made by Integral and the local councils have been given our full consideration.

In conclusion, we thank you for entrusting us with this assignment and for the assistance given during the work.

Yours faithfully

**Wilson Cook & Co Limited**

A handwritten signature in blue ink that reads "Wilson Cook & Co." The signature is written in a cursive style and is positioned above a light blue horizontal line.

# Review of Integral Energy's Public Lighting Capital and Operating Expenditure (FINAL REPORT)

Prepared for the Independent Pricing and Regulatory Tribunal of New South Wales

By Wilson Cook & Co Limited

Enquiries to Mr J W Wilson

Our reference 0709

October 2007

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# 1 Introduction

## 1.1 Appointment and Terms of Reference

The Independent Pricing and Regulatory Tribunal of New South Wales (IPART)<sup>1</sup> appointed Wilson Cook & Co Limited, Engineering and Management Consultants, Advisers and Valuers, of Auckland to conduct a review of the public lighting operating expenditure, capital expenditure and asset management practices of Integral Energy.

The terms of reference required us to examine Integral Energy's (Integral's) public lighting operations, identify major cost drivers and recommend efficient cost levels consistent with maintaining the service standards as required by the *NSW public lighting code* of January 2006 (the Code) and industry best practice.

The objectives of the study were to assess and report to the Tribunal: (a) whether Integral's proposed levels of capital and operating expenditure for FY 2008 and FY 2009 are efficient and reasonable to deliver the public lighting services, having regard to the requirements of the Code and industry best practice; and (b) whether its past public lighting capital expenditure from FY 2005 to FY 2007 is prudent.

We were to assist the Tribunal by reviewing estimates of operating and capital expenditure and asset management policies, using relevant industry benchmarks where appropriate. If it was found that the operating and/or capital expenditure projections were not efficient, we were to indicate how the expenditure should be adjusted to obtain efficient levels.

The required outputs from the consultancy were:

- (a) a draft report and a final written report that addresses the objectives of the consultancy;
- (b) consultation with the Local Government and Shires Associations (LG&SA) and major local councils who are public lighting 'customers' of Integral;
- (c) discussions and meetings with the DNSP, the Tribunal and/or Tribunal Secretariat as required; and
- (d) presentation of draft findings to the Tribunal and/or the Tribunal Secretariat as required.

The terms of reference envisaged that the consultancy would begin in the week commencing 13 August 2007 and that the final report would be delivered in the week ending 7 September 2007.

The terms of reference for the Services are given in appendix A.

## 1.2 Documents and Information Received

We received and reviewed the following documents and information from IPART or obtained it from its web site:

- Integral's public lighting price proposals of 2006 and 2007 as made available to the public on IPART's web site.
- The submissions made by local councils and available on the same web site.

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<sup>1</sup> References to IPART are generally to the Secretariat to the Tribunal unless the sense requires reference to the Tribunal itself.

- Relevant correspondence between IPART and Integral and between council representatives and IPART.
- IPART's *Electricity Information Paper No. 5* discussing amongst other things the performance of the DNSPs in respect of public lighting.

We received and reviewed the following documents and information from Integral:

- Information on the breakdown of historical and projected public lighting expenditure.
- A copy of the Code.<sup>2</sup>
- Integral's current public lighting management plan, prepared pursuant to the Code, and a copy of its draft revision of the plan.
- Copies of recent quarterly reports from Integral to selected councils in relation to public lighting.
- Information on Integral's public lighting assets (age profiles, luminaire types, asset quantities and selected other data).
- A list of 'non-standard' luminaires.
- Information on its public lighting cost drivers and other relevant factors.
- A summary of the un-audited regulatory accounts for FY 2007.
- Internal analyses and papers on the development of Integral's public lighting policies and the selection of lamps and luminaires.
- Information on Integral's public lighting service performance.

### 1.3 Work Programme, Consultation and Reporting

Work on the assignment commenced after our appointment by IPART on 10<sup>th</sup> August 2007. After an initial review of the information available, we arranged to meet with Integral's staff on 28<sup>th</sup> August. A presentation was made to us at that meeting by Integral.

At our request, Integral subsequently provided additional information to us on its asset inventory, past and projected expenditure, cost allocations and cost components, expenditure breakdowns, work volumes, column replacement programmes, bulk lamp replacement programme, luminaire replacement policies, maintenance plans and other aspects of its pricing proposal.

Subsequently, with IPART staff, we held discussions with local councils who had made public submissions on the matter and a representative of the Local Government and Shires Associations of NSW (the LG&SA) and then held further discussions with both Integral and IPART before concluding our analysis.

The review took longer than envisaged in the terms of reference because of the need to obtain further information on the expenditure (no detailed expenditure information was given in Integral's price proposal), reconcile discrepancies in the figures supplied, obtain explanations for the movements in certain expenditure categories and be satisfied that overhead allocations to the public lighting function had not been double-counted.

Our draft report was presented to IPART on 18 October for comment and for confirmation that the terms of reference had been addressed fully and subsequently for review by Integral for material errors of fact. Agreed changes were made to the report where required but the comments received and changes made did not have the effect of altering our opinion on the reasonableness of the expenditure reviewed. Our report was then re-sent to IPART as a final draft on 25 October for consideration by the Tribunal. It was presented in its final form with clarifications and editorial changes but without material alteration to its

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<sup>2</sup> The Code was promulgated in January 2006. To our knowledge, no amendments have been made to it to date.

conclusions on the date of the accompanying letter of transmittal for its use by IPART and for public release if required.

The assignment was carried out for and on behalf of Wilson Cook & Co Limited by Mr Jeffrey Wilson with the assistance of Mr Steven Cooke, both of Wilson Cook & Co.

A list of the personnel met is given in appendix B.

## **1.4 This Report**

This report summarises the work carried out, our conclusions and recommendations. It is presented in four main sections as follows:

- Section 1 – Introduction (this section)
- Section 2 – Background and Approach to the Review
- Section 3 – Analysis
- Section 4 – Conclusion.

## **1.5 Units and Tables**

“NA” in tables means ‘not applicable’ or ‘not available’, as the context requires; “c.” means circa or ‘about’; and ‘m’ means millions. Sums have generally been rounded and tables may thus not add exactly. FY 2005 or 2004/05 means the financial year ending 30 June 2005 etc unless the context requires otherwise.

Unless noted otherwise, costs expressed in the tables are in nominal terms, as are amounts referred to in the text.

## **1.6 Probity**

IPART’s staff provided guidance in respect of our terms of reference and assisted us with our work. We considered all such representations and requests but are satisfied that none influenced our report or its conclusions inappropriately.

## **1.7 Acknowledgements**

The cooperation and assistance of IPART, Integral and the council representatives consulted is gratefully acknowledged, particularly in light of the short time-frame available for the work.

## 2 Background and Approach to the Review

### 2.1 Background

IPART's June 2004 pricing determination in respect of the electricity distribution businesses designated public lighting as an excluded distribution service to be regulated under Rule 2004/01 (the Rule). The Rule requires that, if a DNSP seeks to increase its public lighting charges, it must make an application to the Tribunal and comply with the requirements of the Rule. Specifically, the Rule requires that DNSPs must set prices to signal economic costs of provision with reasonable endeavour (Clause 2.2); and DNSPs must consider customer impacts, and demonstrate how the impact of any significant changes can be mitigated (for example by transitional price options). The primary customers of the public lighting services are local councils in Integral's distribution area.

In June 2007, Integral applied for a public lighting price change of CPI plus 2%<sup>3</sup> for FY 2008. In support of its application, Integral provided estimates of its projected capital and operating expenditure for FY 2008 and FY 2009 that substantially exceed the estimates provided for the June 2004 determination.

As part of its assessment of the proposal, the Tribunal wished to understand the extent to which the operating and capital expenditure projections underlying Integral's proposal represent efficient expenditure for determining prices for its public lighting services. It therefore sought a qualified consultant to undertake a review of Integral's public lighting operating and capital expenditure and asset management practices. The matters reviewed in this report, *viz.* Integral's operations, major cost drivers and efficient cost levels in respect of its public lighting operations, have been reviewed as an input into this process.

### 2.2 Requirements of the NSW Public Lighting Code

By agreement with the DNSPs, public lighting facilities in New South Wales, provided by the DNSPs to councils and other 'customers', are provided in accordance with the principles set out in the *NSW public lighting code*. A review of the Code is being conducted by the Department but no amendments have yet been made.

The Code sets out amongst other things:

- minimum maintenance standards and associated service level guarantees;
- minimum requirements for inventories, management plans, performance reporting and billing;
- a requirement that service providers [DNSPs] consult with customers [mainly local councils] in deciding what core lighting types they are going to offer; and
- a mechanism allowing for connection of lighting types outside the core choices offered by service providers.<sup>4</sup>

<sup>3</sup> The terms of reference cite a rate of 3.5% for CPI but Integral confirmed to us that they had assumed 2.5% p.a. in its expenditure calculations. We noted also that the reference to "plus 2%" is to the proposed price movement, not to expenditure.

<sup>4</sup> See page ii of the Code.

Clause 1.1 of the Code states that the purpose of the Code is “to provide guidance on the provision of public lighting services...” and that:

- service level agreements may be prepared in accordance with Clause 5,
- asset management plans must be developed and implemented in accordance with Clause 7,
- an inventory must be prepared in accordance with Clause 8,
- reporting must be undertaken in accordance with Clause 9,
- works or services must be undertaken or provided in accordance with Clauses 10 to 15, and
- service providers must implement the requirements of the Code in accordance with Clause 16.

## 2.3 Our Approach

The approach we adopted in the review was to:

- be briefed by IPART on the purpose of the review and the requirements of our services;
- review Integral’s price proposal and its supporting information;
- review the submissions received from the local councils and the LG&SA;
- take account of the factors required to be considered, as listed in the terms of reference;
- consult with Integral on its proposal and on the council submissions;
- consult with the councils (including the LG&SA) that made submissions to confirm the points that, in their view, ought to be considered in our work;
- obtain such further information and explanations from Integral and other parties as was required, including in relation to expenditure, service levels, the possible impact of any changes being considered in the provision of the public lighting services or other information relevant to your work; and then to
- conclude our analysis and report.

## 2.4 Matters Not Considered

It was not within our terms of reference to consider the impact of price increases or cost allocations between councils, transitional pricing arrangements, the treatment of capital contributions, cost recovery issues, any matters to do with the regulatory asset base, customer service incentives, the level of contestability in the public lighting field, the timing of price changes or any other economic or pricing matter except as required to formulate our opinion on past or future capital or operating expenditure levels.

Nor did we consider the correctness of any cost allocations between public lighting and network activities in past years, the efficiency of the shared workforce that carries out both network and public lighting activities for Integral, Integral’s policy on the capitalisation of expenditures or any other matter that had been scrutinised as part of the total cost review carried out in 2003 and 2004 for IPART’s 2004 price determination.

We did not verify the accuracy or completeness of any of the data that Integral provided to us, other than to the extent described in this report. We did not review Integral’s public

lighting installations for compliance with any design code, standard or internal policy paper or statement of design. Nor did our work include any checking of the assets for physical presence or condition or an audit or any such other checks as might constitute an audit of the assets or the data.

## 3 Analysis

### 3.1 Integral's Public Lighting Network and its Development

Integral operates a public lighting network of around 180,000 streetlights on behalf of twenty-nine public lighting customers, including twenty-three local councils.

Integral considers that it has been a leader not only in the introduction of new luminaires but also in their specification and development. It says it has worked closely with manufacturers to help formulate specifications that have enabled them to develop new luminaires for road lighting applications with the objective of providing its customers with a choice of luminaires that minimise life cycle costs whilst promoting energy efficiency.

It says that the concept of using 'T5' fluorescent luminaires on residential roads was initially proposed by it in 1997, with prototypes developed and tested in-house over the following years, manufacture commencing in 2002, and with the luminaire subsequently winning environmental and design awards. It says that it introduced the T5s in 2003 and since then has actively encouraged public lighting customers to use them in new installations on minor roads.

More recently, Integral says, it has provided specifications to a manufacturer to develop a new 42 W compact fluorescent luminaire of modular construction. The control gear for this luminaire will be in a plug-in cassette that can be replaced without the need for in-situ repairs if a fault develops. This approach is expected to yield significant savings in fault and emergency repairs. Integral also says that a lamp with a long-rated and economic life (25,000 hours) is available for use with this luminaire and that this could generate large savings through the extension of bulk lamp replacement cycles in the medium- to long-term.

#### ***Design, Construction and Maintenance***

Integral says that its strategy is designed to ensure the use of efficient and cost-effective luminaires during design, construction and maintenance.

It says that its list of standard luminaires is monitored regularly, keeping in view any new developments and the specific requirements of public lighting customers. It says that designers are provided with a choice of luminaires from the list for all new projects and that this approach helps ensure that new public lighting installations use efficient and modern luminaires best suited to the purpose.

It says that the objective of its maintenance programme is to ensure that the public lighting system operates safely, efficiently and effectively over its economic life. Staff are given guidance on replacing unserviceable luminaires with current types:

- Twin 20 W fluorescent luminaires are replaced with 80 W mercury vapour luminaires.
- Single 40 W fluorescent luminaries and all other minor road lighting luminaires that are obsolete or unserviceable (e.g. incandescent types) are generally replaced with 80 W mercury vapour luminaires.
- Where public lighting customers have made specific requests, replacements on minor roads are with 2 x 14 W or 2 x 24 W T5s.

- All unserviceable and obsolete 250 W and 400 W mercury vapour luminaires are replaced with 150 W and 250 W high-pressure sodium luminaires respectively.

We noted these guidelines were in line with the recent ‘street lighting technology improvement package’ promoted as part of the Streetlight Improvement Programme (SLIP), following a review in late 2002 or early 2003 of public lighting designs and practices in southern and inner Sydney by Next Energy.

### ***Bulk Lamp Replacement Programme***

Integral says that it has operated a bulk lamp replacement programme for a number of years with data available on the programme from FY 1999. The programme operates on a three-year cycle with replacement targets set annually at one-third of the total population but monitored and reported monthly. All twin 20 W and single 40 W fluorescent luminaires are replaced with 80 W mercury vapour luminaires during bulk lamp changes.

### ***Contracting Out and Market Testing of Rates***

In response to our questions about the cost-effectiveness of its rates, Integral noted that it employed predominantly contracted resources for vegetation management, supplemented by internal resources. For bulk lamp replacement and reported outage correction, it used solely in-house resources. It said that the terms of engagement of the in-house resource group have recently been determined by Marchmont Hill Consulting as ‘best practice’ in the industry. It therefore considered that its approach to public lighting resource management was appropriate but it would continue to undertake periodic reviews to ensure optimisation.

## **3.2 Service Level Agreements with Customers**

Service level agreements are intended to be negotiated between a DNSP and its public lighting customers in cases where the service levels in the Code are to be varied. According to Integral, no such agreements have been signed with its public lighting customers.

## **3.3 Integral’s Public Lighting Management Plan**

Integral has developed and is implementing a *Public lighting management plan* pursuant to the Code.<sup>5</sup> The plan is said to be “designed to illustrate how [Integral] manage and operate a safe and reliable public lighting network. It gives details of [Integral’s] commitment for further improvements and service levels and their related management strategies, it also answers specific requirements of the Public Lighting Code, and Integral is committed to maintaining a safe and reliable electricity network and this plan is a further endorsement of that commitment.” Integral also provided us with a draft of its proposed revisions to the plan, incorporating an updated statement of its procedures (following an internal reorganisation of its engineering functions) and further elaboration on how the public lighting processes work.

## **3.4 Integral’s Price proposal**

Integral submitted its public lighting price proposal for a price increase from 1 August 2007 of CPI plus 2%.<sup>6</sup> We were provided with a copy of the proposal as well as Integral’s 2006 proposal.

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<sup>5</sup> Issue 1, 25 August 2006.

<sup>6</sup> See footnote 3.

The essence of the present proposal as far as our work is concerned is that capex on the public lighting network would be increased by CPI from the reported FY 2006 level and operating expenditure (including maintenance) would be increased in the same manner. Table 3.1 shows the expenditure stated on page 10 of the price proposal and Integral's calculation of the expenditure assumed in the 2004 Determination.

**Table 3.1: Integral's Forecast Expenditure (Price Proposal)**

YE 30 June (\$000)	2005	2006	2007	2008	2009
<b>Opex</b>					
Determination a/	5,800	6,152	6,505	6,873	7,265
2007 price proposal	9,721	9,908	10,039	10,290	10,547
<b>Capex</b>					
Determination a/	2,896	3,002	3,007	3,138	3,169
2007 price proposal	4,616	5,626	5,823	5,968	6,118

a/ Integral's calculations (email from Integral to IPART dated 6 July 2007).

Initially, no information was supplied for FY 2007 other than the estimated total expenditure figures. At our request, Integral provided us with the expenditure figures in its un-audited regulatory accounts for FY 2007 and subsequently with an analysis modifying the FY 2007 capex figure to take account of capex that it said was related to the period but which had not been included in the accounts. The new information, although subject to audit, showed that actual opex in FY 2007 was \$9.833 m compared with the \$10.039 m stated in the price proposal and that actual capex in FY 2007 was \$4.881 m compared with the \$5.823 m assumed in the price proposal.<sup>7</sup>

After consultation with Integral, we accepted the revised figures as the most up-to-date available for our review. Thus, the expenditure that we have reviewed is as stated in Table 3.2.

**Table 3.2: Integral's Revised Expenditure as Examined in our Review**

YE 30 June (\$000)	2005	2006	2007	2008	2009
<b>Opex</b>					
Determination a/	5,800	6,152	6,505	6,873	7,265
Actual b/	9,721	9,908	9,833		
2007 price proposal				10,290	10,547
<b>Capex</b>					
Determination a/	2,896	3,002	3,007	3,138	3,169
Actual b/ c/	4,616	5,626	4,881		
2007 price proposal				5,968	6,118

a/ Integral's calculations (email from Integral to IPART dated 6 July 2007).

b/ Includes a revised figure in FY 2007, shown in red.

c/ A breakdown of capitalised costs provided by Integral showed slightly different figures for capex in FY 2005 and FY 2006 (\$4.452 m vs. \$4.616 m in FY 2005 and \$5.661 m vs. \$5.626 m in FY 2006). We were advised that the discrepancies were due to differences in the dates of capitalisation of work. Both figures are referred to in Table 3.6 but on Integral's advice, our assessment is based on the figures in the table above.

<sup>7</sup> The capex adjustments are discussed further in section 3.7.

### 3.5 Comparison with 2004 Determination

We then verified Integral's calculations of the expenditure assumed for public lighting in IPART's 2004 Determination. This was done by reference to Meritec's Final Report<sup>8</sup> and to IPART's final report of June 2004.<sup>9</sup>

#### *Opex*

In the case of opex, the Determination was based on Meritec's recommendations (which were expressed in real 2003 dollars), plus inflation to convert the sums to nominal dollars. The inflator we have assumed is 2.5%. It appears to be consistent with the inflator assumed in the Determination and used subsequently by Integral to calculate the amounts. The calculations are shown in Table 3.3.

The table shows an approximate doubling (105% increase) in Integral's actual opex from FY 2004 to FY 2005, the first year of the new regulatory period. However, of importance, Integral's allocation of corporate overheads differed from period to period, as explained in a note to its expenditure templates prepared in 2003 and provided to Meritec at the time – see footnote 'a' to the table – with no corporate allocations being made to public lighting from FY 2001 onwards. It would be normal for corporate overheads to have been allocated to all business activities, not only prescribed services, and so, in principle, the re-allocation of a share of them to public lighting from FY 2005 onwards was appropriate. However, when comparing the expenditures with those in the Determination, it is necessary to remove the re-allocated overheads from the expenditure in the period FY 2005 to FY 2007 and when this is done, it can be seen that the remainder is more-or-less comparable with the estimates assumed in the Determination, other than in FY 2005. The comparison with corporate allocations removed is shown in the last line of the table.

Further details are discussed in section 3.6.

(References in the notes to the table and in the main text to "Integral Energy Contracting" and to the "Asset Management" business unit are to the business unit that carries out the fieldwork on Integral's network, including on its public lighting assets.)

#### *Capex*

In the case of capex, adjustment was required to Meritec's figures to remove the cost of works gifted or funded by others, subtract the reduction of 9% in all capex that was incorporated in the Determination,<sup>10</sup> then add inflation to convert the sums to nominal dollars. The inflator assumed was again 2.5%. The calculations are shown in Table 3.4.

The table shows a significant reduction in reported (actual) capex during the period FY 2001 to FY 2004 compared with the preceding two years. Although the reasons for the decline in expenditure in these years is not fully clear, it appeared that capital expenditure on public lighting assets up to FY 2001 reflected trends to that point but that around 2001, the impact of the low level of network capex undertaken during the mid-to-late 1990's manifested itself in overloading of the distribution network and a deterioration in reliability. The period was also characterised by high rates of growth and Integral was not alone in diverting resources to urgent network augmentation and away from replacement expenditure and other activities such as public lighting. It is thought that this rationing of resources was the main factor underlying the fall in capex between 2001 and the start of the new regulatory period in FY 2005, at which point additional funding and resources became

<sup>8</sup> Wilson Cook & Co subsequently proposed modifications to Meritec's expenditure figures prior to the Determination but only in respect of expenditure related to the prescribed services, not to public lighting.

<sup>9</sup> See IPART report OP-23, *Final report*, June 2004.

<sup>10</sup> *Ibid*, p. 31.

available. This is reflected in a significant increase in public lighting capex in FY 2005, with a further increase from FY 2005 to FY 2006.

We discussed the increases in capex in the period FY 2005 to FY 2007 with Integral and were satisfied that it resulted mainly from the adverse findings of a comprehensive survey of steel light standards (columns) carried out in 2004, as a result of which a major programme of column replacement and remedial work was initiated. We examine this expenditure further in section 3.7.

Expenditure in FY 2008 to FY 2009 (and, originally, in FY 2007 as well) was projected by Integral in its price proposal to increase at CPI (assumed to be 2.5%) from the actual expenditure level in FY 2006. We discuss the suitability of using the FY 2006 expenditure as the base for this projection in section 3.7.

Table 3.3: Opex Reconciliation with Determination

YE 30 June in nominal dollars (million)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	Actual	Actual	Actual	Actual	Est./ Actual	Est./ Actual	Actual	Actual	Est.	Est.	Est.
Public lighting opex in Meritec's Final Report a/ Inflated at 2.5% p.a. to nominal dollars	5.066	4.558	3.338	3.722	5.426	5.773	5.494	5.685	5.864	6.045	6.234
Determination amounts calculated by Integral b/ Actual / estimated expenditures c/	5.066	4.558	3.338	3.722	4.396	4.753	5.800	6.152	6.505	6.873	7.265
Increase from previous year (pct)							105%	1.9%	-0.8%	4.6%	2.5%
Actual / estimated as pct of Determination							168%	162%	152%	150%	146%
Pct of Determination if corp. allocations removed (see note a/)							122%	107%	101%		

a/ The sums for 1999 and 2000 were Integral Energy Contracting (IEC - later re-named Asset Management) direct billings to the network business unit. They included a charge for corporate overheads received by IEC. For years 2001 onwards, only Asset Management's overheads, not corporate overheads, were included in the amounts.

(Source: Integral's expenditure template, 2003.)

b/ Source: Integral's email of 6 July 2007 to IPART.

c/ Sources: Meritec Final Report (99-03), Integral's analysis of October 2007 (04-06), un-audited regulatory accounts (07) and Integral's price proposal (08-09). See also note a/.

Table 3.4: Capex Reconciliation with Determination

YE 30 June in nominal dollars (million)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	Actual	Actual	Actual	Actual	Est.	Actual	Actual	Actual	Est.	Est.	Est.
Public lighting capex in Meritec's Final Report	10.464	9.383	6.432	8.370	4.915	5.500	5.600	5.700	5.700	5.800	5.900
Less works gifted or funded by others	1.364	0.883	3.732	4.270	2.500	2.500	2.600	2.700	2.700	2.800	2.900
Balance	9.100	8.500	2.700	4.100	2.415	3.000	3.000	3.000	3.000	3.000	3.000
Less 9% reduction in Determination							2.730	2.730	2.730	2.730	2.730
Inflated at 2.5% p.a. to nominal dollars							2.868	2.940	3.013	3.089	3.166
Determination amounts calculated by Integral a/							2.896	3.002	3.077	3.138	3.169
Actual / estimated expenditures b/ c/ d/	9.100	8.500	2.700	4.100	2.415	1.352	4.616	5.626	4.881	5.968	6.118
Increase from previous year (pct)							241%	22%	-13%	22%	2.5%
Actual / estimated as pct of Determination							161%	191%	162%	193%	193%

a/ Source: Integral's email of 6 July 2007 to IPART.

b/ Sources: Meritec Final Report (99-03), Integral's analysis of October 2007 (04-06), Integral calculations (07) and Integral's price proposal (08-09).

Integral advised us that the actual expenditure reported for FY 2004 may not be comparable with the later figures due to a change in the chart of accounts that year.

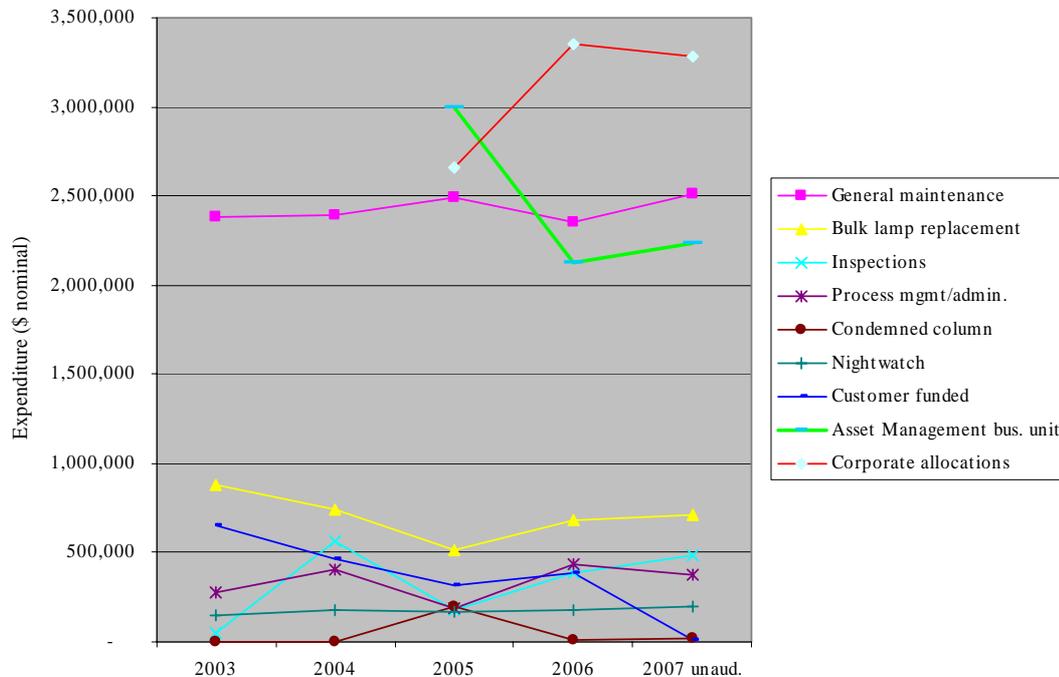
c/ Excludes works gifted or funded by others.

d/ The estimated expenditure reported for FY 2007 is lower than that projected by Integral in its price proposal (which envisaged expenditure of \$5.823 m in line with the trend of the preceding and following years).

### 3.6 Analysis of Opex in FYs 2003-2007

We asked Integral to provide a breakdown of opex in the period FY 2003 to FY 2007, showing the movements in each sub-category and the data is summarised in Figure 3.1.

**Figure 3.1: Movement in Opex Components**



The figure highlights the impact of the corporate cost and Asset Management business unit allocations that commenced in FY 2005 at the beginning of the new regulatory period as explained in section 3.5, with public lighting treated as an excluded service from that time.

It also shows an unexplained movement between Asset Management costs and corporate allocations between FY 2005 and FY 2006.<sup>11</sup>

It further shows that opex related to the column replacement programme – principally, costs related to the inspection programme – was reported in FY 2005 whereas the inspections had mainly been completed in the preceding financial year.

We asked for an explanation of the method of allocation of corporate costs to the public lighting function. Integral advised that corporate costs were allocated to all business units, including the prescribed distribution services and excluded functions, in the proportion of direct costs. A review of the FY 2007 un-audited regulatory accounts showed that the corporate allocation that year was consistent with the explanation, within acceptable limits.

In relation to the Asset Management business unit cost allocations to public lighting, Integral advised that: “The accounting activity / sub-activity combinations within AM have been defined as either direct activities or overhead activities. The direct activities /sub-activities have also been allocated between prescribed and excluded [services] based on the sort of work that each entails. This determines the direct opex allocated to the various parts of the business. (Note that the above allocations are generally held static from year to year

<sup>11</sup> This did not affect our conclusions as we based our projected opex in FY 2008 and 2009 only on the total opex in FY 2007, not its components.

other than when a major review of the chart of accounts is undertaken.) The AM overheads are then allocated between prescribed and excluded services, based on the corresponding percentage of total direct AM opex (for prescribed and excluded). Public lighting overheads are then allocated from the excluded services pool based on the percentage of direct labour relative to the total excluded services direct labour.” Calculations provided by Integral showed that the Asset Management allocation that year was consistent with the explanation, within acceptable limits.

We considered that these allocation methods were appropriate and again noted that Integral had specifically recorded the exclusion of corporate allocations in its expenditure template, prepared for the cost review in 2003.

However, we still considered that there might have been some double-counting of the overheads or other costs re-allocated to public lighting during this period, as the note recorded in 2003 suggested that overheads from the Asset Management business unit had been incorporated in the public lighting costs already – see note ‘a’ to Table 3.3. We therefore sought and obtained an assurance from Integral that there had been no double counting of the costs assigned to the public lighting function.

We then considered the reasonableness of the other opex line items. Table 3.5 shows the movements in percentage terms annually and cumulatively for total opex, the total excluding customer-funded works and the “Night Watch” programme,<sup>12</sup> the total excluding corporate allocations and the total excluding all three. The table shows that apart from the step-change from FY 2004 to FY 2005 at the commencement of the regulatory period, there has been little movement in the total opex and that the conclusion is similar when customer-funded work and “Night Watch” costs, and/or overhead allocations, are removed. (A step-change is still evident in FY 2005 after the removal of those items as Asset Management business unit costs were also re-allocated.)

The table also shows in the rows highlighted in tan that, in real terms, there has been a net decline in opex following the step-change in FY 2005.

(We received comments on the draft report along the lines that the overhead component appeared high as a percentage of opex or that opex appeared high in relation to the regulatory asset base. In the former case, the correct points to consider are whether the overheads of the business as a whole are reasonable and whether they have been allocated in an appropriate manner to its component parts. As the preceding text indicates, we were satisfied that that the method of allocation was reasonable.<sup>13</sup> We did not consider it necessary to review the business’ overheads or costs as a whole as implicitly they had been reviewed and accepted as part of the cost review that preceded the Determination. In relation to the second point – that opex appeared high as a percentage of the regulatory asset base – the correct comparison would be with the current estimated replacement cost of the assets. Unfortunately, an up-to-date replacement cost valuation of the assets is not available, so the comparison could not be made.<sup>14</sup>)

<sup>12</sup> “Night Watch” is an Integral service that provides additional external lighting to business premises for promotional and security purposes. It uses existing poles and columns and features automatic dusk-to-dawn switching. Integral charge an installation fee and a monthly rental that covers the lighting equipment, electricity and maintenance costs.

<sup>13</sup> Likewise, the method used for the allocation of costs from the Asset Management business unit was considered reasonable.

<sup>14</sup> A current replacement cost valuation of the assets might be between four and eight times the present value of the regulatory asset base, depending on a number of factors. In addition, opex would need adjustment to remove the customer-funded, “Night Watch” and bulk lamp replacement components as well as some other possible items before making the comparison.

Table 3.5: Movement in Opex

YE 30 June (nominal dollars)	2003	2004	2005	2006	2007 unaud. a/
<b>Total opex</b>	4,396,016	4,752,666	9,721,000	9,908,000	9,832,610
Pct change annually		8%	105%	2%	-1%
Pct change from FY 2005				2%	1%
Pct change annually in real terms		5%	100%	-1%	-3%
<b>Total excl. cust-funded &amp; n'watch</b>	3,598,565	4,109,614	9,230,870	9,346,790	9,618,323
Pct change annually	0%	14%	125%	1%	3%
Pct change from FY 2005				1%	4%
Pct change annually in real terms		11%	119%	-1%	0%
<b>Total excl. corp. allocations</b>	4,396,016	4,752,666	7,065,329	6,556,586	6,548,594
Pct change annually		8%	49%	-7%	0%
Pct change from FY 2005				-7%	-7%
Pct change annually in real terms		5%	45%	-9%	-3%
<b>Total excl. CF, NW &amp; corp. alloc.</b>	3,598,565	4,109,614	6,575,199	5,995,376	6,334,307
Pct change annually		14%	60%	-9%	6%
Pct change from FY 2005				-9%	-4%
Pct change annually in real terms		11%	56%	-11%	3%

Source: Integral.

a/ Figures for FY 2007 are taken from the un-audited regulatory accounts and differ slightly from the sums in Integral's price proposal.

### ***Basis of Future Opex Projections***

After considering these factors, we accepted Integral's past opex as a reasonable base for the projection of future opex but concluded that the most recent year, FY 2007, ought to be used for that purpose in place of FY 2006.

## **3.7 Analysis of Capex in FYs 2005-2007**

Initially, no information was supplied for FY 2007 other than the estimated total expenditure figures. At our request, Integral provided us with the expenditure figures in its un-audited regulatory accounts for FY 2007 but the information did not agree with the figures in the price proposal. Integral then provided, at our request, a breakdown of capex in FY 2007 but the total in that analysis did not agree with either of the earlier figures. Both were much lower than the figure in the price proposal. This and other apparent discrepancies in the capex data caused Integral to review the matter further. They then advised us that column replacement expenditure of \$752,144 had been identified and that it ought to have been included in the regulatory accounts. The final capex arrived at for FY 2007 was thus \$4.881 m.

### ***Steel Column Replacement Programme***

A breakdown of capex in the period FY 2005 to FY 2007, including the adjustments just referred to, is shown in Table 3.6. The table shows a rise in total capex from FY 2005 to FY 2006 and a fall in the following year but the reverse if the expenditure on steel column and replacement is removed from the analysis.

Table 3.6: Movement in Capex

YE 30 June (nominal dollars)	2005	2006	2007 a/	Movement 2005-06	Movement 2006-07
Reported actual expenditure	4,616,000	5,626,000	4,881,000	22%	-13%
<b>Expenditure Breakdown b/</b>					
Column and pole replacements	924,436	2,308,527	882,363	150%	-62%
Design	239,634	162,868	355,193	-32%	118%
Estimating	23,680	36,098	32,482	52%	-10%
Other replacement	183,123	156,713	14,307	-14%	-91%
Project management	27,365	64,990	118,857	137%	83%
Refurbishment	712,520	740,034	575,319	4%	-22%
Projects	2,341,053	2,191,598	2,902,042	-6%	32%
Total Expenditure	4,451,810	5,660,829	4,880,563	27%	-14%
<i>Total excl. col. &amp; pole replacements</i>	<i>3,527,374</i>	<i>3,352,302</i>	<i>3,998,200</i>	<i>-5%</i>	<i>19%</i>

Source: Integral.

a/ Year 2007 actual expenditures are un-audited and include an adjustment made by Integral to include \$752,144 of capex on pole replacements that was not included in the initial un-audited figure provided to us.

b/ The total expenditure differs slightly from the sums cited in the price proposal due to differences in the dates of capitalisation of work.

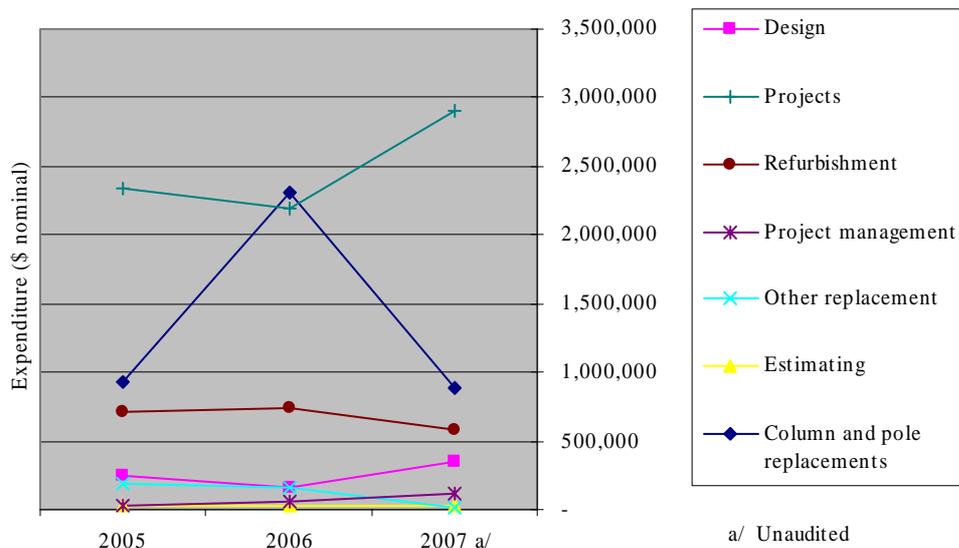
Figure 3.2 highlights the movements in the individual categories. The steel column replacement programme expenditure constituted a material part of the total but we were not able to reconcile the years in which the expenditures fell with the reported numbers of column replacements each year. We therefore requested and obtained further information on the programme and its costs from Integral and noted that the following points.

- Pole and column replacement expenditure is one of the main capex drivers in public lighting (as is growth capex and the cost of replacement of inefficient luminaires).
- Integral had carried out a comprehensive survey of its steel lighting columns in 2004 after becoming concerned about their condition and safety.
- 75,196 columns out of a total population of about 79,000 were inspected; 128 failed electrical tests and were subsequently repaired or made safe; 17,717 required a ‘dig’ inspection<sup>15</sup> and 17,386 of these inspections were subsequently carried out; 1,759 required replacement or the equivalent thereof; and 3,733 were found to have ground levels significantly below their base-plate levels and needed attention as a result.
- Column replacements or equivalent remedial works were then carried out as follows: 71 replacements in the remainder of FY 2004, 1,109 in FY 2005, 356 in FY 2006 and 350 in FY 2007 – in total, the replacement or repair of 1,886 columns.

We noted, however, that the biggest component of the expenditure in this category was reported in FY 2006, not FY 2005, the year in which the most columns had been replaced. Additionally, it appeared to us that the programme, initiated in 2004, had been completed by the end of FY 2007. These conclusions, along with the lower actual capex figure now derived for FY 2007, called into question the use of FY 2006 expenditure as the base for projecting capex in FY 2007 and thereafter as proposed by Integral in its price proposal. (Likewise, in the case of opex, where the lower opex figure now reported for FY 2007 led to the same conclusion.)

<sup>15</sup> An inspection involving the excavation of ground around the base of the column.

Figure 3.2: Movement in Capex Components



After examination of the expenditure and discussion with Integral, we accepted the column replacement expenditure as reasonable when taken in total over the period.

### Other Capex

We discussed the other capex components with Integral and reviewed the nature of the expenditure as evidenced in the lists of capitalised works provided to us. 'Estimating', 'Design' and 'Project Management' are the capitalised amounts in relation to these functions.<sup>16</sup> 'Projects' are largely works undertaken at the request of the councils. As Figure 3.2 shows, the most significant movement was in the 'Projects' category. On review, we accepted that the expenditure in each year was reasonable in total.

### Prudence of Capex in FYs 2005 to 2007

In considering the prudence of the capex over the period FY 2005-2007, we noted that expenditure on column and pole replacements had resulted from problems identified in a detailed survey of the electrical and structural safety of these assets and that the other replacement capex was part of Integral's ongoing programme of up-dating its luminaires and related assets. We considered that project expenditure reflected the demand for alterations and extensions to the network and that it and the other expenditure items were reasonable.

Therefore, having considered the expenditure and circumstances as just outlined, and whilst we formed the view that total replacement capex remained at a low level during the period – a point that we return to in section 4.3 of the report – our opinion is that the following levels of capex in FYs 2005 to 2007 were prudent:

- FY 2005: \$4.616 m
- FY 2006: \$5.626 m and
- FY 2007: \$4.881 m.

<sup>16</sup> We did not consider it necessary to review Integral's capitalisation policies – the split of expenditure between capex and opex – as they had been reviewed by Meritec at the time of the Determination.

By prudent in this context, we mean that the expenditure matched that which could be reasonably expected or required by an operator exercising good electricity industry practice or that was necessary to meet statutory requirements.<sup>17</sup>

### **Basis of Future Capex Projections**

After considering these factors, and recognising that the period FY 2005 to FY 2007 appeared to reflect an element of ‘catch-up’ in public lighting capex, it was proposed by Integral and accepted by us that the expenditure in FY 2007 ought to be used as the base year for the projection of future capex levels rather than expenditure in FY 2006.

## **3.8 Efficient Expenditure Levels for FYs 2008-2009**

Taking the reported opex and capex in FY 2007 as the starting-points, we then considered Integral’s method of projecting its expenditure levels in FY 2008 and FY 2009.

### **Additional Costs**

Integral advised us that additional costs were arising annually, due to labour cost increases, an increase in the number of requests for quotations and the subsequent installation of new assets, the reinstatement of inspections as a permanent activity and other causes. We considered that Integral’s proposed annual adjustment of its expenditure estimates by CPI was a reasonable proxy for the recovery of these additional costs in the absence of a detailed review of its operations.

### **No Changes in Scope of Work**

In response to our enquiry, Integral’s said there were no changes in the scope of work for which local councils were expected to pay, e.g. in relation to vegetation management, damage from vandalism (other than in chronic cases) or the like.

### **Conclusions**

Having considered the expenditure and circumstances as outlined in this report, we calculated new expenditure levels that in our opinion are reasonable and efficient for FYs 2008 and 2009 – *viz.* expenditure that is considered to represent costs that would be incurred by a prudent existing operator, working in Integral’s circumstances, and seeking to minimise costs efficiently whilst meeting the requirements of the *NSW public lighting code*.

### **Capex**

The calculated level of capex assumes the use of FY 2007 expenditure as the base in place of FY 2006 expenditure. It also assumes a 350-column replacement programme as in FY 2007 with the same costs as those reported for FY 2007 for this expenditure category. Details of the calculation are shown in Table 3.7.

(The table also shows the costs for that programme if calculated pro rata from the costs reported for column replacement over the period FY 2005 to FY 2007 as a whole. The difference is immaterial, so Integral’s actual expenditure has been used.)

<sup>17</sup> Prudence, although it may be defined in the way suggested in the text, has connotations of exercising sound judgement especially concerning one’s own interests, of being careful to avoid undesired consequences, or of being cautious or circumspect in one’s conduct, or of managing carefully and with economy. Prudence is often best judged by the absence of evidence that would suggest a lack of it. In the case of electricity networks, imprudence might be most discernible if there is evidence of failure to invest adequately, accompanied by identified adverse consequences, but that is generally evident only after the passage of more time. Therefore, where we considered that there was an appropriate balance between the main factors – prudence and efficiency – we have said that the expenditure is reasonable. In addition, where we found identifiable instances of imprudent expenditure or imprudent failure to make expenditure or of what appeared to be inadequate provision for future expenditure, we have identified them.

**Table 3.7: Calculation of New Capex for FY 2008 and FY 2009**

YE 30 June (nominal dollars unless noted otherwise)	2005	2006	2007	2008	2009
Total capex	4,616,000	5,626,000	4,881,000		
Less column and pole replacements	924,436	2,308,527	882,363		
	3,691,564	3,317,473	3,998,637		
<i>Alternative expenditure calculation (verifies Integral's revised FY 2007 sum for column repls.)</i>					
FY 2007 expenditure excluding column and pole replacements				3,998,637	
Add back cost of 350 column replacements p.a. (the FY 2007 quantity) b/				813,743	
Resulting base level of capex in 2007 dollars				4,812,380	
Inflated at 2.5% for FY 2008 and 2009				4,932,690	5,056,007
Recommended expenditures for Tribunal's purposes (\$ nominal) d/	4,616,000	5,626,000	4,881,000	5,003,025	5,128,101
Compare with:					
Integral's original pricing proposal c/	4,616,000	5,626,000	5,823,000	5,968,000	6,118,000
Adjusted for revised FY 2007 data c/	4,616,000	5,626,000	4,881,000	5,003,025	5,128,101

a/ At 2.5% p.a.

b/ Calculated from the total expenditures reported from FY 2005 to 2007 for this line item, inflated to 2007 costs, and adjusted pro rata by the ratio 350 to 1,185. The latter is the reported number of columns replaced or made good over the same period.

c/ Including adjustment in FY 2007 to match the estimated actual expenditure that year.

d/ Assumes a continuation of column replacements at the same rate as in FY 2007. This assumption should be reviewed in future price proposal examinations to ensure that replacement capex for the public lighting asset base as a whole is sufficient to maintain the assets in a satisfactory condition. The extent of Integral's responsibility for funding the replacement of Rates 2 and 3 equipment should also be determined at that time.

For the avoidance of doubt, we note that the calculated expenditure excludes any costs in relation to assets that have been gifted or funded by other parties.

### Opex

The calculated level of opex also assumes the use of FY 2007 expenditure as the base in place of FY 2006 expenditure. Other than in that respect, no changes have been made to Integral's calculations. Details of the calculation are shown in Table 3.8.

**Table 3.8: Calculation of New Opex for FY 2008 and FY 2009**

YE 30 June (nominal dollars unless noted otherwise)	2005	2006	2007	2008	2009
Actual opex	9,721,000	9,908,000	9,832,610		
Less cust-funded & 'NightWatch' opex	797,450	627,368	466,512		
Recommended expenditures for Tribunal's purposes (\$ nominal) a/	8,923,549	9,280,633	9,366,098	9,600,250	9,840,256
Compare with:					
Integral's original pricing proposal	9,721,000	9,908,000	10,039,000	10,290,000	10,547,000

a/ Based on actual expenditures to FY 2007 with inflation at 2.5% p.a. to FY 2008 and 2009.

Excludes customer-funded and 'NightWatch' opex at IPART's request.

At IPART's request, the table includes an adjustment to remove opex on customer-funded and "Night Watch" activities, as the associated revenues do not form part of the public lighting revenue that the Tribunal is to assess.

For the avoidance of doubt, we note that the expenditure exclude transmission and distribution use-of-system charges, the cost of electrical energy, financing charges and depreciation.

### 3.9 Other Matters Considered

The following matters were also considered when forming the opinions just expressed.

#### **Asset Management Policies**

In addition to the reviewing Integral's public lighting operations and identifying its major cost drivers, we were required by our terms of reference to assist the Tribunal by reviewing Integral's public lighting asset management policies, using relevant industry benchmarks where appropriate. We therefore discussed these policies with the managers concerned, considering the three main areas of activity, *viz*: bulk lamp replacement, tree trimming and other maintenance tasks.<sup>18</sup>

We were satisfied that Integral's policies in these respects were generally in line with current practice and found no issues that would have affected our view of its expenditure levels.

#### **Service Levels**

The terms of reference also required us to recommend efficient cost levels "consistent with maintaining the service standards as required by the *NSW public lighting code* and industry best practice". Other than in respect of levels of illumination (which in general are mandated only for main traffic routes), Integral's (and the other DNSPs') public lighting service obligations appear to be limited to the requirements of the Code to replace faulty lights within the time prescribed in Clause 12 (Guaranteed Service Level) of the Code and to fulfil the other obligations of the Code, e.g. in relation to new installations and reporting.<sup>19</sup>

Integral reports in its price proposal (page 9) that its average faulty lamp repair times in FY 2006 were under three days and the number of light faults that were repaired within twelve days was greater than 98%.

We also noted from IPART's *Information paper No. 5* that the following performance improvements between FY 2002 and FY 2006 are reported for Integral:

- the total number of street lights reported as faulty in Integral's area had fallen from 22,839 to 15,403;
- the percentage of times when street light repairs were late had fallen from 11.2% to 0.9%;
- the average number of days to repair street lights had remained at 2 compared with the Code requirement of 8;
- the value of compensation paid by Integral for not completing street light repairs by the agreed date had fallen from \$8,985 to \$225; and
- Integral performed better in FY 2006 than its peers in all these respects except the first, where it was bettered by Country Energy by a small margin.

With regard to the performance of the lighting system itself, we noted that the general principles expressed in AS/NZ 1158 – at least in respect of Category V lighting – are that lumen output should be maintained at not less than 70% of its initial level (unless a lower maintenance factor is allowed for in the design) and that the number of outages at any one time should not exceed 5%. We considered that Integral's bulk lamp replacement programme was consistent with those requirements and that no adjustment was required in the expenditure projections given to us for review on this account.

<sup>18</sup> We did not carry out a detailed work study as that was considered beyond our terms of reference.

<sup>19</sup> See section 2.2 of this report and Clause 1.1 of the Code.

We noted, however, that Integral had not yet presented its first annual report to its public lighting customers, due a month after the end of the financial year. The report is required to discuss progress against the management plan and to report on other matters as set out in Clause 9.1 of the Code.<sup>20</sup>

### ***Submissions from Local Councils***

We noted that submissions had been received by IPART from seven parties including six local councils and the Local Government and Shires Associations of NSW. We reviewed the submissions as far as they were relevant to our expenditure review and, in conjunction with IPART, arranged to meet with interested representatives from the submitting organisations. Six parties attended in person or by conference call, one being unavailable on the day.

The main point relevant to our work raised in the submissions and by the representatives was alleged shortfalls in Integral's responsiveness to requests for quotations and project implementation.

Some representatives complained that Integral was not aware of cases when street lights were out but we pointed out that Integral's public lighting management plan calls for the councils to promote the reporting of such instances, as indeed is general practice elsewhere.

Some reported much higher quotations for new work than in the past.

Various positive comments were also made.

We noted the points made but also considered that some local council expectations were probably unrealistic, highlighting the need for good dialogue between the councils and Integral. The LG&SA representative commented in this regard that it is unrealistic to expect all councils to retain the specialised skills needed to deal with public lighting and that, in its view, Integral and the other DNSPs could contribute to the benefit of the councils and themselves by ensuring that their reports are in as helpful and readily understandable a form as possible. We concur with the sentiment and commend it to the company.

We also noted Integral's response to IPART in respect of the submissions and, of relevance to the submissions, noted that the company had commenced a regular reporting regime to the councils on public lighting matters, although at present the reports appear to be focussed mainly on tracking quotations and work orders.

Having considered these points, noting that no mention was made of design-related matters and noting also the favourable performance statistics reported earlier in this section, we were satisfied that no adjustments were needed in the recommended levels of expenditure on account of service-related issues.<sup>21</sup>

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<sup>20</sup> Integral has presented its annual report to the Director-General but annual reports to customers are a requirement of the Code.

<sup>21</sup> We also received and considered the LG&SA's written submission to IPART on our final draft report and have incorporated various clarifications in respect of the points made, including a correction in respect of the responsibility for funding of Rate 2 and Rate 3 assets.

## 4 Conclusion

### 4.1 Opinion

In summary, our opinion is that Integral Energy's capital expenditure on public lighting in FYs 2005 to 2007 was prudent and that its proposed levels of operating and capital expenditure in FYs 2008 and 2009 are efficient and reasonable to deliver the public lighting services, having regard to the requirements of the *NSW public lighting code* and industry best practice, subject to certain adjustments that we have proposed in Table 3.7 and Table 3.8 of this report respectively.

### 4.2 Observations

A key point to emerge in the review was that Integral's actual expenditure for FY 2007 was lower than that assumed in its price proposal – hence the main reason for the adjustments that we have made. A further reason for the adjustments related to our concern over the distribution of capital expenditure arising from the steel column replacement programme that was undertaken over the period FY 2005 to 2007. These considerations led to our selection of FY 2007 expenditure in place of FY 2006 expenditure as the base for calculation of the projected expenditures in FY 2008 and FY 2009.

The second key point arising was that the uplift in opex from and including FY 2005 was found to be attributable mainly to the re-allocation to public lighting of costs, including corporate allocations and Asset Management business unit costs, that were previously carried by the network business under the 'prescribed services' heading. The company provided us with details of the calculation of these re-allocated overheads and costs and a written assurance that they had not been double-counted **within** the public lighting expenditures that it presented to us for review.

### 4.3 Matters for the Tribunal's Consideration

In concluding this report, we would like to note the following matters for the Tribunal's consideration.

- (a) Integral appears to have been a leader in the public lighting field in terms of using and introducing modern designs and energy-efficient luminaires and the network it operates is sound in that context.
- (b) However, the increased level of capex experienced in the period FY 2005-2007 has in it an element of 'catch-up' after a period of very low investment in the early 2000s.
- (c) Although it does not affect our conclusions (which are related solely to the reasonableness of expenditures within the public lighting function), the Tribunal might note that the costs that were previously included under the heading of 'prescribed services' and that have now been re-allocated to the public lighting function were implicitly allowed for in the prescribed services part of the Determination. For the avoidance of doubt, we note that this is a separate matter from the point made in paragraph 2 of section 4.2.

Of importance to the examination of any future price proposals for public lighting that Integral may submit, we note two further points for the Tribunal's consideration.

- (a) The present level of public lighting capex is unlikely to be adequate to maintain the assets in sound condition in the long term, given the current average age of its steel lighting columns of 18 years (compared with a conventional view of their life of 20 to 30 years) and the very low number of replacements currently being undertaken (350 are envisaged in FY 2008, amounting to only around 0.5% of the population).
- (b) A related matter is whether Integral will be required to fund the replacement of Rate 2 and/or Rate 3 assets at the end of their life. If so, as we are advised is the case in respect of Rate 2 assets but not Rate 3 assets, it essentially constitutes in our view a change at the time of replacement to the Rate 1 category. This expenditure will need to be factored into Integral's future capex requirements.

The magnitude and timing of these impacts needs study by Integral.

#### 4.4 Conditions Accompanying Our Opinion

##### ***Assessment Not an Assessment of Condition, Safety or Risk***

Notwithstanding any other statements in this report, this review is not intended to be and does not purport to be an assessment of the condition, safety or risk of or associated with the Integral's public lighting function or its fixed assets and nothing in this report shall be taken to convey any such undertaking on our part to any party whatsoever.

##### ***All Earlier Advice Superseded***

For the avoidance of doubt, we confirm that this report supersedes all previous advice from us on this matter, whether written or oral, and constitutes our sole statement on the matter.

##### ***Disclosure***

Wilson Cook & Co Limited has prepared this report in accordance with the instructions of its client on the basis that all data and information that may affect its conclusions have been made available to it. No responsibility is accepted if full disclosure has not been made. No responsibility is accepted for any consequential error or defect in our conclusions resulting from any error, omission or inaccuracy in the data or information supplied directly or indirectly.

##### ***Disclaimer***

This letter has been prepared solely for our client, the Independent Pricing and Regulatory Tribunal of NSW, for the stated purpose. Wilson Cook & Co Limited, its officers, agents, subcontractors and their staff owe no duty of care and accept no liability to any other party, make no representation or warranty as to the accuracy or completeness of the information or opinions set out in the letter to any person other than to its client including any errors or omissions howsoever caused, and do not accept any liability to any party if the letter is used for other than its stated purpose.

##### ***Non-Publication***

With the exception of its publication by IPART, in relation to its review of Integral Energy's public lighting price proposal, neither the whole nor any part of this report may be included in any published document, circular or statement or published in any way without our prior written approval of the form and context in which it may appear.

## Appendix A: Terms of Reference

### **Background**

The electricity distribution pricing 2004/05 to 2008/09 final determination of June 2004 designates public lighting as an excluded distribution service to be regulated under Rule 2004/01 (the Rule). The Rule requires that, if a DNSP seeks to increase its public lighting charges, it must make an application to the Tribunal and comply with the requirements of the Rule. Specifically, the Rule requires that:

- DNSPs must set prices to signal economic costs of provision with reasonable endeavour (Clause 2.2); and
- DNSPs must consider customer impacts, and demonstrate how the impact of any significant changes can be mitigated (for example by transitional price options).

The primary customers of the public lighting services are local councils in Integral Energy's distribution area.

In June 2007, Integral Energy applied for a public lighting price change of CPI (3.5%) plus 2% for FY 2008. In support of its application, Integral Energy provided estimates of its projected capital and operating expenditure for FY 2008 and FY 2009 that substantially exceed the estimates provided for the June 2004 determination.

As part of its assessment of the proposal, the Tribunal wishes to understand the extent to which the operating and capital expenditure projections underlying Integral Energy's proposal represent efficient expenditure for determining prices for its public lighting services. It is therefore seeking to appoint a suitably qualified consultant to undertake a review of Integral Energy's public lighting operating and capital expenditure and asset management practices.

### **Services**

The consultant is required to examine Integral Energy's public lighting operations, identify major cost drivers and recommend efficient cost levels consistent with maintaining the service standards as required by the NSW Public Lighting Code and industry best practice.

The objectives of the study are to assess and report to the Tribunal:

1. whether Integral Energy's proposed levels of capital and operating expenditure for FY 2008 and FY 2009 are efficient and reasonable to deliver the public lighting services, having regard to the requirements of the Code and industry best practice; and
2. whether its past public lighting capital expenditure from 2004/05 to 2006/07 is prudent.

The consultant is to assist the Tribunal by reviewing estimates of operating and capital expenditures and asset management policies, using relevant industry benchmarks where appropriate. If the consultant finds that the operating and/or capital expenditure projections are not efficient, it should indicate how the expenditures should be adjusted to obtain efficient levels.

### **Outputs**

The required outputs from the consultancy are:

1. A draft report and a final written report that addresses the objectives of the consultancy.
2. Consultation with the Local Government and Shires Associations (LG&SA) and major local councils who are public lighting 'customers' of Integral Energy.
3. Discussions and meetings with the DNSP, the Tribunal and/or Tribunal Secretariat as required.
4. Presentation of draft findings to the Tribunal and/or the Tribunal Secretariat as required.

The terms of reference envisage that the consultancy will begin in the week commencing 13 August 2007 and that the final report will be delivered in the week ending 7 September 2007.

## Appendix B: List of Personnel Met

Meetings or discussions were held with the following officers:

### IPART

Mr Dennis Mahoney, Program Manager, Energy Networks  
Ms Patrick Lam, Senior Analyst

### Integral Energy

Mr Michael Martinson, Manager, Regulatory and Pricing  
Mr Frank Nevill, Regulated Operations Manager  
Mr Jim Battersby, Manager, Business Services and Compliance  
Mr Matt Webb, Technical Regulatory Manager  
Mr Daniel Bubb, Economic Analyst

### Council Representatives

Ms Rudy Svarc, Blacktown City Council  
Mr Zulfi Khan, Holroyd City Council  
Mr Chris Quigley, Kaima Municipal Council  
Mr Warren Taylor, Local Government and Shires Associations of NSW  
Mr Roger Gomez, Parramatta City Council  
Mr John Knowles, Shoalhaven City Council