Energy to the people

Aurora Energy Regulatory Proposal 2012–2017 | **ADDENDUM**

Aurora ENERGY

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Foreword

In accordance with the provisions of Chapter 6 of the *Rules*, Aurora provided the AER with its *Regulatory Proposal* on 31 May 2011. In its *Regulatory Proposal* Aurora indicated that it had utilised a value of 0.45 for gamma as part of the cost of capital calculation. Aurora also indicated that following the release of the AER's draft Distribution Determination it would amend the value of gamma to 0.25 as part of the submission of its Revised *Regulatory Proposal*. Aurora's intention to change the value of gamma occurred as a result of the outcomes of the Australian Completion Tribunal's (the Tribunal) recent decision for ETSA, Ergon and Energex. The Tribunal decision (AComp T9) was released on 12 May 2011 and contained this change to the value of gamma. As this decision was only some two weeks before Aurora was required to lodge its *Regulatory Proposal*, Aurora was unable to complete the required modelling to amend its *Regulatory Proposal*.

The AER advised Aurora on 9 June 2011 that it wished Aurora to fully clarify its position on gamma and that Aurora should:

- confirm its intention to adopt a 0.25 value for gamma in its *Regulatory Proposal*; and
- provide updated revenue calculations using a gamma of 0.25.

Aurora confirms that it will adopt a value of 0.25 for gamma and has undertaken the required modelling to reflect this change. While the change in gamma has changed the cost of capital and consequently revenue, it has also impacted on those components of Aurora's *Regulatory Proposal* that are also dependent on the cost of capital and revenue for their calculation. This revenue change has therefore impacted on the following chapters of Aurora's *Regulatory Proposal*:

- 1 – Executive summary;
- 20 – Return on capital;
- 22 – Corporate income tax;
- 25 – Service Target Performance Incentive Scheme;
- 29 – X factor;
- 30 – Annual revenue requirement;
- 31 – Total revenue requirement;
- 33 – Alternative Control Services; and
- 36 – Indicative pricing.

Aurora has prepared this addendum to its *Regulatory Proposal* to reflect the changes in these chapters. The amended chapters within this addendum replace the original chapters within Aurora's *Regulatory Proposal* in their entirety.

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1. Executive summary

1. Executive summary

1.1. Background

Aurora Energy Pty Ltd is a Tasmanian Government owned fully integrated energy and network business, with complementary activities in telecommunications and energy related technologies. It was formed in July 1998 after the disaggregation of the former Hydro Electric Commission.

Consistent with its purpose "to see the Tasmanian community prosper from its efforts", Aurora has made a significant contribution to the Tasmanian economy since its establishment. This has been provided through financial contributions to the Tasmanian Government to fund core Government services, its investment in the Tasmanian community in terms of employment, historic levels of capital expenditure, customer connections and its extensive support of Tasmanian suppliers.

Aurora's distribution business provides a 24-hour, seven day a week service to approximately 229,400 residential and 50,400 commercial distribution customers across the State, to ensure a safe and reliable electricity supply. Aurora's core distribution assets comprise 15,069 km of overhead high voltage lines, 7,197 km of overhead low voltage lines and 2,178 km of high and low voltage underground cables, 31,287 ground and pole mounted substations and 222,000 poles across an area of 67,800 square kilometres. Aurora also operates approximately 49,000 public lights and maintains them on behalf of local councils. The company also constructs, maintains and operates the electricity distribution network on King and Flinders Island on behalf of the Hydro Electric Corporation.

As the monopoly provider of electricity distribution services within the Tasmanian jurisdiction, Aurora's distribution business is required to hold a distribution licence in accordance with the *Electricity Supply Industry Act 1995*. As a monopoly electricity distribution business, Aurora is also subject to economic regulation of its distribution services. To date, this has been undertaken by the jurisdictional regulator, the Office of the Tasmanian Economic Regulator (OTTER). However, the current determination will conclude on 30 June 2012 and economic regulation of distribution services will transfer to the Australian Energy Regulator (AER).

Aurora is therefore required to submit a *Regulatory Proposal* to the AER for its distribution services covering the five-year *Regulatory Control Period* from 1 July 2012 to 30 June 2017.

The 2007 Pricing Investigation conducted by OTTER saw significant increases in both capital and operating expenditure to ensure that the performance of Tasmania's electricity infrastructure matched the requirements of its customers and key stakeholders. This was largely driven by the need to ensure the performance of the electricity infrastructure was in keeping with the State's economic growth and was able to meet more stringent reliability and safety standards.

Aurora has realised a large part of its allowed expenditure during the current *Regulatory Control Period* and considers that investment in the distribution network is now at an appropriate level so that consolidation can occur. This outcome has been delivered while ensuring that Aurora is operating at an efficient level relative to other distribution companies in Australia.

This has been coupled with significant changes to the external drivers that impact Aurora, including:

- a slowing in the Tasmanian economy in the early years of the *Regulatory Control Period* from the above trend economic growth experienced at the time of the last Distribution Determination;
- a shift in customers' acceptance of the level of electricity price increases, given the cumulative impact of these increases;
- emerging technological advancements coupled with a change in customers' expectations for improved service and greater choice together with increased participation in managing energy costs and needs;
- potential opportunities provided to leverage off the rollout of the National Broadband Network in Tasmania in the deployment of smart grid technologies and efficiency gains through smarter metering infrastructure; and
- the establishment of an Expert Panel to undertake an independent assessment of the Tasmanian electricity supply industry.

1.2. Approach to the Regulatory Proposal

Taking these issues into account and, in particular, the need to address community concerns and expectations, Aurora's distribution business completed a major review of its business strategy in mid 2010. In developing this strategy, the distribution business has strengthened its focus on ensuring that the customer is always put first in everything Aurora does, with the aim of improving price outcomes and service and reliability outcomes which are at levels that are commensurate with both the *Rule* requirements and customers' propensity to pay. This can be achieved while at the same time ensuring that capital and operating expenditure are maintained at existing or reduced levels relative to the latter years of the current *Regulatory Control Period*.

This strategy will be delivered as part of a two-staged process. The first stage of this process involves traditional engineering solutions together with expenditure reductions that are delivered by means of operational efficiencies and the selective deployment of a number of proven technologies. Aurora has deliberately targeted a reduction in costs to assist in minimising price rises to its customers. This involves a challenging regime of productivity improvements and cost cutting across the business. To deliver these operational efficiencies, Aurora has applied an annual three percent efficiency factor to the labour rates within the unit rates included as part of its *Regulatory Proposal*. This efficiency factor results in a real reduction within the labour rates in excess of 10 percent over the duration of the *Regulatory Control Period*. The downsizing of staff, coupled with improvements in Aurora's contract management processes, and the optimisation and streamlining of all other processes, is already progressing. A continuation of this work will be critical to achieving the ambitious reductions in capital and operating expenditure proposed during the forthcoming *Regulatory Control Period*.

This approach also reflects the view that the continued sole use of traditional network augmentation to deal with short-term duration peaks is an expensive and sub-optimal strategy. Non-network approaches, such as demand-side management and distributed generation options, integrated as part of Aurora's overall planning process, offer a more cost effective strategy than continuing to allocate scarce capital to serve short-term duration peak loads.

This stage forms the basis of Aurora's *Regulatory Proposal*.

The second stage of the distribution business' strategy involves the deployment of further innovation and new technology to deliver efficient and sustainable outcomes in the future. However, the development of what is a relatively different approach to asset management for Aurora is in its early stages and Aurora is not currently in a position to provide the comprehensive and robust justification required for its *Regulatory Proposal*. Aurora's *Regulatory Proposal* does not therefore address this component of the distribution business strategy at a detailed level.

It is Aurora's intention to implement appropriate mechanisms, on the basis of robust analysis and targeted trials, to deliver the desired outcomes anticipated in its *Regulatory Proposal*, in smarter and more efficient ways during the forthcoming *Regulatory Control Period*.

A key part of the Aurora distribution business' revised approach is reconsidering how the business responds to, and addresses, risk. Aurora's *Regulatory Proposal* details the risk management framework utilised by Aurora to ensure it is managing its risks effectively, including responses to disaster management, bushfire preparedness, contingency planning and system security levels. It is Aurora's view that a smarter and more efficient network will deliver sustainable and efficient customer outcomes and solutions, together further improving the efficiency of Aurora's capital and operating expenditure, while applying appropriate risk mitigation.

1.3. Key assumptions

The capital and operating expenditure forecasts detailed in Aurora's *Regulatory Proposal* are based on the range of assumptions detailed in its *Regulatory Proposal*. These assumptions are based on all available information at the time of preparing the *Regulatory Proposal*. A range of global assumptions at the broadest level include consistency with Aurora's high-level strategy, no change to Aurora's existing structure and no material amendments to the legislative and regulatory framework (with the exception of the introduction of the National Energy Customer Framework from 1 July 2012) during the *Regulatory Control Period*.

Additional high-level assumptions presume that:

- the required works and programs for the current *Regulatory Control Period* have been delivered;

and that during the 2012-17 *Regulatory Control Period*:

- Aurora's planning standards will continue to apply in their current form;
- historical expenditure and volumes are a valid basis to build forecasts for future expenditures and volumes, that are also adjusted for forecast growth;
- capital expenditure forecasts can be estimated based predominantly on asset age data;
- Aurora has the resource availability and capability to deliver the forecast programs; and
- traditional network solutions will be applied to capital works, although during the *Regulatory Control Period* Aurora will move to implement more innovative technology where it can be demonstrated to be technically and financially prudent.

More detailed assumptions, which are central to Aurora's capital and operating expenditure forecasts, as well as assumptions specific to particular RIN categories, are detailed in Aurora's *Regulatory Proposal*. These assumptions have generally been based on advice from reputable consultants who are well regarded by industry and the AER. All advice has taken into account relevant, up-to-date market and industry information.

1.4. Capital and operating expenditure

As noted earlier, the 2007 Pricing Investigation conducted by OTTER saw significant increases in both capital and operating expenditure to ensure that the performance of Tasmania's electricity infrastructure matched the requirements of its customers and key stakeholders. This was largely driven by the need to ensure the performance of the electricity infrastructure was in keeping with the State's economic growth and was able to meet more stringent reliability and safety standards.

In a number of areas, Aurora was also required to spend over and above the expenditure allowances provided by OTTER, as detailed in Figure 1 and Figure 2 below.

It should be noted that Figure 1 and Figure 2 do not reflect all expenditure undertaken by Aurora during the current *Regulatory Control Period*. Expenditure relating to Aurora's NEM participation and retail contestability activities has been excluded from these figures as these are not considered to be operational distribution network related activities. The Regulator has also provided an alternative mechanism specifically for the recovery of this investment.

The additional expenditure was largely driven by significant increases in customer generated work driven by the buoyant economic conditions at the time. Customer generated work of approximately $200 million during the current *Regulatory Control Period* has therefore been reflected separately in Figure 1.

A peak in growth occurred during 2008-09, prior to the global financial crisis (GFC), and fell during the 2009-10 and 2010-11 years. While growth had declined during this period, capital expenditures continued to rise as Aurora completed projects instigated during the period immediately prior to the GFC. It is expected that growth will recover during the 2011-12 financial year and increase at subdued levels of less than 1 percent over the foreseeable future.

A number of major supply upgrades also contributed to this trend, including the construction of a new zone substation at Cambridge, near the Hobart airport, to support significant industrial development and the zone substation at Zeehan, on the West Coast of Tasmania, to support the mining industry.

The deployment of the broken neutral detector device to all Tasmanian households in 2008-09 was not foreseen at the time of the 2007 Determination and therefore contributed to expenditure in excess of the regulated allowance.

The need to implement a number of targeted reliability programs at a more accelerated pace than originally proposed contributed to the increased expenditure in the earlier years of the current *Regulatory Control Period*. It is expected that by the end of the current *Regulatory Control Period*, 44 individual community improvement projects will have been completed.

Storm related events throughout 2009 and 2010 were a major contributor to a significant overspend in fault and emergency response levels and associated GSL payments, which is reflected in the increased levels of operating expenditure during those years, as detailed in Figure 2.

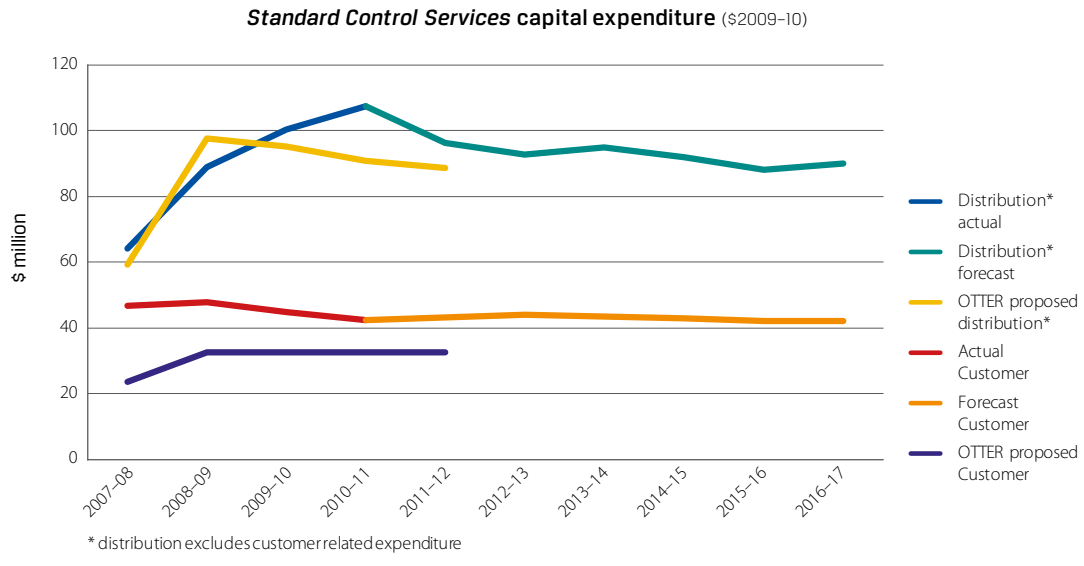
However, this additional expenditure has resulted in a strong and resilient distribution network, delivering a level of reliability and system security commensurate with the needs of the Tasmanian community. This has placed Aurora in a position where it is considered that consolidation can now occur.

Aurora's forecast capital expenditure for *Standard Control Services* for the *Regulatory Control Period* is shown in Figure 1.

1 Costs associated with Aurora's participation in the NEM and the phased introduction of retail contestability are expected to be recovered through the OTTER approved adjustment mechanisms. They have therefore been excluded from this figure.

Figure 1[1]

Forecast Standard Control Services capital expenditure



* distribution excludes customer related expenditure

Aurora's forecast capital expenditure for *Standard Control Services*, by RIN category, for the *Regulatory Control Period* is detailed in Table 1.

Table 1

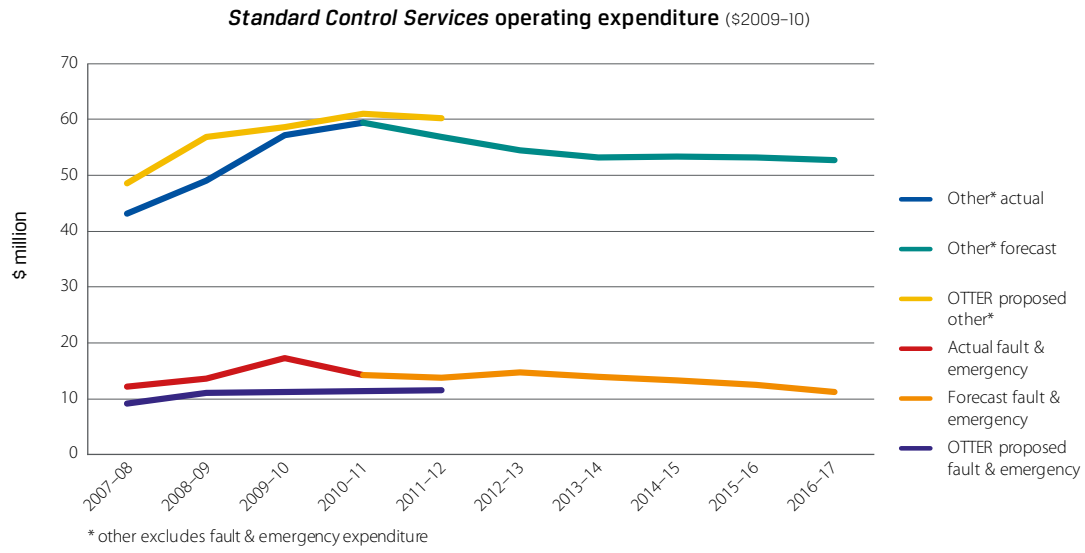
Forecast Standard Control Services capital expenditure

Aurora's Standard Control Services capital expenditure					
$2009-10	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Capitalised overheads					
Capitalised overheads	20.506	20.606	19.850	19.383	19.565
System					
Demand related	54.855	53.842	52.466	54.062	53.542
Non-demand related	37.136	38.092	38.338	35.792	37.919
Regulatory obligations or requirements	5.515	5.484	5.230	5.152	5.043
Non system					
Non-network	17.737	14.712	13.303	15.164	15.155
SCADA and network control	1.157	5.762	5.766	0.715	0.707
Total expenditure	**136.906**	**138.498**	**134.683**	**130.268**	**131.931**

Aurora's forecast operating expenditure for *Standard Control Services* for the *Regulatory Control Period* is shown in Figure 2.

Figure 2[2]

Forecast Standard Control Services operating expenditure



2 Costs associated with Aurora's participation in the NEM and the phased introduction of retail contestability are expected to be recovered through the OTTER approved adjustment mechanisms. They have therefore been excluded from this figure.

Aurora's forecast operating expenditure for *Standard Control Services*, by category RIN, for the *Regulatory Control Period* is detailed in Table 2.

Table 2

Forecast Standard Control Services operating expenditure

Aurora's total operating expenditure					
$2009-10	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Operating costs					
Network management	15.661	15.511	15.737	15.904	16.016
Non-network management	11.489	11.400	11.381	11.280	11.250
Operating costs – other	4.531	4.559	4.586	4.612	4.639
Maintenance costs					
Routine maintenance	16.262	16.261	16.034	15.726	15.211
Non-routine maintenance	21.439	20.501	19.860	19.030	17.547
Demand management					
Demand management	0.891	0.411	0.501	0.746	0.786
Total	**70.637**	**68.643**	**68.099**	**67.298**	**65.449**

It is considered that the forecast capital and operating expenditure established in Aurora's *Regulatory Proposal* meets the relevant objectives detailed in the *Rules* by demonstrating that the:

- identified scope is consistent with Aurora's regulatory obligations and with standard industry practice;
- demand and cost inputs have either been forecast or reviewed by independent expert third parties and determined to be realistic;
- scoping processes are reasonable and utilise realistic demand inputs, resulting in a prudent expenditure forecast that has been reviewed and assessed by independent expert third parties where possible;
- costing processes are reasonable and incorporate realistic cost inputs resulting in an efficient expenditure forecast; and
- identified scope can be delivered by Aurora.

Where expenditure differs significantly from that of the current *Regulatory Control Period*, variations are detailed in Aurora's *Regulatory Proposal*.

A range of appropriate escalation rates have been assumed in Aurora's *Regulatory Proposal* to apply to forecast capital and operating expenditure costs over the 2012 -2017 *Regulatory Control Period*. It is considered that these are consistent with the AER's approach taken in recent Distribution Determinations.

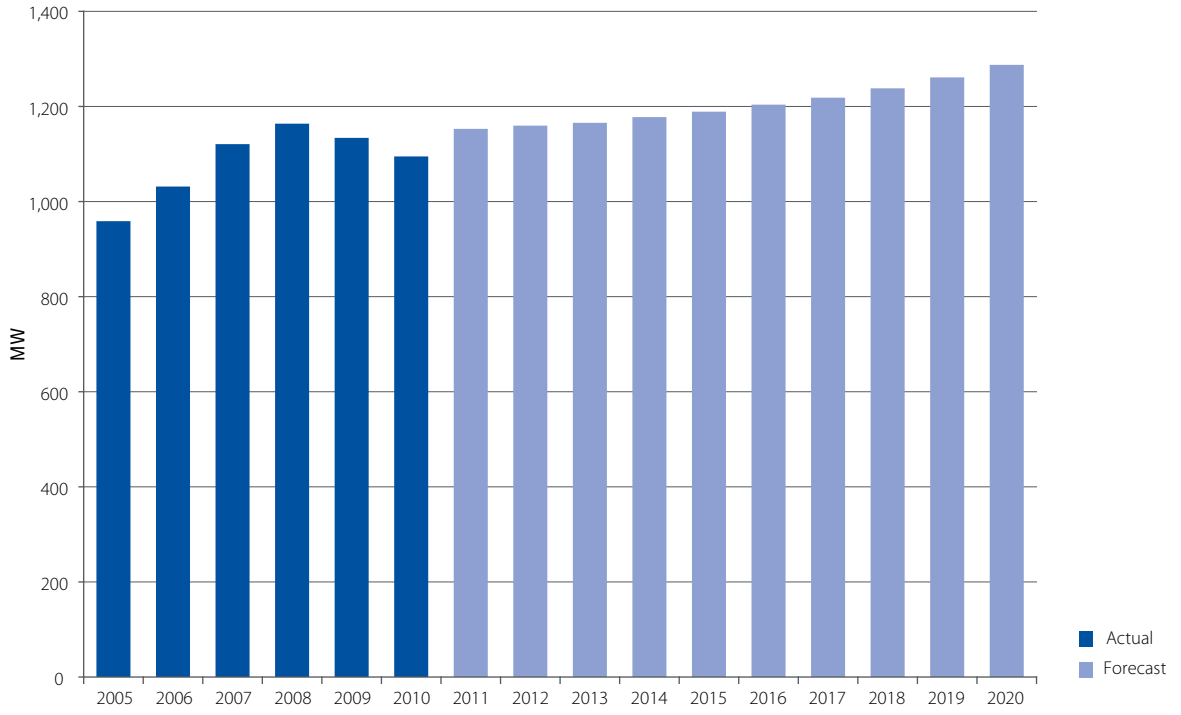
1.5. Demand profile

Peak demand on Aurora's network has historically occurred in the winter quarter with a strong correlation to the maximum daily temperature at the time of peak demand. That is, in Tasmania, demand increases as temperature decreases. The underlying drivers of peak demand on the distribution network drive the need for network infrastructure investment.

Aurora's forecast demand is presented in Figure 3. In this chart, the historic demand has been temperature corrected using the temperature sensitivity coefficient for each connection point to adjust to the long-run average temperature. The forecasts are based on a medium economic growth scenario and have been standardised to a 50 percent probability of exceedence level. These forecasts are below the long-term trend, representing the expected continued slowing in the Tasmanian economy over the early years of the forthcoming *Regulatory Control Period*.

Figure 3

Temperature corrected system coincident maximum demand



As noted earlier, options to ensure that traditional network augmentation is not solely being utilised to serve a system peak demand that occurs for less than 1 percent of the time, are considered an integral part of Aurora's strategy and are addressed as part of Aurora's *Regulatory Proposal*.

1.6. Work program delivery

Aurora is committed to meeting the reliability and investment requirements of its electricity distribution infrastructure in an efficient and effective manner. This will be achieved through a combination of:

- a review and realignment of the distribution engineering strategy;
- improvements in productivity through system and training improvements; and
- alternative external work options complementary to internal work programs.

Aurora will position its business in such a manner that will enable it to retain the right skills to complete its proposed work program in a way that ensures customers are provided with an efficient service. Aurora is confident that it will have an efficient level of competent and skilled resources that are commensurate with the level of work that it has proposed in Aurora's *Regulatory Proposal*.

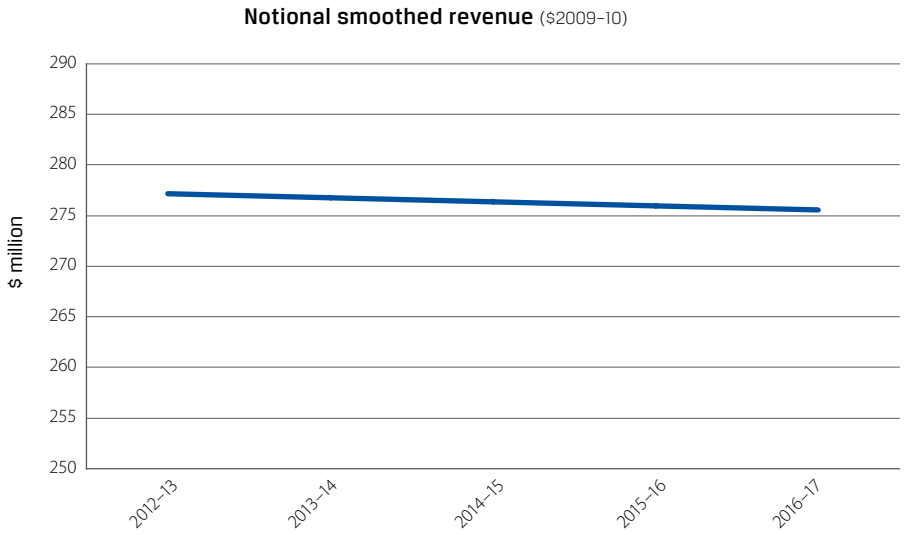
1.7. Revenue calculation

Aurora's annual revenue requirement (ARR), developed utilising the *Rules* required building block approach, comprises the sum of a number of components which are detailed in this *Regulatory Proposal Addendum*. In determining the parameter values which underpin the calculation of the regulatory cost of capital included in the building block, Aurora has accepted the parameters and methodologies detailed in the Statement of Regulatory Intent published by the AER, or as amended by the AER or determined by the Australian Competition Tribunal in relation to recent revenue Determinations.

Projected total revenue, in real 2009-10 dollars, for the *Regulatory Control Period* is detailed in Figure 4.

Figure 4

Notional smoothed revenue



The notional building block revenue requirement, in real 2009-10 dollars, for each year of the *Regulatory Control Period* is detailed in Table 3.

Table 3

Notional building block revenue

$2009-10	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Notional building block revenue	272.18	280.37	279.21	274.97	275.56
Notional building block smoothed revenue	277.17	276.77	276.37	275.97	275.57

1.8. Customer pricing outcomes

Aurora's indicative prices for the provision of *Standard Control* Services have been calculated in accordance with the *Rule* requirements. In calculating these indicative prices, Aurora has adopted an approach of segregating its total revenue by the following customer classes:

- residential;
- small business – LV;
- large business – LV;
- large commercial – HV;
- irrigation; and
- unmetered supplies.

Separate consumption forecasts have been produced for each of the customer classes.

Table 4 provides an indication of distribution prices, in real 2009-10 cents per kWh, for *Standard Control Services* by customer class. These prices have been calculated using energy consumption forecasts and annual revenue requirements at the customer class level.

Table 4

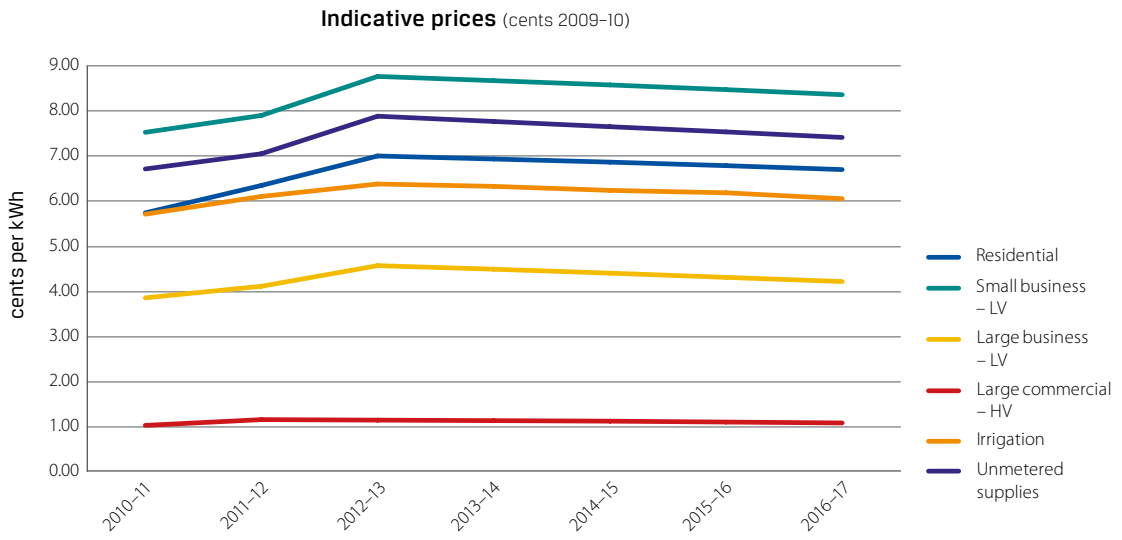
Indicative distribution prices

Price - REAL	Actual			Forecast			
Customer Class	**2010-11 (c/kWh)**	**2011-12 (c/kWh)**	**2012-13 (c/kWh)**	**2013-14 (c/kWh)**	**2014-15 (c/kWh)**	**2015-16 (c/kWh)**	**2016-17 (c/kWh)**
Residential	5.75	6.36	7.01	6.94	6.87	6.79	6.71
Small business – LV	7.53	7.90	8.77	8.67	8.58	8.47	8.36
Large business – LV	3.87	4.13	4.58	4.50	4.42	4.32	4.23
Large commercial – HV	1.05	1.18	1.17	1.16	1.14	1.12	1.10
Irrigation	5.72	6.11	6.39	6.34	6.25	6.19	6.06
Unmetered supplies	6.72	7.06	7.89	7.77	7.65	7.54	7.42
All classes	5.02	5.47	6.02	5.97	5.90	5.84	5.77
All classes (percentage change)		8.96%	10.00%	(0.86%)	(1.04%)	(1.06%)	(1.22%)

Indicative prices increase 10.00 percent between 2011-12 and 2012-13 and are largely driven in the P_o adjustment that will occur following the application of the AER's post tax revenue model that is used to derive Aurora's ARR. Following this initial price increase, indicative prices fall by an average 1.0 percent, in real terms, each year.

Figure 5

Indicative distribution prices



Indicative prices are shown in real 2009-10 cents per kWh for energy consumed, however, it should be noted that actual prices depend on specific tariffs which are made up of additional components including fixed, energy and demand charges. For this reason the above prices are considered indicative only, are not binding and are only provided for the purposes of giving a high level overview of the expected price impact for the forthcoming *Regulatory Control Period*.

In addition, Aurora's Customer Capital Contributions Policy is being revised to ensure that it provides an appropriate allocation of costs between connecting customers and users of the shared distribution network. This policy will reflect the efficient cost of providing new connection services and ensure greater equity between customer classes, consistent with the distribution business' revised strategy and the intent of the proposed National Energy Customer Framework, expected to commence from 1 July 2012.

1.9. Conclusion

Aurora is committed to demonstrating industry leadership by continuing to deliver a safe and reliable electricity supply while minimising the impact on Tasmanian households and businesses of any future distribution-related price increases. However, it is acknowledged that Aurora's distribution business is unable to influence the other elements of the supply chain which may cause increases to the final prices seen by customers. This is the fundamental driver underpinning Aurora's *Regulatory Proposal*.

This commitment will be delivered by a challenging regime of productivity improvements and cost cutting across the business, together with significant changes to the way services are delivered. This will involve a move over time to a smarter and more efficient network that will deliver sustainable and efficient outcomes for our customers, further improving the efficiency of Aurora's capital and operating expenditure.

It is considered that Aurora's *Regulatory Proposal*, together with the supporting documents included, provides the necessary rigour and robust justification of Aurora's proposed approach to asset management for the forthcoming *Regulatory Control Period*.

20. Return on Capital

20. Return on capital

20.1. NEL requirements

The National Electricity Objective set out within the NEL at section 7 is:

> *to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:*
>
> *(a) price, quality, safety, reliability and security of supply of electricity; and*
>
> *(b) the reliability, safety and security of the national electricity system.*

The revenue and pricing principles at section 7A(5) further state that:

A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

Section 16 2(a)(i) of the NEL requires that the AER must, when exercising a discretion in making those parts of a Distribution Determination relating to direct control network services take into account the revenue and pricing principles.

20.2. Rules requirements

Clause 6.4.3 of the *Rules* prescribes that the revenue requirement for Aurora must be determined using a building block approach. The *Rules* require that one of the components of the building block should be a return on capital and further that the return on capital is calculated in accordance with clause 6.5.2.

Clause 6.5.2 requires that the return on capital must be calculated by applying a rate of return for Aurora to the value of the regulatory asset base. The rate of return for Aurora is the cost of capital as measured by the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by Aurora and must be calculated as a nominal post-tax weighted average cost of capital (WACC) in accordance with the following formula:

$$\text{WACC} = k_e \frac{E}{V} + k_d \frac{D}{V}$$

where:

k_e *is the return on equity and is calculated as:*

$$r_f + \beta_e \times MRP$$

where:

r_f *is the nominal risk free rate;*

β_e *is the equity beta; and*

MRP *is the market risk premium.*

k_d *is the return on debt and is calculated as:*

$$r_f + DRP$$

where:

DRP *is the debt risk premium.*

E/V *is the value of equity as a proportion of the value of equity and debt, which is 1 - D/V; and*

D/V *is the value of debt as a proportion of the value of equity and debt.*

Clause 6.5.2(c) states that the nominal risk free rate is (unless some different provision is made by a relevant statement of regulatory intent) the rate determined by the AER on a moving average basis from the annualised yield on Commonwealth Government bonds with a maturity of 10 years.

Clause 6.5.2(e) states that the debt risk premium is the premium determined by the AER as the margin between the annualised nominal risk free rate and the observed annualised Australian benchmark corporate bond rate for corporate bonds which have a maturity equal to that used to derive the nominal risk free rate and a credit rating from a recognised credit rating agency.

Clause 6.5.4(a) and (d) requires that the AER must carry out reviews of the following matters:

(1) the nominal risk free rate;

(2) the equity beta;

(3) the market risk premium;

(4) the "default" maturity period and bond rates used to calculate the nominal risk free rate;

(5) the ratio of the value of debt to the value of equity and debt;

(6) credit rating levels used to calculate the debt risk premium; and

(7) the assumed utilisation of imputation credits used to calculate the estimated cost of corporate income tax (refer to chapter 22 of this *Regulatory Proposal Addendum*).

Clause 6.5.4(c) requires that the AER must, in consequence of a review, issue a statement (a statement of regulatory intent or SORI) adopting values, methods and credit rating levels for DNSPs or for specified classes of DNSPs.

Clause 6.5.4(f) requires that a SORI adopting a revised value, method, or credit rating level applies only for the purposes of a building block proposal submitted to the AER after publication of the SORI.

Clause 6.5.4(g) requires that a Distribution Determination to which a SORI is applicable must be consistent with the SORI unless there is persuasive evidence justifying a departure, in the particular case, from a value, method or credit rating level set in the SORI.

Clause 6.5.4(h) requires that, in deciding in a Distribution Determination whether a departure from a value, method or credit rating level set in a SORI is justified, the AER must consider:

(1) the criteria on which the value, method or credit rating level was set in the SORI (the underlying criteria); and

(2) whether, in the light of the underlying criteria, a material change in circumstances since the date of the SORI, or any other relevant factor, now makes a value, method or credit rating level set in the SORI inappropriate.

Clause 6.12.1(5) states that a Distribution Determination is predicated on a constituent decision by the AER in relation to the rate of return on whether to apply or depart from a value, method or credit rating level set out in a SORI in accordance with clause 6.5.4.

Clause S6.1.3(9) requires that a Building Block Proposal must at least contain Aurora's calculation of the proposed rate of return, including any departures from the values, methods or credit rating levels set out in the SORI.

20.3. AER's statement of regulatory intent

The AER undertook a review of the cost of capital values, methods and credit rating levels in accordance with clause 6.5.4 of the *Rules* and released its SORI in May 2009.

The SORI confirms the cost of capital values, methods and credit rating levels that will apply to Aurora when the AER makes its final Distribution Determination unless Aurora proposes any departures from those values, methods or credit rating levels.

The values, methods and credit rating levels applicable in the AER's SORI are shown in Table 94.

Table 94

AER's SORI values

WACC parameter	AER's SORI Value
Risk free rate	Annualised yield on 10 year Commonwealth Government bonds based on an agreed averaging period.
Equity beta	0.80
Market risk premium	6.50%
Value of debt as proportion of value of debt and equity	0.60
Debt risk premium	To be based on a credit rating level of BBB+, specified in clause 6.2.5(e) of the *Rules*.
Value of imputation credits	0.65

20.4. Aurora's proposal

Aurora's proposal for its return on capital addresses the relevant provisions of the NEL, the *Rules* and the SORI issued in May 2009 ("the applicable SORI").

In setting out its proposal, Aurora notes that the provision of an adequate return on capital is of critical importance to Aurora's owners and its customers. In particular, regulatory decision-making that results in the provision of an inadequate post-tax return will damage incentives for investment, and will ultimately deny customers the economic benefits that flow from distribution network investment.

Aurora has prepared a detailed analysis of the cost of capital requirements and its proposals for the values, methods and credit rating levels that will apply to Aurora. This analysis is appended as an attachment to Aurora's *Regulatory Proposal*.

20.4.1. Risk free rate

The SORI requires that:

- the nominal risk free rate be calculated on a moving average basis from the annualised yield on Commonwealth Government bonds with a maturity of 10 years (based on the indicative mid rates published by the Reserve Bank of Australia); and
- the period of time in which the nominal risk free rate is to be calculated should be as close as practically possible to the commencement of the regulatory control period, and should initially be proposed by the DNSP and agreed by the AER.

Aurora has set out the measurement period of the nominal risk free rate that it proposes to be adopted for the purpose of the AER's final determination in an attachment appended to its *Regulatory Proposal*. In accordance with clause 6.5.2(c)(2)(iii) of the *Rules*, Aurora requests that this information remain confidential.

The risk free rate proposed in this *Regulatory Proposal Addendum* is therefore indicative only and is based on the 20 business day averaging period commencing on 28 February 2011 and ending on 25 March 2011. This rate is proposed to facilitate the calculation of the proposed rate of return at the time of submitting its *Regulatory Proposal*.

The risk free rate for Aurora's *Regulatory Proposal*, estimated in the manner described above, is 5.53 percent.

20.4.2. Debt risk premium

Aurora's debt risk premium methodology follows a three step process:

step 1: establish a reliable and robust fair value curve as the starting point for deriving the debt risk premium;

step 2: select a methodology to extrapolate the debt risk premium to a term of 10 years; and

step 3: compare the estimated debt risk premium with the yields from the current bond market.

Aurora proposes to estimate the debt risk premium by commencing with the debt risk premium that is obtained from the longest term to maturity (but not greater than 10 years) for which the Bloomberg BBB band fair value curve is produced (which is currently 7 years), and then to extrapolate this debt risk premium to one that is consistent with a 10 year term to maturity.

Aurora has set out the measurement period of the debt risk premium that it proposes to be adopted for the purpose of the AER's final determination in an attachment appended to its Regulatory Proposal. Consistently with clause 6.5.2(c)(2)(iii) of the Rules, Aurora requests that this information remain confidential.

The debt risk premium proposed in Aurora's *Regulatory Proposal* is therefore indicative only and is based on the 20 business day averaging period commencing on 28 February 2011 and ending on 25 March 2011. This rate is proposed to facilitate the calculation of the proposed rate of return at the time of submitting Aurora's *Regulatory Proposal*.

Aurora's final debt risk premium will be determined during an averaging period that is closer to the time of the AER's final decision.

It is noted that the limited trade in Australian corporate bonds, the small number of number of bonds on issue and the limited quantity of new bond issues (especially around the 10 year mark) continue to create a challenge for estimating the debt risk premium. However, conditions in the Australian corporate bond market are expected to continue to improve. Importantly, as the quality of the market evidence improves, it is automatically factored into the debt risk premium that is derived by applying Aurora's proposed method.

Applying this method to the 20 business days from 28 February 2011 to 25 March 2011 has delivered a debt risk premium of 454 basis points. Aurora has also tested this estimate against the debt risk premium for the available bonds on issue (including bonds of close credit ratings and floating as well as fixed rate instruments) and concluded that this estimate is reasonable on the basis of the current evidence.

20.4.3. Gearing level

The SORI requires that the value of debt as a proportion of the value of debt and equity (D/V or "gearing") be set at 0.60.

Aurora proposes to adopt a value of 0.60 for the gearing level, consistent with the SORI.

20.4.4. Market risk premium

The SORI requires that the value of the market risk premium be set at 6.50 percent.

Aurora proposes to adopt a value of 6.50 percent for the market risk premium, consistent with the SORI.

20.4.5. Value of imputation credits

In the AER's cost of capital review, the value of imputation credits (denoted by γ or gamma) was determined as the product of two underlying parameters:

- the rate at which imputation credits are distributed to investors ("distribution ratio", also represented by F); and
- the rate at which distributed credits are redeemed by investors ("utilisation rate", also represented by θ or theta).

The AER's cost of capital review decision adopted a value of 100 per cent for the distribution rate and 0.65 for the utilisation rate. Based on these values, the SORI requires that a value of 0.65 be adopted in relation to the assumed value of imputation credits.

The Australian Competition Tribunal's review of the AER's decision on the value of gamma

The Australian Competition Tribunal's (the Tribunal) recent decisions on the value of gamma were issued in response to an application by Energex, Ergon and ETSA Utilities (the applicants) for a review of the AER's final decisions on their respective distribution revenues for the *Regulatory Control Period* commencing on 1 July 2010.

In these proceedings, the Tribunal found that the AER had erred in its treatment of both the distribution ratio and the utilisation rate, which underpin the calculation of gamma.

In relation to the distribution ratio, the AER acknowledged it made an error of fact in its cost of capital review in interpreting the distribution ratio of 71 percent, as derived by Hathaway and Officer (2004)[1], as a long-term distribution ratio. On this basis, the AER conceded there was evidence to justify departure from the value of gamma adopted in its SORI, insofar as it relates to the distribution ratio. The AER did not however concede that the appropriate substitute value for the distribution ratio was necessarily 70 percent, as proposed by the applicants in this case. However, in its decision of December 2010, the Tribunal determined that the most appropriate distribution ratio for gamma was 0.70.[2]

1 Hathaway N. and Officer B., The *value* of imputation *credits – update* 2004, (November 2004).

2 Application by Energex Limited (Distribution Ratio (Gamma)) (No 3) [2010] ACompT 9, paragraph 4.

In relation to the utilisation rate, the Tribunal determined in its decision of May 2011 that the best estimate of the value of imputation credits once in the hands of investors is 0.35[3]. However, the Tribunal also notes that this decision was based on the material before it and that the estimation of gamma is "an ongoing intellectual and empirical endeavour".

The Tribunal specifically commented [4]:

> *"The Tribunal finds itself in a position where it has one estimate of theta before it (the SFG's March 2011 report value of 0.35) in which it has confidence, given the dividend drop-off methodology. No other dividend drop-off study estimate has any claims to be given weight vis-á-vis the SFG report value."*

Given the Tribunal's views on this matter and the extensive material that was prepared for, and considered by, the Tribunal, Aurora considers it appropriate to apply the same gamma parameter values for the purposes of this *Regulatory Proposal*. Applying the Tribunal's value for the distribution ratio of 0.70 and the value for theta of 0.35, produces a (rounded) value for gamma of 0.25.

Aurora considers that the Tribunal decisions provide persuasive evidence justifying a departure, in the particular case, from a value, method or credit rating level set in the SORI. Aurora has therefore adopted 0.25 as the value for imputation credits, or gamma, for the purposes of its *Regulatory Proposal*.

20.4.6. Equity beta

The equity beta has been assigned a value of 0.80 in the SORI.

Aurora accepts that the appropriate value for the equity beta is difficult to estimate from a statistical standpoint and notes that the AER's decision in the cost of capital review to reduce the value of the equity beta from the previously adopted value of 1.00 remains highly contentious. Nevertheless, Aurora proposes to adopt a value of 0.80 for the equity beta, consistent with the requirements of the SORI.

20.4.7. Inflation

Aurora proposes to adopt an inflation forecast of 2.575 percent per annum for its *Regulatory Proposal*.[5] The forecast inflation is the geometric average of the forecast annual inflation for each of the ten years from 2011 to 2020, as shown in Table 95.

For the 2011 and 2012 years, the expected inflation estimates are consistent with the data on median inflation expectations for market economists as reported in the Reserve Bank of Australia's ("RBA") February 2011 Statement of Monetary Policy[6].

For the 2013 year and beyond, the expected inflation estimates are the midpoints of the RBA's long term inflation target range of 2 per cent to 3 per cent (i.e. 2.50 percent).

Aurora understands that this approach is consistent with the AER's preferred approach for estimating the forecast inflation rate.

Table 95

Forecast inflation (percent per annum, June year end)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inflation forecast	2.50	2.75	3.00	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Geometric average	2.575									

20.4.8. Aurora's parameters

The values, methods and credit rating levels proposed by Aurora for the cost of capital are shown in Table 96.

Table 96

Aurora proposal

Parameter	AER's SORI value	Aurora proposal
Nominal risk free rate	Annualised yield on 10 year Commonwealth Government bonds based on an agreed averaging period.	5.53%
Equity beta	0.80	0.80
Market risk premium	6.50%	6.50%
Value of debt as a proportion of the value of debt and equity (gearing)	0.60	0.60
Debt risk premium	To be based on a credit rating level of BBB+, specified in clause 6.2.5(e) of the *Rules*.	4.54%
Value of imputation credits	0.65	0.25
Inflation		2.58%
Cost of equity (ke)		10.73%
Cost of debt (kd)		10.07%
Nominal vanilla WACC		10.33%
Post-tax nominal WACC		7.83%

3 Application by Energex Limited (Distribution Ratio (Gamma)) (No 5) [2011] ACompT 9.
4 Application by Energex Limited (Distribution Ratio (Gamma)) (No 5) [2011] ACompT 9. paragraph 38.
5 Aurora understands that this estimate will be updated during the AER's determination process as data becomes available.
6 Reserve Bank of Australia, Statement on Monetary Policy, February 2011, Table 6.1, page 60.

22. Corporate Income Tax

22. Corporate income tax

22.1. Rules requirements

Clause 6.4.3(a) of the *Rules* requires that Aurora's annual revenue requirement for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* must be determined using a building block approach, under which one of the building blocks is the estimated cost of corporate income tax of Aurora for that year.

Clause 6.4.3(b)(4) specifies that the estimated cost of corporate income tax is determined in accordance with clause 6.5.3 (below); and notes that a SORI may be relevant to the calculation (clause 6.5.4).

Clause 6.5.3 requires that the estimated cost of Aurora's corporate income tax for each *Regulatory Year* (ETC_t) must be calculated in accordance with the following formula:

$$ETC_t = (ETI_t \times r_t)\ (1 - \gamma)$$

where:

ETI_t *is an estimate of the taxable income for that Regulatory Year that would be earned by a benchmark efficient entity as a result of the provision of Standard Control Services if such an entity, rather than Aurora, operated the business of Aurora, such estimate being determined in accordance with the PTRM;*

r_t *is the expected statutory income tax rate for that Regulatory Year as determined by the AER; and*

γ *is the assumed utilisation of imputation credits.*

For these purposes:

- *the cost of debt must be based on that of a benchmark efficient Distribution Network Service Provider (DNSP); and*
- *the estimate must take into account the estimated depreciation for that Regulatory Year for tax purposes, for a benchmark efficient DNSP, of assets where the value of those assets is included in the regulatory asset base for the relevant distribution system for that Regulatory Year.*

Clause 6.5.4(d)(7) provides that the AER may review the value of the assumed utilisation of imputation credits referred to in clause 6.5.3 and issue a SORI setting out this value (and other values). The AER determined that the value of imputation credits, or gamma should be 0.65 in the SORI relevant to Aurora's distribution building block Determinations[1]. A departure from the SORI is only permissible where there is persuasive evidence to justify that departure.

Section 2.5 of the RFM Handbook details how Aurora's opening tax value for the final *Regulatory Year* of the previous *Regulatory Control Period* should be used to establish the nominal opening tax value for each *Regulatory Year* of the current *Regulatory Control Period*.

Section 2.1 of the PTRM Handbook sets out how the opening tax value for each asset class must be determined on the basis of closing tax asset values for the current *Regulatory Control Period*, and how the tax remaining life and tax standard life should be recorded.

Consistent with the above *Rules* requirements this chapter sets out the methodology used by Aurora to determine the estimated cost of corporate income tax; and summarises the estimated tax costs. Importantly, the corporate income tax allowance is based on estimates of the tax paid by a "benchmark efficient DNSP", not on the tax actually paid, or forecast to be actually paid.

1 AER Statement of regulatory intent on the revised WACC parameters (distribution), May 2009, page 7.

22.2. OTTER treatment of corporate income tax

OTTER applied a pre-tax real approach to determine Aurora's revenue requirements for the 2008-12 *Regulatory Control Period*[2] which meant that it did not establish a tax asset base for Aurora. This was because there was no requirement to specifically provide an allowance for corporate income tax.

Previously OTTER was required only to make a broader assessment of tax implications by having regard for "*the impact on pricing policies of any borrowing, capital, dividend and taxation or tax equivalent obligations of the electricity entity, including obligations to renew or increase assets*"[3]. Accordingly OTTER allowed a return on capital that was sufficient to cover estimated corporate income tax payments over the *Regulatory Control Period*.

Aurora is registered under the National Tax Equivalent Regime (NTER) which requires the lodgement of an income tax equivalent return for each year. Under the NTER the relevant tax laws are applied notionally to Aurora as if it were the subject of the laws. Aurora's income tax equivalent liability is assessed annually by the Australian Taxation Office (ATO), and it must pay quarterly instalments of the liability to the Department of Treasury and Finance on the basis of this assessment.

Table 101 summarises Aurora's NTER values for *Standard Control Services* through to the period ending 2009-10.

22.3. 2012-17 Regulatory Control Period overview

Aurora has calculated its corporate income tax allowance for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* consistent with the requirements of the *Rules*, and RFM and PTRM Handbooks. For this purpose, Aurora has adopted the following high level approach, where it:

(1) established the appropriate asset balances for its opening tax asset base as of 1 July 2007 using the methodology devised and endorsed by Deloitte and KPMG respectively. A total opening tax asset base of $526.1 million was calculated;

(2) entered the opening tax asset base values and required data, as of 1 July 2007, into the AER's RFM, to determine the closing tax asset base of $1,028.5 million as at 30 June 2012;

(3) adjusted the closing tax asset base value to account for the use of shared services assets to determine the closing tax asset base as at 30 June 2012, which then was input into the PTRM as the 1 July 2012 opening tax asset base of $1,015.3 million;

(4) calculated its tax income as the estimated ARR of $1,571.6 million, plus the estimated value of customer contributions of $106.4 million, using the PTRM;

(5) calculated its estimated tax expense of $1,187.5 million based on the costs that a "benchmark efficient entity" would incur under the current statutory corporate tax rate as prescribed by ATO taxation rules. Tax expenses included were the estimated values for operating expenditure, tax depreciation, and interest or debt servicing expenses;

(6) calculated pre-tax income of $491.2 million, being its total tax income less total tax expenses, as determined in the steps above;

(7) recorded a carried forward tax loss equal to zero as at 1 July 2012;

(8) aggregated the values determined in steps (4) and (5) to obtain the value for total taxable income of $491.2 million;

(9) applied the current statutory corporate tax rate of 30 percent, as prescribed by ATO taxation rules to its total taxable income to determine the tax allowance building block; and

(10) adjusted the corporate income tax allowance to offset for imputation credits. A gamma value of 0.25 was applied, reflecting a departure from the value of 0.65 set out in the AER's SORI.

The specific issues encountered, and the rationale underpinning Aurora's approach, in undertaking this process and associated calculations are discussed below.

Aurora's opening tax asset base as of 1 July 2007 was calculated to be $526.1 million; and its opening tax asset base as of 1 July 2012 was estimated to be $1,015.3 million. Aurora's corporate income tax cost estimate for the 2012-17 *Regulatory Control Period* is set out in Table 102.

2 OTTER 2007 Electricity Pricing Investigation – Final Report, p. XIX, 2007. .
3 Tasmanian Electricity Supply Industry (Price Control) Regulations 2003, s33(2)(j).

Table 101

NTER Values for Standard Control Services to 2009-10

	2003-04 ($m)	2004-05 ($m)	2005-06 ($m)	2006-07 ($m)	2007-08 ($m)	2008-09 ($m)	2009-10 ($m)
Total NTER Opening Asset Value	288.691	336.150	394.778	472.209	526.090	607.636	705.730
Disposals	1.245	1.073	1.395	7.532	0.524	0.971	1.120
Tax Depreciation	21.157	23.883	29.782	31.606	29.407	35.926	38.894
Actual Capital expenditure	69.861	83.585	108.608	93.021	111.475	134.990	148.603
Total NTER Closing Asset Value	**336.150**	**394.778**	**472.209**	**526.090**	**607.636**	**705.730**	**814.318**

Table 102

Corporate income tax estimate for 2012-17 Regulatory Control Period

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)	TOTAL ($m)
Tax payable	27.76	30.08	29.61	29.82	30.08	147.36
Less value of imputation credits	6.94	7.52	7.40	7.46	7.52	36.84
Net corporate income tax allowance	20.82	22.56	22.21	22.37	22.56	110.52

22.4. Opening tax asset base

The establishment of the opening tax asset base forms the foundation step in calculating Aurora's corporate income tax allowance. As OTTER applied a pre-tax real approach to determine Aurora's revenue requirements for the current *Regulatory Control Period*, Aurora has not previously been required to establish a tax asset base. As a result, it has been necessary for Aurora to develop, on the basis of available data, a methodology to establish the opening tax asset base for input into the RFM and the PTRM.

Aurora engaged the services of Deloitte to develop, and KPMG to endorse, the methodology it has used to establish the opening tax asset base as at 1 July 2007. In developing its methodology Deloitte had regard to its understanding of the AER's ideal approach[4], being to:

- identify when the entity was first subject to the tax equivalence regime;
- verify the tax value of the assets as at that date;
- identify a historical profile of when assets first became subject to tax;
- calculate a tax roll-forward to the commencement of the regulatory period using tax depreciation and actual capital expenditure and disposals; and
- depreciate on a straight line basis for tax purposes.

Aurora proposes an opening tax asset base as at 1 July 2007 of $526.1 million as determined using the below methodology.

22.4.1. Fixed asset registers

Consistent with the approach developed by Deloitte[5], Aurora adopted a methodology which sourced asset data from two fixed asset registers, dependent on when the assets were acquired, being:

- tax fixed asset register for assets acquired up to 30 June 2002; and
- accounting fixed asset register for assets acquired between 1 July 2002 and 30 June 2007.

Aurora used its tax written down values as at 30 June 2002 in order to provide consistency between how Aurora actually depreciates assets for tax purposes under the NTER, with the method to account for tax depreciation under the RFM and PTRM models in terms of the measurement of the effective lives of Aurora's assets.

It was necessary that Aurora use values from the accounting fixed asset register for the period 1 July 2002 to 30 June 2007, rather than the tax fixed asset register, for several reasons:

- in the tax fixed asset register, low value assets are pooled under concessional accelerated depreciation rules consistent with Division 40 of the *Income Tax Assessment Act 1997* (ITAA);
- in the accounting fixed asset register, assets are not pooled which enables all additions in the period to be separately identified and depreciated using specific straight line depreciation rates; and
- the tax pooled assets include *Alternative Control Services* assets, being street lights and meters, which can only be separately identified and excluded using the accounting fixed asset register.

Aurora notes that the effective lives associated with the accounting fixed asset register are determined using the same principles as for the tax fixed asset register.

For assets acquired up to 30 June 2002 Aurora's tax fixed asset register supplied the data pertaining to asset acquisition costs; depreciation start dates; and straight line depreciation rates and associated effective asset lives. Where information on depreciation rates and effective asset lives was not available values used for the equivalent depreciation rate for an asset with the same effective life were used as a proxy for the actual data.

For assets acquired in the period 1 July 2002 to 30 June 2007 Aurora's accounting fixed asset register supplied asset acquisition costs; depreciation start dates; and straight line depreciation rates and associated effective asset lives.

Aurora notes in relation to its tax fixed asset register, used up until 30 June 2002, that the acquisition values included low value tax pooled assets. It is acknowledged that the pooled assets potentially include alternative control assets; however these do not impact on Aurora's tax asset base model. This is because these assets are written off under Aurora's model prior to 30 June 2007, and are consequently not included in the 30 June 2007 values under the tax asset base model.

The remainder of assets that would have fallen within the low value pool, such as tools, computer and communications equipment, were considered to have short effective lives, meaning that they would have had little, if not a nil, written down value as at 30 June 2007, regardless of whether separate effective lives were determined and used for these assets. On this basis, Aurora considered its approach of using the tax, then accounting fixed asset register data, as appropriate and consistent with *Rules* requirements.

4 Deloitte, Aurora Energy Pty Ltd, Australian Energy Regulator, 24 November 2010, section 1.1.

5 Ibid. section 1.3.

22.4.2. Segregation of Standard Control Services assets

Aurora removed fully depreciated assets; land assets not eligible for depreciation deductions; and low value tax pooled assets from its tax asset base model. Where separately coded, and therefore identifiable, non-*Standard Control Services* assets were also removed from the tax asset base model, and this included the removal of:

- the portion of shared assets that could not be attributed to *Standard Control Services*;
- *Alternative Control Services* assets, where separately recorded as meters or streetlights;
- Meter Data Management System (MDMS) assets; and
- Aurora Retail assets.

22.4.3. NTER

Aurora, as a Government-owned business, is not subject to the ITAA for Constitutional reasons, but must pay income tax under the NTER for competition neutrality reasons. It is noted that Aurora's methodology to establish the opening tax asset base is also consistent with NTER requirements.

Where an entity was under a state Tax Equivalent Regime (TER), and commenced being under the NTER prior to 30 June 2002, the NTER entity's commencing position for the purposes of the NTER was required to be equal to its closing positions in the TER[6]. In this respect, the Hydro-Electric Corporation commenced under the State TER in 1990. Whilst Aurora was also initially under the State TER, a transfer of assets at written down values is in line with the subsequent NTER requirements.

Where there is a transfer of assets from one NTER entity to another under a Government imposed restructure, the restructure should be treated in a tax neutral manner for NTER purposes[7]. A tax neutral manner suggests that assets are transferred at tax written down values, meaning there is no gain or loss, or step up or down of cost base, from the transfer of depreciable assets from one NTER entity to another. Aurora confirms that its approach has been consistent with NTER requirements in this regard.

22.4.4. Depreciation

Aurora considers its method of depreciation to be appropriate with the requirements of the *Rules* on the basis that it:

- applies straight-line depreciation;
- is consistent with the effective lives of assets as used for NTER tax depreciation purposes;
- depreciates assets from the time the assets were acquired as per Aurora's historic records; and
- uses effective lives consistent with accounting fixed asset register effective lives.

It should be noted that there is a differential between the written down values of Aurora's model and those of the tax fixed asset register, which included assets that were subject to accelerated depreciation provisions of the ITAA. This is consistent with requirements of the RFM and PTRM, where the straight-line method of depreciation has been used for the period from 1 July 2002 to 30 June 2007.

To determine straight-line depreciation rates Aurora has in the past calculated tax depreciation using self-assessed effective lives based on the effective lives assessed for accounting depreciation purposes. In its tax asset base model Aurora determined the straight-line depreciation rate by using the effective life stated for each asset in its registers.

Where there was no statement of the effective life or the prime cost rate for the assets, the rate was determined using the diminishing value rate of depreciation used in the tax fixed asset register. This is only relevant for assets acquired up to 30 June 2002.

22.4.5. Effective lives

Aurora did not consider it appropriate to use effective lives, as published by the ATO, and accepted by the Commissioner of Tax, in determining the straight line depreciation rate for its assets. This is because Aurora's asset base is characterised by a large number and variety of depreciable assets and it is difficult to apply the Commissioner's rates to each individual asset.

Although effective lives could be allocated based on asset categories to accommodate the Commissioner's rates, this approach would have been less precise than the self assessed lives allocated by Aurora, which were determined on an asset-by-asset basis. For this reason, it is considered that using Aurora's self-assessed effective lives provides a more accurate basis for determining the effective lives of assets, given they were determined upon the initial entry of each individual asset into the fixed asset register.

22.4.6. Work in progress

Aurora's *Regulatory Proposal* reflects the forecast work in progress at 30 June 2012 based on currently available data and will be updated in the revised *Regulatory Proposal* for the actual work in progress balance at 30 June 2011. To accommodate the depreciation of work in progress the estimated work in progress value at 1 July 2012 will be calculated on the basis of the work in progress balance at 30 June 2011, which will be known at the time of submitting Aurora's revised *Regulatory Proposal*.

6 ATO Manual for the National Tax Equivalent Regime January 2008 (Version 6), s91.
7 Ibid. s103.

22.4.7. Determination of acquisition costs

Limited historical information was available to enable the written down cost base of the tax assets to be determined. An examination of Aurora's current and historical records carried out by Deloitte determined that the most complete and reliable information was the tax fixed asset register as at 30 June 2002, supplemented by additions and disposals as per the accounting fixed asset register for each of the years ended 30 June 2003 to 30 June 2007 inclusive.

Aurora could only use historical asset data back to 2002 as a result of its migration to a new accounting system and the transfer of all asset values to a new tax fixed asset register. That information was revised for incorporation into the new accounting system, and consequently the historical data prior to 2002 could not be extracted for preparing its *Regulatory Proposal*.

Broadly, to determine the original cost of assets, the following methodology, as developed by Deloitte, was applied:

- for assets acquired up to the period ended 30 June 2002, acquisition cost of assets as stated in Aurora's tax fixed asset register at 30 June 2002 were sourced;
- for assets acquired in the period from 1 July 2002 to 30 June 2007, acquisition costs of assets as per Aurora's accounting fixed asset register were sourced;
- disposals in the period from 1 July 2002 to 30 June 2007 were allocated to each individual asset, using the fixed asset numbers (whether acquired pre or post 30 June 2002). In some cases, the disposal amount was greater than the asset value, or related to assets no longer appearing on the asset register. These surplus amounts were treated as a gain on disposal and excluded from the tax asset base model;
- shared use assets were included in the assets listed as *Standard Control Services* assets and were separately identified according to asset class code. This percentage was then applied to the acquisition cost of *Standard Control Services* assets to reduce the starting value of assets;
- *Alternative Control Services* assets, MDMS assets, and Aurora Retail assets, where separately identified, were removed from the tax asset base model; and
- fully depreciated assets, including low value tax pooled assets, and land assets that are not entitled to depreciation deductions were removed from the model.

22.4.8. Determination of straight-line depreciation rates

In its tax asset base model Aurora determined the depreciation rate by using the effective life stated for each asset in either the tax fixed asset register at 30 June 2002 or the accounting fixed asset register. Each effective life was stated in years with the straight-line depreciation rate being determined by dividing 100 percent by the effective life.

Where there was no statement of the effective life or the straight-line depreciation rate for the assets, the rate was determined using the diminishing value rate of depreciation used in the tax fixed asset register. This was only necessary for some assets acquired up to 30 June 2002, with all assets acquired after this date having known effective lives.

To determine the rate in these instances, the diminishing value rate of depreciation was determined by using a gross-up rate of 150 percent up until 9 May 2006. After this date, the gross-up rate of 200 percent could be used. The self-assessed effective lives used by Aurora in the raw data were then determined using the established diminishing value rate. Finally, the straight-line rate of depreciation, based on the Aurora self-assessed effective lives, was then determined.

22.4.9. Determination of 30 June 2007 tax asset values

Aurora's tax asset base model uses the straight-line method for writing down the value of assets, at the rates determined by Aurora's self-assessed effective lives for each asset, or where not available, using the conversion of diminishing value rates of depreciation to straight-line rates.

The assets were depreciated from the depreciation start date provided in the raw data, which therefore included start dates in the 1950s and sometimes earlier. Accordingly, many of the assets under this methodology were fully written down as at 30 June 2002, and were removed from the tax asset base model.

The raw data sourced acquisition costs of assets, as stated in the tax fixed asset register up until 30 June 2002 (and after that date the accounting cost of additions) rather than written down values given to the assets, were depreciated from the date of acquisition.

From 1 July 2001, assets costing less than $1,000 were pooled and depreciated at 37.5 percent applying the diminishing value method, consistent with the method applied in Aurora's raw data. While the low value asset pooling rules in Division 40 of the ITAA 1997 specify a diminishing value rate of 37.5 percent for low value pools, this rate has been converted to a straight-line depreciation rate to align with the AER's approach.

Although this does not comply with the requirements of the ITAA 1997, which prescribes the diminishing value method, given the use of the same effective life, the rate used is considered appropriate in the circumstances. The 37.5 percent diminishing value converts to an effective life of four years, and a straight-line depreciation rate of 25 percent. Using this rate of 25 percent, these assets would be fully depreciated by 30 June 2007, and so will not affect the value of assets brought into Aurora's model.

Additions from 1 July 2002 to 30 June 2007 have been extracted from the accounting fixed asset register and so do not contain tax pooling as an asset class. In respect of this period, *Alternative Control Services* assets have been excluded based on their fixed asset class codes.

22.5. Imputation credits

Under clause 6.5.4(g) of the Rules, Aurora's Distribution Determination may be inconsistent with the values set out by a SORI, but only if there is persuasive evidence to justify a departure. The value of imputation credits, or gamma that is proposed to apply to Aurora is 0.65, as set out in the SORI for *Regulatory Proposals* submitted to the AER between 1 May 2009 and 1 April 2014.

As discussed in section 20.4.5 of this *Regulatory Proposal Addendum*, Aurora has departed from the SORI value and is proposing that a gamma value of 0.25 apply for the purposes of Aurora's *Regulatory Proposal*.

25. Service Target Performance Incentive Scheme (STPIS)

25. Service Target Performance Incentive Scheme

25.1. Service Target Performance Incentive Scheme objectives

The role of the AER Service Target Performance Incentive Scheme (STPIS) is to provide incentives for Aurora to maintain and improve service performance as set out in the *Rules*.

To that end, the AER STPIS:

(1) defines the performance incentive parameters that measure Aurora's service performance;

(2) sets out the requirements with which the values to be attributed to the parameters must comply;

(3) will be used to decide the service standards financial reward or penalty component of Aurora's Determination; and

(4) provides guidance about the approach the AER will take in reviewing Aurora's service performance.

The AER objectives are that the STPIS:

(a) is consistent with the national electricity objective in the NEL;

(b) is consistent with the *Rules* which requires that the AER must take into account:

  (i) the need to ensure that benefits to consumers likely to result from the STPIS are sufficient to warrant any reward or penalty for Aurora;

  (ii) any regulatory obligation or requirement to which Aurora is subject;

  (iii) the past performance of Aurora's network;

  (iv) any other incentives available to Aurora under the *Rules* or a relevant Distribution Determination;

  (v) the need to ensure that the incentives are sufficient to offset any financial incentives Aurora may have to reduce costs at the expense of service levels;

  (vi) the willingness of the customer or end user to pay for improved performance in the delivery of services; and

  (vii) the possible effects of the STPIS on incentives for the implementation of non-network alternatives;

(c) promotes transparency in:

  (i) the information provided by Aurora to the AER; and

  (ii) the decisions made by the AER.

The AER is required by the *Rules* to include a STPIS as component of a Building Block Determination for the provision of *Standard Control Services*[1] *by distributors. To this end, the AER published a Guideline "Electricity distribution network service providers service target performance incentive scheme"* (the STPIS Guideline), most recently amended in November 2009, describing the formation and application of the STPIS.

In its application of a STPIS, the AER is obliged to consider jurisdictional GSL Schemes and performance targets[2]. The Tasmanian performance standards are contained within the *TEC*[3] and OTTER has noted that the performance standards will not be revised, but that the boundaries of the communities may be reviewed to account for community growth. The jurisdictional GSL Scheme is provided in the GSL Guideline.

25.2. AER proposed scheme

25.2.1. Introduction

The AER described its proposal for the application of the STPIS to Aurora in the final *Framework and Approach*. The STPIS has, potentially, four components: Reliability of Supply; Quality of Supply; Customer Service; and a GSL Scheme, with the first three components contributing to the S-factor that is used to adjust

1 *Rules*, Chapter 6, Part C.
2 *Rules*, clause 6.6.2.
3 *TEC*, clause 8.6.11.

allowable revenues. The STPIS may place a maximum five percent of revenue at risk per annum under an S-factor scheme[4]; the AER has proposed that five percent of Aurora's revenue be at risk.

The AER has chosen not to include a Quality of Supply component. The AER's proposed application of the remaining components is discussed below.

25.2.2. Reliability of supply component

There are three parameters available to the AER in the Reliability of Supply Component of the STPIS (SAIDI, SAIFI, and MAIFI), with targets for these parameters based on the distributor's historical performance and rates based on the value of customer reliability (VCR) as determined by the AER.

The AER has proposed that:

- SAIDI and SAIFI targets be applied to existing categories given in the jurisdictional performance standards with the targets set using historical data consistent with the STPIS guideline;
- the VCR should be $95,700 per MWh for the:
  - Critical Infrastructure; and
  - High Density Commercial categories; and
- $47,850 per MWh for the:
  - Urban and Regional Centres;
  - High Density Rural; and
  - Lower Density Rural categories,

with the values given in September 2008 dollars;

- outages due to load shedding for certain reasons, outages due to failure of the shared transmission network or transmission connection assets (with a caveat), outages due to the exercise of a power under national or local electricity legislation, or outages on Major Event Days be excluded from consideration; and
- Major Event Days be determined using the 2.5β methodology.

25.2.3. Guaranteed service level scheme

The AER notes that it will apply the standard GSL Scheme given in the STPIS Guideline only if there is no relevant jurisdictional GSL Scheme. There is an existing jurisdictional GSL Scheme provided in the GSL Guideline, compliance with which is a licence obligation upon Aurora. OTTER has indicated to the AER that it does not intend to repeal the Guideline, although it has also indicated to Aurora that it does not intend to codify in the GSL Guideline or the *TEC* either the single event safety net or the risk sharing mechanism that currently applies. Accordingly, the AER proposes to adopt the GSL Scheme given in the GSL Guideline.

4 STPIS Guideline, section 2.5(a).

25.2.4. Customer service component

There are four parameters available to the AER in the Customer Service Component of the STPIS (telephone answering, streetlight repair, new connections and response to written enquiries) of which only telephone answering is mandatory. The maximum revenue at risk must be ± 1 percent of DNSP revenue for each year of the *Regulatory Control Period*, with no more than ±0.5 percent at risk for any given component.[5]

The AER has proposed that only the mandatory telephone answering parameter be included and operated as per the SPTIS Guideline, and that the revenue at risk be set at 0.5 percent.

25.3. Aurora proposed scheme

25.3.1. Introduction

The principles of the STPIS proposed by Aurora are discussed below.

25.3.2. Reliability of supply component – network segmentation

Aurora understands the AER's approach to network segmentation to mean that each of the five categories listed in Table 3 of Chapter 8 of the *TEC* (Critical Infrastructure, High Density Commercial, Urban and Regional Centres, High Density Rural, and Lower Density Rural) is considered to be a distinct segment. In consequence, each category will have its own series of SAIDI and SAIFI targets based upon appropriate historical reliability data. Aurora supports the AER's proposed approach to network segmentation.

25.3.3. Reliability of supply component – calculation methodology

The reliability of supply component of the STPIS proposed by the AER is intended to use unplanned SAIDI and SAIFI as the parameters. Further, Appendix A of the STPIS Guideline requires that SAIDI and SAIFI be calculated using customer numbers. Aurora is unable to adequately meet this requirement.

Aurora notes that the reliability of supply data used to calculate GSL payments is inadequate to set SAIDI and SAIFI targets. The GSL system uses the Aurora "customer to asset link", whereby installations are "linked" to transformers. The customer to asset link is currently between 90 percent and 95 percent complete. At the beginning of the five year period required to set performance standards, the customer to asset link project had only just commenced and was estimated to be 80 percent complete. Consequently, any targets set using this data will be wrong to a greater or lesser extent. Aurora considers that it is inappropriate to place any of its annual revenue at risk in a scheme that has poorly set targets.

Aurora's current reliability reporting system monitors outages down to transformer level; that is, the system can identify whether a transformer has experienced an outage and the duration of that

5 STPIS Guideline, section 5.2.

outage. The capacity of the transformer (in kVA) is then used in the reliability calculations in conjunction with the outage data. Additionally, the number of customers affected by a transformer outage is generally estimated from the capacity of the transformer assuming that a customer has certain, standard demand. Using this kVA approach, Aurora can confidently provide an outage history back to 2004. On this basis, Aurora proposes that the kVA approach to calculating the SAIDI and SAIFI analogues be continued.

25.3.4. Incentive rates

Clause 3.2.2 of the STPIS Guidelines sets out a methodology for developing incentive rates. Aurora accepts this methodology as outlined below.

Reliability of supply component – value of customer reliability

The AER has proposed that the VCR should be $95,700 ($ September 2008) per MWh for the Critical Infrastructure and High Density Commercial categories and $47,850 ($ September 2008) per MWh for the Urban and Regional Centres, High Density Rural and Lower Density Rural categories. Independent evaluation of the methodology used to ascertain the VCR values indicates that the incremental differences between the AER's proposed VCRs and the appropriate values of VCRs for Tasmania, given the differences in industry sector mixes, are minimal. Aurora therefore supports the use of the AER's proposed values for VCR.

SAIDI and SAIFI weighting

As Aurora proposes a network segmentation other than the network type applied by clause 3.2.2(g) of the STPIS Guideline, Aurora proposes SAIDI and SAIFI weightings as outlined in Table 104.

Aurora has used the weightings provided in Table 1 of the STPIS Guideline and the direction provided by the AER in regard to the application of VCR as the basis for its proposed weightings. Aurora considers that the:

- Critical Infrastructure and High Density Commercial categories are comparable to the CBD feeder classification;
- Urban and Regional Centres category is comparable to the Urban feeder classification; and
- High Density Rural and Lower Density Rural categories are comparable to the Rural (short and long) feeder classification.

Aurora proposes that the AER's CBD, Urban and Rural (short and long) weightings are applied to the Aurora network segmentations.

Table 104

Weightings for SAIDI and SAIFI

Parameter segment	Ratio of unplanned SAIDI to unplanned SAIFI
Critical Infrastructure	1.13
High Density Commercial	1.13
Urban and Regional Centres	0.97
High Density Rural	0.92
Lower Density Rural	0.92

Incentive rate calculation

The calculation for unplanned SAIDI within the STPIS Guideline at clause 3.2.2(h) requires that the incentive rate is calculated by:

(1) multiplying the portion of VCR assigned to the unplanned SAIDI (in $/MWh) by the average annual energy consumption by network type (in MWh) expected for the *Regulatory Control Period*;

(2) dividing by the average of the smoothed Annual Revenue Requirement for the *Regulatory Control Period* (in $, real referenced to the first *Regulatory Year* of the *Regulatory Control Period*) as determined by the AER in the relevant Distribution Determination; and

(3) dividing by the average number of minutes in a Regulatory Year.

The calculation for unplanned SAIFI within the STPIS Guideline at clause 3.2.2(i) requires that the incentive rate is calculated by:

(1) multiplying the portion of VCR assigned to the unplanned SAIFI (in $/MWh) by the average annual energy consumption by network type (in MWh) expected for the *Regulatory Control Period*;

(2) dividing by the average of the smoothed Annual Revenue Requirement for the *Regulatory Control Period* (in $, real referenced to the first *Regulatory Year* of the *Regulatory Control Period*) as determined by the AER in the relevant Distribution Determination;

(3) dividing by the average number of minutes in the relevant *Regulatory Year;* and

(4) multiplying by the average of the annual performance targets for unplanned SAIDI in the *Regulatory Control Period* and dividing by the average of the annual performance targets for unplanned SAIFI in the *Regulatory Control Period*.

Average annual energy consumption

Aurora has determined the annual energy consumption for the *Regulatory Control Period* by examining the measured annual energy in the 2009-10 financial year and applying the proportion of consumption for each network type to the forecast annual energy consumption for the forthcoming *Regulatory Control Period*, as shown in Table 105.

Table 105

Average annual energy consumption

Parameter segment	Average annual energy consumption (MWh)
Critical Infrastructure	158,615
High Density Commercial	225,470
Urban and Regional Centres	2,975,455
High Density Rural	767,450
Lower Density Rural	558,129

Average smoothed annual revenue requirement

The STPIS Guideline requires that the average of the smoothed Annual Revenue Requirement for the *Regulatory Control Period* (in $ real, referenced to the first *Regulatory Year* of the *Regulatory Control Period*) is utilised in calculating the incentive rate.

Aurora's calculation of its annual revenue requirement is detailed in chapter 30 of this *Regulatory Proposal Addendum*. Aurora proposes an average smoothed Annual Revenue Requirement for the *Regulatory Control Period* of $298.54 million as shown in Table 106.

Table 106

Annual revenue requirement

2012-13 dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2016-16 ($m)	2016-17 ($m)
Notional building block smoothed revenue	299.43	298.98	298.54	298.09	297.64
Average smoothed revenue	298.54				

Incentive rates

Utilising the formulas prescribed within the STPIS Guideline Aurora has calculated the incentive rates to apply in the forthcoming *Regulatory Control Period* as shown in Table 107.

Table 107

Incentive rates

	Parameter Segment	Incentive Rate
SAIDI	Critical Infrastructure	0.00581
	High Density Commercial	0.00826
	Urban and Regional Centres	0.05058
	High Density Rural	0.01270
	Lower Density Rural	0.00923
SAIFI	Critical Infrastructure	0.912
	High Density Commercial	0.584
	Urban and Regional Centres	4.572
	High Density Rural	1.419
	Lower Density Rural	1.246

25.3.5. Exclusions

Reliability of supply component – major event day calculation

The AER proposes that Major Event Days be excluded from STPIS calculations and proposes that Major Event Days be identified using the "2.5β" methodology. Aurora supports this approach, although notes that the calculation of SAIDI will be based upon kVA rather than actual customer numbers.

Reliability of supply component – exempt outages

The AER proposes that the following may be excluded from consideration under the STPIS standard exclusions:

(1) load shedding due to a generation shortfall;

(2) automatic load shedding due to the operation of under frequency relays following the occurrence of a power system under-frequency condition;

(3) load shedding at the direction of AEMO or a system operator;

(4) load interruptions caused by a failure of the shared transmission network;

(5) load interruptions caused by a failure of transmission connection assets except where the interruptions were due to inadequate planning of transmission connections and Aurora is responsible for transmission connection planning;

(6) load interruptions caused by the exercise of any obligation, right or discretion imposed upon or provided for under jurisdictional electricity legislation or national electricity legislation applying to Aurora; and

(7) all events that occur on a MED where daily unplanned SAIDI for the DNSP's distribution network exceeds the major event day boundary, as set out in appendix D of the STPIS Guideline.

Aurora notes that Section 14(2) of the ESI Act provides that:

An electricity entity is not obliged to supply electricity to a customer if–

(a) the supply would overload the power system or prejudice in some other way the supply of electricity to other customers; or

(b) the supply would result in contravention of the conditions of the electricity entity's licence; or

(c) the supply would result in risk of fire or some other risk to life or property; or

(d) the supply is or needs to be interrupted:

  (i) in an emergency; or

  (ii) in circumstances beyond the electricity entity's control; or

  (iii) for carrying out work on electricity infrastructure; or

  (iv) to comply with a direction to the electricity entity under this Act; or

(e) the electricity entity is exempted from the obligation by regulation.

Aurora considers that the application of these two sets of conditions provides a series of outages that can be considered to be outside of the consideration of the STPIS. Aurora proposes that the following outages should also be exempted:

- high fire danger days, when Aurora's auto-reclosers are set to lock-out immediately rather than the standard "trip three times then lock-out"; and
- outages at the direction of emergency personnel.

High fire danger days

In its final Framework and Approach for Aurora the AER noted, in relation to high fire danger days[6]:

> *".. On such days Aurora has the option, when a momentary outage occurs, to set auto-reclosers to trip and return electricity supply. Aurora may choose not to exercise this option as the supply would result in risk of fire or some other risk to life or property. The exercise of Aurora's right or discretion would be in accordance with s 26(2)(c) of the ESI Act. The interruption to supply would be caused by the exercise of the right or discretion to interrupt the supply of electricity and would fall within clause 3.3(a)(7) of the STPIS.*
>
> *The AER notes that Aurora has not specified when it considers that a day would be of 'high fire risk'. The AER will consider the appropriate definition of 'high fire risk days' as part of its final determination for Aurora."*

Aurora provides the following definition for high fire danger days to assist to AER in its considerations.

> *A high fire danger day means: a day of total fire ban as advised by the Tasmania Fire Service in accordance with section 70 of the Fire Service Act 1979.*

Aurora proposes that outages arising from high fire danger days should be excluded from consideration under the STPIS.

Emergency personnel direction

In its final Framework and Approach for Aurora the AER noted, in relation to outages at the direction of emergency personnel[7]:

> *"..Aurora would be acting in accordance with section 26(2)(d)(i) of the ESI Act and the exercise of its right or discretion would fall within clause 3.3(a)(7) of the STPIS. As such, the AER considers that these interruptions may be excluded from the financial effects of the scheme."*

Aurora proposes that outages at the direction of emergency personnel should be excluded from consideration under the STPIS.

25.3.6. Customer service component

Aurora generally supports the AER's proposed approach to the application of the Customer Service component of the S-factor scheme.

Aurora proposes that for the first three years of the forthcoming *Regulatory Control Period,* the STIPS should exclude the telephone answering parameter within the customer service component.

Aurora's PABX has previously not retained the detailed information required for STPIS targets for more than 42 days before the system automatically purges the last record in order to record a new record. Aurora commenced capturing this information in March 2011 and as such has the required information from 26 January 2011.

Aurora proposes that further performance data should be collected for the first three years of the forthcoming *Regulatory Control Period* to allow a robust performance target to be set for the final two years of the *Regulatory Control Period.*

25.3.7. Guaranteed service level scheme

The AER proposes to implement the GSL Scheme provided in the OTTER GSL Guideline. Aurora notes that only part of the scheme is articulated in the GSL Guideline; the remainder, being the single event safety net and the risk sharing mechanism are provided in the OTTER 2007 Determination. While the OTTER GSL Guideline has no expiry date, and OTTER is not intending to repeal the GSL Guideline, the 2007 Determination terminates on 30 June 2012. This termination leaves Aurora with a potentially uncapped GSL liability, which was not the original intention of OTTER when the scheme was introduced.

Nonetheless, Aurora supports the AER's proposal to implement the GSL Scheme as articulated in the GSL Guideline so long as the GSL scheme implemented by the AER includes the OTTER mechanisms included within the 2007 Determination.

25.3.8. Revenue at risk

The AER has proposed that the maximum revenue at risk be applied to Aurora in the STPIS, with 0.5 percent of annual revenue attached to the Customer Service Component and 4.5 percent of annual revenue attached to the S-factor.

Aurora has concerns at the quantum of the revenue at risk and discusses these concerns in the following section.

Aurora notes that this proportion of annual revenue at risk is significantly larger than previously applied in respect of the Service Incentive Scheme applied by OTTER. OTTER placed 1.25 percent of Aurora's revenue at risk in the previous *Regulatory Control Period*, with a similar amount of total revenue being placed at risk over the current *Regulatory Control Period*. Aurora considers that an increase of such magnitude does not adequately consider OTTER's considerations of the appropriate revenue at risk when making the 2007 Determination and OTTER's observation that reporting of category and community performance was sufficient to ensure no loss of reliability.

6 AER, Final Framework and approach paper, Aurora Energy Pty Ltd, Regulatory Control Period commencing 1 July 2012, 27 November 2010 page 101.

7 Ibid. page 101.

Aurora notes that the current GSL scheme that the AER proposes to partially implement was designed as a stand-alone Service Incentive Scheme, with an appropriate revenue at risk component.

OTTER noted in its final decision that[8]:

> *"..two mechanisms are thus designed to deal with different risks, the first being the risk of a series of events over the period that may result in Aurora paying to customers an amount materially higher than expected, the second being the risk of a single large event. However, the Regulator recognises that there is a degree of interaction between the two mechanisms. Thus, as Aurora will be able to recover half of the additional payments above the revised duration threshold from customers in the following year, only the remainder will be able to be taken into account in calculating whether Aurora has reached the cap for payments over the period.*
>
> *In the light of this, the Regulator has also considered whether the exemption for widespread interruptions due to 'rare' events should remain. Whilst it is anticipated the risk sharing provision provided through an adjustment to the threshold should manage most single large events, the Regulator recognises that there could be other rare events where the financial risk may be very significant. In these instances it may be to customers, as well as Aurora's, benefit to manage these through an exemption rather than a risk sharing mechanism."*

The potential removal of the single outage safety net and the risk sharing mechanism for the forthcoming Distribution Determination renders the revenue at risk associated with the GSL Scheme much greater than intended by OTTER. Aurora proposes, therefore, that to recognise this additional revenue risk to Aurora that the revenue at risk associated with the GSL scheme should also be considered when setting the maximum revenue at risk for the S-factor components of the STPIS.

In particular, Aurora proposes that the revenue at risk attached to the S-factor be adjusted downwards to account for the historical impact of GSL payments under the scheme that was designed as a stand-alone Service Incentive Scheme and set at a value of a maximum of 2.5 percent of annual revenue.

Aurora has previously made mention of this additional risk and the AER noted in the final Framework and Approach for Aurora that:[9]

> *".. The revenue at risk mitigates the risk to customers and Aurora of significant fluctuations in prices over the course of a Regulatory Control Period. A lower level of revenue at risk reduces the size of the incentive on Aurora to improve reliability. The AER considers that the size of the incentive and the volatility of the scheme are appropriately balanced with a 5 percent cap on revenue at risk. The AER considers that in this instance, a 2.5 percent cap is not appropriate as it results in a reduction to the size of the incentive that the scheme provides Aurora to maintain and improve network reliability. The AER is satisfied that a 5 per cent cap on revenue at risk represents an appropriate balance between providing incentives for reliability improvements and the risks on DNSPs and customers.*
>
> *Further, unlike the STPIS, the TEC GSL scheme does not influence the tariffs that Aurora's customers are charged for electricity. The GSL scheme only presents a financial risk to Aurora. This risk is mitigated by the component of the revenue allowance Aurora is provided to cover the expected cost of the scheme."*

Aurora considers that it has sufficient incentive to achieve an expected level of reliability for customers by means of the minimum reliability requirements outlined in the *TEC* and the jurisdictional GSL Scheme. Indeed, Aurora has forecast that it will not be investing in capital programs designed to improve the level of reliability for customers on the understanding that its current and future programs are designed to meet the regulatory requirements of the *TEC* standards.

To provide further larger incentives to Aurora would infer that Aurora should invest more heavily in its distribution network ("gold-plate") on the understanding that derived improvements in reliability above those required by the *TEC* would also produce additional revenues. This appears to be a perverse outcome for customers, in that Aurora would spend more than reasonably required to achieve the regulatory imposed levels of reliability and also be rewarded for this inefficient investment. The net result of this outcome would be that customers would pay more through their tariffs than otherwise expected if such an incentive did not exist.

Aurora understands that the *Rules* require the *AER* to implement a STPIS as part of its Distribution Determination; however the AER does have discretion in the level of the incentives it provides under the STPIS. Aurora therefore proposes that the AER set the revenue at risk for Aurora at a level of 2.5 percent of revenue to remove this perverse incentive to seek excess monopoly rents from its customers.

8 Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania, Final Report and Proposed Maximum Prices, September 2007, page 233.

9 AER, Final Framework and approach paper, Aurora Energy Pty Ltd, Regulatory Control Period commencing 1 July 2012, 27 November 2010 page 110.

25.3.9. Setting the targets

Aurora is not proposing any specific capital investment aimed at substantive improvements in reliability in the forthcoming *Regulatory Control Period*. Aurora therefore proposes targets based on the average performance over the past five *Regulatory Years*, modified by the remaining reliability improvement program (2010-11 and 2011-12) within the current *Regulatory Control Period* as per the methodology proposed in clause 3.2.1(a) of the STPIS Guideline.

Aurora's SAIDI STPIS targets for the 2012-17 *Regulatory Control Period* are shown in Table 108.

Table 108

SAIDI STPIS targets

SAIDI	Forecast target				
Parameter segment	**2012-13 (mins)**	**2013-14 (mins)**	**2014-15 (mins)**	**2015-16 (mins)**	**2016-17 (mins)**
Critical Infrastructure	50	50	50	50	50
High Density Commercial	42	42	42	42	42
Urban and Regional Centres	93	93	93	93	93
High Density Rural	297	297	297	297	297
Lower Density Rural	399	399	399	399	399

Aurora's SAIFI STPIS targets for the 2012-17 *Regulatory Control Period* are shown in Table 109.

Table 109

SAIFI STPIS targets

SAIFI	Forecast target				
Parameter segment	**2012-13 (int)**	**2013-14 (int)**	**2014-15 (int)**	**2015-16 (int)**	**2016-17 (int)**
Critical Infrastructure	0.28	0.28	0.28	0.28	0.28
High Density Commercial	0.53	0.53	0.53	0.53	0.53
Urban and Regional Centres	1.06	1.06	1.06	1.06	1.06
High Density Rural	2.88	2.88	2.88	2.88	2.88
Lower Density Rural	3.21	3.21	3.21	3.21	3.21

29. X Factor

29. X factor

Clause 6.5.9(a) states that "A Building Block Determination is to include the X factor for each control mechanism for each *Regulatory Year* of the *Regulatory Control Period*".

Clause 6.5.9(b) states that the X factor:

(1) must be set by the AER with regard to Aurora's total revenue requirement for the *Regulatory Control Period*; and

(2) must be such as to minimise, as far as reasonably possible, variance between expected revenue for the last *Regulatory Year* of the *Regulatory Control Period* and the annual revenue requirement for that last *Regulatory Year*; and

(3) must conform with whichever of the following requirements is applicable:

  (i) if the control mechanism relates generally to *Standard Control Services* – the X factor must be designed to equalise (in terms of net present value) the revenue to be earned by Aurora from the provision of *Standard Control Services* over the *Regulatory Control Period* with Aurora's total revenue requirement for the *Regulatory Control Period*;

  (ii) if there are separate control mechanisms for different *Standard Control Services* – the X factor for each control mechanism must be designed to equalise (in terms of net present value) the revenue to be earned by Aurora from the provision of *Standard Control Services* to which the control mechanism relates over the *Regulatory Control Period* with the portion of the provider's total revenue requirement for the *Regulatory Control Period* attributable to those services.

Aurora has not varied the ordinary operation of the AER's PTRM and has used the formula included in the PTRM to establish the X factors for *Standard Control Services*. In accordance with clause 6.5.9(b)(3)(i), it has designed its X factor to equalise (in terms of net present value) the revenue to be earned from the provision of *Standard Control Services* over the *Regulatory Control Period* with the Aurora's total revenue requirement for the *Regulatory Control Period*.

In accordance with clause 6.5.9(b)(2), Aurora has minimised, as far as reasonably possible, the variance between expected revenue for the last *Regulatory Year* of the *Regulatory Control Period* and the annual revenue requirement for that last *Regulatory Year*. The variance is 0.00 percent.

The resulting X factors for each year of the *Regulatory Control Period* are set out in Table 113.

Table 113

X Factors

	2012-13	2013-14	2014-15	2015-16	2016-17
X factor (%)	13.30	(0.15)	(0.15)	(0.15)	(0.15)

The application of these X factors results in the smoothed revenue requirement for the *Regulatory Control Period* as set out in Table 114.

Table 114

Smoothed Revenue Outcomes

Nominal dollars	Total NPV ($m)	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Adjusted notional Revenue	1,175.88	294.04	310.69	317.37	320.59	329.56
Smoothing		5.39	(3.99)	(3.23)	1.17	0.01
Smoothed building block revenue	1,175.88	299.43	306.70	314.14	321.76	329.57
Variance		1.8%	(1.3%)	(1.0%)	0.4%	0.0%

30. Annual Revenue Requirement

30. Annual revenue requirement

30.1 Rules requirements

Clause 6.3.2(a)(1) of the *Rules* requires the AER to specify in its Building Block Determination Aurora's annual revenue requirement (ARR) for each *Regulatory Year* of the forthcoming *Regulatory Control Period*.

Clause 6.12.1(2)(i) of the *Rules* provides that one of the constituent decisions of the AER's Distribution Determination is whether to approve, or not to approve, the ARR for each *Regulatory Year* of the *Regulatory Control Period*, as set out in the Aurora's building block proposal.

In accordance with clause 6.4.2(a) of the *Rules*, the PTRM sets out the manner in which Aurora's ARR for each *Regulatory Year* of the forthcoming *Regulatory Control Period* is to be calculated.

Clause 6.12.3(d) of the *Rules* provides that the AER must approve Aurora's ARR for each *Regulatory Year* of the forthcoming *Regulatory Control Period*, as set out in Aurora's Building Block Proposal, if the AER is satisfied that the amounts have been calculated using the PTRM on the basis of amounts calculated, determined or forecast in accordance with the requirements of Part C of Chapter 6 of the *Rules*.

Clause 6.4.3(a) of the *Rules* provides that Aurora's ARR for each *Regulatory Year* of the forthcoming *Regulatory Control Period* must be calculated using a building block approach, under which the building blocks are:

- the indexation of the RAB, calculated in accordance with clause 6.4.3(b)(1) of the *Rules*;
- a return on capital for that *Regulatory Year*, calculated in accordance with clause 6.4.3(b)(2) of the *Rules*;
- the depreciation for that *Regulatory Year*, calculated in accordance with clause 6.4.3(b)(3) of the *Rules*;
- the estimated cost of corporate income tax for that *Regulatory Year*, calculated in accordance with clause 6.4.3(b)(4) of the *Rules*;
- the revenue increments or decrements (if any) for that *Regulatory Year* arising from the application of the EBSS, STPIS and DMIS, calculated in accordance with clause 6.4.3(b)(5) of the *Rules*;
- the other revenue increments or decrements (if any) for that Regulatory Year arising from the application of a control mechanism in the current *Regulatory Control Period*, calculated in accordance with clause 6.4.3(b)(6) of the *Rules*; and
- the forecast operating expenditure for that Regulatory Year, calculated in accordance with clause 6.4.3(b)(7) of the *Rules*.

30.2 Aurora's ARR

Aurora confirms that it has prepared its ARR for each *Regulatory Year* of the forthcoming *Regulatory Control Period* in accordance with the requirements of Part C of Chapter 6 of the *Rules*, in particular by applying the:

- PTRM established by the AER under clause 6.4 of the *Rules*; and
- building block approach provided for by clause 6.4.3 of the *Rules*.

Aurora has provided a completed PTRM and a completed RFM to the AER with its *Regulatory Proposal*. Aurora's demonstration of the application of the models in calculating the ARR, including the assumptions it has made in populating the models, are shown in the models or its *Regulatory Proposal* or this *Regulatory Proposal Addendum*.

Aurora's ARR (smoothed) for the 2012-17 *Regulatory Control Period* is shown in Table 115.

Table 115

Annual Revenue Requirement

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Annual smoothed revenue	299.43	306.70	314.14	321.76	329.57

The building blocks that comprise the ARR are discussed in the following sections.

30.2.1 Establishing the RAB

Aurora has been required to make a number of adjustments to the 1 January 2008 RAB value of $981.108 million (July 2006 dollars) specified in schedule 6.2.1(c)(1) of the *Rules*. Aurora's opening RAB for each year requiring an adjustment is shown in Table 116.

Table 116

Opening Regulatory Asset Base

Nominal dollars	2006-07 ($m)	2007-08 ($m)	2008-09 ($m)	2009-10 ($m)	2010-11 ($m)	2011-12 ($m)
Opening RAB – 1 July	908.20	984.14	1,072.22	1,156.57	1,266.62	1,384.85

Aurora has calculated the proposed opening RAB for the 2012-17 *Regulatory Control Period* by applying the methodology set out in schedule 6.2 of the *Rules* and the AER's RFM. A detailed explanation of the basis of Aurora's calculation is provided in chapter 19 of Aurora's *Regulatory Proposal*.

30.2.2. Indexation of the RAB

Aurora's proposed opening RAB for *Standard Control Services* for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* is shown in Table 117.

Table 117

Opening Regulatory Asset Base

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Opening RAB – 1 July	1,484.86	1,572.70	1,659.18	1,747.16	1,840.51

Aurora has calculated the proposed opening RAB for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* by applying the AER's RFM. A detailed explanation of the basis of Aurora's calculation is provided in chapter 19 of this *Regulatory Proposal*.

As required by clause 6.4.2(b)(1) of the *Rules*, Aurora has indexed its RAB utilising its best estimates of expected inflation:

- from the current *Regulatory Control Period* to the beginning of the first *Regulatory Year* of the forthcoming *Regulatory Control Period*, in accordance with clause 6.5.1(e)(3) of the *Rules*; and
- between each *Regulatory Year* of the forthcoming *Regulatory Control Period*.

Aurora has applied the AER's preferred methodology for calculating actual inflation and the Reserve Bank of Australia's (RBA) February 2011 Statement on Monetary Policy forecasts for 2010-11 and 2011-12 annual inflation for indexation of the RAB for the current *Regulatory Control Period*. For the 2012-17 *Regulatory Control Period*, Aurora has proposed an annual inflation rate of 2.58 percent.

An explanation of the basis of the calculation of annual inflation in the forthcoming *Regulatory Control Period* is provided in chapter 7 of Aurora's *Regulatory Proposal*.

30.2.3. Return on capital

Aurora's proposed return on capital for *Standard Control Services* for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* is shown in Table 118.

Table 118

Return on capital

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Return on capital	149.59	158.44	167.16	176.02	185.42

In accordance with clause 6.5.2(b) of the *Rules*, the rate of return is the cost of capital as measured by the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by Aurora.

Aurora has calculated the proposed return on capital for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* by applying the AER's PTRM. Aurora has determined the proposed return on capital by applying a rate of return to the value of the RAB as at the beginning of the *Regulatory Year* in accordance with clause 6.5.2(a) of the *Rules*.

A detailed explanation of the basis of the calculation of the rate of return on capital is provided in chapter 20 of this *Regulatory Proposal Addendum*.

30.2.4. Regulatory depreciation

Aurora's proposed regulatory depreciation for *Standard Control Services* for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* is shown in Table 119.

Table 119

Regulatory depreciation

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Return of capital (regulatory depreciation)	46.05	52.28	49.25	42.33	41.93

Aurora has calculated the proposed regulatory depreciation for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* by applying the AER's PTRM and RFM.

In accordance with clause 6.5.5(a) of the *Rules*, Aurora has determined the proposed regulatory depreciation for each Regulatory Year of the 2012-17 *Regulatory Control Period*:

- based on the value of the assets as included in the RAB, as at the beginning of the *Regulatory Year*; and
- by preparing regulatory depreciation schedules that conform with the requirements of clause 6.5.5(b) of the *Rules*.

A detailed explanation of the basis of the calculation of the regulatory depreciation is provided in chapter 21 of Aurora's *Regulatory Proposal*.

30.2.5 Corporate income tax

Aurora's estimated cost of corporate income tax for *Standard Control Services* for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* is shown in Table 120.

Table 120

Corporate income tax

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Benchmark tax liability	20.82	22.56	22.21	22.37	22.56

A detailed explanation of the basis of the estimation of Aurora's corporate income tax is provided in chapter 22 of this *Regulatory Proposal Addendum*.

30.2.6. Revenue increments and decrements arising from schemes

Clause 6.4.3(a)(5) of the *Rules* requires the ARR for each *Regulatory Year* of a *Regulatory Control Period* to include the revenue increments or decrements (if any) for that *Regulatory Year* arising from the application of the EBSS, STPIS and DMIS, calculated in accordance with clause 6.4.3(b)(5) of the *Rules*.

Aurora considers that:

- there will be no revenue increments or decrements arising from the EBSS for any *Regulatory Year* of the 2012-17 *Regulatory Control Period*, due to the lagged effect of the scheme. Any increments or decrements arising under the EBSS, attributable to operating expenditure incurred during the 2012-17 *Regulatory Control Period*, will be reflected in the calculation of the annual revenue requirements for the *Regulatory Control Period* commencing on 1 July 2017. The EBSS is discussed further in chapter 24 of Aurora's *Regulatory Proposal*;
- the value of any revenue increments or decrements arising under the STPIS for any *Regulatory Year* of the 2012-17 *Regulatory Control Period* cannot be forecast in Aurora's *Regulatory Proposal*. They will only become known during the course of the forthcoming *Regulatory Control Period* when Aurora's performance against the performance parameters is known. The STPIS is discussed further in chapter 25 of this *Regulatory Proposal Addendum*;
- STPIS related revenue increments and decrements will be treated as adjustments to the ARR for the relevant *Regulatory Year*. This is discussed further at section 32.5.7 of Aurora's *Regulatory Proposal*; and
- Aurora has included a revenue increment of $2 million over the course of the 2012-17 *Regulatory Control Period* for the DMIA allowed under the DMIS. However, any carryover amount arising from the DMIS will only be applied in the calculation of the ARR for the second Regulatory Year in the *Regulatory Control Period* commencing on 1 July 2017. The DMIA and DMIS are discussed further in chapter 26 of Aurora's *Regulatory Proposal*.

30.2.7. Other revenue increments and decrements

Clause 6.4.3(a)(6) of the Rules requires the ARR for each Regulatory Year of a *Regulatory Control Period* to include other revenue increments or decrements arising from the application of a control mechanism in the current *Regulatory Control Period*.

Aurora's revenue increments or decrements arising from application of a control mechanism in the current *Regulatory Control Period* are not known due to the lagged effect of these adjustments. Any increments or decrements arising from the application of a control mechanism in the current *Regulatory Control Period* will be reflected into the calculation of the annual revenue requirement for the forthcoming *Regulatory Control Period*.

Aurora will adjust its ARR for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* following the submission of Aurora's ring-fenced accounts to OTTER for the following matters relating to the current *Regulatory Control Period*:

- previous under- or over-recovery of revenue;
- differences in the electrical safety inspection levy imposed in accordance with section 121B of the ESI Act;
- differences in the national energy market charge levied in accordance with section 121 of the ESI Act;
- the impact on the ARR of differences between the actual and forecast allowance relating to Aurora's participation in the NEM and retail contestability costs;
- differences between the actual and forecast allowance relating to Aurora's payments for the State Government's trunk mobile radio network;
- an allowance attributable to the implementation of full retail competition that is approved by OTTER;
- an allowable tax event consistent with Regulation 31(4) of the Price Control Regulations;
- an allowance attributable to changes in safety and/or environmental legislation that is approved by OTTER;
- changes in Aurora's capital contributions policy;
- differences between the actual and forecast allowance relating to Aurora's total GSL payments; and
- adjustments arising from the making of single duration GSL payments where the threshold payment is adjusted in accordance with the methodology approved by OTTER.

30.2.8. Operating expenditure

Aurora's forecast operating expenditure for *Standard Control Services* for each *Regulatory Year* of the 2012-17 *Regulatory Control Period* is shown in Table 121.

Table 121

Operating Expenditure

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)
Operating expenditure	77.58	77.40	78.75	79.87	79.64

Aurora has forecast operating expenditure for each *Regulatory Year* of the forthcoming *Regulatory Control Period* and applies this in the AER's PTRM.

The forecast operating expenditure is that which is required by Aurora to achieve each of the operating expenditure objectives in clause 6.5.6(a) of the *Rules* for the provision of *Standard Control Services*.

A detailed explanation of the basis of Aurora's operating expenditure forecast is provided in chapter 12 of Aurora's *Regulatory Proposal*.

30.2.9. Annual revenue requirement

Aurora's ARR, showing all the building blocks, for *Standard Control Services* for the 2012-17 *Regulatory Control Period* is shown in Table 122.

Table 122

Annual revenue requirement

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)	Total NPV ($m)
Return on capital	149.59	158.44	167.16	176.02	185.42	
Return of capital (regulatory depreciation)	46.05	52.28	49.25	42.33	41.93	
Operating expenditure	77.58	77.40	78.75	79.87	79.64	
Benchmark tax liability	20.82	22.56	22.21	22.37	22.56	
Notional building block revenue	294.04	310.69	317.37	320.59	329.56	1,175.88
Notional building block smoothed revenue	299.43	306.70	314.14	321.76	329.57	1,175.88

31. Total Revenue Requirement

31. Total revenue requirement

31.1. Rules requirements

Chapter 10 of the *Rules* defines the total revenue requirement as:

> *For a Distribution Network Service Provider, an amount representing revenue calculated for the whole of a Regulatory Control Period in accordance with Part C of Chapter 6.*

The total revenue requirement for the 2012-17 *Regulatory Control Period* is therefore calculated as the summation of the ARR for each *Regulatory Year* of that *Regulatory Control Period*.

Aurora notes that clause 6.12.3(d) of the *Rules* provides that the AER must approve the total revenue requirement set out in Aurora's building block proposal if it is satisfied that the amount has been properly calculated using the PTRM on the basis of amounts calculated, determined or forecast in accordance with the requirements of the *Rules* Chapter 6, Part C.

31.2. Aurora's total revenue requirement

Aurora's proposed total ARR for the 2012-17 *Regulatory Control Period* is $1,571.60 million. The ARR for each year of the forthcoming *Regulatory Control Period* is shown in Table 123.

Table 123

Total revenue requirement

Nominal dollars	2012-13 ($m)	2013-14 ($m)	2014-15 ($m)	2015-16 ($m)	2016-17 ($m)	TOTAL ($m)	Average ARR ($m)
Annual revenue requirement (smoothed)	299.43	306.70	314.14	321.76	329.57	1,571.60	314.32

Aurora confirms that it has prepared its total revenue requirement for the 2012-17 *Regulatory Control Period* in accordance with the requirements of Part C of Chapter 6 of the *Rules*, in particular by applying:

- the PTRM established by the AER under clause 6.4 of the *Rules*; and
- the building block approach provided for by clause 6.4.3 of the *Rules*.

Aurora has provided a completed PTRM and a completed roll forward model to the AER with its *Regulatory Proposal*. Aurora's demonstration of the application of the models in calculating the Total Revenue Requirement, including the assumptions it has made in populating the models, are shown in the models.

33. Alternative Control Services

33. Alternative Control Services

33.1. Overview and Rules requirements

Clauses 6.2.6(b) and (c) of the *Rules* provide that, for *Alternative Control Services*, the control mechanism must have a basis stated in the Distribution Determination and the control mechanism may (but need not) utilise elements of Part C of Chapter 6 of the *Rules* (with or without modification).

Clause 6.8.2(c)(3) of the *Rules* provides that Aurora's *Regulatory Proposal* must, for *Direct Control Services* classified as *Alternative Control Services*, provide a demonstration of the application of the control mechanism, as set out in the Framework and Approach paper and the necessary supporting information.

Clause 6.8.2(c)(4) of the *Rules* provides that Aurora's *Regulatory Proposal* must, for *Direct Control Services*, provide indicative prices for each year of the *Regulatory Control Period*.

As identified in chapter 6 of Aurora's *Regulatory Proposal*, the AER's final Framework and Approach paper classified the following categories of *Direct Control Services* as *Alternative Control Services* with the form of control for all services being a price cap:

- metering services;
- public lighting services;
- fee-based services; and
- quoted (non-standard) services.

Aurora has adopted the classification of these services as outlined in the AER's Framework and Approach.

This chapter sets out the control mechanisms for Aurora's *Alternative Control Services*, demonstrates the application of these control mechanisms in accordance with the requirements of the *Rules*, and sets out indicative prices for each service provided for each year of the forthcoming *Regulatory Control Period*.

33.2. Metering services

Metering services are those services provided with respect to the provision, installation and maintenance of standard meters and associated services provided to non-contestable customers. This includes the metering services provided using type 5 – 7 metering installations in Aurora's role as Metering Provider and Meter Data Provider (MDP).

Metering services excludes:

- MDP services for type 1 – 4 metering installations, which are proposed to be unregulated;
- meters provided by Aurora Retail to provide PAYG services, which are proposed to be unregulated; and
- metering to a standard in excess of that required for the billing of customer services, which are proposed to be quoted (non-standard) services.

The control mechanism for metering services in the current *Regulatory Control Period* is a price cap with the charges for metering services established using an annuity approach, which sets a cap on the maximum daily meter allowance for each meter class.

OTTER historically:

- applied an annuity approach on the basis that it was felt that it would be impractical to assess the age of the meter stock and an assumption that an annuity approach would give an equivalent annual charge to that expected over the long-term from a building block approach using depreciated optimised replacement cost; and
- determined to express the maximum allowable revenue for the provision of metering services (as a declared service) as an average daily allowance per meter for each major customer class. This was calculated from forecast costs and forecast numbers of meters in each class.[1]

1 Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania, Final Report and Proposed Maximum Prices, September 2007, page 268.

The AER, in its final Framework and Approach, proposed that metering services should be classified as *Direct Control Services* and further classified as *Alternative Control Services*, subject to a price cap form of control.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all metering services, with the charges for metering services based on the current annuity approach. This is discussed in greater detail below.

33.2.1. Levels of service

The forecast costs for metering services for the forthcoming *Regulatory Control Period* have been developed with regard to the levels of service currently provided by Aurora, including timeframes and conditions.

The levels of service currently provided by Aurora are established in accordance with the requirements of:

- the *Rules*, in particular section 7.6, which sets out the requirements for the inspection, testing and auditing of metering installations;
- the *TEC*, section 9.18, which establishes the approved maintenance plan for metering equipment and the maximum period between meter installation tests, and requires that the maximum period between tests is:
  - 10 years for CT meters;
  - 5 years for electronic CT connected meters; and
  - 5 years for induction CT connected meters;
- the *TEC*, section 9.18, which requires that Aurora establish and maintain a sampling plan to ensure that each class of metering equipment is tested in accordance with AS/NZS 1284.13;
- the *TEC*, section 9.18, which sets out Aurora's obligations in relation to repairing or replacing defective metering equipment;
- AS/NZS 1284.13:2002 - Electricity Metering In-Service Compliance Testing, with respect to compliance testing; and
- historic business practice with recognition of changes in customer service delivery expectations over time. This is established using records of metering assets from completed service orders to install, read, alter and remove metering equipment, and also from periodic routine testing and inspection programs. The equipment details and attributes are recorded within Aurora's MDMS.

The forecast costs for metering services for the forthcoming *Regulatory Control Period* are based on Aurora maintaining its existing service levels, in compliance with its regulatory obligations.

33.2.2. Application and demonstration of form of control

This section outlines Aurora's proposed application of the control mechanism for metering services and the method by which compliance with the control mechanisms can be demonstrated, in accordance with clauses 6.2.6(b), (c) and 6.8.2(c)(3) of the *Rules*.

In establishing the control mechanism, Aurora has not utilised Part C of Chapter 6 of the *Rules*.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all metering services. The control mechanism will be an annuity approach that sets a cap on the maximum daily meter allowance for each meter class. This is consistent with the current regulatory approach adopted by OTTER and with the AER's stated likely approach for the forthcoming *Regulatory Control Period*[2].

The annuity approach is based on meter replacement cost, operating expenditure (which is predominately meter reading costs), capital expenditure and an allocation of overhead costs.

The annuity approach:

- undertakes an annuity calculation for each meter type for each year using the Excel-based PMT function in which:
  - the replacement cost of each meter type is the present value parameter (this is escalated across the *Regulatory Control Period* using materials escalation rates);
  - the asset standard life is the number of years; and
  - a pre-tax real WACC (derived using values set out in chapter 20 of this *Regulatory Proposal Addendum*) provides the rate of return;
- estimates operating expenditure associated with the maintenance of metering assets (predominately the cost of meter reading). The associated costs are sourced from Aurora's work program, which provides associated volumes, and Aurora's unit rates model, which provides the relevant costs associated with each meter class. The relevant escalation rates across the *Regulatory Control Period* are already applied to this expenditure;
- applies operating overhead costs (Corporate and Shared Services, Network Division Management and Distribution Business Shared Resource costs) to the operating expenditure component in accordance with the approach set out in Aurora's proposed CAM. The relevant escalation rates across the *Regulatory Control Period* are already applied to this overhead expenditure; and
- undertakes an annuity calculation for shared services capital overhead costs (comprising Corporate and Shared Services and Network Division Management capital overhead costs) in accordance with the methodology set out in Aurora's proposed CAM, and apportioned to meter classes on the basis of forecast volumes.

  The annuity calculation is undertaken for assets in service at 30 June 2012 and for capital overhead costs applied to metering services in the *Regulatory Control Period* in which:
  - for overhead assets in service at 30 June 2012:
    - the written down book value of the assets is the present value parameter;
    - the remaining weighted average asset life is the number of years; and
    - a pre-tax real WACC provides the rate of return;

2 AER, Final Framework and approach paper, Aurora Energy Pty Ltd, Regulatory Control Period commencing 1 July 2012, 27 November 2010 page 84.

- for capital overhead costs applied to metering services:
  - the applied capital overhead costs is the present value parameter;
  - the asset standard life is the number of years; and
  - a pre-tax real WACC provides the rate of return;
- aggregates the annuity calculations and operating expenditure (including overheads) for each meter class, which is then divided by the number of meters in a class, to give an average annual allowance for metering for the class; and
- divides the total by the number of days in the year to give a daily allowance for each metering class.

This process, for each meter class, can be summarised as:

[(annuity for replacement costs including escalations) + (operating expenditure including operating overheads) + (annuity for overhead assets in service) + (annuity for capital overhead costs)] / (days in year)

33.2.3. Indicative prices

Table 126 provides indicative prices for metering services by meter class for each year of the forthcoming *Regulatory Control Period*, in accordance with clause 6.8.2(c)(4) of the *Rules*.

Indicative prices have been shown in 2011-12 cents per day, however, it is noted that actual prices depend on specific meter classes and tariff combinations. For this reason the above prices are considered indicative only, are not binding and are for the purposes of providing a high level overview of the expected price impact for the forthcoming *Regulatory Control Period* only.

Actual prices for the forthcoming *Regulatory Control Period* will be determined following the submission and approval of Aurora's annual Pricing Proposal to the AER in accordance with clause 6.18.2 of the *Rules*.

All indicative prices are exclusive of GST.

Table 126

Indicative prices for metering services (cents 2011-12)

Meter class	2012-13 (c/day)	2013-14 (c/day)	2014-15 (c/day)	2015-16 (c/day)	2016-17 (c/day)
Domestic LV - Single Phase	9.989	10.219	10.349	10.036	10.133
Domestic LV - Multi Phase	14.966	14.970	14.947	14.409	14.198
Domestic LV - CT Meters	27.046	27.103	27.106	26.413	26.118
Domestic LV - Single Phase - Remote Read	9.739	9.808	9.812	9.374	9.250
Domestic LV - Multi Phase - Remote Read	18.580	18.749	18.797	18.262	18.076
Domestic LV - CT Meters - Remote Read	25.273	25.417	25.456	24.819	24.588
Business LV - Single Phase	9.459	9.411	11.436	13.273	13.363
Business LV - Multi Phase	16.022	17.067	18.006	18.254	18.508
Business LV - CT Meters	23.285	24.379	25.311	25.443	25.827
Business LV - Single Phase - Remote Read	12.526	12.514	12.482	11.979	11.836
Business LV - Multi Phase - Remote Read	18.580	18.749	18.797	18.262	18.076
Business LV - CT Meters - Remote Read	25.273	25.417	25.456	24.819	24.588
Other Meters	15.431	15.567	15.604	15.121	14.925

33.3. Public lighting services

Public lighting services are those services provided by Aurora for:

- the provision, maintenance and replacement of public lighting assets owned by Aurora;
- the maintenance of public lighting assets owned by customers (contract lighting); and
- the provision, maintenance and replacement of Aurora owned public lighting poles.

Although not expressly addressed in the final Framework and Approach, Aurora interprets the 'repair, replacement and maintenance' of luminaires and public lighting poles, as the 'routine' provision of the repair, replacement or maintenance service.

Public lighting services exclude:

- the alteration and relocation of public lighting assets, which will be provided on a quoted service basis and is therefore categorised as a quoted (non-standard) service;
- the installation of contract lights, which will be provided on a quoted service basis and is therefore categorised as a quoted (non-standard) service; and
- the provision of new public lighting technologies, which will be classified as a *Negotiated Distribution Service*.

Public lighting services are unregulated in the current *Regulatory Control Period* and have previously never been regulated.

Aurora has historically derived its charges for public lighting services through an annuity approach, through its public lighting annuity model.

The AER, in its final Framework and Approach, proposed that public lighting services should be classified as *Direct Control Services* and further classified as *Alternative Control Services*, subject to a price cap form of control.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all public lighting services, with the charges for public lighting services provided under a schedule of fees, based on the current annuity approach. This is discussed in greater detail below.

33.3.1. Levels of service

The forecast costs for public lighting services for the forthcoming *Regulatory Control Period* have been developed with regard to the levels of service currently provided by Aurora, including timeframes and conditions.

The levels of service currently provided by Aurora are established in accordance with the requirements of:

- Aurora's Distribution Customer Charter which states the services and the level and standard of such services that a customer is entitled to receive from Aurora. Individual service failures against the service timeframes result in a GSL payment to the customer. The Distribution Customer Charter is approved by OTTER pursuant to clause 8.3.1 of the *TEC*;
- section 8.2.3 of the *TEC* which requires Aurora to repair or replace an item of public lighting within seven business days of being notified by any person that such repair or replacement is necessary, unless the public lighting provider has contractual or other arrangements with another party;
- standards including AS/NZS 1158 – Lighting for Roads and Public Spaces. Aurora's public lighting assets are classified by AS/NZS 1158 into the following categories:
  - Category 'V' - generally referred to as major public lighting, which is applicable to roads where the visual requirements of motorists are dominant; and
  - Category 'P' - generally referred to as minor public lighting, which is applicable to roads where the visual requirements of pedestrians are dominant. This category also applies to outdoor public areas, other than roads, where the visual requirements of pedestrians are dominant, such as outdoor shopping precincts.

This classification will influence luminaire type and size and therefore associated costs;

- AS/NZS 1158.1.2, which recommends that Aurora undertake a maximum maintenance cycle of four years for bulk replacement programs associated with major public lighting and minor public lighting; and
- AS/NZS 1158.1.2 Section 14.5.2, which requires that Aurora undertake a night patrol program for major public lighting to ensure that the minimum service availability of lamps at a compliant public lighting installation is 95 percent, and to ensure that all major lighting schemes maintain designed illumination levels.

The forecast costs for public lighting services for the forthcoming *Regulatory Control Period* are based on Aurora maintaining its existing service levels, in compliance with its regulatory obligations.

33.3.2. Application and demonstration of form of control

This section outlines Aurora's proposed application of the control mechanism for public lighting services and the method by which compliance with the control mechanisms can be demonstrated, in accordance with clauses 6.2.6(b), (c) and 6.8.2(c)(3) of the *Rules*.

In establishing the control mechanism, Aurora has not utilised the building block approach of Part C of Chapter 6 of the *Rules*.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all public lighting services. The control mechanism will be an annuity approach that sets a cap on the maximum daily fee for each lighting class. This is consistent with the current approach adopted by Aurora and with the AER's stated likely approach for the forthcoming *Regulatory Control Period*[3]. Aurora proposes to apply the control mechanism through an annuity approach that derives a daily fee for:

- each luminaire type, for the provision, maintenance and replacement of public lighting assets owned by Aurora;

3 AER, Final Framework and approach paper, Aurora Energy Pty Ltd, Regulatory Control Period commencing 1 July 2012, 27 November 2010 page 74.

- each luminaire type, for the maintenance of public lighting assets owned by customers (contract lighting); and
- the provision, maintenance and replacement of certain Aurora owned poles.

These charges reflect the fact that it is possible to forecast costs associated with public lighting services on the basis of past expenditure and forecast inspection cycles. As such, it is possible to develop a fee associated with the provision of each service type.

Although Aurora's poles and lighting structures revenues are typically classified as *Standard Control Services*, there are certain poles which Aurora, for historical reasons, owns and levies a surcharge (these were assets assigned to Aurora (Hydro) during the period 1974-81). Aurora uses the annuity approach to determine the charges associated with the provision, maintenance and replacement of these Aurora owned poles. A single charge is calculated for this service, regardless of the pole type.

Aurora owned public lighting

Aurora's public lighting annuity model carries out an annuity calculation for the replacement cost of each lamp, bracket and luminaire type for each year of the forthcoming *Regulatory Control Period*.

The annuity approach is based on lighting replacement cost, operating expenditure (which is predominately globe replacement costs), capital expenditure and an allocation of overhead costs.

The annuity approach:

- undertakes an annuity calculation for each public lighting type for each year using the Excel-based PMT function in which:
  - the replacement cost of each public lighting type is the present value parameter (this is escalated across the *Regulatory Control Period* using materials escalation rates);
  - the asset standard life is the number of years; and
  - a pre-tax real WACC (derived using values set out in chapter 20 of this *Regulatory Proposal Addendum*) provides the rate of return;
- estimates operating expenditure associated with the maintenance of public lighting assets (predominately globe replacement costs). The associated costs are sourced from Aurora's work program, which provides associated volumes, and Aurora's unit rates model, which provides the relevant costs associated with each public lighting class. The relevant escalation rates across the *Regulatory Control Period* are already applied to this expenditure;
- applies operating overhead costs (Corporate and Shared Services, Network Division Management and Distribution Business Shared Resource costs) to the operating expenditure component in accordance with the approach set out in Aurora's proposed CAM. The relevant escalation rates across the *Regulatory Control Period* are already applied to this overhead expenditure; and
- undertakes an annuity calculation for shared services capital overhead costs (comprising Corporate and Shared Services and Network Division Management capital overhead costs) in accordance with the methodology set out in Aurora's proposed CAM, and apportioned to public lighting classes on the basis of forecast volumes.

The annuity calculation is undertaken for assets in service at 30 June 2012 and for capital overhead costs applied to public lighting services in the *Regulatory Control Period* in which:

- for overhead assets in service at 30 June 2012:
  - the written down book value of the assets is the present value parameter;
  - the remaining weighted average asset life is the number of years; and
  - a pre-tax real WACC provides the rate of return;
- for capital overhead costs applied to public lighting services:
  - the applied capital overhead costs is the present value parameter;
  - the asset standard life is the number of years; and
  - a pre-tax real WACC provides the rate of return;
- aggregates the annuity calculations and operating expenditure (including overheads) for each public lighting class to give an average annual allowance for lighting for the class; and
- divides the total by the number of days in the year to give a daily allowance for each public lighting class.

This process, for each public lighting class, can be summarised as:

[(annuity for replacement costs including escalations) + (operating expenditure including operating overheads) + (annuity for overhead assets in service) + (annuity for capital overhead costs)] / (days in year)

To determine the final charge for customers a NUOS charge is also applied. However, these charges are not *Alternative Control Services*, but are rather derived as part of the tariff setting process for *Standard Control Services* and are not included in the proposed prices set out in this chapter.

Contract lighting

Aurora's public lighting annuity model carries out an annuity calculation for the maintenance cost of each contract lamp for each year of the forthcoming *Regulatory Control Period*.

The annuity approach is based on operating expenditure (which is predominately globe replacement costs) and an allocation of overhead costs.

The annuity approach:

- estimates operating expenditure associated with the maintenance of contract lighting assets (predominately globe replacement costs). The associated costs are sourced from Aurora's work program, which provides associated volumes, and Aurora's unit rates model, which provides the relevant costs associated with each lighting class. The relevant escalation rates across the *Regulatory Control Period* are already applied to this expenditure;
- applies operating overhead costs (Corporate and Shared Services, Network Division Management and Distribution Business Shared Resource costs) to the operating expenditure component in accordance with the approach set out in Aurora's proposed CAM. The relevant escalation rates across the *Regulatory Control Period* are already applied to this overhead expenditure; and

- undertakes an annuity calculation for shared services capital overhead costs (comprising Corporate and Shared Services and Network Division Management capital overhead costs) in accordance with the methodology set out in Aurora's proposed CAM, and apportioned to contract lighting classes on the basis of forecast volumes.

The annuity calculation is undertaken for assets in service at 30 June 2012 and for capital overhead costs applied to contract lighting services in the *Regulatory Control Period* in which:

- for overhead assets in service at 30 June 2012:
  - the written down book value of the assets is the present value parameter;
  - the remaining weighted average asset life is the number of years; and
  - a pre-tax real WACC provides the rate of return;
- for capital overhead costs applied to contract lighting services:
  - the applied capital overhead costs is the present value parameter;
  - the asset standard life is the number of years; and
  - a pre-tax real WACC provides the rate of return;
- aggregates the annuity calculations and operating expenditure (including overheads) for each contract lighting class to give an average annual allowance for contract lighting for the class; and
- divides the total by the number of days in the year to give a daily allowance for each contract lighting class.

This process, for each contract lighting class can be summarised as:

[(operating expenditure including operating overheads) + (annuity for overhead assets in service) + (annuity for capital overhead costs)] / (days in year)

To determine the final charge for customers a NUOS charge is also applied. However, these charges are not *Alternative Control Services*, but are rather derived as part of the tariff setting process for *Standard Control Services* and are not included in the proposed prices set out in this chapter.

Basis of calculations

The following inputs form the basis of the above calculations:

- replacement volumes – replacement of public lighting is undertaken on a routine basis throughout each year. Aurora has developed projected public lighting replacement volumes for each bracket, lamp and luminaires type required for each lighting type. Projections have regard for any likely volume growth over the forthcoming *Regulatory Control Period*;
- material replacement costs – for each public lighting service type the relevant volumes are multiplied by the bracket, lamp and luminaires costs as the basis of the annuity calculation;
- standard lives – Aurora maintains a register of asset data that is used to determine the standard life of each asset. This is input into the annuity calculation to derive the number of years over which the replacement cost is recovered;
- escalation rates – input data provided for calculation purposes within the public lighting annuity model has been provided using forecast 2009-10 values. Accordingly, costs are increased across the *Regulatory Control Period* by:
  - forecast CPI in order to calculate nominal costs; and
  - escalation rates (using SKM escalation rates) which are applied by asset type for capital expenditure, and by discrete cost type (materials, contractors, labour and other) for operating expenditure;
- capital expenditure forecasts – Aurora has developed the material replacement costs and installation costs for all bracket, lamp and luminaire types, using forecast 2009-10 values, incorporating the materials escalation rate;
- operating expenditure forecasts – Aurora's work program is used to forecast operating expenditure volumes associated with public lighting assets;
- overhead costs allocation – the operating expenditure components of Corporate and Shared Services; Network Management; and Distribution Business Shared Resource costs are apportioned on a percentage spend of direct costs, in accordance with Aurora's CAM;
- capital overhead cost component – the capital overhead cost component is apportioned in accordance with the methodology in Aurora's proposed CAM; and
- return on capital – the return on capital is a pre-tax real WACC derived using values set out in chapter 20 of this *Regulatory Proposal Addendum*.

33.3.3. Indicative prices

Table 127 provides indicative prices for public lighting services (where the public lighting is owned by Aurora) for each year of the forthcoming *Regulatory Control Period*, in accordance with clause 6.8.2(c)(4) of the *Rules*.

Table 127

Indicative prices for public lighting services (cents 2011-12)

Lighting type	2012-13 (c/day)	2013-14 (c/day)	2014-15 (c/day)	2015-16 (c/day)	2016-17 (c/day)
42W Mercury Vapour	38.584	38.457	38.002	39.937	38.544
50W Mercury Vapour	36.112	35.958	35.494	37.439	36.054
80W Mercury Vapour Aeroscreen	36.112	35.958	35.494	37.439	36.054
80W Mercury Vapour Art decorative	57.712	57.785	57.410	59.261	57.808
125W Mercury Vapour	41.809	41.548	41.018	42.847	41.342
250W Mercury Vapour	42.330	42.074	41.547	43.373	41.866
400W Mercury Vapour	47.380	47.177	46.670	48.474	46.952
70W Sodium Vapour	38.652	38.525	38.071	40.005	38.612
100W Sodium Vapour	38.669	38.489	38.007	39.905	38.475
150W Sodium Vapour	43.157	42.910	42.386	44.209	42.699
250W Sodium Vapour	43.299	43.054	42.530	44.352	42.842
400W Sodium Vapour	43.530	43.287	42.764	44.585	43.074
150W Metal Halide	43.157	42.910	42.386	44.209	42.699
250W Metal Halide	43.299	43.054	42.530	44.352	42.842
2x20W Fluorescent	40.703	40.598	40.153	42.078	40.678
2x40W Fluorescent	40.116	39.951	39.476	41.367	39.932
42W Compact Fluorescent	38.584	38.457	38.002	39.937	38.544
60W Incandescent	35.389	35.228	34.761	36.709	35.327

Table 128 provides indicative prices for contract lighting services for each year of the forthcoming *Regulatory Control Period*, in accordance with clause 6.8.2(c)(4) of the *Rules*.

Table 128

Indicative prices for contract lighting services (cents 2011-12)

Lighting type	2012-13 (c/day)	2013-14 (c/day)	2014-15 (c/day)	2015-16 (c/day)	2016-17 (c/day)
50W Mercury Vapour	23.010	22.875	22.440	24.510	23.242
80W Mercury Vapour	22.997	22.862	22.427	24.497	23.229
125W Mercury Vapour	23.932	23.752	23.293	25.323	24.015
250W Mercury Vapour	24.016	23.837	23.379	25.408	24.100
400W Mercury Vapour	24.080	23.901	23.444	25.473	24.164
70W Sodium Vapour	23.227	23.094	22.660	24.729	23.460
150W Sodium Vapour	24.760	24.589	24.134	26.160	24.849
250W Sodium Vapour	24.722	24.550	24.095	26.121	24.811
400W Sodium Vapour	24.808	24.637	24.182	26.208	24.897
150W Metal Halide	24.760	24.589	24.134	26.160	24.849
250W Metal Halide	24.722	24.550	24.095	26.121	24.811
400W Metal Halide	24.722	24.550	24.095	26.121	24.811
1x20W Fluorescent	23.073	22.939	22.504	24.574	23.305
2x20W Fluorescent	23.211	23.078	22.644	24.713	23.444
1x40W Fluorescent	23.082	22.948	22.513	24.583	23.314
2x40W Fluorescent	24.148	23.970	23.513	25.541	24.233
3x40W Fluorescent	24.294	24.118	23.661	25.689	24.380
4x40W Fluorescent	25.261	25.095	24.642	26.666	25.354
60W Incandescent	22.994	22.859	22.424	24.494	23.226
100W Incandescent	23.913	23.733	23.275	25.305	23.997
Pole Surcharge	25.214	25.214	25.214	25.145	25.214

Indicative prices have been shown in 2011-12 cents per day and are considered indicative only, are not binding and are for the purposes of providing a high level overview of the expected price impact for the forthcoming *Regulatory Control Period* only.

Actual prices for the forthcoming *Regulatory Control Period* will be determined following the submission and approval of Aurora's annual Pricing Proposal to the AER in accordance with clause 6.18.2 of the *Rules*.

All indicative prices are exclusive of GST.

33.4. Fee-based services

Fee-based services are those services provided by Aurora where the service is, in general, provided for the benefit of a single customer rather than uniformly supplied to all customers. These services are provided at the request of a third party and are typically initiated by way of a service request received from a retailer.

Examples of services Aurora provides on a fee-basis include, but are not limited to:

- energisation;
- de-energisation;
- re-energisation;
- meter alteration;
- meter testing;
- new connection – permanent supply;
- supply abolishment – removal of meters and service connection;
- renewable energy connection; and
- other miscellaneous services.

These services are largely homogenous in nature and therefore a fixed fee can be set in advance with reasonable certainty. That is, the costs inputs in providing these services do not involve material variations.

In the current *Regulatory Control Period*, these services form Declared Special Services and have been classified by OTTER as:

- standard special services (for energisation, de-energisation, re-energisation, meter alteration and meter testing) – these services are regulated under a weighted average price cap with prices charged on the basis of fixed fees. Individual service prices are determined annually through the price setting process with OTTER with increases, where approved, not exceeding the Weighted Average Wage Index for the Electricity, Gas and Water Supply Industry in the preceding calendar year; and
- other special services (all other proposed fee-based services) – these services are not regulated under a price cap although the services and their prices are approved by OTTER on an annual basis through Aurora's price setting process.

The AER, in its final Framework and Approach, proposed that all fee-based services should be classified as *Direct Control Services* and further classified as *Alternative Control Services*, subject to a price cap form of control.

That is, that a price cap should continue to be applied to all standard special services and that the other special services should be incorporated into the price cap form of control.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all fee-based services (both standard and other special services), with caps applied to individual services under a schedule of fees. This is discussed in greater detail below.

33.4.1. Levels of service

The forecast costs for fee-based services for the forthcoming *Regulatory Control Period* have been developed with regard to the levels of service currently provided by Aurora, including timeframes and conditions.

The levels of service currently provided by Aurora are established in accordance with the requirements of:

- Aurora's Distribution Customer Charter which states the services and the level and standard of such services that a customer is entitled to receive from Aurora. Individual service failures against the service timeframes result in a GSL payment to the customer. The Distribution Customer Charter is approved by OTTER pursuant to clause 8.3.1 of the *TEC*;
- Aurora's prices for the provision of Distribution Special Services which provides for services to be delivered in accordance with established service level agreements and regulatory requirements. The prices for the provision of Distribution Special Services are approved by OTTER as part of the annual pricing approval process;
- the *TEC*, in particular section 9.17, which governs the testing of metering equipment of non-contestable customers and the timeframes within which field testing must be conducted, and states that Aurora must, within 15 business days of a request from a customer, test metering equipment to ascertain whether the metering equipment is defective;
- Aurora's service level agreement with retailers which governs timeframes for delivery of certain categories of fee-based services; and
- internally derived performance targets, in circumstances where service levels have not been externally imposed or approved. These are based upon historic business practice, with recognition of changes in customer service delivery expectations over time.

The forecast costs for fee-based services for the forthcoming *Regulatory Control Period* are based on Aurora maintaining its existing service levels, in compliance with its regulatory obligations. Changes to the standard conditions or levels of service provision to reflect specific customer requirements will constitute a quoted (non-standard) service.

Table 129 contains:

- a list of fee-based services categories;
- the service level obligations associated with each service; and
- related service targets.

Table 129

Service levels for fee-based services

Service category	Source	Service level
Energisation, de-energisation and re-energisation	Electricity Supply Industry (Tariff Customers) Regulations 2008, section 31	10 business days for a new connection if no extension of the network is required. 40 business days for a new connection if an extension of the network is required. 1 business day if a reconnection does not involve any changes to the network. 10 business days if a reconnection involves changes to the network.
Meter alteration	Service Level Agreement with retailer	All services to be delivered no later than 10 business days of receiving retailer service request (unless otherwise agreed).
Meter test	*TEC*, section 9.17.1	Test of metering equipment to be delivered within 15 business days of a request from a Tariff Customer.
New connection – permanent supply	Electricity Supply Industry (Tariff Customers) Regulations 2008, section 31	10 business days for a new connection if no extension of the distribution network is required.
Supply abolishment	Service level agreement with retailer	All services to be delivered no later than 5 business days of receiving retailer service request (unless otherwise agreed).
Renewable energy connection	Electricity Supply Industry (Tariff Customers) Regulations 2008, section 31	10 business days for a new connection if no extension of the distribution network is required.
New connection – temporary and temporary in permanent position	Electricity Supply Industry (Tariff Customers) Regulations 2008, section 31	10 business days for a new connection if no extension of the distribution network is required.
New connection – temporary show and carnival connection	Electricity Supply Industry (Tariff Customers) Regulations 2008, section 31	10 business days for a new connection if no extension of the distribution network is required.
Truck tee-up	Internal target between Aurora and contractor	2 business days after receiving advice from the contractor.
Miscellaneous services	Electricity Supply Industry (Tariff Customers) Regulations 2008, section 31	10 business days for a new connection if no extension of the distribution network is required.

33.4.2. Application and demonstration of form of control

This section outlines Aurora's proposed application of the control mechanism for fee-based services and the method by which compliance with the control mechanisms can be demonstrated, in accordance with clauses 6.2.6(b), (c) and 6.8.2(c)(3) of the *Rules*.

In establishing the control mechanism, Aurora has not utilised Part C of Chapter 6 of the *Rules*.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all fee-based services. This is consistent with the current regulatory approach adopted by OTTER and with the AER's stated likely approach for the forthcoming *Regulatory Control Period*[4].

Aurora proposes to apply the control mechanism for each of the fee-based services to be offered, through the build up, through Aurora's fee-based services model, of the following cost components:

- labour;
- materials;
- contractors; and
- other costs.

Aurora's fee-based services model:

- establishes, for each fee-based service, estimated task time and skill set requirements based on Aurora's historical data and projected volumes for each year of the forthcoming *Regulatory Control Period* of Aurora's anticipated work program;
- builds up a schedule of fixed prices for each year of the forthcoming *Regulatory Control Period* using the cost for each fee-based service using the costings for relevant activities derived in the fee-based services model;
- applies operating overhead costs (Corporate and Shared Services, Network Division Management and Distribution Business Shared Resource costs) to the schedule of fixed prices for year one in accordance with the approach set out in Aurora's proposed CAM. The relevant escalation rates across the forthcoming *Regulatory Control Period* are already applied to this overhead expenditure; and
- undertakes an annuity calculation for shared services capital overhead costs (comprising Corporate and Shared Services and Network Division Management capital overhead costs) in accordance with the methodology set out in Aurora's proposed CAM, and apportioned to fee-based services on the basis of forecast volumes.

  The annuity calculation is undertaken for assets in service at 30 June 2012 and for capital overhead costs applied to public fee-based services in the *Regulatory Control Period* in which:
  - › for overhead assets in service at 30 June 2012:
    - the written down book value of the assets is the present value parameter;
    - the remaining weighted average asset life is the number of years; and
    - a pre-tax real WACC provides the rate of return;
  - › for capital overhead costs applied to fee-based services:
    - the applied capital overhead costs is the present value parameter;
    - the asset standard life is the number of years;
    - a pre-tax real WACC provides the rate of return; and
- aggregates the annuity calculations and schedule of year one fees (including overheads) for each fee-based service to give a final price for each service.

This process, for each fee-based service can be summarised as:

(fee schedule including operating overheads) + (annuity for overhead assets in service) + (annuity for capital overhead costs)

The following provides further detail on fee-based services inputs:

- fee-based services model – the fee-based services model uses labour, materials, contractors and other costs to determine the overall costs and to develop the schedule of fixed prices for fee-based services for each year of the forthcoming *Regulatory Control Period*;
- labour rates – the costs of providing fee-based services are principally labour related costs. Labour rates are based on a weighted average hourly rate (by skill set), for all of the staff who perform these tasks. The rates have been adjusted for each year of the forthcoming *Regulatory Control Period* to reflect expected increases in efficiency. It is noted that the task time for after hours fault work is set to 4 hours, as field staff are paid this as a minimum under Aurora's enterprise agreement;
- CPI and escalation rates – input data provided for calculation purposes within the fee-based services model has been provided using forecast 2009-10 values. Accordingly, costs are increased across the forthcoming *Regulatory Control Period* by:
  - › forecast CPI in order to calculate nominal costs; and
  - › escalation rates (derived by SKM) which are applied by asset type for capital expenditure, and by discrete cost type (materials, contractors, labour and other) for operating expenditure.

It should be noted that Aurora does not include a profit margin in any fee-based services that it provides. The prices are levied on a cost-recovery basis.

4 AER, Final Framework and approach paper, Aurora Energy Pty Ltd, Regulatory Control Period commencing 1 July 2012, 27 November 2010 page 74.

33.4.3. Indicative prices

Table 130 provides indicative prices for fee-based services for each year of the forthcoming *Regulatory Control Period*, in accordance with clause 6.8.2(c)(4) of the *Rules*.

Table 130

Indicative prices for fee-based services (dollars 2011-12)

Service	2012-13 ($)	2013-14 ($)	2014-15 ($)	2015-16 ($)	2016-17 ($)
De-energisation, re-energisation and special reads					
Site visit – no appointment	66.81	67.43	66.81	61.27	59.71
Site visit – non scheduled visit	133.62	134.86	133.62	122.54	119.42
Site visit – same day premium service	350.13	353.41	350.21	321.56	313.42
Site visit – after hours	890.79	899.09	890.82	816.96	796.14
Site visit – credit action or site issues	227.64	229.79	227.72	209.23	203.96
Site visit - rectification of illegal connection	283.32	285.98	283.40	260.29	253.71
Site visit - interval metering	66.81	67.43	66.81	61.27	59.71
Site visit - late cancellation	66.81	67.43	66.81	61.27	59.71
Transfer of retailer	-	-	-	-	-
Meter alteration					
Tariff alteration – single phase	170.69	172.30	169.62	151.49	146.32
Tariff alteration – three phase	230.97	233.13	229.47	204.77	197.74
Adjust time clock	66.81	67.43	66.81	61.27	59.71
Install pulse outputs	190.53	192.33	190.60	175.19	170.78
Remove meter	324.23	329.87	326.55	296.71	287.61
Meter alteration – after hours visit	890.79	899.09	890.82	816.96	796.14
Meter alteration - late cancellation	114.94	116.95	115.75	105.02	101.77
Meter alteration wasted visit	247.60	251.91	249.38	226.69	219.76
PAYG meter alteration					
PAYG install	115.85	115.85	115.85	115.85	115.85
PAYG removal	301.88	304.71	301.96	277.31	270.30
PAYG reconfiguration	301.88	304.71	301.96	277.31	270.30
PAYG fault	246.20	248.52	246.28	226.25	220.54
PAYG fault – after hours	890.79	899.09	890.82	816.96	796.14
PAYG POS fault	190.53	192.33	190.60	175.19	170.78
PAYG POS fault – after hours	890.79	899.09	890.82	816.96	796.14
PAYG - late cancellation	114.94	116.95	115.75	105.02	101.77
PAYG – wasted visit	247.60	251.91	249.38	226.69	219.76
Meter test					
Meter test – single phase	338.99	342.17	339.07	311.35	303.47
Meter test – multi phase	673.04	679.33	673.13	617.71	602.02
Meter test – CT	747.27	754.26	747.37	685.79	668.37
Meter test – after hours	890.79	899.09	890.82	816.96	796.14
Meter test – late cancellation	66.81	67.43	66.81	61.27	59.71
Meter test – wasted visit	247.60	251.91	249.38	226.69	219.76
Supply establishment					
New connection – install service & meters	215.90	217.93	214.51	191.45	184.89
New connection – unmetered supply	276.17	278.76	274.36	244.73	236.30
New connection – after hours	723.27	729.98	718.25	639.30	617.02
Install additional service span - single phase	411.48	419.04	414.04	374.94	362.26
Install additional service span - single phase - additional spans	306.74	312.27	309.18	282.87	274.11
Install additional service span - multi phase	583.79	594.40	587.98	535.59	518.35

Table 130

Indicative prices for fee-based services (dollars 2011-12) (continued)

Service	2012-13 ($)	2013-14 ($)	2014-15 ($)	2015-16 ($)	2016-17 ($)
Install additional service span - multi phase - additional spans	479.05	487.63	483.12	443.53	430.20
New connection - late cancellation	114.94	116.95	115.75	105.02	101.77
New connection – wasted visit	247.60	251.91	249.38	226.69	219.76
Supply abolishment					
Remove service & meters	324.23	329.87	326.55	296.71	287.61
Supply abolishment – after hours	890.79	899.09	890.82	816.96	796.14
Supply abolishment – late cancellation	66.81	67.43	66.81	61.27	59.71
Supply abolishment – wasted visit	247.60	251.91	249.38	226.69	219.76
Renewable energy connection					
Renewable energy connection	170.69	172.30	169.62	151.49	146.32
Renewable energy connection – after hours	1,475.52	1,503.72	1,480.10	1,312.79	1,260.91
Renewable energy connection – late cancellation	114.94	116.95	115.75	105.02	101.77
Renewable energy connection – wasted visit	247.60	251.91	249.38	226.69	219.76
Temporary builders connection					
Temporary supply underground – single phase - temporary position	226.89	229.25	226.60	206.54	200.50
Temporary supply underground – three phase - temporary position	282.09	285.28	282.99	262.55	255.97
Temporary supply underground – single phase - permanent position	226.89	229.25	226.60	206.54	200.50
Temporary supply underground – three phase - permanent position	282.09	285.28	282.99	262.55	255.97
Temporary supply overhead – single phase - temporary position	500.45	509.82	502.84	451.03	434.60
Temporary supply overhead – three phase - temporary position	683.59	696.16	687.84	622.67	601.57
Temporary supply overhead – single phase - permanent position	500.45	509.82	502.84	451.03	434.60
Temporary supply overhead – three phase - permanent position	683.59	696.16	687.84	622.67	601.57
Temporary supply – after hours	1,475.52	1,503.72	1,480.10	1,312.79	1,260.91
Temporary supply – late cancellation	114.94	116.95	115.75	105.02	101.77
Temporary supply – wasted visit	247.60	251.91	249.38	226.69	219.76
Temporary show & carnival connection					
Temporary supply – underground	376.11	379.64	376.19	345.39	336.65
Temporary supply – overhead mains	459.93	465.79	463.34	431.75	421.49
Temporary supply – overhead service	982.76	1,000.77	992.46	908.16	881.3
Temporary supply – after hours	890.79	899.09	890.82	816.96	796.14
Temporary supply – late cancellation	66.81	67.43	66.81	61.27	59.71
Temporary supply – wasted visit	247.60	251.91	249.38	226.69	219.76
Truck tee-up					
Tee-up	796.87	812.08	799.36	709.26	681.30
Tee-up – after hours	1,357.58	1,383.55	1,361.74	1,207.32	1,159.50
Tee-up – no truck – after hours	1,197.52	1,221.10	1,198.21	1,044.93	998.67
Tee-up – late cancellation	114.94	116.95	115.75	105.02	101.77
Tee-up – wasted visit	247.60	251.91	249.38	226.69	219.76
Miscellaneous services					
Open turret	221.53	224.07	222.41	207.01	201.97
Addition/alteration to connection point	387.28	391.35	387.01	353.52	343.37
Connection of new mains to existing installation	215.90	217.93	214.51	191.45	184.89
Data download	459.93	465.79	463.34	431.75	421.49
Alteration to unmetered supply	230.97	233.13	229.47	204.77	197.74
Miscellaneous service	153.41	154.86	153.49	141.15	137.61
Miscellaneous service – after hours	890.79	899.09	890.82	816.96	796.14
Miscellaneous service – late cancellation	66.81	67.43	66.81	61.27	59.71
Miscellaneous service – wasted visit	247.60	251.91	249.38	226.69	219.76

Indicative prices have been shown in 2011-12 dollars per service and are considered indicative only, are not binding and are for the purposes of providing a high level overview of the expected price impact for the forthcoming *Regulatory Control Period* only.

Actual prices for the forthcoming *Regulatory Control Period* will be determined following the submission and approval of Aurora's annual Pricing Proposal to the AER in accordance with clause 6.18.2 of the *Rules*.

All indicative prices are exclusive of GST.

33.5. Quoted (non-standard) services

Quoted (non-standard) services are those services provided by Aurora where the nature and scope of the service is specific to individual customers' needs, and varies from customer to customer. As a consequence, the cost of providing the services cannot be estimated without first knowing the customer's specific requirements. It is not possible, therefore, to set a generic total fixed fee in advance for these services.

Requests for quoted (non-standard) services may be received from a customer or retailer on behalf of a customer.

Aurora provides a range of non-standard services on a quoted basis including, but not limited to:

- removal or relocation of Aurora's assets at a customer's (for example, the Tasmanian Government) request;
- services that are provided at a higher standard than the standard service, due to a customer's request for Aurora to do so;
- provision of public lighting schemes;
- provision of overhead and underground subdivisions for developers;
- relocation of assets at the request of a third party; and
- services that are provided through a non-standard process at a customer's request (for example, where more frequent meter reading is required).

The *AER*, in its final Framework and Approach, proposed that quoted (non-standard) services should be classified as *Direct Control Services* and further classified as *Alternative Control Services*, subject to a price cap form of control.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all quoted (non-standard) services, with caps applied to the individual unit costs of inputs. This is discussed in greater detail below.

33.5.1. Levels of service

The forecast costs for quoted (non-standard) services for the forthcoming *Regulatory Control Period* have been developed with regard to the levels of service currently provided by Aurora, including timeframes and conditions.

The levels of service currently provided by Aurora are established in accordance with the requirements of historic business practice, with recognition of changes in customer service delivery.

The forecast costs for quoted (non-standard) services for the forthcoming *Regulatory Control Period* are based on Aurora maintaining its existing service levels.

33.5.2. Application and demonstration of form of control

This section outlines Aurora's proposed application of the control mechanism for quoted (non-standard) services and the method by which compliance with the control mechanisms can be demonstrated, in accordance with clauses 6.2.6(b), (c) and 6.8.2(c)(3) of the *Rules*.

In establishing the control mechanism, Aurora has not utilised Part C of Chapter 6 of the *Rules*.

Aurora proposes to apply a price cap form of control for the forthcoming *Regulatory Control Period* to all quoted (non-standard) services, through a formula based approach (i.e. non building-block) with caps applied to the individual unit costs of inputs. This formula based approach will ensure that prices reflect the actual costs of service provision to meet the customer's specific needs.

The following cost build-up, sourced from Aurora's Design and Estimation Module of WASP (and including all applicable overheads), is proposed to be applied to establish the price caps on the individual components of quoted (non-standard) services:

Price = Labour + Materials + Contractors + Other Costs + Overheads

Where:

- labour and related expenditure includes costs associated with Aurora's internal resources and labour contractors. Costs are allocated to a job number in the WASP database by way of standard calculated rates. Labour rates are calculated on a skill level basis and are inclusive of labour on-costs. Labour rates for internal employees are calculated to include normal salaries and wages, associated payroll on-costs and employee/industry allowances. Payroll on-costs include public holidays, leave, superannuation, and payroll tax. Labour rates for productive work also recover the non-productive time of employees including attendance at general and safety meetings and down-time to perform administrative duties. External labour does not attract these labour costs as the charge-out rates paid by external firms include these costs in the rates;
- materials are directly allocated to work orders at cost. They include stock items distributed through Aurora's centralised warehouse or stores and specific purchases of irregular or low turnover items such as specialised transformers, or plant and equipment. An on-cost is added to stock material to cover the cost of purchasing, warehousing and delivery of materials held in Aurora's warehouses;
- contractors and external labour may be sourced to supplement the existing workforce for specific projects, additional workloads or to cover employee absences. Contractor costs are incorporated into job costs and therefore attract a portion of Network Services management and corporate shared services overheads as per internal labour costs;

- other costs include any other associated costs that are not captured within the above categories; and
- overheads will be applied to the final components of the service provision in accordance with the methodology set out in Aurora's proposed CAM.

These individual unit costs are considered appropriate as they are derived using the dedicated Design and Estimation Module within WASP, which adopts a well-established methodology for cost estimation. Aurora does not include a profit margin in any quoted (non-standard) services that it provides. The prices are levied on a cost-recovery basis.

33.5.3. Indicative prices

Prices for quoted (non-standard) services will be calculated on an individual basis consistent with the methodology outlined above.

Aurora is unable to provide indicative prices for quoted (non-standard) services for each year of the forthcoming *Regulatory Control Period*, in accordance with clause 6.8.2(c)(4) of the *Rules*, as by their nature these services are dependent on a customer's specific requirements and cost inputs may vary significantly. This also precludes the provision of historical standardised prices.

Aurora has provided its detailed methodology and examples of quoted (non-standard) services as attachments to this *Regulatory Proposal*.

36. Indicative Pricing

36. Indicative Pricing

Clause 6.8.2 (c)(4) of the *Rules* requires indicative prices for *Direct Control Services* for each year of the *Regulatory Control Period.*

This chapter provides an outline of Aurora's methodology and assumptions used to determine indicative prices for *Standard Control Services* for the forthcoming *Regulatory Control Period.*

36.1. Control mechanism

The AER's control mechanism for Aurora, as prescribed in the AER's Framework and Approach paper for *Standard Control Services,* is consistent with Aurora's current regulatory arrangements. This requires Aurora to:

- apply a fixed revenue cap control mechanism;
- determine ARR using a building block approach; and
- determine usage-based prices that are calculated for specific services in accordance with recovering at least avoidable cost but no more than stand-a-lone costs for each service plus daily or fixed charges.

36.2. Carry-over of adjustments

In accordance with Chapter 6 of the *Rules,* the building blocks are specified in clause 6.4.3(a)(6) with respect to any carry-over amounts from previous determinations. For the purposes of determining annual revenue requirements, Aurora has assumed no carry-over amounts will apply. Any carry-over amounts arising from the current *Regulatory Control Period* will be calculated and submitted as part of Aurora's 2012 Pricing Proposal.

36.3. Annual revenue requirement

Annual smoothed revenue for *Standard Control Services* has been determined in accordance with the building block approach detailed in chapter 30 of this *Regulatory Proposal Addendum*and as calculated in the AER's PTRM.

36.4. Energy consumption forecasts

Aurora's total energy consumption has experienced an unprecedented decline over the past two years. A full econometric approach is currently being undertaken by ACIL Tasman to assess the underlying drivers of the decline and to determine the most appropriate growth factors for forthcoming *Regulatory Control Period.*

For the purpose of determining indicative prices for the forthcoming *Regulatory Control Period,* Aurora has applied an interim methodology for projecting energy consumption forecasts using actual consumption data over the current and previous *Regulatory Control Periods* with a range of growth factors applied to determine forecast consumption. Final consumption forecasts will be provided pending the completion of the econometric analysis by ACIL Tasman.

36.5. Indicative prices

For the purposes of determining indicative prices Aurora has adopted an approach of segregating total network sales by the following customer classes:

- residential;
- small business – LV;
- large business – LV;
- large commercial – HV;
- irrigation; and
- unmetered supplies.

Separate consumption forecasts have been produced for each customer class.

Table 133 provides an indication of distribution prices for *Standard Control Services* by customer class. These prices have been calculated using energy consumption forecasts and annual revenue requirements at the customer class level.

Table 133

Indicative prices (nominal cents)

Customer Class	2012-13 (c/kWh)	2013-14 (c/kWh)	2014-15 (c/kWh)	2015-16 (c/kWh)	2016-17 (c/kWh)
Residential	7.57	7.69	7.81	7.92	8.02
Small business – LV	9.47	9.61	9.75	9.88	10.00
Large business – LV	4.95	4.99	5.02	5.04	5.06
Large commercial – HV	1.26	1.28	1.30	1.31	1.32
Irrigation	6.90	7.02	7.10	7.22	7.25
Unmetered supplies	8.52	8.61	8.70	8.79	8.87

Indicative prices have been shown in nominal cents per kWh for energy consumed, however, it is noted that actual prices depend on specific tariffs which are made up of additional components including fixed, energy and demand charges. For this reason the above prices are considered indicative only, are not binding and are for the purposes of providing a high level overview of the expected price impact for the forthcoming *Regulatory Control Period* only.

Actual prices for the forthcoming *Regulatory Control Period* will be determined following the submission and approval of Aurora's annual Pricing Proposal to the AER in accordance with clause 6.18.7 of the *Rules*.

All indicative prices are exclusive of GST.

Table of Attachments
Listing of figures and tables
Glossary of terms/abbreviations

Table of Attachments

Document ID	Document name	Confidentiality claim clause	Confidential
AE078	Post Tax Revenue Model (PTRM)	35.2(1); 35.2(2); 35.2(3); 35.2(8)	Yes
AE080	Public Lighting Annuity Model	35.2(1); 35.2(2); 35.2(3); 35.2(6); 35.2(7)	Yes
AE081	Metering Annuity Model	35.2(1); 35.2(2); 35.2(3); 35.2(6); 35.2(7)	Yes
AE082	Fee-based Services Model	35.2(1); 35.2(2); 35.2(3); 35.2(6); 35.2(7)	Yes

Listing of figures and tables

Figures within this Regulatory Proposal Addendum

Tables within this Regulatory Proposal Addendum

Glossary of terms/abbreviations

Term	Definition
2003 Determination	Investigation into Electricity Supply Industry Pricing Policies Declared Electrical Services Pricing Determination, 27 November 2003
2004-07 *Regulatory Control Period*	The *Regulatory Control Period* commencing on 1 January 2004 and concluding on 31 December 2007
2007 Determination	Investigation into Electricity Supply Industry Pricing Policies Declared Electrical Services Pricing Determination, 10 December 2007
2008-12 *Regulatory Control Period*	The *Regulatory Control Period* commencing on 1 January 2008 and concluding on 30 June 2012
2012-17 *Regulatory Control Period*	The *Regulatory Control Period* commencing on 1 July 2012 and concluding on 30 June 2017
AARR	Aggregate Annual Revenue Requirement
ARR	Annual Revenue Requirement
ABS	Australian Bureau of Statistics
ACG	The Allen Consulting Group Pty Ltd
ACIL Tasman	ACIL Tasman Pty Ltd
ACS	*Alternative Control Services*
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AETV	Aurora Energy Tamar Valley Pty Ltd
AMI	Accredited Meter Installer
API	Application program interface
ARR	Annual Revenue Requirement
ATO	Australian Taxation Office
AUD	Australian Dollars
Aurora	Aurora Energy Pty Ltd
BAF	Aurora's budgeting and forecasting tool
BARC	Board Audit Review Committee
Bairnsdale Power Station	The power station operated by Alinta Energy Limited in Victoria's East Gippsland
CablePI	Safety device provided by Aurora to detect broken neutrals
CAIDI	Customer Average Interruption Duration Index
CAM	Cost Allocation Method
Capex	Capital Expenditure
CFC	Construction Forecasting Council
CMD	Coincident Maximum Demand
CONAN	Contingency analyser – an API developed by Hill Michael Strategic Engineering to analyse switching capacity on Aurora's distribution network.
CONSAC	Concentric Sheath Aluminium Conductor
CPI	Consumer Price Index
CPRS	Carbon Pollution Reduction Scheme
CSC	Customer Support Centre
CT	Current Transformer
DAIS	Distribution Asset Information System
DCS	*Direct Control Services*
Deloitte	Deloitte Touche Tohmatsu Limited
DIER	Department of Infrastructure, Energy and Resources

Glossary of terms/abbreviations

Term	Definition
DINIS	Distribution Network Information System produced by Fujitsu
DMIA	Demand Management Incentive Allowance
DMIS	Demand Management Incentive Scheme
DNSP	Distribution Network Service Provider
DPIPWE	Department of Primary Industries, Parks, Water and Environment
DSM	Demand Side Management
DUOS	Distribution Use of System
EBSS	Efficiency Benefits Sharing Scheme
EDO	Expulsion Drop Out
EHV or Extra High Voltage	Voltages of 88 kV and above
EIS&A Act	*Electricity Industry Safety and Administration Act 1997*
EMS	EMS Solution Pty Ltd
Enterprise Architects	Enterprise Architects Pty Ltd
EPA	Environmental Protection Authority division within DPIPWE
ESC	Essential Services Commission of Victoria
ESI Act	*Electricity Supply Industry Act 1995*
ESIA Act	*Electricity Supply Industry Administration Act 2007*
Expert Panel	The panel formed by the Tasmanian Government in accordance with the provisions of the Expert Panel Act
Expert Panel Act	*Electricity Supply Industry Expert Panel Act 2010*
EY	Ernst and Young Global Limited
EziKey	EziKey Pty Ltd, a fully owned subsidiary of Aurora
FLRS	Feeder Load Reporting System
FRAMME	Facilities Rulebase Application Model Management Environment
FTE	Full Time Equivalent
GHD	GHD Pty Ltd
GI	Galvanised Iron
GIS	Graphical Information System
GLAD	Greater Launceston Are Upgrade
GSL	Guaranteed Service Level
GSP	Gross State Product
G-Tech	Intergraph's G-Technology GIS
GW	Gigawatt
GWh	Gigawatt Hour
HASU	Hobart Area Supply Upgrade
HES	Hobart Eastern Shore
HIA	Housing Industry Association Ltd
HV or High Voltage	Voltages between 6.6 kV and 66 kV
Hydro or HEC	Hydro Electric Corporation or Hydro Electric Commission
ICAM	Indirect Cost Allocation Model
ICS	Incident Control System
Intergraph	Intergraph Corporation Pty Ltd
InService	Intergraph's Outage Management System
ISG	Information Services Group, a department of the Commercial Services division of Aurora
ISO 9001	Part of the ISO 9000 family of quality management system standards published by the International Organisation for Standardisation
ITAA	Income Tax Assessment Act 1997

Term	Definition
km	Kilometre
KPMG	KPMG Cooperative International
kV	Kilovolt
kVA	Kilovolt Amp
kW	Kilowatt
kWh	Kilowatt Hour
LED	Light Emitting Diode
LV or Low Voltage	Voltages of 415 volts or less
MAIFI	Momentary Average Interruption Frequency Index
MCE	Ministerial Council on Energy
MD	Maximum Demand
MDP	Meter Data Provider
MDMS	Market Data Management System
MED	Major Event Day
MEPS	Minimum Energy Performance Standards
MIL	Market Integration Layer
MV	Megavolt
MVA	Megavolt Amps
MW	Megawatt
MWh	Megawatt Hour
NBN	National Broadband Network
NBNCo	NBN Co Limited
NBN Tasmania	NBN Tasmania Limited
NECF	National Energy Customer Framework
NEL	National Electricity Law
NEM	National Electricity Market
NER or *Rules*	National Electricity Rules
NIEIR	National Institute of Economic and Industry Research
NPV	Net Present Value
NTER	National Tax Equivalent Regime
NVA	Natural Values Atlas
OEPC	Office of Energy Planning and Conservation within DIER
OH	Overhead
Ombudsman Act	*Energy Ombudsman Act 1998*
OMS	Outage Management System
Opex	Operating Expenditure
OTTER	Office of the Tasmanian Economic Regulator
PAMA	Public Authority Management Agreement
PAYG	The Aurora Retail pay as you go package offered to electricity customers
PB	Parson Brinckerhoff
PCB	Polychlorinated Biphenyl
POE	Probability of Exceedence
POEL	Private Overhead Electricity Line
POW	Program of Work
Price Control Regulations	*Electricity Supply Industry (Price Control) Regulations 2003*
PTRM	Post Tax Revenue Model

Glossary of terms/abbreviations

Term	Definition
PwC	PricewaterhouseCoopers International Limited
RAB	Regulated Asset Base
RBA	Reserve Bank of Australia
Regulator	The meaning given in the *Economic Regulator Act 2009*
Regulatory Proposal	The meaning given in the *Rules*
RFM	Roll Forward model
RIN	Regulatory Information Notice
Ring Fencing Guideline	Guideline for Ringfencing in the Tasmanian Electrcity Supply Industry, October 2004
Rules	National Electricity Rules
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SCS	*Standard Control Services*
SF_6	Sulphur Hexafluoride
SHE	Safety, Health and Environment
SHEC	Safety, Health, Environment and Compliance
SKM	Sinclair Knight Merz Pty Ltd
Smart meter	An electrical meter that records consumption in intervals of 30 minutes or less and communicates that information back to Aurora.
SOM	Service Order Management
SORI	Statement of Regulatory Intent
SSL	Solid State Lighting Technologies
STPIS	Service Target Performance Incentive Scheme
SWER	Single Wire Earth Return
Tamar Valley Project	Aurora's completion of the partially completed Babcock and Brown power station at Bell Bay.
TEC	Tasmanian Electricity Code
TER	Tax Equivalent Regime
TESI	Tasmanian Electricity Supply Industry
TMR	Trunk Mobile Radio
TNSP	Transmission Network Service Provider
ToU	Time of Use
Transend	Transend Networks Pty Ltd
Tribunal	Australian Competition Tribunal
TRIP	Aurora's Targeted Reliability Improvement Program
TUOS	Transmission Use of System
TVD	Telephony Video Data or TVD Incorporated
US$	United States Dollars
VCR	Value of Customer Reliability
VT	Voltage Transformer
WACC	Weighted Average Cost of Capital
WASP	Works Asset Scheduling and Programming software package developed by EMS Solutions Pty Ltd
WH&S Act	*Workplace Health and Safety Act 1995*
Wilson Cook	Wilson Cook and Company Limited
WireAlert	The trading name adopted by EziKey
WST	Workplace Standards Tasmania