



INTERNAL AUDIT SERVICES

Aurora Energy

Internal audit report of network pricing determination models

May 2011

ADVISORY



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Because of the inherent limitations of any internal control structure, it is possible that fraud, error or non-compliance with laws and regulations may occur and not be detected. Further, the internal control structure, within which the control procedures that have been subject to internal audit operate, has not been reviewed in its entirety and, therefore, no opinion or view is expressed as to the effectiveness of the greater internal control structure. An internal audit is not designed to detect all weaknesses in control procedures as it is not performed continuously throughout the period and the tests performed on the control procedures are on a sample basis. Any projection of the evaluation of control procedures to future periods is subject to the risk that the procedures may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

We believe that the statements made in this report are accurate, but no warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by, Aurora Energy’s management and personnel. We have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report. We are under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form unless specifically agreed with Aurora Energy.

This report has been prepared as outlined in the Scope Section. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently, no opinion or conclusions intended to convey assurance have been expressed. Any references to “review” throughout this report are not being used in the context of a review in accordance with assurance and other standards issued by the Australian Auditing and Assurance Standards Board.

Aurora acknowledges that Aurora retains full responsibility for the integrity of the Models and the projections contained therein. Any projections of the future financial performance of an entity are based upon judgement and opinion as to the numerous factors that may influence the various components of the projections. Accordingly, we have not considered, nor confirm, underwrite or guarantee that any outcome provided by the Models will be achieved. Our analysis does not constitute advice on whether the Models are ‘fit for purpose’ in respect of the operational and financial characteristics of the Models for your purposes. Our report only relates to the items specified and does not extend to any other information or documentation related to the Network Pricing Investigation taken in part or as a whole based upon the Models.

The internal audit findings expressed in this report have been formed on the above basis.

**Third party reliance**

This report is solely for the purpose set out in the Scope Section of this report and for Aurora Energy’s information, and is not to be used for any other purpose or distributed to any other party without KPMG’s prior written consent.

This internal audit report has been prepared at the request of Aurora Energy’s Audit Committee or its delegate in connection with our engagement to perform model audit services as detailed in the engagement contract, dated 18 August 2010. Other than our responsibility to the Audit Committee and Management of Aurora Energy, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party, including but not limited to Aurora Energy’s external auditor, on this internal audit report. Any reliance placed is that party’s sole responsibility.

## Executive summary

### Summary of objective and scope

As part of Aurora Energy Pty Ltd's (Aurora) 2012 Pricing Determination Programme, a series of Revenue Allocation Models are utilised within the determination process. The outputs of these models are critical to the determination process and as a result an internal audit project has been completed to assess the integrity of these models.

This was initially performed in September/October 2010 on the full suite of models, with further checks performed on updated versions of the models in January/February 2011 and again in April 2011.

The overall objective of the internal audit project was to undertake model assessment procedures to:

- assess the logical integrity, internal consistency and arithmetic accuracy of the formulae, algorithms and calculations contained within the spreadsheet models
- assess that source data has been correctly linked into the models.

The specific objectives, scope and approach of the project, as detailed in Appendix 1 to this report, were agreed with relevant Management prior to the commencement of the project.

### Key findings and recommendations

The specific findings arising from this internal audit regarding the assessment of unique formula within the individual spreadsheets were communicated to the model builder via MRT Review Comments reports provided separately. Responses to our findings were received from the model builder outlining actions taken to correct the issues identified in the models or explanations confirming the intended operation of the formula. Where significant changes were subsequently made to the model, follow-up procedures were performed to confirm the changes.

All of our findings were satisfactorily addressed by Aurora Management responsible for the 2012 Pricing Determination Programme.

Details of the models subject to our review are provided in the following section of our report and in Appendix 2.

### Status of the project

This report completes our procedures on the April 2011 versions of the models.

# Regulatory model architecture and operation

## Background and purpose

Aurora Energy's smoothed revenue and X factor forecasts and supporting information for the regulatory control period from 1 July 2012 to 30 June 2017 is located in a set of detailed Excel workbooks which, taken together, constitute its "Regulatory Proposal Model".

## Modelling architecture

This architecture has been based on an assumption that a model will primarily be required for standard control services based upon a set of consolidated models. A separate set of models is utilised for alternative control services (i.e. Public Lighting, Metering).

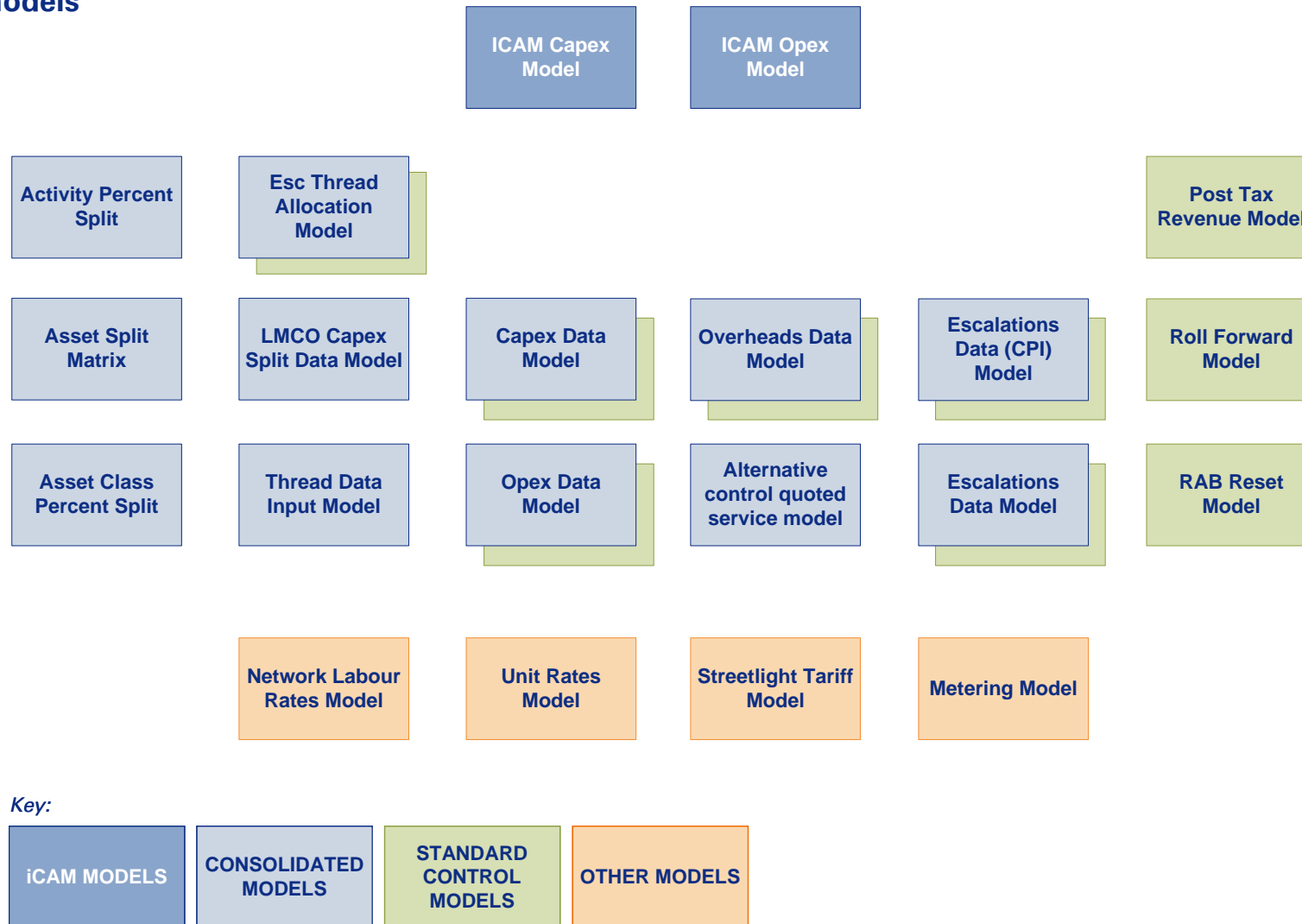
For the standard control services, the Regulatory Proposal Model primarily comprises eight separate Excel workbooks, namely:

- **Threads Data Model.xls**, which contains direct cost forecasts for each of Aurora Energy's threads, based on forecast unit rates and forecast volumes for each Capex and Opex project for each year of the remainder of the current regulatory control period and the next regulatory control period. This links back to the "Program of Works" which is prepared by Networks and contains detailed bottom-up built estimates provided by Network Services.
- **Opex Data Model.xls**, which maps the Opex by thread into the Opex by Activity Categories and includes inputs for the forecast Network Operations and 'Other' Opex. This model is overheads and escalations exclusive.
- **Capex Data Model.xls**, which maps the Capex by thread into the Capex by Activity Categories; and includes inputs for the forecast Non-System Capex and maps the Capex by Activity Categories to Capex by Asset Class. This model is overheads and escalations exclusive.

- **Overheads Data Model.xls**, which allocates Corporate Costs (i.e.Overheads) to the Opex by Activity Categories, Capex by Activity Categories and Capex by Asset Class.
- **Escalations Data (CPI) Model.xls**, which applies CPI escalators to the Opex by Activity Categories, Capex by Activity Categories and Capex by Asset Class. This model outputs directly to the Escalations Data Model.
- **Escalations Data Model.xls**, which applies non-CPI escalators to the Opex by Activity Categories, Capex by Activity Categories and Capex by Asset Class. This model outputs directly to the AER's published Roll-Forward Model (RFM), Post Tax Revenue Model (PTRM) and RIN Submission Model.
- **RFM Submission Model.xls**, which is the AER's published RFM and which provides a starting Regulatory Asset Base for the beginning of the regulatory control period.
- **PTRM Submission Model.xls**, which is the AER's published PTRM and calculates the smoothed revenue cap and X factors contained in the Regulatory Proposal.
- **RIN Submission Model.xls**, which is the AER's Regulatory Information Notice (RIN) Model (this model has not yet been provided to Aurora Energy). There may be an additional model which contains the tables for the Regulatory Proposal however this will not form part of the formal modelling architecture.

These models are supported by a number of other spreadsheets which provide key inputs to the Regulatory Proposal Model spreadsheets.

## Overview of models



## Appendix 1 – Objective, scope and approach

### Objective

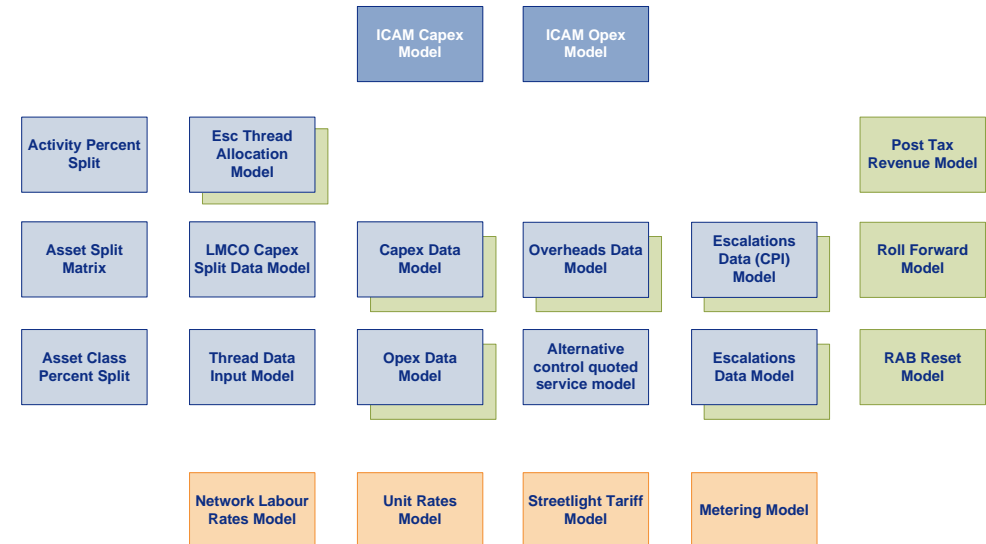
The objective of the project was to assist Aurora to undertake model assessment procedures for the Revenue Allocation Models utilised within the 2012 pricing investigation process to:

- assess the logical integrity, internal consistency and arithmetic accuracy of the formulae, algorithms and calculations contained within the spreadsheet models
- assess that source data has been correctly linked into the models.

### Scope

The scope of this project is to complete procedures to:

- assess the integrity of the following Revenue Allocation Models, as per the figure below:
  - Consolidated Revenue Models
  - Metering Model
  - Unit Rates Model
  - Public Lighting Model
  - Labour Rates Model
  - Standard Control Revenue Models
  - iCAM Models
- check the accuracy and completeness of the data input links against source spreadsheets, particularly the linkages between the Revenue Allocation Models
- identify any issues or concerns that arise from the procedures that Aurora should address.



We note that the Standard Control Revenue Models are a copy of the base Consolidated Revenue Models utilising the same Thread Data Input Model spreadsheet. In addition, the Post Tax Revenue Model and Roll Forward Model are provided by the Australian Energy Regulator (AER) and are not modified by Aurora and therefore not subject to review. The Network Management Costs model was not reviewed as part of our analysis, at the request of Aurora Management.

### Limitations of Scope

It is not within the scope of this project to provide any assurance as to the accuracy or otherwise of the underlying regulatory or commercial assumptions of the pricing investigation, or the validity and accuracy of data sources.

The following items are specifically excluded from the procedures to be performed:

- The validity or appropriateness of any accounting or tax assumptions or treatments in the Models
- The completeness or reasonableness of commercial, financial risk management or non-mathematical model assumptions and data contained in the Models, including hard coded numbers
- The validity, commercial viability or legality of the assumptions on which the Models are based
- The presentation and format of the financial information for financial reporting purposes of Aurora or any other entity
- The operation of any macros in the Models beyond that outlined above
- Linkages to data sources outside the Models beyond that outlined above
- The appropriateness of visual elements (such as graphs) included within the Models
- The standard formulae supplied by Microsoft Excel, the accuracy of the processing capabilities of Microsoft Excel or the accuracy of the processing capabilities of any computer on which the Models are run.

The scope of the engagement did not include verification that recommended actions that may result from our work were implemented into any subsequent revised versions of the Models other than those actions which have been implemented prior to the assessment of the final version of the Models.

## Approach

Our approach to the project involved the following:

- Part A – Baseline assessment of the initial versions of the models, including model linkages
- Part B – Complete assessment of the subsequent version of the models, incorporating amendments identified by Part A

- Part C – Final assessment of the subsequent versions of the models.

Details of the procedures to be performed during each Part and for each relevant model is noted below.

### Part A – Baseline assessment

For the initial version of the Consolidated Revenue Models, Labour Rates, Public Lighting Model, Metering Model, Unit Rates Model and iCAM Models, undertake a Full Model Assessment of the baseline models and full Data Flow Assessment focussed on model linkages. This will provide initial feedback on the model integrity of the core Revenue Models for correction before undertaking the assessment of all the related models involved in the pricing investigation.

### Part B – Complete assessment

Following receipt of feedback on the Baseline assessment, undertake a Comparison Model Assessment to compare the revised versions of the baseline models back to the initial versions to confirm the changes made to the core Revenue Models.

Undertake additional Comparison Model Assessment and Data Flow Assessment for the Standard Control to compare against the core Revenue Models and ensure that the complete suite of models used in the pricing investigation have been checked.

### Part C – Final assessment

Perform additional Comparison Model Assessments and Data Flow Assessments as required for any subsequent amendments to the models.

## Appendix 2 – Model listing

In the report above, a number of model names have been used to represent the excel workbooks that have been reviewed. The table below lists these names and links them to the appropriate current Aurora model that was provided for the analysis.

| <b>Referred Model Name</b>          | <b>Excel file-name (Latest version reviewed)</b> |
|-------------------------------------|--|
| <b>Activity Percent Split</b>       | ActivityPercentSplit.xls                         |
| <b>Asset Class Percent Split</b>    | AssetClassPercentSplit.xls                       |
| <b>Capex Data Model</b>             | Capex Data Model.xls                             |
| <b>Esc Thread Allocation Model</b>  | EscThreadAllocation.xls                          |
| <b>Escalations Data (CPI) Model</b> | Escalations Data (CPI) Model.xls                 |
| <b>Escalations Data Model</b>       | Escalations Data Model.xlsm                      |
| <b>LMCO Split Data Model</b>        | LMCO Capex Split Data Model.xlsm                 |
| <b>Metering Model</b>               | Metering Annuity Model.xls                       |
| <b>Opex Data Model</b>              | Opex Data Model.xls                              |
| <b>Overheads Data Model</b>         | Overheads Data Model.xls                         |
| <b>PTRM Submission Model</b>        | PTRM.xls   |
| <b>Public Lighting Model</b>        | Public Lighting Annuity Model v2.xlsx            |
| <b>Quoted Services Model</b>        | Alternative Control Quoted Service Model.xlsm    |
| <b>RAB Reset Model</b>              | RAB Reset Model V4.xlsm                          |
| <b>RFM Submission Model</b>         | RFM.xls  |
| <b>Threads Data Model</b>           | Threads Data Model V4.xls                        |
| <b>Unit Rates Model</b>             | Unit Rates Model.xlsx                            |