Unit Rates Model

Unit Rates Model Procedure

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Version 2.0

Aurora Energy

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1.0	04/04/2011	G. Wheeler	Draft for approval
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Table of Contents

1   Introduction

Aurora is subject to economic regulation as a natural monopoly provider of electrical distribution services. Currently, economic regulation of Aurora's declared distribution services is administered by the Tasmanian Energy Regulator appointed under the provisions of the Electricity Supply Industry Act 1995. With the transfer of the responsibility of economic regulation of electricity distributors to a national level, the administration of this in reference to Aurora will fall under the jurisdiction of the Australian Energy Regulator (AER), as at 30 June 2012.

The actions of the AER in respect to the economic regulation of electricity distributors are governed by the National Electricity Law (NEL) enacted initially in the Parliament of South Australia and subsequently in the remaining state legislatures, the National Electricity Rules (NER) created by the Australian Energy Market Commission under powers granted it by the NEL, and any guidelines created by the AER to aid in the performance of its duties.

The process of economic regulation involves the approval of a submission, detailing proposed expenditure and resulting costs to consumers, made by the electricity distributor to the AER. The requirements for the submission are contained in Chapter 6 of the NER and various guidelines issues by the AER. Aurora is required to submit to the AER its submission for the period 1 July 2012 to 30 June 2017 in accordance with these requirements.

Complying with requirements outlined within Chapter 6 of the NER, Aurora utilises a building block approach for revenue calculation purposes for standard control services. A building block approach sets the maximum allowable revenue based upon the sum of:

- Return on Investment;

- Regulatory Depreciation;

- Operating Expenditure:

- Tax payable minus imputation credits; and

- Adjustments due to AER-imposed efficiency and reliability schemes.

Aurora's building block supporting information for the next regulatory control period (1 July 2012 to 30 June 2017) is contained in a number of interrelated Excel-based component models that as a whole, constitute the 'Regulatory Modelling Suite'. The Regulatory Modelling Suite forms an integral part of Aurora's submission to the AER and feed directly into the AER's Post-Tax Revenue Model (PTRM).

2   Purpose

The purpose of this document is to provide an overview of the Unit Rates Model.xlsx workbook (the "Unit Rates Model") which is a component model forming part of Aurora's Regulatory Modelling Suite.

The purpose of the Unit Rates Model is to estimate all items in the 2012-2017 Program of Work (the "POW") using consistent, repeatable and auditable methodologies. Where the projects scopes are known and defined, the projects are estimated using a bottom-up methodology. Where the projects are undefinable (eg Emergency Response to extreme weather events), the unit rates are calculated using historical data.

3   Modelling Architecture

The Unit Rates Model is a component model which forms part of the Regulatory Modelling Suite, the model interactions and the entire suite is depicted in Figure 1 (below).

Figure 1
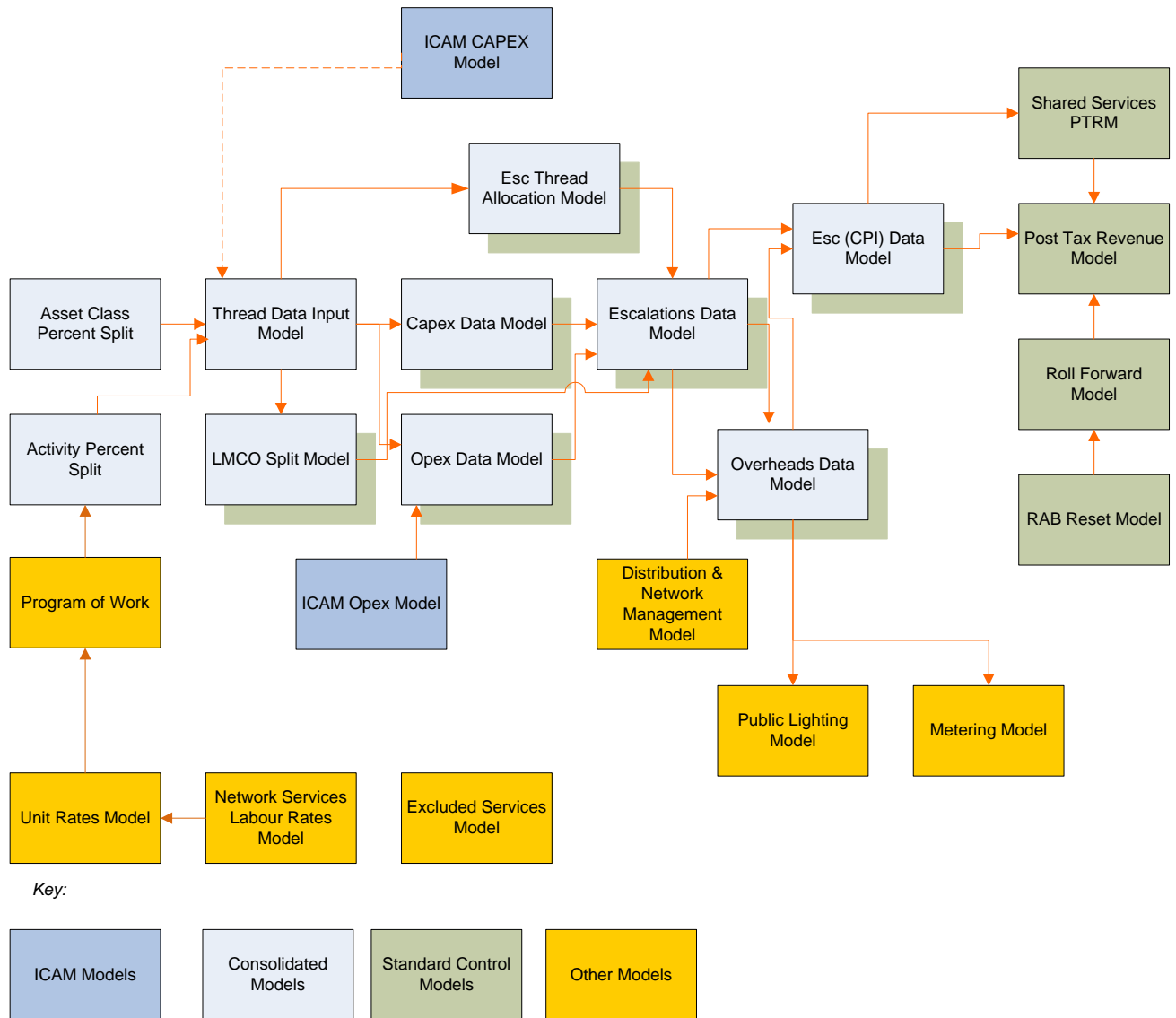
A flow diagram of the Unit Rates Model depicting inputs, workbook interaction and data flow is presented in Figure 2 (below).

Essentially, there are a number of components which comprise the Unit Rates Model, these include:

- Input Worksheets including;
- Inputs;
- Overhead apportionment;
- Labour estimate data;
- Other cost estimates;
- Basedata
- OT 1.5;
- OT 2.0;
- OT2.5;
- D type %; and
- B type incremental.

Processing/Output Worksheets including:
- A Type Capex Processing;
- A Type Opex Processing;
- B Type Processing;
- D Type Processing;
- TRIP Projects;
- Construction Labour rate;
- Overhead apportionment;
- Resource Tracking; and
- Unit Rate Model Output.

NETWORK SERVICES OVERHEADS MODEL FLOW DIAGRAM

Figure 2
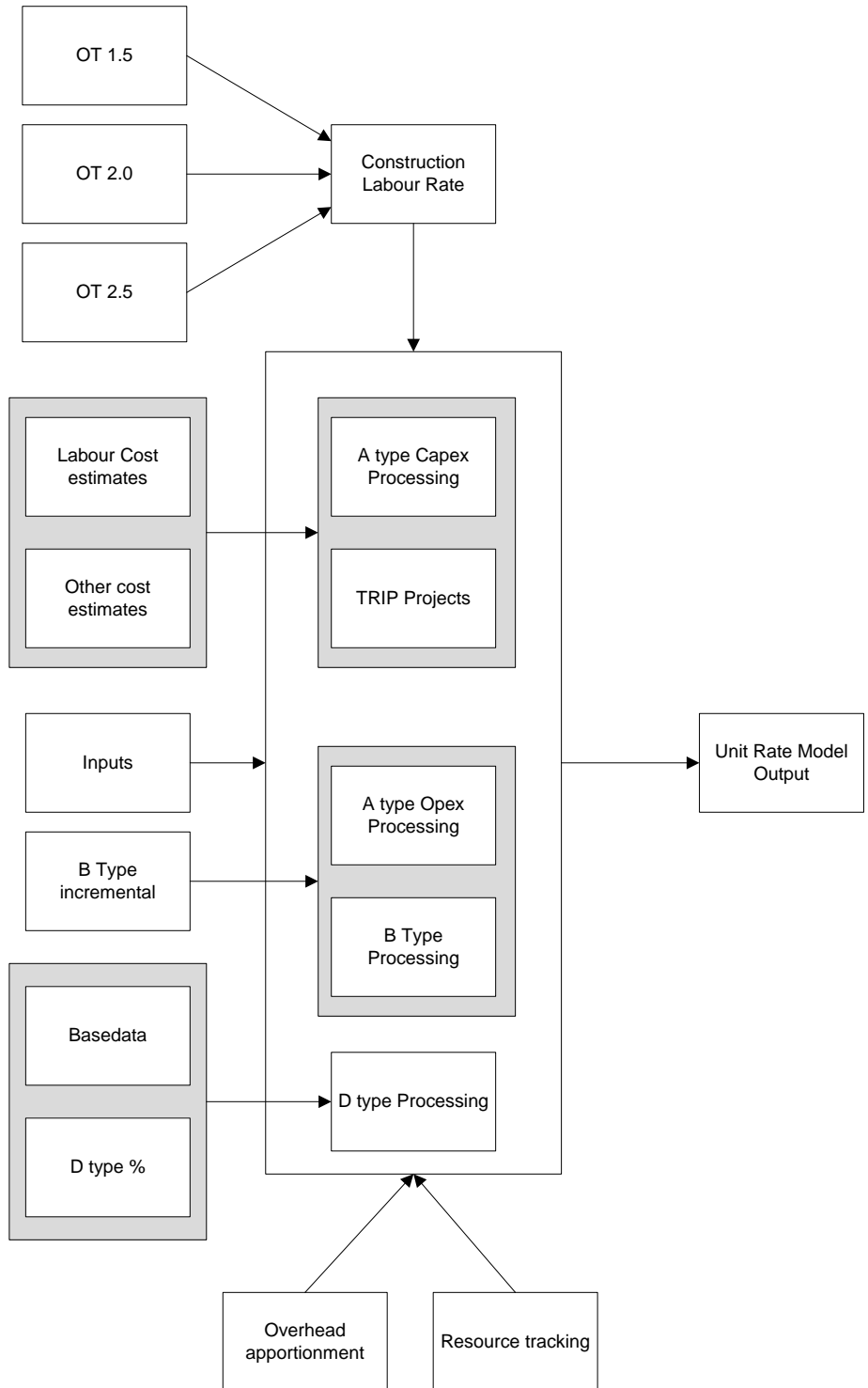
4   Model Input Worksheets

The input worksheets within the Unit Rates Model include:

- Inputs;
- Overhead apportionment;
- Labour estimate data;
- Other cost estimates;
- Basedata
- OT 1.5;
- OT 2.0;
- OT2.5;
- D type %; and
- B type incremental.

The *Inputs* worksheet contains the data sourced from Aurora's program of work (POW). As well as the project descriptions and Network Division estimated costs, it outlines the budget responsibility (Thread Leader), Work Category and Scope Type. The scope type is used to differentiate between types of work and dictates the methodology used to calculate the unit rates.

- A type Capex projects are significant projects with a single scope, require design, and are identified as a discrete item in the POW.   All Capex A types have been calculated by a desk-top design. An experienced Network Services designer has looked at the description and type of task, and estimated the component task costs (labour, materials, contractors and other) based on historical data.

- B type works are characterised by an annual scope for each work category, high work volume, low complexity and require no design involvement. The B types in the POW are divided into programs, being groupings of the same task type.

- D type work has one scope for a particular category or work program, and an allowance for tasks that will occur during the year. The costs, hours and historical percentage of skill set mix for each job is based on reviewing almost 19000 work packs and analysis of the recorded skill sets mix for each of the cost categories. A work pack is the scope issued to the field crew for construction, and the data is retained in Aurora's Works Management System (WASP). For example a task description "Replace low LV conductors" has allowed for the works to be done, without specifically naming locations. D type work is generally relatively low in dollar value and complexity, but high in volume.

The *overhead apportionment* worksheet collates the Network Services, Corporate and Shared Cost overheads per year, the total resources hours calculated in the model, and allocates an hourly overhead to the resource rates in the model (based on direct labour hours as outlined in Aurora's amended Cost Allocation Method).

The *Labour estimate data* worksheet, and the *other cost estimates* worksheets are populated by a database extract from WASP. This contains the data for all A type Capex projects which have been estimated in WASP using Aurora's project estimation methodology.The *Basedata* worksheet contains the percentage splits by skillset for each the different work categories which have been used in the POW for the upcoming regulatory control period. These skillsets include:

- Apprentice
- Cable Jointer

- CC Commercial Metering

- CC Service Crew

- Designer

- Distribution Electrical Technician

- Distribution Linesman

- Distribution Linesman LL

- Distribution Operator

- Electrical Inspectors

- Field Service Co Ordinator

- Labourer OH

- Meter Reader

- Pole Tester

- Project manager

The worksheets *OT 1.5, OT 2.0* and *OT 2.5* contain the hours time kept, by skillset to each of the work categories over a full year. The forecast overtime component in the bottom up build of the unit rates has been based on historical data and apportioned as an additional component to recover costs associated with work undertaken in overtime.

The *D type %* worksheet contains the apportionment of costs into "MOLES" groups (Materials, Other, Labour, etc) was based on historical percentages provided by Network Services Finance. This percentage varies and is divided into the following different sub-groups, which are used in Network Services reporting:

- Capex for Network

- Capex for Network – Customer

- Capex for Network – Meters

- Opex for Network

By applying the respective MOLES percentage to the Budget allocated by Network, we arrived at the Material, Contractor and Other cost. Overhead cost is applied to the Unit rate at the end based on the total direct labour hours for each POW line item.

The *B type incremental* worksheet contains the unit rate data for B type tasks. These tasks are by definition a high volume, repeatable task that has traditionally had a unit rate applied for the purposes of budgeting and forecasting. The data is grouped by skillset to each of the work categories over a full year.

5   Processing/Output Worksheets

The *A type Capex Processing, A type Opex Processing, B Type Processing, D Type Processing*, and *TRIP Projects* worksheets are where the majority of the calculations occur. It is on these worksheets that the values for Labour, Material, Contractors and Other are calculated. The overheads are also apportioned on these sheets.

The *Overhead Apportionment* worksheet contains the Network Services Overheads Cost, the Corporate and Shared Costs, and the sum of the Construction hours from the worksheets above. From this a simple allocation of these costs on a per hour basis is applied to the unit rates.

The *Construction Labour Rate* worksheet is used to calculate the weighted average skill set hourly rates. Historical overtime hours by work category and skillset have been applied to the model by modifying the labour rate on categories which traditionally have overtime as a portion of the time costed. For example EMRES (Emergency Response) accounts for over 44% of all overtime. The overtime data comes from the worksheets *OT 1.5, OT 2*.0 and *OT 2.5 noted above.*

The *Resource Tracking* worksheet sums the skillset hours for each of the years of the Pricing Determination.

The Unit Rate Model Output worksheet sums each of the line items in the POW, showing both the total cost and the unit rate for each. These rates are inputted into the program of work database using the unique line identifier to ensure correct the correct rates are applied to the correct projects. The Program of work is then transferred to the starting point of the regulatory modelling suite.

6 Glossary

Term	Definition
AER	Australian Energy Regulator
ICAM	Indirect Cost Allocation Model
NEL	National Electricity Law
NER	National Electricity Rules
PTRM	Post Tax Revenue Model
RIN	Regulatory Intent Notice
POW	Program of Work
PPE	Personal Protective Equipment
RC	Responsibility Centre
WASP	Aurora's Work Management System – Works, Assets, Solutions and People