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Building a better working world

Independent Auditor's Report to the Directors of United Energy Distribution Pty Ltd

Opinion

We have audited the Financial Information within tables 3.1, 3.2, 3.2.3 and 3.3 as presented in the data template entitled "United Energy Economic Benchmarking RIN 2016" attached ("the Financial Information") of United Energy Distribution Pty Ltd (the Company) for the regulatory year ended 31 December 2016, which has been prepared in accordance with United Energy Distribution Pty Ltd's Basis of Preparation (the "Basis of Preparation") in response to the Economic Benchmarking Regulatory Information Notice ("the Notice") issued by the Australian Energy Regulator on 28 November 2013, for the regulatory year ended 31 December 2016. In accordance with the requirements of the Notice, information presented in the Financial Information before this date range has not been subject to audit. The Basis of Preparation is an appendix to the United Energy Economic Benchmarking RIN 2016 data template.

In addition we have audited the compliance of the Basis of Preparation as it relates to the Financial Information, with the requirements of the Notice and the Principles and Requirements in Appendix E of the Notice, for the regulatory year ended 31 December 2016.

The Australian Energy Regulator requires the Financial Information and the accompanying Basis of Preparation for the performance of a function conferred on it under Division 4 of Part 3 of the *National Electricity (Victoria) Law*, namely conducting various benchmarking exercises as outlined in the Regulatory Information Notice issued to United Energy Distribution Pty Ltd on 28 November 2013.

In our opinion, the Financial Information provided for the regulatory year ended 31 December 2016 is prepared, in all material respects, in accordance with the requirements of the Notice and United Energy Distribution Pty Ltd's Basis of Preparation. In addition, the Basis of Preparation as it relates to Financial Information has complied, in all materials respects, with the requirements of the Notice and the Principles and Requirements in Appendix E of the Notice.

Basis for Opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Information* section of our report. We are independent of the the Company in accordance with the auditor independence requirements of the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to our audit of the Financial Information in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter - Basis of Accounting and Restriction on Distribution and Reliance

Our report is intended solely for the Directors and the Australian Energy Regulator and should not be distributed to parties other than the Directors and the Australian Energy Regulator. A party other than the Directors or the Australian Energy Regulator accessing this report does so at their own risk and Ernst & Young expressly disclaims all liability to a party other than the Directors and the Australian Energy Regulator for any costs, loss, damage, injury or other consequence which may arise directly or indirectly from their use of, or reliance on the report. Our opinion is not modified in respect of this matter.

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Responsibility of the Directors for the Financial Information and Basis of Preparation

The Directors are responsible for the preparation of the Financial Information, and have determined that the definition of Financial Information, as presented within tables 3.1, 3.2, 3.2.3 and 3.3 of the data template entitled "United Energy Economic Benchmarking RIN 2016" is appropriate to the needs of financial users. This responsibility includes such internal control that the directors determine is necessary to enable the preparation of the Financial Information that is free from material misstatement, whether due to fraud or error.

The directors are also responsible for the preparation of the Basis of Preparation consistent with the requirements of the Notice and the Principles and Requirements in Appendix E of the Notice.

Auditor's Responsibility for the Audit of the Financial Information and Basis of Preparation

Our objectives are to obtain reasonable assurance about whether the Financial Information is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this Financial Information.

As part of an audit in accordance with Australian Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the Financial Information whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates, if any, and related disclosures made by the directors.

Our objectives are also to express a conclusion on compliance, in all material respects, of the Basis of Preparation with the requirements of the Notice and the Principles and Requirements in Appendix E of the Notice.

We communicate with the Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ernst & Young

Ernst & Young
Melbourne
26 April 2017

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Independent Auditor's Report to the Directors of United Energy Distribution Pty Ltd

We have reviewed the Non-Financial information within tables 3.4, 3.5, 3.6, 3.7 in the data templates entitled "United Energy Economic Benchmarking RIN 2016" ("Non-Financial Information") attached, which has been prepared by United Energy Distribution Pty Ltd in response to the Economic Benchmarking Regulatory Information Notice ("the Notice") issued by the Australian Energy Regulator on 28 November 2013, for the regulatory year ended 31 December 2016.

This information has been prepared in accordance with United Energy Distribution Pty Ltd's Basis of Preparation (the "Basis of Preparation") in response to the Notice issued by the Australian Energy Regulator on 28 November 2013, for the regulatory year ended 31 December 2016. In accordance with the requirements of the Notice, information presented in the Non-Financial Information before this date range has not been subject to review.

In addition, we have reviewed the compliance of the Basis of Preparation as it relates to Non-Financial Information with the requirements of the Notice and the Principles and Requirements in Appendix E of the Notice, for the regulatory year ended 31 December 2016.

The Australian Energy Regulator requires the Non-Financial Information and an accompanying Basis of Preparation document for the performance of a function conferred on it under Division 4 of Part 3 of the National Electricity *(Victoria) Law*, namely conducting various benchmarking exercises as outlined in the Regulatory Information Notice issued to United Energy Distribution Pty Ltd on 28 November 2013.

Directors' Responsibility for the Non-Financial Information and Basis of Preparation

The directors are responsible for the preparation of the Non-Financial Information and the Basis of Preparation, and have determined that the Basis of Preparation used is appropriate to the needs of the Australian Energy Regulator. The directors are also responsible for such internal controls as the directors determine are necessary to enable the preparation of the Non-Financial Information that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express a conclusion on the Non-Financial Information based on our review.

We have conducted our review of the Non-Financial Information in accordance with the Australian Standard on Assurance Engagements ASAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* in order to state whether, on the basis of the procedures described, anything has come to our attention that causes us to believe that the Non-Financial Information is not prepared, in all material respects, in accordance with the Basis of Preparation and the requirements of the Notice.

Our responsibility is also to express a conclusion on compliance, in all material respects, of the Basis of Preparation with the requirements of the Notice that relates to Non-Financial Information. Our review has been conducted in accordance with Australian Standard on Assurance Engagements ASAE 3100 *Compliance Engagements* to provide limited assurance. Our procedures have been undertaken to form a conclusion that nothing has come to our attention that causes us to believe that the Basis of Preparation has complied in all material respects, with the Notice.

ASAE 3000 and ASAE 3100 require us to comply with the requirements of the applicable code of professional conduct of a professional accounting body.

A review consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Australian Auditing Standards and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Independence

In conducting our procedures we have complied with the independence requirements of the Australian professional accounting bodies.

Conclusion

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the Non-Financial Information is not prepared, in all material respects, in accordance with the requirements of the Notice or United Energy Distribution Pty Ltd's Basis of Preparation. In addition, nothing has come to our attention that causes us to believe that the Basis of Preparation does not comply, in all material respects, with the Notice.

Basis of Accounting and Restriction on Distribution

The Non-Financial Information is prepared to assist United Energy Distribution Pty Ltd to meet the requirements of the Notice. As a result the Non-Financial Information may not be suitable for another purpose. Our report is intended solely for United Energy Distribution Pty Ltd and the Australian Energy Regulator and should not be distributed to parties other than United Energy Distribution Pty Ltd or the Australian Energy Regulator.

A party other than the Directors or the Australian Energy Regulator accessing this report does so at their own risk and Ernst & Young expressly disclaims all liability to a party other than the Directors and the Australian Energy Regulator for any costs, loss, damage, injury or other consequence which may arise directly or indirectly from their use of, or reliance on the report. Our conclusion is not modified in respect of this matter.

Ernst & Young

Ernst & Young
Melbourne
26 April 2017

State of Victoria

Statutory Declaration

I, **Antonio Narvaez,**

of **Level 3, 6 Nexus Court, Mulgrave, Victoria,**

Chief Executive Officer, do solemnly and sincerely declare that:

1. I am an officer, for the purposes of the *National Electricity (Victoria) Law* (NEL), of United Energy Distribution Pty Limited (ACN 064 651 029), a regulated network service provider for the purposes of section 28D of the NEL. I am authorised by United Energy Distribution Pty Limited to make this statutory declaration as part of the response of United Energy Distribution Pty Limited (United Energy) to the Regulatory Information Notice dated 28 November 2013 (Notice) served on United Energy by the Australian Energy Regulator (AER).

2. Having had regard to the Notice, I say that the actual information provided in United Energy's response to the Notice is, to the best of my information, knowledge and belief:

   (a) in accordance with the requirements of the Notice; and

   (b) true and accurate.

3. Where it is not possible to provide actual information to comply with the Notice, United Energy has, to the best of my information, knowledge and belief, for the purposes of complying with the Notice:

   (a) provided United Energy's best estimate of the information in accordance with the requirements of the Notice; and

   (b) provided the basis for each estimate, including assumptions made and reasons why the estimate is the best estimate, given the information sought in the Notice.

I acknowledge that this declaration is true and correct, and I make it with the understanding and belief that a person who makes a false declaration is liable to the penalties of perjury.

Declared at Mulgrave

this 28th day of April 2017

.....
Signature of person making this declaration
(to be signed in front of an authorized witness)

Before me,

.....
Signature of Authorised Witness

Niki Hantzis
an Australian legal practitioner
within the meaning of the
Legal Profession Uniform Law (Victoria)

The authorised witness must print or stamp his or her name, address and title under section 107A of the *Evidence (Miscellaneous Provisions) Act 1958* (as of 1 January 2010), (previously *Evidence Act 1958*), (eg. Justice of the Peace, Pharmacist, Police Officer, Court Registrar, Bank Manager, Medical Practitioner, Dentist)

Contact: Mathew Abrahams
Regulation
United Energy
Phone: 03 8846 9758

April 2017

Economic Benchmarking RIN Basis of Preparation 2016

Overview

United Energy is required to prepare a Basis of Preparation document (this document) which must, for all information:

a) demonstrate how the information provided is consistent with the requirements of this Notice;

b) explain the source from which United Energy obtained the information provided;

c) explain the methodology United Energy applied to provide the required information, including any assumptions United Energy made;

d) explain, in circumstances where United Energy cannot provide input for a Variable using Actual Information and therefore must provide input using Estimated Information:

   1) why an estimate was required, including why it was not possible for United Energy to use Actual Financial Information or Actual Non-financial Information (as the case may be, depending on the Variable);

   2) the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is United Energy's best estimate, given the information sought in this Notice.

In accordance with the requirements above, this appendix provides details to support the information provided by United Energy in the Microsoft Excel workbooks titled:

- *'United Energy economic benchmarking data templates – Consolidated Information'*
- *'United Energy economic benchmarking data templates – Actual Information'*
- *'United Energy economic benchmarking data templates – Estimated Information'*

To satisfy the requirements of the Notice, the following information has been provided for each RIN table:

- assessment of data quality;
- data source;
- classification as actual or estimated information, including appropriate justification if estimated;
- methodology and assumptions adopted to prepare the information; and
- any additional comments to assist users of the information to understand the basis of preparation.

The table below outlines the classifications used to assess data quality.

Table 1: Data quality and classifications

Colour coding	Availability of data from NSP's Primary System	Assumptions / methodology
Green	Available and verifiable	Simple – no additional work or minor work around (e.g. data sourced from a secondary system)
Black	N/A	Not applicable to relevant NSP

The table below provides the AER definitions for actual and estimated information.

Table 2: Definitions – Actual

Term	Table Heading
Actual information	Information presented in response to the Notice whose presentation is Materially dependent on information recorded in United Energy's historical accounting records or other records used in the normal course of business, and whose presentation for the purposes of the Notice is not contingent on judgments and assumptions for which there are valid alternatives, which could lead to a Materially different presentation in the response to the Notice. 'Accounting records' include trial balances, the general ledger, subsidiary accounting ledgers, journal entries and documentation to support journal entries. Actual financial information may include accounting estimates, such as accruals and provisions, and any adjustments made to the accounting records to populate United Energy's regulatory accounts and responses to the Notice. 'Records used in the normal course of business', for the purposes of non-financial information, includes asset registers, geographical information systems, outage analysis systems, and so on.

Detailed basis of preparation

The following tables outline the basis of preparation of the information provided in all Microsoft Excel Workbooks outlined in the Overview section.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
3.1	**Revenue**	**3.1.1**	**Revenue Grouping By Chargeable Quantity** DREV0101 - Revenue from Fixed Customer Charges		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum fixed revenue components for all tariffs (i.e. Cmp = 'FXD'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DREV0102 - Revenue from Energy Delivery charges where time of use is not a determinant		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum revenue components of single rate tariffs (i.e. S1, M1, L1, S1WET). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DREV0103 - Revenue from On–Peak Energy Delivery charges		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum peak tariff revenue components (excluding S1, M1, L1, S1WET). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used. The definition of peak times can vary across different tariffs.
			DREV0104 - Revenue from Shoulder period Energy Delivery Charges		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum shoulder revenue components (i.e. Cmp = 'SHD'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used. The definition of shoulder times can vary across different tariffs.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DREV0105 - Revenue from Off–Peak Energy Delivery charges (excluding hot water and other DED)		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum off-peak revenue components (excluding controlled load and unmetered energy). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used. The definition of off-peak times can vary across different tariffs.
			DREV0106 - Revenue from controlled load customer charges		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum controlled load revenue (i.e. Tariff = 'DED'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		
			DREV0107 - Revenue from unmetered supplies		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum unmetered revenue (i.e. Tariff = 'UNM'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DREV0109 - Revenue from Measured Maximum Demand charges		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum revenue of maximum demand related charges (i.e. Cmp = 'DMNRLN', 'DMNSMR') For accrued components scaling and adjustments may be made based on; - Known billing issues		A high percentage of actual billed data has been used.
			DREV0110 - Revenue from metering charges		F	SAP Financial accounts	Extracted from summary sheet 'Alternative Control Services and Other Services' of the final RIN reported revenues for 2016. Includes the sum of the following; - Meter investigation - Special meter reading - Remote meter re-configuration		Alternative control services

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DREV0111 - Revenue from connection charges		F	SAP Financial accounts	Extracted from summary sheet 'Alternative Control Services and Other Services' of the final RIN reported revenues for 2016. Includes the sum of the following; - De-energisation of existing connections - Energisation of existing connections - Routine connections - customers below 100 amps - Temporary supply services - Remote de-energisation - Remote re-energisation - Supply abolishment - Elective underground service - Routine connections, for customers > 100amps		Alternative control services
			DREV0112 - Revenue from public lighting charges		F	SAP Financial accounts	Extracted from summary sheet 'Alternative Control Services and Other Services' of the final RIN reported revenues for 2016.		Alternative control services
			DREV0113 - Revenue from other Sources		F	SAP Financial accounts	Extracted from Sheet '2. Demand and Revenue' of 2016 FIN RIN. Refer to section 'Table 1 Standard Control Services Revenue - Current Year' Sum the following rows: (NUOS Revenue + Rebates + PFIT Solar Recovery + Grid fees + Unmetered revenue adjustment.		
					Financial	SAP Financial accounts	Extracted from summary sheet 'Alternative Control Services and Other Services' of the final RIN reported revenues for 2016. Includes the sum of the following: - Wasted attendance - Service truck visits - Reserve feeder - Emergency recoverable works - Elective underground service - Covering of low voltage mains for safety reasons - After hours truck by appointment Also includes negotiated services taken from Tab 1a. Income from the 2016 financial RIN.		Alternative control services

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DREV01 - Total revenue by chargeable quantity		F	Refer to DREV0101 to DREV0109	Sum of DREV0101 to DREV0109.		A high percentage of actual billed data has been used. This only contains revenue from standard control services.
		3.1.2	Revenue Grouping by Customer Type or Class DREV0201 - Revenue from residential Customers		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up revenue components for residential tariffs. (i.e. DED, S1, S1WET, S2, TOD, TOD9, TODFLEX). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DREV0202 - Revenue from non-residential customers not on demand tariffs		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up revenue components for the following non-residential tariffs. (L1, L2, M1, M25, M27) For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		
			DREV0203 - Revenue from non-residential low voltage demand tariff customers		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up revenue components for the following LV demand tariffs. (KW-TOU, KW-TOU-H, L2-KVA, L2-KVA-H, TOU). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		
			DREV0204 - Revenue from non-residential high voltage demand tariff customers		F	Based on reported monthly energy. SAP Billing System and	Sum up revenue components for the following HV demand tariffs. (HV-KVA, HV-KVA-H, ST22-KVA). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
						accrual data extracts	- Embedded generation - Known billing issues		
			DREV0205 - Revenue from unmetered supplies		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up revenue components for UNM tariff. For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		
			DREV02 - Total revenue by customer class		F	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum of DREV0201 to DREV0206.		
			DREV0206 - Revenue from Other Customers (Standard Control Services)		F	SAP Financial accounts	As per DREV0113 in Standard Control Services column. (Tab 3.1 Revenue of EB RIN).		
			DREV0206 - Revenue from Other Customers (Alternative Control Services)		F	SAP Financial accounts	As per DREV01 in Alternative Control Services column. (Tab 3.1 Revenue of EB RIN).		
		3.1.3	**Revenue (Penalties) allowed (deducted) through incentive schemes**		F	Based on Annual RIN reported revenue for	Multiply the annual RIN report revenue by the applicable S factor for the year.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DREV0302 - STPIS			2016 and S Factor performance as supplied by Network Management and approved by the AER.			
			DREV0303 - F-Factor		F	F Factor report provided AER	This is taken from the summary sheet of the final RIN reported revenues for 2016 which would have been derived from; - Sum transactions for SAP pass through charges account		
			DREV0304 - S-Factor True up		F	UED PTRM opex allowance	As per AER determination		
			DREV03 - Total revenue of incentive schemes		F	Refer to DREV0301 to DREV0305.	Sum of DREV0301 to DREV0305.		
3.2	**Opex**	3.2.1.1	Current Opex Categories and Cost Allocations						*No Material change in United Energy's Cost Allocation Methodology*
		3.2.1.2A	Historical OPEX Categories and Cost Allocations		F	Annual Financial RIN 2016 (SAP data)	Refer Schedule 6a of United Energy Annual RIN 2016: • Routine • Condition based • Emergency • SCADA/Network Control • Other - SCS (a) • Metering RBPC • Public Lighting • Alternative Control - Other • Negotiated Services Refer Schedule 8a of United Energy Annual RIN 2016:		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							• Network Operating Costs • Billing & Revenue Collection • Advertising/Marketing • Customer Service • Regulatory • Regulatory Reset • IT • Licence fee • GSL payments • Non-network alternatives costs • Debt raising costs • Other - Standard Control Services (a,b)		
		3.2.1.2 B	Historical OPEX Categories and Cost Allocations						
		3.2.1.2 C	Historical OPEX Categories and Cost Allocations						
		3.2.2.1	OPEX Consistency - Current Cost Allocation Approach			OPEX for network services – Refer to Table 3.2.1.2A OPEX for metering – Tab 14 Annual Financial RIN 2016	**OPEX for network services** All maintenance SCS OPEX is related to network services (DOPEX 118 to 126) and has been classified accordingly. ACS classifications have been allocated to appropriate categories based on descriptions **OPEX for metering, OPEX for connection services, OPEX for public lighting** ACS classifications have been allocated to appropriate categories based on cost descriptions		
		3.2.2.2	OPEX Consistency - Historical Cost Allocation Approaches			OPEX for network services – Refer to Table 3.2.1.2A	**OPEX for network services** All maintenance SCS OPEX is related to network services (DOPEX 118 to 126) and has been classified accordingly. ACS classifications have been allocated to appropriate categories based on descriptions		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
						OPEX for metering – Tab 14 Annual Financial RIN 2016	**OPEX for metering, OPEX for connection services, OPEX for public lighting** ACS classifications have been allocated to appropriate categories based on cost descriptions		
		3.2.4	Opex for High Voltage Customers		F	SAP	1) Obtain Maximum demand from SAP billing info for all HV customers 2) Identify peak demand for each hv customer 3) Obtain total network opex costs Table 2.8 CA RIN related to distribution substations only 4) Obtain Installed Dist TX capacity from table 2.2.2 in CA RIN 5) Divide OPEX cost by sum of peak demand HV customers plus Installed Dist TX 6) Obtain cost per MVA 7) Multiply each HV customer installed capacity by cost per mva and sum totals	Maximum demand is reflective of installed capacity per hv customer. OPEX cost per MVA can be averaged across the network and reflective of costs of HV customer installations.	
3.2.3	**Provisions**	3.2.3	Provisions		F	SAP Payroll	SAP data. Bonus paid and leave taken based on payroll reports. Bonus provision trued up to actual bonuses paid. Environmental obligation based on third party expert reports.		
			Additional Provisions - OPEX Additional Provisions – CAPEX Additional Provisions - OPEX		F	SAP Payroll	Bonus amounts based on historical KPI achievement. Annual leave & LSL accruals based on payroll data provided. Additional Provisions – OPEX – Management estimate based on maximum BAU claims expected at any point in time. Endorsed by ARC.		

<table>
<tr><th>Tab</th><th>Table Name</th><th>Table</th><th>Table Title</th><th>Data quality</th><th>Fin / Non-fin</th><th>Data source</th><th>Methodology</th><th>Assumptions</th><th>Additional Comments</th></tr>
<tr><td>3.3</td><td>Assets (RAB)</td><td>3.3.1</td><td>Regulatory Asset Base Values</td><td></td><td>F</td><td>SAP</td><td>The data in this table is the sum of the RAB variables.
Network Services
UE has deducted the value of services from the standard control asset base as its basis of populating this template. This only affects asset classes:
• Overhead network <33kv
• Underground network <33kv
The value of the services asset value has been determined on the basis as that described under standard control – refer Table 3.3.2.
Standard Control Services
This template has been completed based on Annual RIN data.</td><td></td><td></td></tr>
<tr><td></td><td></td><td>3.3.2</td><td>Asset Value Roll Forward</td><td></td><td>F</td><td>SAP

United Energy RAB work book based on AER guidance

Ernst & Young RAB valuation report</td><td>An insurance valuation report prepared by Ernst & Young (2011) itemises UE's asset to a detailed asset class level. The valuation percentages for this report are outlined below and have been used to prepare this data.
<table>
<tr><th>UE Asset Class</th><th>%</th><th>EB RIN Template 4 categories</th></tr>
<tr><td>Network Overhead Conductor Low Voltage</td><td>11.75%</td><td>For overhead network assets less than 33kV:</td></tr>
<tr><td>Network Overhead Conductor High Voltage</td><td>7.71%</td><td>For overhead network assets 33kV and above:</td></tr>
<tr><td>Network Overhead Conductor Sub Transmission</td><td>2.65%</td><td>For overhead network assets 33kV and above:</td></tr>
</table>
<table>
<tr><th>UE Asset Class</th><th>%</th><th>EB RIN Template 4 categories</th></tr>
<tr><td rowspan="2">Network Overhead Service Cable</td><td>2.80%</td><td>For overhead network assets less than 33kV:</td></tr>
<tr><td>0.08%</td><td>For overhead network assets less than 33kV:</td></tr>
<tr><td>Network Pole Staking</td><td>0.27%</td><td>For overhead network assets less than 33kV:</td></tr>
</table></td><td></td><td></td></tr>
</table>

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments

	0.01%	For overhead network assets less than 33kV:
Network Pole Low Voltage	14.46%	For overhead network assets less than 33kV:
Network Pole High Voltage	16.61%	For overhead network assets 33kV and above:
Network Pole Sub-transmission	2.66%	For overhead network assets 33kV and above:
Network Zone Sub Equipment	3.01%	Zone substations and transformers
	4.52%	Zone substations and transformers
Network Substation and Transformer	4.57%	Zone substations and transformers
	6.86%	Zone substations and transformers

UE Asset Class	**%**	**EB RIN Template 4 categories**
Network Underground Cable Low Voltage	9.78%	For underground network assets less than 33kV:
	1.05%	For underground network assets less than 33kV:
	4.70%	For underground network assets less than 33kV:
	0.01%	For underground network assets less than 33kV:
Network Underground Cable High Voltage	6.50%	For underground network assets 33kV and above:
TOTAL	**100%**	

UE has allocated capital expenditure on the following basis:

<table>
<tr><th>Tab</th><th>Table Name</th><th>Table</th><th>Table Title</th><th>Data quality</th><th>Fin / Non-fin</th><th>Data source</th><th>Methodology</th><th>Assumptions</th><th>Additional Comments</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>
<table>
<tr><th>UE Capital Category</th><th>EB RIN</th></tr>
<tr><td rowspan="3">Subtransmission</td><td>Overhead network assets 33kV and above (wires and towers / poles etc)</td></tr>
<tr><td>Underground network assets 33kV and above(cables, ducts etc)</td></tr>
<tr><td>Zone substations and transformers</td></tr>
<tr><td rowspan="3">Distribution</td><td>Underground network assets less than 33kV (cables)</td></tr>
<tr><td>Overhead network assets less than 33kV (wires and poles)</td></tr>
<tr><td>Distribution substations including transformers</td></tr>
<tr><th>UE Capital Category</th><th>EB RIN</th></tr>
<tr><td>Metering</td><td>Meters</td></tr>
<tr><td>SCADA/Network control</td><td>“Other” assets with long lives</td></tr>
<tr><td>Non-network general assets - IT</td><td rowspan="2">“Other” assets with short lives
“Other” assets with long lives</td></tr>
<tr><td>Non-network general assets - Other</td></tr>
<tr><td>Public lighting</td><td>ACS RAB</td></tr>
</table>
Alternative Control Services
The values are based on reported numbers and the final decision as per the worksheets.
</td><td></td><td></td></tr>
<tr><td></td><td></td><td>3.3.3</td><td>Total Disaggregated RAB Asset Values</td><td></td><td>F</td><td>SAP

United Energy RAB work book based on AER guidance</td><td>This the Average RAB values for as per the AER document “Economic benchmarking RIN for distribution network service providers – Instructions and Definitions”
(Value of Capital Contributions or Contributed Assets are actual values)</td><td></td><td></td></tr>
<tr><td></td><td></td><td>3.3.4.1</td><td>Assets Lives - estimated service life of new assets</td><td></td><td>F</td><td>SAP

United Energy RAB work book based on AER guidance</td><td>The assets lives are based on the same methodology in used in the AER final decision for the 2011 to 2016 pricing proposal.</td><td></td><td></td></tr>
</table>

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
		3.3.4.2	Asset Lives - Estimated residual service life		F	SAP United Energy RAB work book based on AER guidance	The assets lives are based on the same methodology in used in the AER final decision for the 2011 to 2016 pricing proposal.		
3.4	**Operational Data**	**3.4.1**	**Energy Delivery** DOPED01 - Total energy delivered		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum of DOPED0201 to DOPED006.		A high percentage of actual billed data has been used.
		3.4.1.1	**Energy Grouping - Delivery by Chargeable Quality** DOPED0201 - Energy Delivery where time of use is not a determinant		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum energy components of single rate tariffs (i.e. S1, M1, L1). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DOPED0202 - Energy Delivery at On-peak times		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum peak energy tariff components (excluding S1, M1, L1). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used. The definition of peak times can vary across different tariffs.
			DOPED0203 - Energy Delivery at Shoulder times		NF	Based on reported monthly energy. SAP Billing System and	Sum shoulder energy tariff components (i.e. Cmp = 'SHD'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows		The definition of shoulder times can vary across different tariffs.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
						accrual data extracts	- Embedded generation - Known billing issues		
			DOPED0204 - Energy Delivery at Off-peak times			Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum off-peak energy tariff components (excluding controlled load and unmetered energy). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used. The definition of off-peak times can vary across different tariffs.
			DOPED0205 - Controlled load energy deliveries		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum controlled load energy (i.e. Tariff = 'DED'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DOPED0206 - Energy Delivery to unmetered supplies		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum unmetered energy (i.e. Tariff = 'UNM'). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
		3.4.1.2	**Energy - Received from TNSP and Other DNSPs by Time of Receipt** DOPED0301 - Energy into DNSP network at On-peak times		NF		Due to the lack of a single and clear definition of peak, shoulder and off-peak times, this value is set to zero. All energy into the DNSP network is shown in DOPED0304.		No clear definition of On-Peak period for energy into network. The data is only readily available as an aggregate across a period. All energy into the DNSP network is shown in DOPED0304.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPED0302 - Energy into DNSP network at Shoulder times DOPED0303 - Energy into DNSP network at Off-peak times						
			DOPED0304 - Energy received from TNSP and other DNSPs not included in the above categories		NF	DFL reports	Sum of energy delivered into the network from the Interval Metering System and also energy obtained from other distributors through inter DNSP energy flows.		Mostly actual data but some estimates for inter DNSP energy flows. Note that this value is based on the financial year basis and not the calendar year to ensure the full peak demand period (Summer) is captured.
		3.4.1.3	**Energy - Received into DNSP System From Embedded Generation by Time of Receipt** DOPED0401 - Energy into DNSP network at On-peak times from non-residential embedded generation		NF				No clear definition of On-Peak period for energy into network from embedded generation. The data is only available as an aggregate across a period.
			DOPED0402 - Energy into DNSP network at Shoulder times from non-residential		NF				No clear definition of shoulder period for energy into network from embedded generation. The data is only available as an aggregate across a period.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			embedded generation						
			DOPED0403 - Energy into DNSP network at Off-peak times from non-residential embedded generation		NF				No clear definition of Off-peak period for energy into network from embedded generation. The data is only available as an aggregate across a period.
			DOPED0404 - Energy received from embedded generation not included in above categories from non-residential embedded generation		NF	SAP Billing System via report.	Sum up export energy from all non-residential tariffs. Dec 15 export energy has been scaled from Nov 15 export energy based on the ratio of export energy from the prior year (Dec 14 export GWh/Nov 14 export GWh)		A high percentage of actual billed data has been used.
			DOPED0405 - Energy into DNSP network at On-peak times from residential embedded generation		NF				No clear definition of On-Peak period for energy into network from embedded generation. The data is only available as an aggregate across a period.
			DOPED0406 - Energy into DNSP network at Shoulder times from residential embedded generation		NF				No clear definition of shoulder period for energy into network from embedded generation. The data is only available as an aggregate across a period.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPED0407 - Energy into DNSP network at Off-peak times from residential embedded generation		NF	SAP Billing System via report.	Sum up export energy from all non-residential tariffs. Dec 15 export energy has been scaled from Nov 15 export energy based on the ratio of export energy from the prior year (Dec 14 export GWh/Nov 14 export GWh)		No clear definition of Off-peak period for energy into network from embedded generation. The data is only available as an aggregate across a period.
			DOPED0408 - Energy received from embedded generation not included in above categories from residential embedded generation		NF	SAP Billing System via report.	Sum up export energy from all residential tariffs.	Dec 15 export energy has been scaled from Nov 15 export energy based on the ratio of export energy from the prior year (Dec 14 export GWh/Nov 14 export GWh). The last month of the reporting period has been estimated for the following reasons. - NMIs can be billed for up to a month in arrears from the consumption period. - Delayed billing for other reasons.	
		3.4.1.4	**Energy Grouping - Customer Type or Class** DOPED0501 - Residential customers energy deliveries			Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum energy components of single rate tariffs (i.e. S1, M1, L1). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DOPED0502 - Non residential customers not on demand tariffs energy deliveries		NF	Based on reported monthly energy. SAP Billing System and	Sum up all energy components for the following non-residential tariffs. (L1, L2, M1, M25, M27) For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows		A high percentage of actual billed data has been used.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
						accrual data extracts	- Embedded generation - Known billing issues		
			DOPED0503 - Non-residential low voltage demand tariff customers energy deliveries		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up all energy components for the following LV demand tariffs. (KW-TOU, KW-TOU-H, L2-KVA, L2-KVA-H, TOU). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DOPED0504 - Non-residential high voltage demand tariff customers energy deliveries		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up all energy components for the following HV demand tariffs. (HV-KVA, HV-KVA-H, ST22-KVA). For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
			DOPED0505 - Other Customer Class Energy Deliveries		NF	Based on reported monthly energy. SAP Billing System and accrual data extracts	Sum up all energy components for UNM tariff. For accrued components scaling and adjustments may be made based on; - Boundary load metered energy and loss factors - Inter DNSP energy flows - Embedded generation - Known billing issues		A high percentage of actual billed data has been used.
		3.4.2.1	**Customer Numbers** DOPCN0101 - Residential customer numbers		NF	SAP Billing System customer number extracts and reports.	Sum all customers on tariffs classified as small.		Total customer numbers aligned with table 4 of STPIS reporting.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPCN0102 – Non-residential customers not on demand tariff customer numbers		NF	SAP Billing System customer number extracts and reports.	Sum all customers on Non-TOU tariffs classified as medium.		Total customer numbers aligned with table 4 of STPIS reporting.
			DOPCN0103 - Low voltage demand tariff customer numbers		NF	SAP Billing System customer number extracts and reports.	Sum all customers on LV-TOU tariffs.		Total customer numbers aligned with table 4 of STPIS reporting.
			DOPCN0104 - High voltage demand tariff customer numbers		NF	SAP Billing System customer number extracts and reports.	Sum all customers on HV-TOU and SUBT tariffs.		Total customer numbers aligned with table 4 of STPIS reporting.
			DOPCN0105 - Unmetered Customer Numbers		NF	SAP Billing System customer number extracts and reports.	Sum all customers on an UNMET tariff.		Total customer numbers aligned with table 4 of STPIS reporting.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPCN0106 - Other Customer Numbers		NF				
			DOPCN01 - Total customer numbers		NF	SAP Billing System customer number extracts and reports.	Sum of DOPCN0101 to DOPCN0106.		Total customer numbers aligned with table 4 of STPIS reporting.
		3.4.2.2	Distribution Customer Numbers by Customer Type or Class DOPCN0201 - Customers on CBD network		NF				No customers on CBD network.
			DOPCN0202 - Customers on Urban network		NF	Table 3.4.2.1 Distribution customer numbers by customer type or class.	Derived from proportion of urban customers supplied by Asset Management. 2016 customer numbers are based on the historic urban/short rural ratio. The geographical breakdown of UE will not change due to minimal movements in the feeder classifications in CY2016.		
			DOPCN0203 - Customers on Short rural network		NF	Table 3.4.2.1 Distribution customer numbers by customer type or class.	Derived from proportion of urban customers supplied by Asset Management. 2016 customer numbers are based on the historic urban/short rural ratio. The geographical breakdown of UE will not change due to minimal movements in the feeder classifications in CY2016.		
			DOPCN0204 - Customers on Long rural network		NF				No customers on Long rural network.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPCN02 - Total customer numbers		NF	Table 3.4.2.1 Distribution customer numbers by customer type or class.	Sum of DOPCN0201 to DOPCN0204.		
		3.4.2.3	Distribution Customer Numbers by Aurora Feeder Categories (Aurora Only)						Not applicable for UE
		3.4.2.4	Unmetered Supply						Not applicable for UE
		3.4.3	**System demand** **3.4.3.1 Annual MD at Zone sub Level - MW** DOPSD0101 Non–coincident Summated Raw System Annual Peak Demand		NF	Load Forecast Spreadsheet.	Peak demands are recorded at a zone substation level in our SCADA system. The load forecast spreadsheet is updated to include this data. Summation of individual zone substation peak demand provides the requested data.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0102 Non–coincident Summated Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet.	The 10% PoE forecast is generated from actual peak demand data and corrected for temperature. The correction of PoE for temperature is based on historical data, the scaling factor of Load with PoE is based on NIEIR estimates. Summation of individual zone substation peak demand provides the requested data.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPSD0103 Non–coincident Summated Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet.	The 50% POE maximum demand levels are calculated from the 10% POE by the application of correction factors for demand sensitivity with temperature and a temperature correction factor for substations in the Mornington peninsula.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0104 Coincident Raw System Annual Peak Demand		NF	Load Forecast Spreadsheet.	Half hourly data at individual zone substations is extracted and summated for each year (summer period).	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0105 Coincident Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet.	The ratio between weather corrected 10% POE non-coincident maximum demand in MW and the raw non-coincident maximum demand in MW at each zone substation is used to estimate the weather corrected 10% POE coincident maximum demand in MW.	The demand assumes the embedded generation at Dandenong and Springvale South Zone substation is included.	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0106 Coincident Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet.	The ratio between weather corrected 50% POE non-coincident maximum demand in MW and the raw non-coincident maximum demand in MW at each zone substation is used to estimate the weather corrected 50% POE coincident maximum demand in MW.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			3.4.3.2 Annual MD at Transmission Connection Point - MW DOPSD0107 Non–coincident		NF	Connection Asset Forecast	Non-coincident peak demands (MW & MVA) at individual terminal stations are calculated based on interval metering data. The UE numbers are reconciled with the AEMO values for accuracy during this process. Individual terminal station peak demands are summed to calculate the non-coincident raw system annual demand.	The demand assumes the embedded generation at Dandenong and Springvale South Zone substation is included.	AEMO allocates the power flows through a sub-transmission line to the DNSP to whom the physical assets belongs to. Therefore, in shared sub-transmission loops and

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			Summated Raw System Annual Peak Demand						shared zone substations, the actual UE demand deviates from the AEMO's assessment depending on the amount of cross border flows between adjacent DNSPs.
			DOPSD0108 Non–coincident Summated Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet.	The 10% PoE demand is generated from actual peak demand data and corrected for temperature. The correction of PoE for temperature is based on historical data, the scaling factor of Load with PoE is based on NIEIR estimates.	The demand assumes the embedded generation at Dandenong and Springvale South Zone substation is included.	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0109 Non–coincident Summated Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet.	The 50% PoE demand is generated from actual peak demand data and corrected for temperature. The correction of PoE for temperature is based on historical data, the scaling factor of Load with PoE is based on NIEIR estimates.	The demand assumes the embedded generation at Dandenong and Springvale South Zone substation is included.	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0110 Coincident Raw System Annual Peak Demand		NF	UE Actual & Forecast S & W Demand Spreadsheet	As part of the demand forecasting process, UE annually provides half hourly data at individual terminal stations to NIEIR. This data includes only the UE demand and all the metered cross border flows are adjusted to ascertain the actual UE demand. Based on this data, NIEIR calculates the coincident UE maximum demand. These values are included in the UE's annual demand forecast prepared by NIEIR.		These demands represent the total UE demand (adjusted for metered cross border flows) and exclude the embedded generation output at Dandenong and Springvale South zone substations.
			DOPSD0111 Coincident Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet.	The 10% PoE forecast is generated from actual peak demand data and corrected for temperature. The correction of PoE for temperature is based on historical data, the scaling factor of Load with PoE is based on NIEIR estimates.		Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPSD0112 Coincident Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet.	The 50% PoE forecast is generated from actual peak demand data and corrected for temperature. The correction of PoE for temperature is based on historical data, the scaling factor of Load with PoE is based on NIEIR estimates.		Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			3.4.3.3 Annual MD at zone substation level - MVA DOPSD0201 Non–coincident Summated Raw System Annual Maximum Demand		NF	Load Forecast Spreadsheet.	Actual peak demands (MW and MVAr) at individual zone substations are extracted from SCADA data after each summer as part of demand forecasting process. Based on MW and MVAr values, maximum MVA demand is calculated at each zone substation and this information is readily available from summer 1989/90 in the Load Forecast spread sheet. Summation of individual zone substation peak demands (MVA) provides the requested data.		Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0202 Non–coincident Summated Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet.	The raw non-coincident power factor is used to calculate the weather corrected 10% POE non-coincident maximum demands in MW to MVA. The calculation assumes the power factor will not be materially different at raw maximum demand and 10% POE maximum demand conditions.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.
			DOPSD0203 Non–coincident Summated Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet.	The raw non-coincident power factor is used to convert the weather corrected 50% POE non-coincident maximum demands in MW to MVA assuming the power factor will not be materially different at raw and 50% POE maximum demand conditions. Weather corrected 50% POE non coincident maximum demand in MVA = (Weather corrected 50% POE non coincident maximum demand in MW)/(Power Factor at raw non coincident maximum demand)	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	Peak demands are recorded over a summer period which extends from November to March, so that it is possible for a peak demand for a particular calendar year to fall in the previous November or December.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPSD0204 Coincident Raw System Annual Peak Demand		NF	Load Forecast Spreadsheet.	The raw non-coincident power factor is used to calculate the coincident maximum demands in MW to MVA. it assumes the power factor will not be materially different at coincident and non-coincident maximum demand conditions.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	
			DOPSD0205 Coincident Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet.	The raw non-coincident power factor is used to calculate the weather corrected 10% POE coincident maximum demands in MW to MVA. it assumes the power factor will not be materially different at raw and 10% POE maximum demand conditions.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	
			DOPSD0206 Coincident Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet.	The raw non-coincident power factor is used to calculate the weather corrected 50% POE coincident maximum demands in MW to MVA. The calculation assumes the power factor will not be materially different at raw and 50% POE maximum demand conditions.	It should be noted that these demands exclude (i.e. assumed out of service) the embedded generation at Dandenong and Springvale South zone substations	
			3.4.3.4 Annual MD at Transmission Connection Point - MVA DOPSD0207 Non–coincident Summated Raw System Annual Peak Demand		NF	Connection Assets Forecast Spreadsheet.	Non-coincident peak demands (MW and MVAr) at individual terminal stations are calculated based on the interval metering data. Based on MW and MVAr values, maximum MVA demand is calculated at each terminal station. These values are recorded in the annual TSDF submissions to AEMO.		It should be noted that these demands include the embedded generation output at Dandenong and Springvale South zone substations. Further they include cross border flows too.
			DOPSD0208 Non–coincident Summated Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet	The 10% POE scaling factor calculated based on the actual and weather corrected total UE demand is used to scale the non-coincident demand calculated under DOPSD0207 to estimate the 10% POE non-coincident weather adjusted system annual maximum demand.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPSD0209 Non–coincident Summated Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet	The 50% POE scaling factor calculated based on the actual and weather corrected total UE demand is used to scale the non-coincident demand calculated under DOPSD0207 to estimate the 50% POE non-coincident weather adjusted system annual maximum demand.		
			DOPSD0210 Coincident Raw System Annual Peak Demand		NF	Load Forecast Spreadsheet	The coincident raw system annual maximum MW demand calculated under DOPSD10 is divided by the system average power factor calculated at non-coincident maximum demand to calculate the information for this cell.		It should be noted that these demands represent the total UE demand (adjusted for metered cross border flows) and exclude the embedded generation output at Dandenong and Springvale South zone substations.
			DOPSD0211 Coincident Weather Adjusted System Annual Peak Demand 10% POE		NF	Load Forecast Spreadsheet	The 10% POE coincident weather adjusted system annual maximum MW demand calculated under DOPSD11 is divided by the system average power factor calculated at non-coincident maximum demand to calculate the information in this cell.		It should be noted that these demands represent the total UE demand (adjusted for metered cross border flows) and exclude the embedded generation output at Dandenong and Springvale South zone substations.
			DOPSD0212 Coincident Weather Adjusted System Annual Peak Demand 50% POE		NF	Load Forecast Spreadsheet	The 50% POE coincident weather adjusted system annual maximum MW demand calculated under DOPSD12 is divided by the system average power factor calculated at non-coincident maximum demand to calculate the information for this cell.		It should be noted that these demands represent the total UE demand (adjusted for metered cross border flows) and exclude the embedded generation output at Dandenong and Springvale South zone substations.
			3.4.3.5 Power factor Conversion between MVA and MW DOPSD0301		NF	Calculated value	The power factor conversion is a formula based factor. Coincident Raw System Annual Maximum Demand - MW (DOPSD0110) divided by the Coincident Raw System Annual Maximum - MVA (DOPSDP210)		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			Average over whole network						
			DOPSD0302 Average for LV		NF	Calculated value	The summer peak kW and kVAr for all LV substations has been used to calculate the average power factor for low voltage distribution lines.	We have assumed that the LV distribution line power factors are similar to the respective LV distribution substation power factors.	SWER Line Loads have been removed from the calculation
			DOPSD0303 Average for 3.3kV						UE does not have any 3.3kV lines
			DOPSD0304 Average for 6.6kV		NF	Calculated from Load Forecast Spreadsheet Peak Demand.	Peak demand for all 6.6kV feeder MW and MVAR values are totalled from actual data in the load forecast spreadsheet and are used to calculate the power factor.		
			DOPSD0305 Average for 7.6kV						UE does not have any 7.6kV lines
			DOPSD0306 Average for 11kV		NF	Calculated from Load Forecast Spreadsheet Peak Demand.	Peak demand for all 11kV feeder MW and MVAR values are totalled from actual data in the load forecast spreadsheet and are used to calculate the power factor.		
			DOPSD0307 Average for SWER		NF	Calculated from Load Forecast Spreadsheet Peak Demand.	Summer peak demand for all SWER substation kW and kVAR values are totalled from actual data in the distribution substation data spreadsheet and are used to calculate the power factor.	Assumes that the distribution line power factors are similar to the SWER distribution Substation Power Factor.	
			DOPSD0308 Average for 22kV		NF	Calculated from Load Forecast Spreadsheet Peak Demand.	Peak demand for all 22kV feeder MW and MVAR values are totalled from actual data in the load forecast spreadsheet and are used to calculate the power factor.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOPSD0309 Average for 66kV		NF	Calculated from Load Forecast Spreadsheet Peak Demand.	The data is calculated from a formula using the measures non-coincident power flow into the zone substation excluding zone substation transformation which is DOPSD0101 divided by DOPSD0201.		
			DOPSD0310 Average for 110kV		NF				UE does not have any 110kV, 132kV or 220kV lines
			DOPSD0311 Average for 132kV/ 220kV		NF				UE does not have any 110kV, 132kV or 220kV lines
			3.4.3.6 Demand supplied (for customers charged on this basis) – MW measure DOPSD0401 - Summated Chargeable Contracted Maximum Demand		NF				Not applicable for UE
			DOPSD0402 - Summated Chargeable Measured Maximum Demand		NF	Based on reported monthly demand. SAP Billing System and accrual data extracts.			A high percentage of actual billed data has been used.
			3.4.3.7 Demand supplied (for customers charged		NF				Not applicable for UE

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			on this basis) – MVA measure DOPSD0403 - Summated Chargeable Contracted Maximum Demand						
			DOPSD0404 - Summated Chargeable Measured Maximum Demand		NF	Based on reported monthly demand. SAP Billing System and accrual data extracts.	Sum up all kVA demand components at a monthly aggregate for both the SDIC (Summer) and RD(Rolling) tariff components. This will include the following tariffs (L2-KVA, HV-KVA, ST22-KVA, HV-KVA-HOT, L2-KVA-HOT).		A high percentage of actual billed data has been used.
3.5	**Physical Assets**		**3.5.1 Network Capacity** **3.5.1.1 Circuit Length Overhead** DPA0101 Overhead low voltage distribution		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		UE has produced a number of documents which contain instructions on how the data required for the RIN category is to be obtained and populated. These documents include detailed methodologies to provide both actual and estimated data. The Basis of Preparation against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this particular RIN, document UE PR 2209 and 2310 were referenced. All feeders and feeder lengths that are not owned by UE are filtered and removed.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DPA0102 Overhead 2.2kV						UE does not use 2.2kV voltage level
			DPA0103 Overhead 6.6kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0104 Overhead 7.6kV						UE does not use 7.6kV voltage level.
			DPA0105 Overhead 11 kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0106 Overhead SWER		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement. The 12.7kV feeder length shall be used for SWER overhead length.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0107 Overhead 22 kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly		All feeders and feeder lengths that are not owned by UE are filtered and removed.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		
			DPA0108 Overhead 33 kV						UE does not use 33kV voltage level.
			DPA0109 Overhead 44 kV						UE does not use 33kV voltage level.
			DPA0110 Overhead 66 kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0111 Overhead 110 kV						UE does not use 110kV voltage level
			DPA0112 Overhead 132 kV						UE does not use 132kV voltage level
3.5	**Physical assets**	3.5.1	**Network Capacity 3.5.1.1 Circuit Length Overhead** DPA0113 Overhead 220 kV						UE does not use 132kV voltage level
			DPA0114 Overhead Other						

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DPA01 Total overhead circuit km		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			3.5.1.2 Circuit Length Underground DPA0201 Underground low voltage distribution		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0202 Underground 5kV						UE does not use 5kV voltage level
			DPA0203 Underground 6.6kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0204 Underground 7.6kV						UE does not use 7.6kV voltage level
			3.5.1.2 Circuit Length Underground DPA0205 Underground 11 kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables.		All feeders and feeder lengths that are not owned by UE are filtered and removed.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							Data is then available to directly match the RIN requirement.		
			DPA0206 Underground SWER						UE does not use underground SWER.
			DPA0207 Underground 22 kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0208 Underground 33 kV						UE does not use 33kV voltage level.
			DPA0209 Underground 66 kV		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			DPA0210 Underground 132 kV						
			DPA0211 Other underground voltages						

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DPA02 Total underground circuit km		NF	GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		All feeders and feeder lengths that are not owned by UE are filtered and removed.
			3.5.1.3 Estimated overhead network weighted average MVA capacity by voltage class DPA0301 Overhead low voltage distribution		NF	The 'TLM Analysis and Consolidated Project List' and 'Consumption and Counts by Customer Type' reports are used to source the information.	The limiting thermal rating is that of the distribution transformer, not the overhead low voltage conductors. The circuit thermal ratings are calculated for each low voltage circuit by dividing the average distribution substation nameplate rating by the average number of distribution circuits.		
			DPA0302 Overhead 6.6kV		NF	Load Forecast Spreadsheet.	The weighted average capacity is calculated from the summer cyclic rating of the feeder with an adjustment factor cater for the average ratings of different types of conductor,		
			DPA0303 Overhead 7.6kV						UE does not use 7.6kV voltage levels.
			DPA0304 Overhead 11 kV		NF	Load Forecast Spreadsheet.	The weighted average capacity is calculated from the summer cyclic rating of the feeder with an adjustment factor cater for the average ratings of different types of conductor,		
			DPA0305 Overhead SWER		NF	Load Forecast Spreadsheet.	Given UE's relatively short SWER system, the limiting plant in all cases is the isolation transformer at 100kVA per transformer, not the thermal or voltage capability of the overhead conductor. Hence set to 0.1MVA.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DPA0306 Overhead 22 kV		NF	Load Forecast Spreadsheet.	The weighted average capacity is calculated from the summer cyclic rating of the feeder with an adjustment factor cater for the average ratings of different types of conductor,		
			DPA0307 Overhead 33 kV						UE does not use 33kV voltage level.
			DPA0308 Overhead 44 kV						UE does not use 44kV voltage level.
			DPA0309 Overhead 66 kV		NF	Circuit data sheet	The weighted average capacity is calculated from the summer cyclic rating of the 66kV lines.		
			DPA0310 Overhead 110 kV						UE does not use 110kV voltage level
			DPA0311 Overhead 132 kV						UE does not use 132kV voltage level
			DPA0312 Overhead 220 kV						UE does not use 220kV voltage level.
			DPA0313 Overhead Other				As all operating voltages on the UE network are identified by other variables in this table, DPA0313 is set to zero.		UE does not use other voltage levels.
			3.5.1.4 Estimated underground network weighted average MVA capacity by voltage class DPA0401		NF	Load Forecast Spreadsheet.	This is the same method as DPA0301 because the limit is the distribution transformer rating.		See DPA0301 above.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			Underground low voltage distribution						
			DPA0402 Underground 5 kV						UE does not use 5kV voltage level.
			DPA0403 Underground 6.6 kV		NF	Load Forecast Spreadsheet.	The weighted average capacity is calculated from the summer cyclic rating of the feeder with an adjustment factor cater for the average ratings of differentt types of conductor,		
			DPA0404 Underground 7.6 kV						UE does not use 7.6kV voltage level.
			DPA0405 Underground 11 kV		NF	Load Forecast Spreadsheet.	The weighted average capacity is calculated from the summer cyclic rating of the feeder with an adjustment factor cater for the average ratings of different types of conductors.		
			DPA0406 Underground SWER						UE does not use SWER voltage level.
			DPA0407 Underground 12.7 kV						UE does not use 12.7kV voltage level
			DPA0408 Underground 22 kV		NF	Load Forecast Spreadsheet.	The weighted average capacity is calculated from the summer cyclic rating of the feeder with an adjustment factor cater for the average ratings of different types of conductors.		
			DPA0409 Underground 33 kV						UE does not use 33kV voltage level

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DPA0410 Underground 66 kV		NF	Circuit data sheet	The weighted average capacity is calculated from the summer cyclic rating of the 66kV lines.		This is the average summer rating of 66kV cables from the Circuit Data Sheets where Structure Configuration is “CABLE”. The summer rating is multiplied by 66x10^3, multiplied by √3 and divided by 1x10^6 for the relevant year.
			DPA0411 Underground 132 kV						UE does not use 132kV voltage level
			DPA0411 Underground 220 kV						UE does not use 220kV voltage level
			DPA0412 Other				As all operating voltages on the UE network are identified by other variables in this table, DPA0412 is set to zero.		UE does not use other voltage levels
		3.5.2	**3.5.2.1 Distribution transformer total installed capacity** DPA0501 Distribution transformer capacity owned by utility		NF	Transformer Load Management Network Load Management	This is calculated by summing the distribution substation nameplate rating from the Transformer Load Management report sourced from Network Load Management.		The transformers in stores also are included. The stock level information is sourced from UE's Service Delivery. It is assumed that minimum stock levels are maintained and the capacity value calculated based on minimum stock levels (excluding allocation for customer initiated projects) is added onto the distribution transformer capacity.
			DPA0502 Distribution transformer capacity		NF	Customer Service Group	UE does not have information related to customer installations. The summated maximum demand of all HV customers are included as a proxy for their capacity. This information is extracted based on the HV customer list maintained by Customer Services group.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			owned by High Voltage Customers						
			DPA0503 Cold spare capacity included in DPA0501		NF	Service Delivery	UE does not have any cold spare for distribution substations however, the transformers in stores are included. The minimum stock level information is sourced from UE's Service Delivery. It is assumed that minimum stock levels are maintained and the capacity value calculated based on minimum stock levels is used to estimate this value.		The actual total transformer stock movement during 2013 was sourced and out of that the fraction of transformers used for replacement was calculated. This figure was approximately 28% of the total capacity. It is assumed that similar proportion of the minimum stock level would be used on average for the replacement works each year. This value is approximately 23MVA.
			3.5.2.2 Zone Substation Transformer capacity MVA DPA0601 Total installed capacity for first level transformation						UE does not have any first level transformation
			DPA0602 Total installed capacity for second level transformation						UE does not have any second level transformation
			DPA0603 Total zone substation transformer capacity where there is a single transformation		NF	Networks ratings database	This is the total name plate rating (OFDAF) of all zone substation transformers on the UE network sourced from Network Load Management.		In years where archived versions of the Ratings database were not available, the total cyclic rating for the year is used from the Load Forecast Spread-sheet but multiplied by the ratio of the

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
									present total name plate rating divided by the present total cyclic rating to get an equivalent nameplate rating.
			DPA0604 Total zone substation transformer capacity		NF	Networks ratings database	This will be the same as above DPA0603.		See DPA0603 above.
			DPA0605 Cold spare capacity of zone substation transformers included in DPA0604						UE does not have any cold spare for distribution substations.
			3.5.2.3 Distribution - other transformer capacity MVA Distribution Other - Transformer Capacity owned by Utility						UE does not have any other transformer capacity
			3.5.3 Public Lighting DPA0701 Public lighting luminaires			GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables. Data is then available to directly match the RIN requirement.		
			DPA0702 Public lighting poles			GIS Data Base	The requested information is held within UE's Geographical Information System (GIS). To access this information UE have purpose built reports. The AM/FM reports webpage is a portal to obtain this asset data. Asset data in the AM/FM reports are updated monthly from UE's GIS and presented in user friendly tables.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							Data is then available to directly match the RIN requirement.		
			DPA0703 Public lighting columns						UE does not report against Public Lighting Columns.
3.6	**Quality of Service**	3.6.1	**Reliability** **3.6 Quality of Service General**				UE has produced a number of documents which contain instructions on how the data required for the RIN category is to be obtained and populated. These documents include detailed methodologies to provide both actual and estimated data. The Basis of Preparation against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this particular RIN, document UE PR 2209 and 2301 were referenced.		Distribution Customer Numbers are calculated by summating the customer numbers for the relevant feeder classification at both the start and end of the regulatory reporting period (31/12/2015 & 31/12/2016). UE have no 'long rural' or CBD feeder classification and information is therefore not provided. Calculations are completed in accordance with AER definitions.
			3.6.1.1 Inclusive of MEDS DQS0101 Whole of network unplanned SAIDI		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is "cleansed" to remove duplications and adjusted for temporary switching arrangements. SAIDI performance is calculated in accordance with AER definitions.		
			DQS0102 Whole of network unplanned SAIDI excluding excluded outages		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is "cleansed" to remove duplications and adjusted for temporary switching arrangements and MED's excluded. SAIDI performance is calculated in accordance with AER definitions. This information agrees to Table 1a STPIS Reliability - Total SAIDI's inclusive of MED days in the Non - Financial RIN. There has been no difference from Whole of Network unplanned SAIDI outages when excluding		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							excluded outages, due to difficulties in differentiating between excluded events and MED days.		
			DQS0103 Whole of network unplanned SAIFI		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is "cleansed" to remove duplications and adjusted for temporary switching arrangements. SAIFI performance is calculated in accordance with AER definitions. This information agrees to Table 1a STPIS Reliability - Total SAIFI's inclusive of MED days in the Non - Financial RIN.		
			DQS0104 Whole of network unplanned SAIFI excluding excluded outages		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is refined to remove duplications and adjusted for temporary switching arrangements and MED's excluded. SAIFI performance is calculated in accordance with AER definitions.		
			3.6.1.2 Exclusive of MEDs DQS0105 Whole of network unplanned SAIDI		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is refined to remove duplications and adjusted for temporary switching arrangements. SAIDI performance is calculated in accordance with AER definitions. This information agrees to Table 1a STPIS Reliability - Total SAIDI's exclusive of MED days in the Non - Financial RIN.		
			DQS0106 Whole of network unplanned SAIDI excluding excluded outages		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is refined to remove duplications and adjusted for temporary switching arrangements. SAIDI performance is calculated in accordance with AER definitions.		
			MEDSDQS0107 Whole of network unplanned SAIFI		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is refined to remove duplications and adjusted for temporary switching arrangements. SAIFI performance is calculated in accordance with AER definitions.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DQS0108 Whole of network unplanned SAIFI excluding excluded outages		NF	Distribution Management Database	Raw data is downloaded from the Distribution Management Database. The data is refined to remove duplications and adjusted for temporary switching arrangements and MED's excluded. SAIFI performance is calculated in accordance with AER definitions.		
		3.6.2	**Energy Not Supplied** DSQ0201 Planned		NF	Reliability data was taken from the non-financial RIN. The demand is that average annual feeder demand calculated from meter data.	The energy not supplied was calculated based on annual reliability data for planned outages. Energy not supplied = average customer demand X no of customers interrupted X duration of interruption.		
			DSQ0202 Unplanned		NF	Reliability data was taken from the non-financial RIN. The demand is that average annual feeder demand calculated from meter data.	The energy not supplied was calculated based on annual reliability data for unplanned outages. Energy not supplied = average customer demand X no of customers interrupted X duration of interruption.		
			DSQ02 Total		NF	Reliability data was taken from the non-financial RIN. The demand is that average annual feeder demand calculated from meter data.	This is the sum of DSQ0201 + DSQ0202.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
		3.6.3	**System Losses** DSQ03 System Losses		NF	Distribution Management Database	Total UE distribution losses are annually calculated as part of the Distribution Loss Factor (DLF) reporting. The corresponding system losses percentage is calculated as network loss/total energy procured.		
		3.6.4	**Capacity Utilisation** DSQ04 Overall Utilisation		NF	Distribution Management Database	This is the percentage of non–coincident summated raw system annual maximum demand in MVA (DOPSD0201) divided by the summation of total installed zone substation transformer capacity (DPA0604) at all the zone substations.		
3.7	**Operating Environment**	**3.7**	**Operating Environmental factors** General				UE has produced a number of documents which contain instructions on how the data required for the RIN category is to be obtained and populated. These documents include detailed methodologies to provide both actual and estimated data. The Basis of Preparation against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this particular RIN, document UE PR 0085 was referenced.		It should be noted that UE does not record data under 'Urban' and 'Rural' categories. All Low Bushfire Risk Areas (LBRAs) are considered to be equivalent to 'Urban' and all High Bushfire Risk Areas (HBRAs) are considered to be equivalent to 'Rural'.
		3.7.1	**Density Factors** DOEF0101 Customer Density		NF	Calculated	The cell is calculated from using data from other categories. Customer Density = Total Customer Numbers (DOPCN01) / Route Line Length (DOEF0301)		
			DOEF0102 Energy Density		NF	Calculated	The cell is calculated from using data from other categories. Energy Density = Total Energy Delivered (DOPED01) X 1000 / Total Customer Numbers (DOPCN01)		
			DOEF0101 Demand Density		NF	Calculated	The cell is calculated from using data from other categories. Demand Density = Annual Maximum Demand X 1000 (DOPSD0201) / Total Customer Numbers (DOPCN01)		
		3.7.2	**Terrain Factors** DOEF0201 Rural Proportion		NF	GIS Database	The requested information is held within UE's Geographical Information System (GIS) as feeder data and includes a rural/urban attribute.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							The sum of total Rural line length (see Route Length Tab - cell B4) is divided by the total UE line length (DOEF0301) to give a %.		
		3.7.2	**Terrain Factors** DOEF0202 Urban/CBD vegetation Spans		NF	Vegetation Management System Report Electric Line Clearance Management Plan	For the period Jan-Nov: This information is contained in the spreadsheet titled "Non VMS Maint Spans 2016" and is a summary of data obtained from a variety of spreadsheets from several service providers that were utilised by UE from Jan-Nov 2016 before the introduction of the VMS in September 2016. For the period Sept-Dec: This information is contained in the spreadsheet titled "VMS Maint Spans 2016" With the establishment of UE's new Vegetation Management System (VMS) these records are now available through reports from the VMS.		It has been assumed that any spans reported as LBRA will be equivalent to Urban spans.
			DOEF0203 Rural vegetation Spans		NF	Vegetation Management System Report Electric Line Clearance Management Plan	As described in the section above but filtered for "rural" spans.		It has been assumed that any spans within the VMS reported as HBRA will be equivalent to Rural spans.
			DOEF0204 Total Vegetation Maintenance Spans		NF	Calculated	This total Vegetation Maintenance Spans is calculated as the sum of Urban and CBD Vegetation Maintenance Spans and Rural Vegetation Maintenance Spans		
			DOEF0205 Total spans		NF	GIS Database	The requested information is held within UE's Geographical Information System (GIS). The total number of spans variable is calculated as the sum of all spans within the UE network.		

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOEF0206 Urban and CBD vegetation span cycle		NF	Vegetation Management System Report Electric Line Clearance Management Plan	Calculated as follows within "Summary of Span Data" tab. Total Assessed Urban Spans (VMS and Non VMS 2016)/Total Number of Urban Spans = 51% (for 2016) See tab B52"Summary of Span Data" tab Calculation to convert to yearly cycle = 1.96 years - See tab B55"Summary of Span Data" tab		Nominal cycle is 2 years per the Electric line clearance plan.
			DOEF0207 Rural vegetation span cycle		NF	Vegetation Management System Report Electric Line Clearance Management Plan	Calculated as follows within "Summary of Span Data" tab. Total Assessed Rural Spans (VMS and Non VMS 2016)/Total Number of Rural Spans = 73% (for 2016) See tab B53"Summary of Span Data" tab Calculation to convert to yearly cycle = 1.08 years - See tab B56"Summary of Span Data" tab		The calculation will provide the expected cycle time required to complete all spans at the current rate of span maintenance.
			DOEF0208 Average trees per CBD & urban span		NF	Calculated	The RIN definition for acalculating this section states ; "For the purposes of calculating the average number of trees per maintenance span, a tree is a perennial plant (of any species including shrubs) that is: • equal to or greater in height than 3 metres (measured from the ground) in the relevant reporting period; and • of a species which could grow to a height such that it may impinge on the vegetation clearance space of power lines." UE systems did not record number of trees per span during the period Jan-Nov. For 2016 this data will be calculated by utilising the VMS tree/span data recorded for the Sep-Dec period and this shall include ALL trees located within the span (both maintenance and Future). The average tree/span during this period (3.46 for 2016) will be extrapolated for “urban spans” for the entire 2016 period. With the establishment of UE's new Vegetation Management System (VMS), the number of trees will		The calculation assumes an even distribution of tress along the entire urban network length.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
							gradually be collected over time and prove a more accurate measure from 2017.		
			DOEF0209 Average trees per rural span		NF	Calculated	As described in the section above but for “rural” spans. The average tree/span during this period (10.21 for 2016) will be extrapolated for “rural spans” for the entire 2016 period.		The calculation assumes an even distribution of tress along the entire rural network length.
			DOEF0210 Average defects per CBD & urban span		NF	Calculated	For the purposes of obtaining some form of reasonable accuracy it has been assumed that the span does have existing vegetation within the clearance space if the priority recorded is a P1,30 or 60 thus a defective span. NOTE P1 = action immediately P30 = action within 30 days P60 = action within 60 days Although this is perceived as the most accurate method to calculate defective spans it will overstate the number of defective spans as not all P60 spans identified are defective (within the clearance space).The average tree defect /span during this period will then be extrapolated for “urban spans” for the entire 2016 period. With the establishment of UE's new Vegetation Management System (VMS), the recording of the number of trees defects by this method will eliminate the need to extrapolate data thus providing a more accurate measure from 2017.		
			DOEF0211 Average defects per rural span		NF	Calculated	As described in the section above but for “rural” spans.		
			DOEF0212 Tropical Proportion						UE does not have any tropical portion of land within its distribution area.

Tab	Table Name	Table	Table Title	Data quality	Fin / Non-fin	Data source	Methodology	Assumptions	Additional Comments
			DOEF0213 standard Vehicle access		NF	Calculated	Considering the AER definition provided for this variable, which is “Distribution route Line Length that does not have Standard Vehicle Access”, the standard vehicle access distance becomes: Standard Vehicle Access Distance (km) = Total Network Length × 0.007		
			DOEF0214 Bushfire risk		NF	GIS Database	The Bushfire Risk variable is calculated as the sum of all SubT, HV, LV, Service (mains only) and Public Lighting span that are defined as “TRUE” in the ‘HBRA?’ column of the respective GIS database reports.		
		3.7.3	**Service area factors** DOEF0301 Route line length.		NF	GIS Database	The Route Line Length variable is calculated as the sum of all SubT, HV, LV, Service (mains only) and Public Lighting span lengths from the respective GIS database reports. The sum of span lengths is divided by 1000 to convert from metres to kilometres.		