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Category Analysis Basis of Preparation 2015

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 the Regulatory Information Notice (RIN);

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 circumstances where United Energy cannot provide input for a variable using actual information, and therefore must provide Estimate information:

   i. why an estimate was required, including why it was not possible for United Energy to use actual information;

   ii. 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 the 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 category analysis data templates – Consolidated Information'*
- *'United Energy category analysis data templates – Actual Information'*
- *'United Energy category analysis data templates – Estimate 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 Estimate information, including appropriate justification if Estimate;
- 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)
Light green	Available with some gaps	Moderate – estimated based on statistically significant sample size
Yellow	Little or no data available	Complex – estimate based on formula, standard parameters or other source

Colour coding	Availability of data from NSP's Primary System	Assumptions / methodology
Pink	Little or no data available	Subjective – based on significant estimates, judgements and assumptions
Black	N/A	Not applicable to relevant NSP

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

Table 2: Definitions – 'Actual and 'Estimate'

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.
Estimate information	Information presented in response to the Notice whose presentation is not 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 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.

The Estimate information is produced using the methodology detailed below. This methodology represents United Energy's best estimate as applied over prior reporting periods and is sourced from United Energy's information systems, audited information (where applicable), internal management reports and subject matter expert professional judgement based on the nature of United Energy's operations. United Energy is unable to provide information with greater accuracy than that provided in its response.

Where estimates have been provided, United Energy is currently considering the feasibility of improvement opportunities to allow actual information to be provided in the future.

Detailed basis of preparation

The following table outlines 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	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
2.1	**Expenditure Summary**	2.1.1	Standard Control Services Capex		F	Category Analysis RIN	Actual		Replacement expenditure, connections and augmentation expenditure are calculated based on the sum of the relevant direct material expenditure, direct labour expenditure, contract expenditure and other expenditure amounts in Tab 2.12. Connections. Non-network is the sum of capex amounts in Tab 2.6. The balancing items represents: • Add performance capex – not included in repex. • Add other connections e.g. recoverable works.		
		2.1.2	Standard Control Services Opex		F	Category Analysis RIN	Actual		Vegetation management, maintenance, emergency response, non-network, network overheads, corporate overheads, metering and public lighting opex are calculated by summing the operating expenditure amounts in the relevant tabs. Other maintenance represents maintenance expenditure reported in SAP that was not classified		

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									as vegetation management, asset-related maintenance or emergency response. Buildings and property opex are reported in both non-network and overheads, therefore this amount was removed to avoid double-counting.		
		2.1.3	Alternative Control Services Capex		F	Category Analysis RIN	Estimate	The codes in SAP are not directly attributable to all categories in the Annual RIN template; therefore, assumptions have been developed to allocate expenditure to the appropriate categories.	Metering, public lighting and fee and quoted ACS are calculated by summing the capital expenditure amounts in the relevant tabs.		
		2.1.4	Alternative Control Services Opex		F	Category Analysis RIN	Estimate	The codes in SAP are not directly attributable to all categories in the Annual RIN template; therefore, assumptions have been developed to allocate expenditure to the appropriate categories.	Metering, public lighting and fee and quoted ACS are calculated by summing the operating expenditure amounts in the relevant tabs.		
		2.1.5	Dual Function Assets Capex								Not applicable to UE.
		2.1.6	Dual Function Assets Opex								Not applicable to UE.
2.2	Repex		General						UE has produced a number of documents that contain instructions on how		UE have no 'long rural' or CBD feeder classification

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									the data required for the RIN category is to be obtained and populated. These documents include detailed methodologies to provide both actual and Estimate 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 2330, 2327, 2317 and 2329 were referenced.		and information is therefore not provided.
		2.2.1	Replacement Expenditure, Volumes and Asset Failures by Asset Category Poles		F/NF	SAP DMS/OMS	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN.		Expenditure and associated volumes relate to Standard Control Services only. (public lighting not included)

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									The allocations to the RIN categories has been made according to the professional judgement of UED.		
			Poles Top Structures		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN.

The allocations to the RIN categories has been made according to the professional judgement of UED. | | |

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Conductors		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN. The allocations to the RIN categories has been made according to the professional judgement of UED.		
			Underground cables		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to		

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									split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN. The allocations to the RIN categories has been made according to the professional judgement of UED.		
			Service Lines		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN.		

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									The allocations to the RIN categories has been made according to the professional judgement of UED.		
			Transformers		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN. The allocations to the RIN categories has been made according to the professional judgement of UED.		
			Switchgear		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured.		

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								allocating project costs to RIN categories.	Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN. The allocations to the RIN categories have been made according to the professional judgement of UED.		
			Public Lighting		F/NF	SAP	Estimate	Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories.	Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system	Brackets are not separately recorded and are replaced with lamps.	Public Lighting Luminaires are run to failure; hence the number of replacements is the same as the number of failures.

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									which are filtered and sorted into the categories required by the RIN.

The allocations to the RIN categories has been made according to the professional judgement of UED. | | |
| | | | SCADA, Network Control and Protection Systems | | F/NF | SAP | Estimate | Due to the variable nature of RIN categories, and projects undertaken by the business, there requires assumptions to be made in allocating project costs to RIN categories. | Asset Replacement activity is captured in UE's SAP system. Work orders are raised for each replacement activity and actual costs captured. Separate Codes (MAT codes) are used to capture various asset types. Work orders are linked to equipment codes and these have been used to split the replacements by classification and voltage. The number of asset failures is obtained from monthly reports of outages from the DMS/OMS system which are filtered and sorted into the categories required by the RIN.

The allocations to the RIN categories have been made according to the professional judgement of UED. | | Some minor secondary equipment has not been classified into separate categories. |

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
		2.2.2	Selected Asset Characteristics Poles by Feeder Type		NF	Tableau	Actual		The Tableau extract provides the urban/rural input fields which are then extracted to Excel and summed into each category. .		
			Overhead Conductor by Feeder Type		NF	Tableau	Actual		The Tableau extract provides the urban/rural input fields which are then extracted to Excel and summed into each category. UE does not have any CBD or long rural feeders		
			Conductor by Material Type		NF	Tableau	Actual		The Tableau extract provides material type, construction type and voltage which are then extracted to Excel and allocated to the categories specified in the RIN.		
			Underground Cable by Feeder Type		NF	Tableau	Actual		The HV cable data is obtained from a Tableau extract, which provides the urban/rural classification which is then extracted to excel and summed into categories. The LV cable data is obtained from a Tableau extract, which provides switchzone data but no urban/rural classification. The switchzones are then mapped to each feeder (via a SAP extract), and then		

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									categorised into urban/rural classifications and summed.		
			Transformers by total MVA		NF	SAP	Estimate	The information provided is the best available information. GIS and SAP data sources were compared and rules have been established to select the most accurate data of the two.	Transformer rating data is available from SAP. Where the ratings were different in the two sources, GIS data has been used as it is considered to be more accurate. SAP was used to extract data for the items replaced in 2015 and the totals summed.		
2.3	**Augex**		General						UE has produced a number of documents that 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 Estimate 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 2212 was referenced.		Only projects that have been commissioned in there regulatory year are included.
		2.3.1	2.3.1 Sub transmission Substations, Switching Stations and		NF	As there was no applicable augmentation projects commissioned during CY2015, there was no information reported under table 2.3.1.					

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Zone Substations Project Description & Plant and Equipment Volumes	■							
			Substation Rating	■	NF	As there was no applicable augmentation projects commissioned during CY2015, there was no information reported under table 2.3.1.					
			Project Expenditure	■	F	As there was no applicable augmentation projects commissioned during CY2015, there was no information reported under table 2.3.1.					
			Land and Easement Cost	■	F	As there was no applicable augmentation projects commissioned during CY2015, there was no information reported under table 2.3.1.					
		2.3.2	Augex Asset Data - Sub-transmission Lines Project Information & Plant and Equipment Volumes	■	NF	AMP Demand Project List Project Folders Business Case Documents. SAP	Actual		Line ID and project description information has been obtained from the AMP Project Demand List. All proposed projects are listed and are filtered for the AER categories. The project folders contain business cases, detailed scopes of work and Statement of Work documents. Equipment volumes have been extracted from the detailed scope of work and business case documents. The Project ID is the SAP project Code and is included in the AMP		Sub-transmission lines in the UE network except some lines ex MTS are 66kV; therefore this will be the entry for all lines aside from those going to SH or BW which are 22kV.

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Demand Project List. The project trigger and project type have been selected based on the business case and scope of the project.		
			Project Expenditure		F	Project Folders Business case Documents SAP	Actual		The cost description in SAP has been used to break the total project expenditure (apart from UE overheads) into the RIN categories. The service provider of the project is used to determine whether it is a related party or not.		
			Land and easements						Land and easement costs associated with each project are obtained from SAP project IDs with activity classifications "GP". Land purchase expenditures are costs associated with the purchase of land for a new line or an upgrade of an existing line. Easement expenditures are costs associated with compensating land owners for easement acquisition.		
		2.3.3	Augex Data - HV/LV Feeders and Distribution Substations 2.3.3.1 Units added		NF	AMP Demand Project ListProject FoldersBusiness Case	Estimate	UE is able to source actual data for most categories in the table. However, UE does not distinguish in SAP between a distribution substation augmentation and a LV network upgrade. However any project which	HV feeder lengths have been taken directly from the Project Scope of Works. LV underground feeder lengths are actual data taken from SAP.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
						Documents. SAP		involves the addition, modification or upgrade of a transformer is considered a distribution substation augmentation. To determine the category. The project lists available from the Service Delivery team, provide a partial breakdown of all expenditure with respect to the project. Transformers are free issue materials (FIM), so the inclusion of a FIM cost in a project is indicative of a distribution substation augmentation. Following this preliminary classification the project can be reclassed should the project appear as a LV feeder project when reviewing the scope of works. Projects classified as distribution substation works may also include some elements of LV feeder works.	LV overhead feeder lengths are Estimate data taken from SAP. This length should be the material length (4 conductors are used for an overhead line, therefore the route length is the total material length divided by 4). However sometimes the route length has been entered instead. Therefore the total length can be slightly lower than actual. Distribution substation units added/upgraded is determined for each individual project based on scope of works.		
			2.3.3.2 Total Direct Expenditure		F	AMP Demand Project List Project Folders Business Case Documents. SAP	Estimate	Generally UE does not distinguish in SAP between a distribution substation augmentation and a LV network upgrade. However any project which involves the addition, modification or upgrade of a transformer is considered a distribution substation augmentation. To determine the category,	Non-material HV feeder expenditure is actual data taken from SAP. There were no material HV feeder projects completed this year (2015) LV feeder expenditure is all non-material and is actual data taken from SAP.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
								the project lists available from the Service Delivery team provide a partial breakdown of all expenditure with respect to the project. Transformers are free issue materials (FIM), so the inclusion of a FIM cost in a project is indicative of a distribution substation augmentation. Following this preliminary classification the project can be reclassed should the project appear as a LV feeder project when reviewing the scope of works. Projects classified as distribution substation works may also include some elements of LV feeder works. The line data is available from the detailed scope of works or minor statement of work for the project. SAP settlement rules are used to facilitate populating this field.	Distribution substation expenditure is actual data taken from SAP. The only project expenditure not captured in this table is UE overheads attributed to the project.		
		2.3.4	Augex Data - Total Expenditure		F	AMP Demand Project List Project Folders Business Case Documents. SAP	Estimate	Generally UE does not distinguish in SAP between a distribution substation augmentation and a LV network upgrade. However any project which involves the addition, modification or upgrade of a transformer is considered a distribution substation augmentation. To determine the category,	Zone substation expenditure is the Estimate 2015 component of the commissioned zone substation projects in 2.3.1 plus the actual expenditure of all other zone substation projects from SAP. Sub transmission line expenditure is the Estimate 2015 sub transmission line		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
								the project lists available from the Service Delivery team provide a partial breakdown of all expenditure with respect to the project. Transformers are free issue materials, so the inclusion of a FIM cost in a project is indicative of a distribution substation augmentation. Following this preliminary classification the project can be reclassed should the project appear as a LV feeder project when reviewing the scope of works. Projects classified as distribution substation works may also include some elements of LV feeder works.	component of the commissioned zone substation projects in 2.3.1 plus the actual expenditure of all other sub transmission line projects from SAP. HV feeder expenditure is the non-material HV feeder expenditure in 2.3.3, plus the Estimate 2015 HV feeder component from the zone substation projects commissioned in 2.3.1. LV feeder expenditure is the non-material LV feeder expenditure in 2.3.3. Distribution substation expenditure is the total distribution substation expenditure from 2.3.3. Other assets expenditure is actual project expenditure from SAP.		
2.5	**Connections**		General						UE has produced a number of documents that 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 Estimate data. The BoP against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this	The following were considered in providing the data for Table 2.5.1: 1) The expenditure related to connecting new end-user customers to the existing UE LV network was excluded. This excluded expenditure involved installation of the customer service line and end-user metering. This expenditure is classified under unitised pricing. 2) Individual LV residential	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									particular RIN, document UE PR 2211 was referenced.	end-use connections are well spread over UE network with a negligible impact on the UE network as a result of these connections, therefore there were no LV/HV/distribution substation augmentation spend for individual residential connections. 3) In the absence of data related to actual days required to complete a new residential connection (within 10 days), it is assumed it takes 8 days to complete an underground service connection and 5 days to complete an overhead service connection. Actual connections with days over the compliance period (10 days) are available and used to estimate the actual mean days required to connect a residential customer. 4) Embedded generation data included small-scale embedded generation volumes only. There was no LV/HV/distribution substation augmentation expenditure as a result of installing small-scale embedded generation as this is connected using an	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
				■						automatic connection process.	
		2.5.1	Descriptor Metrics Underground and Overhead Connections for various sub categories		NF	Monthly connection reports. SAP	Actual		The total numbers of connections for the residential and commercial/industrial category have been obtained from the monthly connection reports produced by the Customer and Market Service team. New customers data were extracted from CIS+ and SAP and sorted based on customer class (Residential, Commercial and Industrial). The total number of subdivision connections is actual data taken from SAP. The number of embedded generations connections is actual data taken from GIS.	The breakdown of residential and commercial/industrial connections is based on the total number of overhead and underground connections as provided in the 'CMS Monthly Report'. The breakdown of residential, commercial/industrial and embedded generation connections into overhead and underground is based on a sample of actual projects. The actual project data is provided from the service provider undertaking the connection work. The breakdown of subdivision connections into overhead/underground is not recorded by UE systems. Therefore, the total kilometres added of underground cable and overhead line for each subdivision connection project was extracted from SAP. If more overhead line was installed, the connection was assumed to be overhead and vice versa.	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Distribution substation volume, expenditure and installed capacity		F & non-F	SAP	Actual		Project information for distribution substation installations have been obtained from actual data stored in SAP. The information has been extracted into spreadsheets and has been mapped into customer class. There are no installations of substations for residential connections, only for project data sources in subdivision and commercial/industrial and perhaps for embedded generation if any projects exist.	We have assumed that each individual project is one substation.	There are no installations of substations for residential connections. There are also no substation installations for embedded generation installations unless a larger project took place in the regulatory year.
			HV & LV Augmentation volumes and expenditure		F & non-F	SAP	Actual		A series of search routines were run to extract the customer connection project list (CIC projects) and Project Data from SAP. Settlement rules were used to extract data for underground and overhead conductor lengths. There is no augmentation data for residential connections.		There is no augmentation data for residential connections. The expenditure related to connecting new end-user customers to the existing UE LV network was excluded. This excluded expenditure involved installing the customer service line and end-user metering. This expenditure is classified under unitised pricing Alternate Control Services.
			GSL breaches		F & non-F	SAP CIS+	Actual		Historical monthly connection reports are collected from the Customer and Market		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Services (CMS) team to populate the volume of GSL breaches and total GSL payments. The source documents for the CMS reports are SAP and CIS+. . This data is provided as absolute and not divided by 10 as implied by the template. This approach has been confirmed by the AER.		
			Mean Days to connect		F & non-F	SAP	Estimate	UE does not collect statistics on time to complete connections unless customers receive GSL payments.	Mean days to connection residential customers were Estimate assuming that, for customers who did not receive GSL payments, the connection times were 8 days for underground connection and 5 days for overhead connection. For customer that did	UE does not collect data on time to complete connections unless customers received GSL payments. For these calculations, it has been assumed that underground customers are connected within 8 days and overhead connections in 5 days.	
			Subdivision Cost per Lot		F	SAP Project Scope of Works	Estimate	UE does not collect statistics on cost per lot and has therefore made an estimate.	The number of lots has been looked up manually in the project SOW for a sample of subdivision projects	The sample is split into three groups of low, medium and high expenditure of roughly equal size. The actual cost per lot is calculated for each of these categories. These averages are used as the cost per lot for all subdivision projects.	
			Embedded Generators		F/NF	Embedded Generator Register.	Actual		Embedded generation connections currently are reported to AEMO and this information is used to		The majority of the embedded generation connections are small PV installations by the

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				(green)					source the data. UE keeps registers of embedded generators eligible for automatic access and for larger generators; these have been sourced for the new connection information.		customer. Larger projects are rare, only one or two each year. SAP records the data for larger projects.
		2.5.2	Cost Metrics by Connections Classification	(green)	F/NF	SAP CIS+ GIS	Actual		Data has been extracted from SAP for financial data and CIS+, SAP and GIS for volumes. The data is exported to spreadsheets for filtering. Project codes within SAP have been used to allocate assets and costs for each connection category.	**Residential** Simple connection LV (vol/spend): - It is assumed that all Residential connections (CIS+ Monthly Connection Report) are established through simple connections LV. Complex connection LV (vol/spend) & Complex connection HV (vol/spend): - There is no spend to augment LV/HV network to establish residential connections **Commercial/Industrial** **Simple connection LV (vol/spend):** - All projects coded as CBE & CBL, unless it has a total cost exceeding $400,000 Complex connection HV with minor HV works (vol/spend):	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
										- All CB projects with distribution substation installations/modification which are coded as (CBK,CBP,CBG,CBI & CBS), unless it has a total cost exceeding $400,000 **Complex connection HV with upstream asset work (vol/spend):** - Any CB project with the total cost exceeding $400,000 Complex connection HV (customer connected at HV): - Any projects related to connection of HV customers which are coded as (CBH & CBS) and have a total cost under $400,000 '- Any customer initiated works involving the relocation of assets which are coded as CR (spend only) **Subdivision (CD,CH & CS)** - Complex connections LV (vol/spend): **-** CHL projects are those that require supply provided via an LV	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
										extension from existing LV circuit	
										- Complex connection HV (with upstream work):	
										- CH projects are those that requires HV extension works	
										Complex connections HV (with no upstream work):	
										- Any CH projects remaining from above criteria (>$400,000)	
										- Any CD (multi-unit developments) projects including spend which is SCS only (i.e. excludes ACS)	
										- CD km for LV aug volumes are calculated manually (number of jobs X 5m)	
										- Any CS (rural supply) project	
										Embedded Generation	
										Simple connections LV:	
										- All the PV embedded generations' connections are LV simple connections and have no associated augmentation	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
										spend. The volume of simple connections LV can be taken as the total number of embedded generation connections - Complex HV connections (Small capacity) & Complex HV connections (Large capacity) - There is unlikely to be more than a couple of complex connections at most. These are for larger commercial projects. Check with Network planning to get the number of these projects. The expenditure can be found from SAP or project documentation. How the volume and expenditure is split between the three categories should be determined on a per project basis. The definitions of these categories are found in the CA RIN letter from the AER.	
2.6	**Non-Network**		General						UE has produced a number of documents that contain instructions on how the data required for the		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									RIN category is to be obtained and populated. These documents include detailed methodologies to provide both actual and Estimate 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 2305 was referenced.		
			2.6.1 Non-Network Expenditure - IT & Communications Client device expenditure Capex		F	SAP	Actual		Data is extracted from SAP based on the AER definition. According to the AER, 'recurrent expenditure' is expenditure that returns time after time with respect to the particular category of expenditure (refer to p.69 of the Category Analysis RIN).		
			Recurrent expenditure Opex		F	SAP	Actual		As above		
			Recurrent expenditure Capex		F	SAP	Actual		As above		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Non-recurrent expenditure Opex		F	SAP	Actual		As above		
			Non-recurrent expenditure Capex		F	SAP	Actual		As above		
			2.6.1 Non-Network Expenditure – Motor vehicles Motor vehicles capex		F	SAP	Actual		Motor vehicle CAPEX data was sourced from the SAP and stored in spreadsheets. The vehicle information was manually categorised into asset categories.		
			Motor vehicles opex		F	Motor Vehicle OPEX was obtained from Service Providers records and fuel card transactions.	Estimate	The availability of information is limited by information received from the service providers surrounding motor vehicle use	The motor vehicles operating expenditure (OPEX) for vehicles operated by service providers was provided with vehicle classifications. The motor vehicles operating expenditure (OPEX) for vehicles operated by UE was sourced using fuel card transactions.		
			Non-Network Expenditure-Buildings, Other, SCADA Buildings opex		F	SAP	Actual		Extract from cost centre report for GL accounts relevant to buildings and property.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Buildings capex		F	SAP	Actual		Extracted a list of statutory capital additions from SAP categorised into the Annual RIN schedule '3a. Capex (T') against row 'Non network general - other'. Identified the expenditure from the SAP description of the capital project.		
			Other capex		F	SAP	Actual		Extracted a list of statutory capital additions from SAP categorised into the Annual RIN schedule '3a. Capex (T') against row 'Non network general - other'. Identified the expenditure from the SAP description of the capital project. This is the expenditure that did not fit into the other categories.		
		2.6.1	Non-Network Expenditure – Other		F	CAPEX taken from SAP. OPEX was obtained from Service Providers records	Actual	.	UE owns forklifts and trailers. Based on AER's definitions and requirements, forklifts and trailers are categorised as non-network other expenditure category (as they have not incurred more than $1M in the last 5 regulatory years).		This inclusion/exclusion is based on the following clause in the CA RIN: If United Energy has incurred less than $1,000,000 (nominal dollars) in capital expenditure over the last five regulatory years for which regulatory accounts have been lodged with the AER for a class of assets: (a) report only historic capital expenditure for that class of assets in Other Non-Network Expenditure; and (b) only record operating

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
											expenditure in the relevant operating expenditure category regulatory template.
		2.6.2	Annual Descriptor Metrics - IT & Communications IT and communications Employee Numbers		NF	Identity Asset Management (IAM) System	Actual		Limited to those engaged directly by UE and does not include resources engaged by service providers.		
			IT and communications User Numbers		NF	Email accounts with UE from exchange system	Actual		Contains active users only and is for users both employed by UE and for external parties accessing UE systems.		
			IT and communications Number of Devices		NF	For Employee Number - Payroll data For User Numbers - An internal data base For Number of Devices - Device Warrantee information	Actual		Employee numbers - based on payroll data for those years. It is limited to those engaged directly by UE and does not include resources engaged by service providers. User numbers are based on an extract from an internal database. It contains active users only and is for users both employed by UE and for external parties accessing UE systems.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Number of devices is based on an internal warranty spread sheet with external provider.		
		2.6.3	Annual Descriptor Metrics - Motor Vehicles		NF	Motor Vehicle data was obtained from internal and external (Service Providers) records.	Estimate	The availability of information is limited by information received from the service providers surrounding motor vehicle use	Fleet numbers were determined by counting vehicles listed in OPEX reports, km travelled were determined using odometer readings, leased numbers were provided by Service Providers, purchases were determined using CAPEX reports	UE owned cars were utilised by UE and UE Service Providers. UE utilised their cars for standard control services. However, UE Service Providers did not report on the usage of UE owned vehicles. Thus, it was impossible to separate the usage of cars into regulatory and non-regulatory purposes. However, cars are predominately used for standard control services and hence, it was reasonable to allocate all cars expenses to regulatory expenses. Light commercial vehicles, heavy commercial vehicles and elevated work platforms (HCV) are required for standard control services. Hence, these motor vehicle categories expenditure were all allocated to regulatory expenditures.	A weighted average of the number of motor vehicles per month was used for vehicle numbers. UE does not own any LCV elevated work platform vehicles.
2.7	**Vegetation Management**	2.7.1	Descriptor Metrics by Zone		NF	Produced by UE's Asset Management group via	Actual		GIS extract performed by EN (Rick Engel)	GIS data extract is taken at a momentary point in time as is constantly being updated.	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Route line length within zone (KM) Urban and CBD			GIS Data taken directly from GIS.					
			Route line length within zone (KM) Rural		NF	Produced by UE's Asset Management group via GIS Data taken directly from GIS.	Actual		GIS extract performed by EN (Rick Engel)	GIS data extract is taken at a momentary point in time as is constantly being updated.	Sourced from Section 3.7 of EB RIN
			Number of maintenance spans (0's) Urban and CBD		NF	Fortnightly reports produced by VEMCO with data from its Vegetation Management System (VMS) database	Estimate	The number of spans is derived from the cutting spans identified in Cyclic Inspections. UE considers this an estimate as it is not definitive that these are the only spans maintained over the 2015 period.	Taken from VEMCO Fortnightly reports R02 for Low Bushfire Risk Area, 2015 calendar year program. Count of spans requiring cutting from 2015 Cyclic Inspections.	Low Bushfire Risk Area classified as urban.	Sourced from Section 3.7 of EB RIN
			Number of maintenance spans (0's) Rural		NF	Fortnightly reports produced by VEMCO with data from its Vegetation Management System (VMS) database	Estimate	The number of spans is derived from the cutting spans identified in Cyclic Inspections. UE consider this an estimate as it is not definitive that these are the only spans maintained over the 2015 period.	Taken from VEMCO Fortnightly reports R02 for High Bushfire Risk Area, 2015 calendar year program. Count of spans requiring cutting from 2015 Cyclic Inspections	High Bushfire Risk Area classified as Rural	Sourced from Section 3.7 of EB RIN

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Total length of maintenance spans (KM) Urban and CBD	🟩	NF	Produced by UE's Asset Management group via GIS Data taken directly from GIS.	Actual		GIS extract performed by EN (Rick Engel)		File used Span Tallies
			Total length of maintenance spans (KM) Rural	🟩	NF	Produced by UE's Asset Management group via GIS Data taken directly from GIS.	Actual		GIS extract performed by EN (Rick Engel)		File used Span Tallies
			Length of vegetation corridors (KM) Urban and CBD	🟩	NF	Produced by UE's Asset Management group via GIS Data taken directly from GIS.	Actual		GIS extract performed by EN (Rick Engel)	GIS data extract is taken at a momentary point in time as is constantly being updated.	
			Length of vegetation corridors (KM) Rural	🟩	NF	Produced by UE's Asset Management group via GIS Data taken directly from GIS.	Actual		GIS extract performed by EN (Rick Engel)	GIS data extract is taken at a momentary point in time as is constantly being updated.	
			Average number of trees per	🟨	NF	Calculation using	Estimate	This data is not collected.	A Vegetation Management Review was commissioned in 1999 which concluded that UE was responsible	There is an even distribution of trees along the entire network length.	Sourced from Section 3.7 of EB RIN

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			maintenance span (0's) Urban and CBD			fortnightly reports data			for approximately 340,000 trees. The review also determined that approximately 24% (81,600) of trees were in a HBRA (Rural) and approximately 76% (258,400) of trees were in a LBRA (Urban). As UE does not record number of trees per span, the average number of trees per urban and CBD vegetation maintenance span is calculated by taking the average number of trees per span across the urban and CBD network. Average Number of Trees per Urban and CBD Vegetation Maintenance Span = (Number of Trees in LBRA)/(Number of LBRA Spans)		
			Average number of trees per maintenance span (0's) Rural		NF	Calculation using fortnightly reports data	Estimate	This data is not collected.	A Vegetation Management Review was commissioned in 1999 which concluded that UE was responsible for approximately 340,000 trees. The review also determined that approximately 24% (81,600) of trees were in a HBRA (Rural) and approximately 76% (258,400) of trees were in a LBRA (Urban).	There is an even distribution of trees along the entire network length.	Sourced from Section 3.7 of EB RIN

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									As UE does not record number of trees per span, the average number of trees per rural vegetation maintenance span is calculated by taking the average number of trees per span across the rural network. Average Number of Trees per Rural Vegetation Maintenance Span= (Number of Trees in HBRA)/(Number of HBRA Spans)		
		7	Average frequency of cutting cycle (years) Urban and CBD		NF	Calculated from fortnightly reports and total number of spans	Estimate	This data is not collected.	The strategic objective for the Vegetation Maintenance Span Cycle within the Electric Line Clearance Management Plan (ELCMP) is two years. The current Average Urban and CBD Vegetation Maintenance Span Cycle is calculated in two steps: Dividing the sum of the total number of Urban and CBD vegetation maintenance spans from 2014 and 2015 (DOEF0202), by the total number of spans (DOEF0205) to determine the factor of spans inspected to total spans.		Sourced from Section 3.7 of EB RIN

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Factor of Spans Inspected to Total Spans=		
									(Urban and CBD Vegetation Maintenance Spans (2013)+ Urban and CBD Vegetation Maintenance Spans (2015))/(Total Number of Spans)		
									The factor calculated is then used when dividing two (as the proposed cycle length in the ELCMP) by the factor.		
									Average Urban and CBD Vegetation Maintenance Span Cycle=2/(Factor of Spans Inspected to Total Spans)		
			Average frequency of cutting cycle (years) Rural		NF	Calculated from fortnightly reports and total number of spans	Estimate	This data is not collected.	The strategic objective for the Vegetation Maintenance Span Cycle within the Electric Line Clearance Management Plan (ELCMP) is two years. The current Average Rural Vegetation Maintenance Span Cycle is calculated in two steps: Dividing the sum of the total number of Rural CBD vegetation maintenance spans from 2014 and 2015 (DOEF0202), by the total number of spans (DOEF0205) to determine		Sourced from Section 3.7 of EB RIN

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									the factor of spans inspected to total spans. Factor of Spans Inspected to Total Spans= (Rural Vegetation Maintenance Spans (2013)+ Rural Vegetation Maintenance Spans (2015))/(Total Number of Spans) The factor calculated is then used when dividing two (as the proposed cycle length in the ELCMP) by the factor. Average Urban and CBD Vegetation Maintenance Span Cycle=2/(Factor of Spans Inspected to Total Spans) The above calculation will provide the expected cycle time required to complete all spans at the current rate of span maintenance.		
		2.7.2	Expenditure Metrics by Zone		Financial	SAP	Actual		Costs associated to the Four vegetation unitised codes NGA, NGB, NGC, NGD and NGE for the year 2015 R01 and R02. UE veg management area is not managed separately for different categories provided in this table. Therefore total vegetation management cost is updated under other category.		SAP reports were run at activity code level to get the actual for the total veg management spend for the respective region.

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
		2.7.3	Descriptor Metrics Across All Zones - Unplanned Vegetation Management Number of fire starts caused by vegetation grow-ins (NSP responsibility) (0's)		NF	Data is sourced from the F factor submission. This data has been extracted from DMS and has previously been audited as part of those submissions.	Actual		This data is extracted from DMS monthly and reviewed for accuracy. Each fire start is reported through F-Factor and investigated to ensure its legitimacy.		
			Number of fire starts caused by vegetation blow-ins and fall-ins (NSP responsibility) (0's)		NF	Data is sourced from the F factor submission. This data has been extracted from DMS and has previously been audited as part of those submissions.	Actual		As above		
			Number of fire starts caused by vegetation grow-ins (other party responsibility) (0's)		NF	Data is sourced from the F factor submission. This data has been extracted	Actual		As above		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
						from DMS and has previously been audited as part of those submissions.					
			Number of fire starts caused by vegetation blow-ins and fall-ins (other party responsibility) (0's)		NF	Data is sourced from the F factor submission. This data has been extracted from DMS and has previously been audited as part of those submissions.	Actual		As above		
2.8	**Maintenance**		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 Estimate data. The BoP against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this particular RIN, document		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									UE PR 2325 was referenced.		
		2.8.1	Descriptor Metrics For Routine and Non-Routine Maintenance		NF	SAP Service Providers Life Cycle Management Plan	Actual		MAT codes are used to allocate asset categories that are filtered for the RIN categories. Maintenance units are extracted from SAP and compared against Service Providers invoices. When units are compared between the two sources, if there is no difference, SAP is used. If there is a difference between the two sources, the Service Providers invoices are used. The Service Providers invoices take precedence over SAP as they have been verified by the UE Service group.		The total number of units does not include inspections of the cross arms undertaken whilst pole top, overhead line and service line maintenance is carried out.
		2.8.2	Cost Metrics For Routine and Non-Routine Maintenance		F	SAP Service Providers Life Cycle Management Plan	Estimate	If there is a difference between the two sources, the Service Providers invoices are used. The Service Providers invoices take precedence over SAP as they have been verified by the UE Service group. Costs have also been adjusted to reconcile with the Financial RIN.	SAP continues to be the main repository of all field data but in some instances lacks data. MAT codes are used to allocate asset categories that are filtered for the RIN categories. Maintenance costs are extracted from SAP and compared against Service Providers invoices. When costs are compared between the two sources, if there is no difference, SAP is used. If there is a		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									difference between the two sources, the Service Providers invoices are used. The Service Providers invoices take precedence over SAP as they have been verified by the UE Service group. The maintenance expenditure routine/non - routine maintenance expenditure has been adjusted to reconcile with the Financial RIN. This maintenance expenditures reconciliation to the financial RIN involves the following adjustments; - Adjustment for costs recorded under 2.7 Vegetation Management - Adjustment for costs recorded under 2.9 Emergency Response - Adjustment for costs recorded in relation to Alternative Control Services, Negotiated Services, Unregulated Services and other costs		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
2.9	**Emergency Response**	2.9.1	Emergency Response Expenditure (OPEX) (A) Total emergency response expenditure ($000's)		F	SAP	Actual		Data is obtained from SAP	Actual cost data is sourced directly from SAP. Any costs which has gone to FE activity has been classified under this category for OMSA WBS.	
			(B) Major events O&M expenditure ($000's)		F	SAP	Actual		Data is obtained from Service Providers or an average daily cost	Based on days we got exclusions for and SP provided the actuals costs spend on these days	
			(C) Major event days O&M expenditure ($000's)		F	SAP	Actual		Data obtained from Service Providers or an average daily cost.	Based on days we got exclusions for and SP provided the actuals costs spend on these days	Only based on SAIDI event days as prescribed by the regulator.
2.10	**Overheads**	2.10.1	Network Overheads Expenditure Network management		F	SAP	Actual / Estimate	This information is not tracked in SAP by allocation category. As such, these categories are Estimate.	After allocating the overhead to "Network control and operational switching" and "Project governance and related functions", the remaining network overheads were allocated pro-rata to "Network management", "Network planning" and "Quality and standard functions" based on the number of people working on each function derived from organisation structure confirmed by Senior		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Management Accountant and General Manager Regulations.		
			Network planning		F	SAP	Actual / Estimate	This information is not tracked in SAP by allocation category. As such, these categories are Estimate.	After allocating the overhead to "Network control and operational switching" and "Project governance and related functions", the remaining network overheads were allocated pro-rata to "Network management", "Network planning" and "Quality and standard functions" based on the number of people working on each function derived from organisation structure confirmed by Senior Management Accountant and General Manager Regulations.		
			Network control and operational switching		F	SAP	Actual		Total costs for Network Control Centre from cost centre report.		
			Quality and standard functions		F	SAP	Actual / Estimate	This information is not tracked in SAP by allocation category. As such, these categories are Estimate.	After allocating the overhead to "Network control and operational switching" and "Project governance and related functions", the remaining network overheads were allocated pro-rata to "Network management", "Network planning" and "Quality and standard		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
				■					functions" based on the number of people working on each function derived from organisation structure confirmed by Senior Management Accountant and General Manager Regulations.		
			Project governance and related functions	■	F	SAP	Actual		Overhead for Service Delivery from cost centre report.		
			Total Overhead Expenditure - Negotiated Services	■	F	SAP	Actual		Direct allocation of embedded network costs.		
			Total Overhead Expenditure - Unregulated Services	■							Not applicable – no overhead expenditure for unregulated network services.
			Capitalised Overheads - Standard Control Services	■							Not applicable – no capitalised overheads for Standard Control Services
		2.10.2	Corporate Overheads Expenditure Total Overhead Expenditure -	■	F	SAP	Actual		Total: refer annual RIN 8a. Operating (T) "Billing and revenue collection", "Advertising/marketing", "Customer service", "Regulatory", "Licence fee"		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Standard Control Services						and "Other - Standard control services" details: refer Cost Allocation Methodology (CAM) model The allocations to categories not provided in the annual RIN, have been made according to cost centres allocated to costs recorded in the 31 December 2015 financial statements.		
			Total Overhead Expenditure - Alternative Control Services		F	SAP	Actual		Total: refer annual RIN 8a. Operating (T) "Billing and revenue collection", "Advertising/marketing", "Customer service", "Regulatory", "Licence fee" and "Other - Standard control services." The allocations to categories not provided in the annual RIN, have been made according to cost centres allocated to costs recorded in the 31 December 2015 financial statements.		
			Total Overhead Expenditure - Negotiated Services		F	SAP	Actual		Direct allocation of embedded network costs		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Total Overhead Expenditure - Unregulated Services		F	SAP	Actual		Refer annual RIN 8a. Operating (T) and Cost Allocation Methodology (CAM) model		
			Capitalised Overheads - Standard Control Services								Not applicable – no capitalised overheads for Standard Control Services
2.11	**Labour**	2.11.1	Cost Metrics Per Annum ASLs, Total Labour Expenditure, Average Productive Work Hours		F and non-F (hours)	ADP Reporting System	Actual		Reports run from ADP with Employee level granularity. Relevant data (TCR, Start and Termination dates, hours) included in the report. Information from reports used for totals calculation. For ASL, total labour expenditure and productive work hours, UE FTE portion was applied to employee totals in order to get UE only ASL.	ASLs, Total Labour Expenditure, Average Productive Work Hours	
			Amounts additional to TCR (e.g. bonus, allowances, etc.)		F	SAP reports	Actual		Sap report run for relevant remuneration amount types by individual. Information from reports used for totals calculation.	Amounts additional to TCR (e.g. bonus, allowances, etc.)	
			Classification in Organisational		NF	ADP Reporting	Actual		Individuals matched to their position in the company	Classification in Organisational hierarchy	

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			hierarchy (e.g. Executive, manager, etc)			System and Company structure			structure. Relevant level reported.	(e.g. Executive, manager, etc)	
			Split between Corporate and Network		NF	Cost centre report - SAP	Actual		Cost centres represent areas of the business. Hence cost centre information was looked up for each individual in order to determine whether they are employed by the corporate or the network side of it.	Split between Corporate and Network	
		2.11.2	Extra descriptor metrics for current year		F and non-F	Table 2.11.1	Actual		Derived from information in table 2.11.1.	All	
2.12	**Input Tables**	2.12	General						UE has produced a number of documents that 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 Estimate 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, documents UE PR 2325, 2211, 2212 and 2327 were referenced.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Vegetation Management			SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related party margins and related party contract costs are a subset of the contracts costs from the ZNX/Zinfra service provider. Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			Routine Maintenance		F	SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related party margins and related party contract costs are a subset of the contracts costs from the ZNX/Zinfra service provider.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			Non-Routine Maintenance		F	SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related party margins and related party contract costs are a subset of the contracts costs from the ZNX/Zinfra service provider. Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			Network overheads		F	SAP/payroll	Actual		Direct labour was from 2.11 Other costs being the difference between 2.10 SCS overhead and Direct labour cost.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Corporate overheads		F	SAP/payroll	Actual		Direct labour was from 2.11 Other costs being the difference between 2.10 SCS overhead and Direct labour cost.		
			Augmentation		F	SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related party margins and related party contract costs are a subset of the contracts costs from the ZNX/Zinfra service provider. Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			Connections		F	SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									party margins and related party contract costs are a subset of the contracts costs from the ZNX/Zinfra service provider. Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			Emergency Response		F	SPS	Actual		Data has been extracted from SPS. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total emergency response expenditure on major event days.		Emergency response expenditure in Table 2.12 captures expenditure for major event days only and does not represent total emergency response expenditure.
			Public Lighting		F	SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related party margins and related party contract costs are a subset of the contracts		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									costs from the ZNX/Zinfra service provider. Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			Metering		F	CA RIN Schedule 4.2 Metering	Actual/Estimate	This information is derived from 4.2.1 Metering, which contains Estimate information.	Direct Material includes meter purchases, Direct Labour includes Direct Installation cost and Other Expenditure includes all other capex and opex cost plus ACS cost. All cost is taken from CA RIN 4.2 metering tab		
			Fee-Based Services		F	SAP/service provider costs	Estimate	The codes in SAP are not directly attributable to all categories in the Annual RIN template; therefore, assumptions have been developed to allocate expenditure to the appropriate categories.	SAP data pertaining to ACS costs and revenue billed, including external service providers' unit costs per invoices applied against ACS service orders. refer ACS Cost Model		
			Quoted Services		F	SAP/service provider costs	Estimate	The codes in SAP are not directly attributable to all categories in the Annual RIN template; therefore, assumptions have been developed to allocate expenditure to the appropriate categories.	SAP data pertaining to ACS costs and revenue billed, including external service providers' unit costs per invoices applied against ACS service orders.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Replacement		F	SAP	Estimate	Due to the limitations of details surrounding the nature of expenditure, the allocation to material, labour, other and contract costs involves assumptions being made by UED.	Data has been extracted from SAP. Direct material, labour and other costs are costs incurred by UE. The contracts costs are service provider costs. The sum of material, labour, other and contract costs is the total cost of the project. Related party margins and related party contract costs are a subset of the contracts costs from the ZNX/Zinfra service provider. Due to not all costs being provided by the service provider for these projects, and the lack of details surrounding particular expenditure, there involves estimations in allocating the costs to the categories.		
			IT and communications		F	CA RIN Schedule 2.6 Non-network	Actual		The methodology is based on the definition in the Category Analysis RIN document provided by AER to UE (P52) Contract Expenditure: Accenture & CGI master agreement Direct material: software & hardware and the maintenance, data centre Direct Labour: internal resources & contractors		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Motor vehicles		F	CA RIN Schedule 2.6 Non-network	Actual		All expenditure for this category is paid directly to unrelated external suppliers. No material or labour is capitalised.		
			Buildings and property		F	CA RIN Schedule 2.6 Non-network	Actual		All expenditure for this category is paid directly to unrelated external suppliers. No material or labour is capitalised.		
			Other		F	CA RIN Schedule 2.6 Non-network	Actual		All expenditure for this category is paid directly to unrelated external suppliers. No material or labour is capitalised.		
4.1	**Public Lighting**		General						UE has produced a number of documents that 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 Estimate 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 2351 was referenced.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
		4.1.1	Descriptor Metrics Over 2014-15 Light type		NF	GIS	Actual		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.		
		4.1.2	Descriptor Metrics Annually		F /NF	SAP Customer and Market Services Group	Actual		Asset Installation, Replacement and Maintenance activities are captured in UE's SAP system. Work orders are raised for each activity, where actual costs and quantities are captured. Work Order Maintenance activity types (MAT codes) are used to differentiate between the work order activities and mapped to AER Reporting Categories. Quality of supply is recorded and populated by the Customer and Market Services team.		It should be noted that new poles are not considered for the Light Installation category as these are assumed to be installed by local councils or other entities outside of UE. CLJ and CLN Volumes were reported from CIC Scope of works
		4.1.3	Cost Metrics		F	GIS SAP	Actual		To calculate the average unit cost for each activity code, the activity code expenditure is divided by the activity code volume.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Average Unit Cost = Expenditure/Volume		
4.2	**Metering**	4.2.1	Metering Descriptor Metric		NF	CIS+ and SAP/ RIN ANNUAL	Actual		RIN Annual reports of 2015 and 2014 used to calculate average volumes.	• Two single phase meters and time switch at one installation counted as one meter consistent with Annual RIN reports. • We have included >160 MWh customers where United Energy is Responsible Person. Approximately 600 customers of 650K total population (~ 0.1%) belongs to >160 MWh category. As we could not separate these customers for all metering services, we have included these customers in scope. • In 2014 RIN Annual report Disconnected meters in CIS were not counted due to query constraint and now in 2015 report this issue is resolved and hence higher customer growth is observed.	
		4.2.2	Cost Metrics Meter purchase ($000'S)		F	SAP & Corporate Finance reports	Actual		No meters purchased in 2015. Confirmed from Finance records.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Meter testing ($000'S)		F	Specialist meter testing contract monthly report and invoice	Actual		As per AER definition. • Sample testing of direct connected meters. • 100% testing of CT connected meters. CT inspections & admittance test also carried out as part of CT meter testing. • Sample testing of Current Transformers.		• Test costs for CTs almost double during after-hours. Many CT tests are carried out after hours. • Direct connected meter, CT connect meter and CT Testing costs are different and combining all of those may not give full understanding of unit rate testing costs.
			Meter investigations ($000'S)		F	Specialist meter testing contract monthly report and invoice	Actual		Metering investigation service orders of the following types have been included: • Remote communication faults • CT meter faults • Domestic faults • C& I faults • Time Reset and downloads • Revenue protection: police initiated drug raids	Internal investigations done by contractor labour are not included.	• Most of the meter investigation activities conducted from internal resources by analysing meter data. • AMI meters have events and alarms including metering tampering/bypass alarms. • Condition monitoring alarms/events in the AMI meters used for meter investigation. These activities done with internal resources (covered in other metering) and hence no extra costs involved.
			Scheduled meter reading ($000'S)		F	Specialist meter testing contract monthly report and invoice	Actual	.	• For Type 5 and 6 metering actual direct contract costs for meter reading activities available in monthly invoices.		Manual meter read costs increased with time as the Type 5 & 6 meter volumes decreased. Type 4 Meter reading costs are reported as zero as these costs are captured in

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									• Meter read costs for Type 4 metering is zero as they are remote read meters.		IT, Communications and other metering categories.
			New meter installation ($000'S)		F	Financial RIN Annual 2015	Actual		New meter installation costs reported in Financial RIN Annual report 2015. Secure refurbishment and SNC storage costs obtained from SAP invoices.		All New meter installations part of ACS-Fee based service orders. As per page 77 of better regulation, ACS items are also included in metering Sec 4.2.
			Meter replacement ($000'S)		F	SAP & Corporate Finance reports	Actual		All the CAPEX money spent on Meter replacements and Faults.		Direct labour cost only considered. Project management cost included in other metering. Adds & Alts meter replacements part of ACS-Fee based service orders. So we have not counted them in this report.
			Meter maintenance ($000'S)		F	Specialist meter testing contract monthly report and invoice	Actual		Metering assets were not part of preventive/predictive maintenance program. There is no expenditure on this category.		
			Remote meter reading ($000'S)		F	N/A	N/A		Remote Meter reading costs given as zero as these costs captured in IT, Communications and other metering categories.		Only internal labour and IT systems involved in this activity.

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Remote meter re-configuration ($000'S)		F	N/A	N/A		Remote Meter reading costs given as zero as these costs captured in IT, Communications and other metering categories.		Only internal labour and IT systems involved in this activity.
			Other metering ($000'S)		F	SAP & Corporate Finance reports	Actual		SAP and Corporate Finance reports available for total Capex & Opex costs. Other metering costs calculated as difference between Total CROIC costs and all other CROIC items in table 4.2	Costs for Type 5 and 6 is given as zero as these meter volumes are low and the same costs included in Type 4 metering costs.	These costs include Meter control, internal labour and back office contracts.
			IT infrastructure capex ($000'S)		F	SAP & Corporate Finance reports	Actual		SAP & Corporate Finance reports		
			IT infrastructure opex ($000'S)		F	SAP & Corporate Finance reports	Actual		SAP & Corporate Finance reports		
			Communications infrastructure capex ($000'S)		F	SAP & Corporate Finance reports	Actual		SAP & Corporate Finance reports		
			Communications infrastructure opex ($000'S)		F	SAP & Corporate Finance reports	Actual		SAP & Corporate Finance reports		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Volumes Meter purchase (000'S)		NF	SAP & Corporate Finance reports	Actual		Volumes obtained from meter purchase invoices.		
			Meter testing (000'S)		NF	Specialist meter testing contract monthly report and invoice	Actual		Data obtained from Specialist meter testing contract billing files for the following testing activities: • Sample testing of direct connected meters. • 100% testing of CT connected meters. CT inspections & admittance test also carried out as part of CT meter testing. • Sample testing of Current Transformers.		
			Meter investigations (000'S)		NF	Specialist meter testing contract monthly report and invoice	Actual		Metering investigation service orders of below types are included • Remote communication faults • CT meter faults Domestic faults C& I faults • Time Reset and downloads • Revenue protection: police initiated drug raids		• Most of the meter investigation activities conducted from internal resources by analysing meter data. • AMI meters have events and alarms including metering tampering/bypass alarms. • Condition monitoring alarms/events in the AMI meters used for meter investigation are not counted.
			Scheduled meter reading (000'S)		NF	Specialist meter testing contract monthly	Actual		• Actual volumes for meter reading activities have been taken from the		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
						report and invoice and Network Management System-UIQ report.			monthly report for Type 5 and 6. • Type 4 AMI meter reading quantities have been obtained from the Network Management System-UIQ report.		
			Special meter reading (000'S)		NF	Specialist meter testing contract monthly report and invoice	Actual		Type 5 and 6 meter volumes obtained were obtained from specialist meter reading contract monthly reports for 2015. Type 4 metering volumes were reported as zero as these meters read daily.		
			New meter installation (000'S)		NF	SAP	Actual		Data obtained from RIN Annual and SAP service orders. RIN annual total new meter installs include MRO and AMI fault replacements. Total new connections= New installs for 2015 - MRO installs- Faults		
			Meter replacement (000'S)		NF	SAP	Actual		Data obtained from ZIAMI007 SAP reports of ZMRO service orders and Faults.		Adds & Alts meter replacements are part of ACS- Fee based service orders.
			Meter maintenance (000'S)		NF	Specialist meter testing contract monthly report and invoice	Actual		Metering assets were not part of preventive/predictive maintenance program..		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Remote meter reading (000'S)		NF	Network Management System-UIQ report.	Actual		UIQ report on number of meters read.	Network Management System- UIQ reads meter data every 4 hours. However, this has been counted as 1 read per day.	
			Remote meter re – configuration		NF	Network Management System-UIQ report.	Actual				
4.3	**Fee Based Services**	4.3.1	Cost Metrics for Fee-Based Services Expenditure		F	SAP/service provider costs	Estimate	The codes in SAP are not directly attributable to all categories in the Annual RIN template; therefore, assumptions have been developed to allocate expenditure to the appropriate categories.	Refer to Annual RIN. SAP data pertaining to ACS costs and revenue billed, including external service providers' unit costs per invoices applied against ACS service orders.		
			Volumes		NF	SAP/service provider costs	Actual		Number of service orders.		
4.4	**Quoted Services**	4.4.1	Cost Metrics for Quoted Services Expenditure		F	SAP/service provider costs	Estimate	The codes in SAP are not directly attributable to all categories in the Annual RIN template; therefore, assumptions have been developed to allocate expenditure to the appropriate categories.	Refer to Annual RIN. SAP data pertaining to ACS costs and revenue billed, including external service providers' unit costs per invoices applied against ACS service orders.		x
			Volumes		F	SAP/service provider costs	Actual		Number of service orders.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
5.2	**Asset Age Profile**		General						UE has produced a number of documents which contain instructions for how the data required by the RIN category is to be obtained and populated. These documents include detailed methodologies to provide both actual and Estimate data. The BoP against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this particular RIN, documents UE PR 2316, 2318, 2321, 2323, 2324, 2340-2345, 2347, 2349 were referenced.		Data volumes for specific asset age profiles may vary from previously submitted RINs. These differences can me accounted for by improvements in extraction methodologies from UE source systems (SAP/GIS) and a continuous effort to cleanse incorrect data stored in these systems. It should be noted that any changes made are deemed to be more accurate and complete then previous versions.
		5.2.	5.2 Asset Age Profile\n\nCalculation of Economic Life		NF	SAP	Actual	The installation dates of a minority of assets was not recorded has been Estimate which means the calculation has been deemed to be Estimate. The estimation of the installation date is usually based on the age of related equipment on the assumption that the assets are installed at the same time.	The economic life adopted by an asset is the useful life assigned against the fixed asset class held against the asset in the fixed asset module of SAP	Economic life is based on the 2001 Asset Simplification Report or derived from the manufacturer's recommendations and industry best practice.	Refer:\n\n-Fixed Asset Policy FAM-022-POL\n\n-UE Network Assets review of Accounting useful lives 30 June 2015
			Poles		NF	SAP	Actual		All Pole asset data stored in SAP has been surfaced in SAP HANA then aggregated and reported through Tableau.		Refer UE-PR-2345

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									The installation date is held against the Equipment "STARTUP DATE" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record. i.e. Voltage, Material and whether or not the pole is reinforced		
			Overhead Conductors		NF	GIS	Actual		All Conductor asset data stored in GIS has been surfaced in Oracle RTV then aggregated and reported through Tableau. The installation date is held against the Equipment "DATE_INSERTED" or "COND_DATE_CONSTRUCTED" in the GIS Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record, i.e. Voltage, Material and whether or not the conductor is multiphase or singlephase		Refer UE-PR-2345
			Underground Cables HV		NF	SAP GIS	Actual		Data for HV Cable is stored in both SAP and GIS, surfaced in SAP HANA and		Refer UE-PR-2342

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Oracle RTV respectively. Both datasets are joined, aggregated and reported through Tableau The installation date is held against the Equipment "STARTUP DATE" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record. i.e. Voltage, Material		In 2015 UE have reported on Station Cable not previously reported.
			Underground Cables LV		NF	SAPGIS	Actual		All LV Cable asset data stored in GIS has been surfaced in Oracle RTV then aggregated and reported through Tableau. The installation date is held against the Equipment "DATE_INSERTED" in the GIS Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record, i.e. Voltage, Material and whether or not the conductor is multiphase or singlephase		Refer UE-PR-2342
			Service Lines		NF	GIS SAP	Estimate	UE used the Weibull model to estimate the age profile of services on the network	All Service Line asset data is stored in both SAP and GIS, surfaced in SAP		Refer UE-PR-2349

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
								for various customer types and connection complexities. Where there was insufficient information to classify the service, they were allocated on a prorata basis.	HANA and Oracle RTV respectively. Both datasets are joined, aggregated and reported through Tableau The installation date is held against the Equipment "DATE_CONSTRUCTED" or "DATE_LAID" in the GIS Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record. i.e. "SUPERIOR_TYPE_OF_P REMISE" and "SUPPLY_COMPLEXITY"		
			Transformers		NF	SAP	Actual		All Transformers asset data stored in SAP has been surfaced in SAP HANA then aggregated and reported through Tableau. The installation date is held against the Equipment "STARTUP DATE" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record. i.e. Construction type, kVA Rating and whether or not the transformer is multiphase or singlephase		Refer UE-PR-2347

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Zone Substations & Switchgear		NF	SAP	Actual		All Zone Substation and Circuit Breaker assets data stored in SAP has been surfaced in SAP HANA then aggregated and reported through Tableau. The installation date is held against the Equipment "STARTUP DATE" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record. i.e. Asset Type, Construction type, Voltage or kVA Rating	Plant is installed in the same year as it is specified.	Refer UE-PR-2321
			Public Lighting		NF	GIS SAP	Actual		All PL Pole asset data stored in SAP has been surfaced in SAP HANA then aggregated and reported through Tableau. The installation date is held against the Equipment "STARTUP DATE" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of whether or not the pole on a Major or Minor Road All Luminaries and Brackets data stored in		Refer UE-PR-2324 Public Lighting lamp replacements are categorised as operating expenditure.

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									GIS has been surfaced in Oracle RTV then aggregated and reported through Tableau. The installation date is held against the Equipment "DATE_COMMISSIONED" or "DATE_INSERTED" in the GIS Equipment Record. Equipment records are assigned a RIN code by virtue of whether or not the pole on a Major or Minor Road		
			SCADA, Network Control & Protection		NF	SPAGIS	Actual		Data for SCADA, Network Control & Protection is stored in both SAP and GIS, surfaced in SAP HANA and Oracle RTV respectively. Both datasets are aggregated and reported through Tableau The installation date is held against the Equipment "CONSTRUCTION_YEAR" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of the assets "EQUIPMENT_TYPE" For Records coming from GIS the installation date is held against the Equipment "DATE INSERTED" or "DATE LAID" in the GIS		Refer UE-PR-2323

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
									Equipment Record. Equipment records are assigned a RIN code by virtue of the assets "OBJECT_TYPE"		
			Other Assets - Pits and Pillars		NF	GIS	Actual		All Pits and Pillar asset data stored in GIS has been surfaced in Oracle RTV then aggregated and reported through Tableau. The installation date is held against the Equipment "DATE_INSTALLED" or "DATE_INSERTED" in the GIS Equipment Record. Equipment records are assigned a RIN code by virtue of the assets "EQUIPMENT_TYPE"		Refer UE-PR-2316
			Other Assets - Line Capacitors		NF	GIS SAP	Actual		All Line Capacitor asset data stored in SAP has been surfaced in SAP HANA then aggregated and reported through Tableau. The installation date is held against the Equipment "STARTUP DATE" in the SAP Equipment Record. Equipment records are assigned a RIN code by virtue of the assets "EQUIPMENT_TYPE".		Refer UE-PR-2340

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Other Assets - Fuses		NF	GIS SAP	Actual		All Fuse data stored in GIS has been surfaced in Oracle RTV then aggregated and reported through Tableau. The installation date is held against the Equipment "SW_DATE_INSTALLED" or "SW_DATE_INSERTED" in the GIS Equipment Record. Equipment records are assigned a RIN code by virtue of characteristics associated with that equipment record, i.e. Switch Type and Voltage		Refer UE-PR-2341
5.3	**MD - Network Level**		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 2213 was referenced.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
		5.3.1	5.3 Maximum Demand at Network Level Raw Network Coincident demand, Date MD occurred, Half Hour time Period, Winter/Summer peaking		NF	Metered Data Stored in "UE Actual & Forecast S & W Demand Energy & Customer No" Spreadsheet.	Actual		After each summer, UE Network Planning collects the actual demand data (half-hourly average summations of a set of wholesale boundary load NMI's) and these are used to identify the maximum coincident demand and its date and time.		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.
			Embedded generation		NF	Metered Data Stored in "UE Actual & Forecast S & W Demand Energy & Customer No" Spreadsheet.	Actual		The embedded generation contribution at the coincident maximum demand is sourced from the annual data provided to NIEIR for forecasting and is obtained from actual half-hourly average summations of a defined set of wholesale boundary load meters at the date and time of MD.		All the embedded generators in the UE network are of non-scheduled category.
			Weather Connected (10% and 50% POE) MD		NF	Metered Data Stored in "UE Actual & Forecast S & W Demand Energy & Customer No" Spreadsheet.	Estimate	The PoE corrected demand is calculated and relies on temperature sensitivity information provided by the NIEIR forecast. This information is validated against historical data, an internal estimation procedure and bottom up load estimation.	The 10% PoE and 50% 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 temperature is based on NIEIR estimates.		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
5.4	**MD & Utilisation-Spatial**		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 2213 was referenced.		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.
		5.4.1	Non-Coincident & Coincident Maximum Demand Substation Rating		NF	Metered Data Stored in "UE Actual & Forecast S & W Demand Energy & Customer No" Spreadsheet.	Actual		The Load forecasting manual contains a record of historical and forecast demands, and historical and forecast ratings, based in capacity added to the system. The manual is updated to reflect change in ratings on the completion of a project. The information has been extracted from it.		There is no difference between coincident and non-coincident ratings.
			Maximum Demand Raw adjusted MD MW & MVA, date & time occurred,		NF	Load Forecast Spreadsheet	Actual		Historical maximum demands (MW) at each zone substation were captured and recorded as part of the load forecasting process. These values have been adjusted for any		

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			winter summer peaking						applicable abnormalities which occurred within the period concerned. The reactive power demand in MVAr at each zone substation has also been captured and recorded as part of the load forecasting process. These values have been adjusted for any applicable abnormalities occurred within the period concerned. Those MW and MVAr values can be used to calculate the MVA demand and operating power factor at each zone substation. The recorded information includes date and time (EST) of non-coincident and coincident MD.		
			Maximum Demand Adjustments Embedded Generation		NF	Metered Data Stored in "NIEIR Boundary load Apr14-Mar15-Submission" Spreadsheet.	Actual		While extracting non-coincident and coincident maximum demand information as part of the load forecasting process, the embedded generation contributions at the maximum demand are recorded. This is presently applicable at only three zone substations: - Dandenong Zone Sub, Springvale South Zone sub and Sorrento Zone Sub.		Where large generators are connected, the actual transformer maximum demand is less by the amount of generation. The generators are all of a non-scheduled category. The impact of small-scale and solar generation is automatically captured in the process as a negative demand and no adjustment is required.

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
			Maximum Demand Weather Correction MD, MW MVA, 10% & 50% PoE.		NF	Metered Data Stored in "UE Actual & Forecast S & W Demand Energy & Customer No" Spreadsheet.	Estimate	The PoE corrected demand is calculated and relies on temperature sensitivity information provided by the NIEIR forecast. This information is validated against historical data, an internal estimation procedure and bottom up load estimation.	The 10% PoE and 50% 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 temperature is based on NIEIR estimates.		
6.3	**Sustained Interruptions**	6.3.1	Sustained interruptions to supply (for 2014-15)		NF	OUA.	Actual		The data used to calculate reliability is extracted from the OUA database cleansed to remove duplications and adjusted for temporary switching arrangements. The cause codes in the database are mapped into the RIN "Reason for Interruption" and "Detailed Reason For Interruption" categories. The outage data base contains the data required by the RIN including outage dates and time, number of customers affected, restoration data and time and cause codes..	Outages that are excluded due to -load shedding due to generation short fall, auto load shedding or due to system operation -load interruption caused by failure of shared transmission assets - Load interruption caused by failure of transmission connection assets except where due to inadequate planning by UE and where UE is responsible for the planning. - Load interruptions caused by exercise of right, obligations or discretion imposed upon to provide under regulation or law.	Customer Numbers were calculated as the average of the January and December counts for each regulatory year. An interruption starts when first recorded by equipment or, where equipment does not exist, at the time of the first customer call in relation to the network outage. An interruption ends when supply is restored and available to the customer. Due to differing 'asset failure' classifications, quantities in this tab will not align with those in REPEX 2.2. E.g., fuse operation with a SAIFI impact will count towards a failure in this tab, but is considered normal operation (for a fuse) under Tab 2.2.

Tab	Table Name	Table	Table title	Data quality	Fin / Non-fin	Data source	Actual / Estimate	Justification (if Estimate)	Methodology (Actual & Estimate)	Assumptions (Actual & Estimate)	Additional Comments
											A project is currently in place to align the difference in reporting of asset failures between the two RIN tabs.