2017 RIN

Basis of Preparation

Annual

Document No: 2017 [UE] [AN] RIN BOP

Revision: 1.0

Overview

United Energy is required to prepare a Basis of Preparation document which must,

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

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

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

d) advise if the information is actual or estimate;

e) explain circumstances where United Energy cannot provide input for a variable using actual information, and therefore must provide estimated 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 document provides details to support the information provided by United Energy in the Microsoft Excel workbooks titled:

- 2017 [UE] [AN] RIN Template Export - Consolidated

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

- classification of actual or estimated information;
- if estimated, appropriate justification provided;
- data source;
- methodology and assumptions adopted to prepare the information;
- any additional comments to support the basis of preparation.

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.

BOP ID	Tab ID	Tab Name	Table and Rule Allocation	Estimated / Actual	Data Source	Why Estimated?	Methodology	Assumptions	Additional Comments
ANFUE2.11BOP1	2.11	Labour	Table 2.11.3.1 - Opex Table 2.11.3.2 - Capex	Actual	SAP	N/A	Labour costs for Capex and Opex directly obtained from SAP cost elements	N/A	N/A
ANUE3.6BOP1	3.6	Quality of Service	Table 3.6.6.1 - TECHNICAL QUALITY OF SUPPLY Table 3.6.6.2 - PERCENTAGE OF COMPLAINTS BY CATEGORY Table 3.6.6.3 - PERCENTAGE OF COMPLAINTS BY LIKELY CAUSE	Actual	UE SAP CRM	N/A	The number of complaints classified by customer resolution agents as relating to quality of supply complaints (recorded by UE as 'Regulatory Category 1'). The complaints sub-categories (recorded by UE as 'Regulatory Category 2') and likely causes (recorded by UE as 'Regulatory Category 3') for quality of supply complaints recorded in the UE system are the same as those requested by the AER (In instances where Regulatory category 2 or 3 has not been applied these are interpreted as 'Other' categories). Therefore, data has been directly extracted from the system in the relevant categories.	N/A	N/A
ANUE3.6BOP2	3.6	Quality of Service	Table 3.6.7.1 - TIMELY PROVISIONS OF SERVICES	Actual	Data extracted from SAP and validated GSL data from SAP and Service Provider reporting	N/A	Data of completed Service Orders is extracted from SAP in relation to Connection volumes. GSL data identifies where we have not met requirements which is based on reviewed and validated data from/between SAP and Service Provider reporting.	N/A	N/A
ANUE3.6BOP3	3.6	Quality of Service	Table 3.6.7.2 - TIMELY REPAIR OF FAULTY STREET LIGHTS	Actual	OUA Reports	N/A	Street Light Faults are monitored using the UE Faults system DMS. OUA reporting system is utilised to analyse this data and return results to populate the RIN.	N/A	N/A
ANUE3.6BOP4	3.6	Quality of Service	Table 3.6.7.3 - CALL CENTRE PERFORMANCE	Actual	Aegis Faults Desk Reporting	N/A	Daily Faults call centre data is utilized to calculate return annual results on applicable fields.	N/A	N/A
ANUE3.6BOP5	3.6	Quality of Service	Table 3.6.7.4 - NUMBER OF CUSTOMER COMPLAINTS	Actual	UE SAP CRM	N/A	The number of EWOV and Normal complaints as classified by customer resolution agents (recorded by UE as Regulatory Category 1). Therefore, data has been directly extracted from the system in the relevant categories.	N/A	N/A
ANUE3.6BOP6	3.6	Quality of Service	TABLE 3.6.5 - QUALITY OF SUPPLY METRICS	Actual	PQ data is extracted from the database of the PQ analysers	N/A	To extract data for all zone substations, a query can be created using ION reporter tool. - Voltage Variation - Steady State (Zone Sub) The disturbances lasting more than 60 seconds, including over-voltages which are equal or less than 120% and more than 106% and under-voltages which are equal or more than 80% and less than 94% are considered here as steady state disturbances according to Clause 4.2.2 of the Victorian Electricity Distribution Code. The upper limit for the over-voltages and lower limit for the under-voltages are used in IEEE Standard 1159-2009 "IEEE Recommended Practice for Monitoring Electric Power Quality" as typical limits for such disturbances. The total number of the selected events which last more than 60 seconds is used for the 'Voltage Variation - Steady State (Zone Sub)' row of Table 1 of the RIN template. This cell is automatically populated. - Voltage Variations - One Minute (Zone Sub) To complete this part of the RIN template, disturbances lasting equal or more than 10 seconds and less than 60 seconds, including temporary swells which are equal or less than 120% and more than 110% and temporary sags which are equal or more than 10% and less than 90% are considered. Similar to the previous section, the upper limit for the temporary swells and lower limit for the temporary sags are used in IEEE Std. 1159-2009 as typical limits for such disturbances. This cell is automatically populated.	The first six rows of the table cannot be completed due to a lack of measurement capability for such events.	Refer to UE PR 2203.

							- Voltage Variations - 10 Seconds (Zone Sub) Min<0.7 For this part of the RIN template, disturbances lasting less than 10 seconds, including momentary sags that are equal or more than 10% and less than 70% are considered. This cell is automatically populated. - Voltage Variations - 10 Seconds (Zone Sub) Min<0.8 Disturbances lasting less than 10 seconds including momentary sags that are equal or more than 70% and less than 80% are considered for this category. This cell is automatically populated. - Voltage Variations - 10 Seconds (Zone Sub) Min<0.9 Disturbances lasting less than 10 seconds including momentary sags that are equal or more than 80% and less than 90% are considered here. This cell is automatically populated. - Voltage Variations - % Zone Subs Monitored The ratio of the zone substations which have at list one PQ analyser installed to the total zone substations is considered here. This ratio is calculated manually by filtering the data in the tabular report. - Variations - Steady State (Feeder) Disturbances lasting equal or more than 60 seconds, including over-voltages which are equal or less than 120% and more than 110% and under-voltages which are equal or more than 80% and less than 94% are considered as steady state disturbance. Similar to the previous sections, the upper limit for the over-voltages and lower limit for the under-voltages are used in IEEE Std. 1159-2009 as typical limits for such disturbances. For this classification, the phase with the highest 'Maximum' value and the phase with the lowest 'Minimum' value are considered for over-voltage and under-voltage studies, respectively. This cell is automatically populated. - Voltage Variations - % Feeders Monitored The ratio of the zone substations which their longest feeders have a PQ analyser installed to the total zone substation is considered here. This ratio is calculated manually by filtering the data in the tabular report.		
ANUE3.6.8BOP1	3.6.8	Network-feeders	Table 3.6.8 - NETWORK FEEDER RELIABILITY	Actual	Metering Data, Geographical Information System (GIS), OUA	N/A	A list of feeder IDS are compiled from various systems from UE (Load forecast spreadsheet maintained by Network Planning which lists demand for each feeder, Customer Numbers by feeder from OUA and Feeder lengths from GIS). This list is filtered to only include feeders which had at least one of the following - non zero customer numbers, non zero length, non zero demand. This list was then checked to filter out non UE feeders, very short feeders with no customers (e.g. Station service transformers) and feeders that have been renamed (all data is listed under the new name) or designated as a future feeder. The feeder classification is based off an initial assessment which is made based on length and demand (as per AER definitions). Where demand/length data is not available due to the feeder being serviced by another provider, the classification is based off the previous year's RIN by that provider. Any new feeders or feeders that have changed classification from the previous RIN are checked to see whether the feeder	N/A	Reference procedure document UE PR 2302. Feeder classifications are determined in accordance with AER definitions. This BOP covers the columns: - Feeder ID / name - Description of the service area for the feeder - Feeder classification - Number of distribution customers

							should be classified differently (due to being in an urban area for example).		
ANUE3.6.8BOP2	3.6.8	Network-feeders	Table 3.6.8 - NETWORK FEEDER RELIABILITY	Actual	Geographical Information System, AM/FM Reports	NA	Asset data in the AM/FM reports is updated monthly from UE's GIS and presented in user friendly tables. Feeder conductor lengths from the first day of the new year are used for feeder classification.	NA	Reference procedure document UE PR 2302. This BOP covers columns: - Overhead - Underground
ANUE3.6.8BOP3	3.6.8	Network-feeders	Table 3.6.8 - NETWORK FEEDER RELIABILITY	Actual	Metering Data	NA	The Maximum Demand is obtained from the Network Planning Team who use actual metered data.	NA	Reference procedure document UE PR 2302. This BOP covers columns: - Maximum demand (MVA)
ANUE3.6.8BOP4	3.6.8	Network-feeders	Table 3.6.8 - NETWORK FEEDER RELIABILITY	Actual	OUA, DMS, Metering Data	NA	Energy not supplied is calculated as the average demand x SAIDI / 60 minutes The average customer demand was calculated for each Medium Voltage (MV) feeder using the hourly data extracted from the PI Historian software. PI historian records the following values: - Average MW / hr - Average MVAr / hr The hourly readings were aggregated to a year for each MV feeder. Therefore, Average Demand per Feeder (MVA) = SQRT[(MW_AVG)^2 + (MVAr_AVG)^2] See below for SAIDI	NA	Reference procedure document UE PR 2302. This BOP covers the columns: - Energy not supplied
ANUE3.6.8BOP5	3.6.8	Network-feeders	Table 3.6.8 - NETWORK FEEDER RELIABILITY	Actual	OUA, DMS	N/A	Raw unplanned data is downloaded from the DMS Database. The data is cleansed to remove duplications, system errors (events that should have been cancelled), ensure each event has a valid feeder name, split out outages affecting multiple feeders into each feeder component and check SAIFI/MAIFI overrides. Raw planned data is downloaded from OUA. The data is checked to ensure each entry has a valid feeder ID and that the time appears correct (events over 1 day are usually a system error and have not been closed out correctly). SAIDI is calculated as CMOS/customers on feeder SAIFI is calculated as customers affected/customers on feeder.	N/A	Reference procedure document UE PR 2302. This BOP covers the columns: - Unplanned outages - Planned outages - Momentary feeder outages
ANUE3.6.9BOP1	3.6.9	Network-reliability	TABLE 3.6.9 - NETWORK FEEDER RELIABILITY - PLANNED OUTAGES	Actual	OUA, RIN Tab 3.6.8	N/A	Raw planned data is downloaded from OUA. The data is checked to ensure each entry has a valid feeder ID and that the time appears correct (events over 1 day are usually a system error and have not been closed out correctly). SAIDI and SAIFI are calculated in accordance with AER definitions. Refer to Annual RIN tab 3.6.8 for feeder classifications.	N/A	Refer to procedure document UE PR 2302.
ANFUEP4.1BOP1	4.1	Public Lighting Tariffs	TABLE 4.1.4 - PUBLIC LIGHTING METRICS BY TARIFF	Actual	UE General ledger SAP billing	N/A	Public lighting revenue data extracted from UE general ledger split into tariff categories based on relevant billing codes and public lighting volume data from SAP billing split into tariff categories.	N/A	N/A
ANUE6.2BOP1	6.2	STPIS Reliability	TABLE 6.2.1 - UNPLANNED MINUTES OFF SUPPLY (SAIDI) TABLE 6.2.2 - UNPLANNED INTERRUPTIONS TO SUPPLY (SAIFI) TABLE 6.2.3 - UNPLANNED MOMENTARY INTERRUPTIONS TO SUPPLY (MAIFI)	Actual	DMS, Annual RIN Tab 3.6.8	N/A	Raw data is downloaded from the DMS Database. The data is cleansed to remove duplications, system errors (events that should have been cancelled), ensure each event has a valid feeder name, split out outages affecting multiple feeders into each feeder component and check SAIFI/MAIFI overrides. SAIDI, SAIFI and MAIFI performance is calculated in accordance with AER definitions. Refer to Annual RIN tab 3.6.8 for feeder classifications. These events are then filtered further for	N/A	N/A

							excluded events and MED. Excluded events and MED records are maintained by Network Performance team.		
ANUE6.2BOP2	6.2	STPIS Reliability	TABLE 6.2.4 - DISTRIBUTION CUSTOMER NUMBERS	Estimate	EB RIN Tab 3.4, GIS	Not stored for all customers in source data systems	Total customer numbers are billed customer numbers, as extracted from SAP. Billed customer numbers are extracted on a monthly basis from SAP and stored over the period. The month-end billed customer numbers that are considered to be the most representative of actual customer numbers is selected as the total customer number for the period. The allocation of total customers between Urban and Rural Short is based on PY historical split.	Prior year customer classification mix between Urban and Rural Short is an accurate reflection of the current year customer mix.	Refer to procedure document UE PR 2302.
ANUE6.6BOP1	6.6	STPIS Customer Service	Table 6.6.1 - TELEPHONE ANSWERING	Actual	Aegis Faults Desk Reporting	N/A	Daily Faults Call Centre results are used to calculate annual performance.	N/A	N/A
ANUE6.7BOP1	6.7	STPIS Daily Performance	Table 6.7.1 - DAILY PERFORMANCE DATA - UNPLANNED	Actual	Service Provider Report (Raw) - Faults Desk only	N/A	Data is extracted from Service Provider Daily Report, and calculated as per AER definition.	N/A	This BOP covers 'Customer Service' columns.
ANUE6.7BOP2	6.7	STPIS Daily Performance	Table 6.7.1 - DAILY PERFORMANCE DATA - UNPLANNED	Actual	DMS Database	N/A	Raw data is downloaded from the DMS Database. The data is cleansed to remove duplications, system errors (events that should have been cancelled), ensure each event has a valid feeder name, split out outages affecting multiple feeders into each feeder component and check SAIFI/MAIFI overrides. MAIFI performance is calculated in accordance with AER definitions. Refer to Annual RIN tab 3.6.8 for feeder classifications. These events are then filtered further for excluded events and MED. - Excluded events and MED records are maintained by Network Performance team. - UE have no 'long rural' or CBD feeder classification and information is therefore not provided. - Calculations are completed in accordance with AER definitions. The feeder classification is taken from RIN Table 3.6.8. - The average distribution customer numbers used in calculations is taken from RIN Tab 6.2 Table 6.2.4.	N/A	Refer to procedure document UE PR 2302. This BOP covers 'MAIFI' columns.
ANUE6.8BOP1	6.8	STPIS Exclusions	Table 6.8.1 - STPIS EXCLUSIONS	Actual	OUA System	N/A	Exclusion events are recorded in OUA system and events are extracted directly.	N/A	N/A
ANUE6.9BOP1	6.9	STPIS GSL	Appointments	Actual	Service Desk Appointments (provided by Skilltech), Connections Appointments are listed in the Connections Monthly reports.	N/A	Review of Service Provider reporting and GSL's in SAP utilized to calculate GSL volumes and payments.	N/A	N/A
ANUE6.9BOP2	6.9	STPIS GSL	Connections	Actual	SAP and validated Service Provider reporting	N/A	Data of completed Service Orders is extracted from SAP in relation to Connection volumes. GSL data identifies where we have not met requirements which is based on reviewed and validated data from/between SAP and Service Provider reporting.	N/A	N/A
ANUE6.9BOP3	6.9	STPIS GSL	Reliability of supply	Actual	OUA Reports validated against AMI meter data received by UIQ as provided by Electricity Networks.	N/A	- data extracted all GSLs from DMS. - obtained the NMIs of all customers where DMS indicated that a customer experienced a single outage of more than 12 hours. - Extract of all 'Power Off' and 'Power On' events from the AMI meters for the periods in question. - calculated the outage from the customer's perspective. If the customer saw no outage, or the customer only experienced a brief outage, we flagged them for removal from the long duration outage categories. - adjusted the total outage duration for each customer to determine if the customer genuinely experienced outages totalling more than 20 hours for the year.	N/A	N/A
ANUE6.9BOP4	6.9	STPIS GSL	Street lights	Actual	OUA Reports	N/A	Street Light Faults are monitored using the UE Faults system DMS. OUA reporting system is utilised to analyse this data and return results to populate the RIN.	N/A	N/A

ANUE6.9BOP5	6.9	STPIS GSL	Planned interruptions	Actual	OUA Reports	N/A	Planned Outages are monitored using the UE Faults system DMS. OUA reporting system is utilised to analyse this data and return results to populate the RIN.	N/A	N/A
ANUE7.8BOP1	7.8	Avoided TUOS Payments	TABLE 7.8.1 - AVOIDED TUOS PAYMENTS	Actual	201801 TUOS model, SAP Financial Accounts	N/A	SAP data of all payments made by United Energy for embedded generation to businesses and customers.	N/A	N/A
ANFUE7.10BOP1	7.10	Juris Scheme	TABLE 7.10.1 - JURISDICTIONAL SCHEME PAYMENTS	Actual	General Ledger	N/A	Data extracted from SAP as per AER definitions.	N/A	N/A
ANFUE7.11BOP1	7.11	DMIS DMIA	Table 7.11.1 - DMIA - PROJECTS SUBMITTED FOR APPROVAL	Actual	Network Planning SAP Annual DMIS Report	N/A	DMIA undertaken lists all the projects that have incurred expenditure in the current reporting year. The actual expenditure during the current reporting year for each DMIA project listed is sourced from the Annual DMIS Report.	N/A	The Annual DMIS Report is produced by UE each January for the AER and contains the DMIA data. The information has been extracted from this report. 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. The BoP against each relevant RIN category is a summary of the methodology detailed within these UE produced documents. For this particular RIN, document UE PR 2208 was referenced.
ANUE7.13BOP1	7.13	TARC	TABLE 7.13.1 - TOTAL ANNUAL RETAILER CHARGES	Actual	SAP	N/A	TARC sourced directly from SAP cost elements through Annual RIN 8.1.1 Income Statement.	N/A	N/A
ANFUE8.1BOP1	8.1	Income	Table 8.1.1 - INCOME STATEMENT Table 8.1.1.1 - REVENUE Table 8.1.1.2 - EXPENDITURE Table 8.1.1.3 - PROFIT	Actual	Financials sourced from SAP and RAB roll-forward model.	N/A	Standard Control Distribution Revenue reported as per Benchmarking RIN Table 3.1.1. Other revenue data extracted from UE general ledger and split into respective regulatory categories based on relevant billing codes. SAP cost elements have been used to report expenditure against regulatory segments. Depreciation reported as per AER approved RAB roll-forward model.	N/A	N/A
ANFUE8.2BOP1	8.2	Capex	Table 8.2.1 - CAPEX BY PURPOSE - STANDARD CONTROL SERVICES	Actual	SAP, BOARD, TABLEAU	N/A	Extracted a list of statutory capital additions settled to fixed assets from SAP using BOARD summarised by SAP capital project number. Extracted a list of capital projects classified based on expenditure type (Annual RIN Category) from SAP & Tableau summarised by SAP capital project number. Extracted a list of capital projects classified based on voltage from Tableau summarised by SAP capital project number. Extracted a list of capital projects with related party margin amount from SAP using Tableau summarised by SAP capital project number. Tableau classifications are predominately determined from the material activity code. Combined all these data in to a single sheet summarised by SAP capital project number.	N/A	A reconciliation has been performed between Board additions & Statutory SAP capital additions settled to fixed assets as confirmed by Fixed asset accountant.
ANFUE8.2BOP2	8.2	Capex	Table 8.2.2 - CAPEX BY PURPOSE - MATERIAL DIFFERENCE EXPLANATION	Actual	N/A	N/A	Analysed the makeup of the forecast and actual capital and compared the two.	N/A	N/A
ANFUE8.2BOP3	8.2	Capex	Table 8.2.3 - CAPEX OTHER	Actual	SAP, BOARD, TABLEAU	N/A	Extracted a list of statutory capital additions settled to fixed assets from SAP using BOARD summarised by SAP capital project number. Extracted a list of capital projects classified based on expenditure type (Annual RIN Category) from SAP & Tableau summarised by SAP capital project number. Extracted a list of capital projects classified based on voltage from Tableau summarised by SAP capital project number. Extracted a list of capital projects with related party margin amount from SAP using Tableau summarised by SAP capital project number. Tableau classifications are predominately determined from the material activity code. Combined all these data in to a single sheet summarised by SAP capital project number.	N/A	A reconciliation has been performed between Board additions & Statutory SAP capital additions as confirmed by Fixed asset accountant.
ANFUE8.2BOP4	8.2	Capex	Table 8.2.4 - CAPEX BY ASSET CLASS	Actual	SAP, BOARD, TABLEAU	N/A	Data generated as follows:	N/A	N/A

							Subtransmission - 'Subtransmission' total as per Table 8.2.1. Distribution system assets - 'HV', 'LV' and 'Other' totals as per Table 8.2.1 against 'Augmentation', 'Connections' and 'Replacement' less total for 'SCADA/Network Control' as per Table 8.2.3 less total for 'Distribution system assets' as per Table 8.2.5. SCADA/Network Control - Identified SCADA capital project numbers as confirmed by Electricity Networks. Non network - IT - total as per Table 8.2.1. Non network - other - total as per Table 8.2.1. Public Lighting - total as per Table 8.2.3 less total for 'Public lighting' as per Table 8.2.5. Alternative Control - Other - total as per Table 8.2.3.		
ANFUE8.2BOP 5	8.2	Capex	Table 8.2.5 - CAPITAL CONTRIBUTIONS BY ASSET CLASS	Actual	SAP, UE Other Revenue with Costs - Dec17 v1	N/A	Data extracted from the United Energy general ledger against relevant Billing codes enabling the revenue to be allocated to the appropriate Customer Contribution by Asset Class.	N/A	N/A
ANFUE8.2BOP 6	8.2	Capex	Table 8.2.6 - DISPOSALS BY ASSET CLASS	Actual	SAP Fixed Asset Retirement Report	N/A	Extracted a list of proceeds from statutory retirements and categorised it based on the SAP fixed asset class field.	N/A	N/A
ANFUE8.4BOP 1	8.4	Opex	Table 8.4.1 - OPERATING & MAINTENANCE EXPENDITURE - BY PURPOSE	Actual	SAP	N/A	Maintenance expenditure: SAP download of every WBS element by MAT code which determines the line classifications and regulatory categories. Data generated from SAP. All costs were directly allocated in line with the United Energy's approved Cost Allocation Methodology. ACS costs are calculated based on ACS revenue quantities multiplied by unit cost rates. Operating Expenditure: SAP download of every GL balance by cost centre which determines the line classifications and regulatory categories. Data generated from SAP. All costs were directly allocated in line with the United Energy's approved Cost Allocation Methodology. ACS costs are calculated based on ACS revenue quantities multiplied by unit cost rates.	N/A	N/A
ANFUE8.4BOP 2	8.4	Opex	Table 8.4.2 - OPERATING & MAINTENANCE EXPENDITURE - BY PURPOSE - MARGINS ONLY	Actual	SAP	N/A	SAP cost elements are used to report related party margins	N/A	N/A
ANFUE9.5BOP 1	9.5	TUOS	Table 9.5.1 - TUOS CHARGES (AEMO)	Actual	201801 TUOS Model	N/A	Based on actual invoiced data.	N/A	N/A
ANFUE9.5BOP 2	9.5	TUOS	Table 9.5.2 - TRANSMISSION CONNECTION FEES	Actual	201801 TUOS Model	N/A	Based on actual invoiced data.	N/A	N/A
ANFUE9.5BOP 3	9.5	TUOS	Table 9.5.3 - CROSS BOUNDARY NETWORK CHARGES	Actual	201801 TUOS Model	N/A	Based on actual invoiced data.	N/A	N/A
ANFUE9.5BOP 4	9.5	TUOS	Table 9.5.4 - PAYMENTS TO EMBEDDED GENERATORS Table 9.5.4.1 - AVOIDED TRANSMISSION COSTS	Actual	201801 TUOS Model	N/A	Based on actual invoiced data.	N/A	N/A