Category Analysis RIN Basis of Preparation

Template 2.1 Expenditure Summary

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis RIN, and specific to the information presented in Template 2.1 Expenditure Summary of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.1 Expenditure Summary (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.1 Expenditure Summary , Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

Furthermore, the below additional requirement/s were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation. Responses to these requirements are made as attachment/s to this Basis of Preparation.

Table 1: Attachment/s to Basis of Preparation for Template 2.1 Expenditure Summary

Notice Reference	Requirement	Attachments
Appendix E, paragraph 2.4-2.5	▪ Ergon Energy must provide an excel spread sheet that contains the calculation of balancing items reported in Regulatory Template 2.1 ▪ Ergon Energy must provide a reconciliation between the total capital and operating expenditure provided in the Regulatory Template 2.1 to the capital and operating expenditure recorded in Ergon Energy's Regulatory Accounting Statements and Audited Statutory Accounts. ▪ Ergon Energy must provide a reconciliation between the total capital and operating expenditure provided in the Regulatory Template 2.1 to the capital and operating expenditure recorded in Ergon Energy's Regulatory Accounting Statements and Audited Statutory Accounts.	EECL 1415 CARIN_T2.1 EXPS A1 EECL 1415 CARIN_T2.1 EXPS A2 EECL 1415 CARIN_T2.1 EXPS A3

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.1 Expenditure Summary (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued Category Analysis RIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and prior years) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.1 Expenditure Summary

Tables 2.1.1 - 2.1.4: SCS (Capex)/(Opex), ACS (Capex)/(Opex)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	▪ Capital Expenditure reported against activities in Table 2.1.1 have been extracted from individual Templates or derived from subject matter expert supporting files for completion of the templates (where templates didn't require Ergon Energy to distinguish, for example, between capex/opex and nor Standard Control Services (SCS) or Alternative Control Services (ACS) . In this regard: o All ACS capex overheads have been considered to be corporate overheads as this split is not evident in the template 2.10. o ACS for 2014-15 is in line with AER classifications. o Public lighting light installation and light replacement have been considered as capex, while light maintenance has been considered as opex. ▪ In accordance with paragraph 2.4 of the Principles and Requirements an additional Excel spread sheet has been prepared which contains the balancing items reported in Regulatory Template 2.1. ▪ Ergon Energy has identified balancing items which relate to duplications in reporting expenditure throughout the templates. ▪ There are no balancing items relating to instances where Ergon Energy has reported capex not on an 'as-incurred' basis. That is to say, where Ergon Energy is required to report in $2014-15 real dollars (Table 2.3.1) in respect of Augex expenditure this table is not relevant to the Expenditure Summary. ▪ In order to create an Expenditure Summary total capex that is mutually exclusive and collectively exhaustive as per RIN requirements, along with populating the balancing line item, Ergon Energy inserted Metering and Public Lighting categories.
Population of Actual Information in templates	Where the underlying Expenditure reported in templates is noted as being actual information, the data in the Expenditure Summary Table also reflects actuals.
Source of Actual Information	Refer to individual Basis of Preparation documents as relevant to the underlying Expenditure reported in templates, as drawn through to populate the Expenditure Summary.
Methodology and assumption's applied in relation to Actual Information	Refer to individual Basis of Preparation documents as relevant to the underlying Expenditure reported in templates, as drawn through to populate the Expenditure Summary. **Duplications**- A matrix of Category Analysis RIN requirements was

Minimum Requirements	Ergon Energy Response
	prepared which identified reporting of capex, opex, SCS, and ACS, direct, overheads, gifted asset exclusions, for each table. Further checks were identified where instructions or definitions in the Notice identified specific inclusions / exclusions for activities reported. Discussions were held with appropriate staff to understand how costs are treated within Ergon Energy's financial systems to identify duplications in various activities reported throughout the CA RIN. Duplicated amounts reported throughout tables were linked through into the reconciliation file identifying the associated activity and amount of the duplication. **Reconciliation between CA RIN and Regulatory Reporting Statements** – Through the same process mentioned for duplications above, differences between the CA RIN and the Regulatory Reporting Statements were identified for Total Capex and Total Opex. **Reconciliation between Regulatory Reporting Statements & Audited Statutory Accounts** – Based on the AER's Issue Register, where reconciliations had already been reported between Audited Statutory Accounts and the Distribution Network Service Provider (SCS, ACS) in the Regulatory Reporting Statements these are also to be considered in meeting compliance with the CA RIN requirements. Additional information was required to be extracted from the Audited Statutory Accounts in respect of Capex as no such reconciliation is otherwise reported. Extracts of the Work in Progress additions from the Notes to Accounts for Property, Plant and Equipment for the Entity was used to compare to the DNSP Capex figures reported in Regulatory Reporting Statements. As the DNSP operates within the entity Ergon Energy Corporation Limited, which provides both regulated and non-regulated services this is the largest driver of reconciling differences for all years.
Population of Estimated Information in Templates	Where the underlying Expenditure reported in templates is noted as being estimated information, the data in the Expenditure Summary Table also reflects estimates.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Refer to individual Basis of Preparation documents as relevant to the underlying Expenditure reported in templates, as drawn through to populate the Expenditure Summary.
How Estimated Information has been produced.	Refer to individual Basis of Preparation documents as relevant to the underlying Expenditure reported in templates, as drawn through to populate the Expenditure Summary.

Tables 2.1.5 – 2.1.6: Dual Function Assets (Capex)/(Opex)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has no dual function assets.

Ergon Energy Corporation Limited EECL 1415 CARIN_T2.1 EXPS A1
Category Analysis RIN
Balancing Items reported in Regulatory Template 2.1
To adhere with requirement 2.4 of Appendix E: Principles and Requirements

Requirement:
Ergon Energy must provide an excel spread sheet that contains the calculation of balancing items reported in Regulatory Template 2.1. At a minimum, this spread sheet must:
(a) for each instance where an expenditure item is reported more than once (i.e. double counted), identify:
(i) where that instance is reflected in expenditure included in the Regulatory Templates
(ii) the value of that expenditure in each Regulatory Template
(b) identify each instance where the Notice requires Ergon Energy to report capex not on an "as-incurred" basis in Regulatory Templates 2.2 to 2.10 and, for the relevant expenditure item, list its corresponding value when expressed on an "as incurred" basis.

COMMENT:
Ergon Energy has identified the below balancing items in relation to expenditures provided in Template 2.1 of the Category Analysis RIN. There are no instances of reporting capex on an 'as incurred' basis in Templates 2.2 to 2.10 which impact the Expenditure Summary sheet.

Standard control services - CAPEX (includes overheads)		
($s)		
Duplications identified	2014-15	Notes
Metering	- 15,654,037	Metering duplicated in Network Overheads T2.10
Category Analysis RIN BALANCING item	- 15,654,037	Appears in Template 2.1, Table 2.1.1

Standard control services - OPEX by Category (includes overheads)		
($s)		
Duplications identified	2014-15	Notes
Non-network	- 115,769,837	IT & Comms recurrent expenditure (SPARQ charge), and Building and Property are duplicated in 2.10 and 2.6. Motor Vehicles opex in 2.6 Opex is duplicated in Overheads 2.10.
Metering	- 25,227,921	Metering duplicated in Network Overheads T2.10, as well as Maintenance
Category Analysis RIN BALANCING item	- 140,997,758	Appears in Template 2.1, Table 2.1.2

Alternative control services - CAPEX (includes overheads)		
0		
Duplications identified	2014-15	Notes
Connections	- 2,768,510	Expenditure identifed as ACS in CA RIN
Category Analysis RIN BALANCING item	- 2,768,510	Appears in Template 2.1, Table 2.1.3

Alternative control services - OPEX (includes overheads)		
($s)		
Duplications identified	2014-15	Notes
Fee and quoted	- 24,879,000	ACS Opex Metering reported in T4.2 and T4.4; Estimates for cost of reading the data and preparing it for the retailer i.e. includes validation, back office support, systems etc as opposed to the meter reading costs duplicated in Overheads reported in T4.2 and Opex Overheads in T2.10
Metering	- 12,660,683	ACS - Fee Based & Quoted Services duplicated in Network Overheads T2.10
Category Analysis RIN BALANCING item	- 37,539,683	Appears in Template 2.1, Table 2.1.4

Dual function assets - CAPEX		
($s)		
No duplications identified	2014-15	Notes
Category Analysis RIN BALANCING item	0	Appears in Template 2.1, Table 2.1.5

Dual function assets - OPEX by category		
($s)		
No duplications identified	2014-15	Notes
Category Analysis RIN BALANCING item	0	Appears in Template 2.1, Table 2.1.6

Ergon Energy Corporation Limited EECL 1415 CARIN_T2.1 EXPS A2
Category Analysis RIN
Reconciliation of Total Capex and Opex in Table 2.1
To Regulatory Accounting Statements
To adhere with requirement 2.5 of Appendix E: Principles and Requirements

Requirement:
Ergon Energy must provide a reconciliation between the total capital and operating expenditure provided in the Template 2.1 to the capital and operating expenditure recorded in Ergon Energy's Regulatory Accounting Statements

Comment
Ergon Energy has identified all known differences and/or balancing items in reconciling between expenditures provided in Template 2.1 of the Category Analysis RIN and prior submitted Regulatory Accounting Statements. A difference in treatment of gifted Assets (required to be excluded in the CA RIN) impacts Capex. Other differences between reporting requirements can be attributed to extraction methodologies and analysis performed in estimation of disagregations required.

Standard control services - total gross capex (includes overheads)

($s)		2015	Notes
Category Analysis RIN	After duplications accounted for	839,271,136	Source: CA RIN Table 2.1.1
Adj for legit difference between RINs	Gifted Assets (not in CA RIN)	17,156,001	Source: CA RIN workings
Regulatory Accounting Statements [AP RIN]		865,187,000	Source: AP RIN Table 5.1
Difference between Reporting Requirements		- 8,759,863	

Standard control services - total gross opex (includes overheads)

($s)	2015	Notes
Category Analysis RIN	501,176,002	Source: CA RIN Table 2.1.2
Adj for legit difference between RINs	-	
Regulatory Accounting Statements [AP RIN]	504,560,000	Source: AP RIN Table 1.1
Difference between Reporting Requirements	- 3,383,998	

Alternative control services total gross capex (includes overheads)

($s)		2015	Notes
Category Analysis RIN		26,343,979	Source: CA RIN Table 2.1.3
Adj for legit difference between RINs	Gifted Assets (not in CA RIN)	5,823,182	Source: CA RIN workings
Regulatory Accounting Statements [AP RIN]		31,079,000	Source: AP RIN Table 5.4
Difference between Reporting Requirements		1,088,161	

Alternative control services total gross opex (includes overheads)

($s)	2015	Notes
Category Analysis RIN	45,515,964	Source: CA RIN Table 2.1.4
Adj for legit difference between RINs	-	
Regulatory Accounting Statements [AP RIN]	46,209,957	Source: AP RIN Table 1.1
Difference between Reporting Requirements	- 693,993	

Dual function assets capex

($s)	2015	Notes
Category Analysis RIN	-	Ergon Energy does not have any Dual Function assets.
Adj for legit difference between RINs	-	
Regulatory Accounting Statements [AP RIN]	-	
Difference between Reporting Requirements	-	

Dual function assets opex

($s)	2015	Notes
Category Analysis RIN	-	Ergon Energy does not have any Dual Function assets.
Adj for legit difference between RINs	-	
Regulatory Accounting Statements [AP RIN]	-	
Difference between Reporting Requirements	-	

Acronyms:
ASA - Audited Statutory Accounts
QCA RRS - Queensland Competition Authority Regulatory Reporting Statements
AP RIN - Australian Energy Regulator Annual Performance Regulatory Information Notice
RAS - Regulatory Accounting Statements consisting of QCA RRS and AP RIN

Ergon Energy Corporation Limited EECL 1415 CARIN_T2.1 EXPS A3
Category Analysis RIN
Reconciliation of Total Capex and Opex
in Regulatory Accounting Statements to Audited Statutory Accounts
To adhere with requirement 2.5 of Appendix E: Principles and Requirements

Requirements:

Ergon Energy must provide a reconciliation between the total capital and operating expenditure provided in the Template 2.1 to the capital and operating expenditure recorded in Ergon Energy's Regulatory Accounting Statements and Audited Statutory Accounts.

Additionally, in accordance with the AER's issues register for the CA RIN, to the extent the Regulatory Accounting Statements include a reconciliation to amounts in the Audited Statutory Accounts, Ergon Energy has provided a copy of the Regulatory Accounting Statements as stated by the the AER to be sufficient to comply with this requirement. Ergon Energy notes that the AER is seeking to identify items relevant to demonstrating this reconciliation.

Standard control services and Alternative Control Services capex (includes overheads)

	2015
Audited Statutory Accounts	910,085
Regulatory Accounting Statements	896,266
Reconciling difference - Amount	**13,819**
Explanation	Non-regulated component
Source	2014-15 AP RIN Table 5.1 & 5.4; ASA Note 14: PP&E

Standard control services and Alternative Control Services opex (includes overheads)

No reconciliation required for Opex, as there are reconciliations in Ergon Energy's Regulatory Accounting Statements which meet the requirements in accordance with the AER's issues register.

Acronyms:
ASA - Audited Statutory Accounts
QCA RRS - Queensland Competition Authority Regulatory Reporting Statements
AP RIN - Australian Energy Regulator Annual Performance Regulatory Information Notice
RAS - Regulatory Accounting Statements consisting of QCA RRS and AP RIN

Category Analysis RIN Basis of Preparation

Template 2.2 Replacement Expenditure

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.2 Replacement Expenditure of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.2 Replacement Expenditure (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.2 Replacement Expenditure, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

Ergon Energy continues to look at identifying opportunities for data quality improvement in support of the transition of data from Estimates to Actuals for future reporting periods.

Our data improvement initiatives will include: making changes to key systems; standardising reporting; changing field data capture processes, and positioning the business to being more agile to respond to changing regulatory frameworks and administrative processes.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirement/s were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.2 Replacement Expenditure (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and prior years) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

[1] Templates were reissued: 15 May, 19 June and 22 June.

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Template 2.2 Replacement Expenditure

Table 2.2.1 - Cost Metrics by Asset Category

Ergon Energy provides the below comments specific to individual asset groups / categories represented in Template 2.2.

Generally, in regards to requirements for Template 2.2, Table 2.2.1, Ergon Energy notes that:

- Where asset sub-categories corresponding to the prescribed asset categories were provided, the expenditure and asset replacement / asset failure volumes of these sub-categories reconcile to the higher level asset category.
- Additional rows were inserted to provide a clear indication of the asset category applicable to each sub-category.
- In instances where expenditure is reported associated with Asset Refurbishments / Life Extensions Capex, Ergon Energy has inserted additional rows at the bottom of the table for the relevant asset group to account for this. The Asset Category name is followed by “Refurbished” in this regard.
- Additional rows have been inserted to account for assets not accounted for under the prescribed asset group categories or sub-categorisations.
- The sum of the individual asset categories, including any additional sub-category, additional other asset category or Asset Refurbishments / Life Extensions asset category expenditure reconciles to the total expenditure of the asset group.
- Ergon Energy has reported replacement volumes by asset group in Template 2.2, Table 2.2.1 that equal the applicable replacement volume data provided in table 2.2.2. It should be noted that the total poles in table 2.2.2 does not include pole staking, because a pole stake is a reinforcement applied to support a pole and not a pole asset in and of itself.
- The sum of the asset group replacement expenditures is equal to the total replacement expenditure contained in template 2.1 (Expenditure Summary)
- Where estimated expenditure data has been provided on the basis of historical data that has included works across asset groups, Ergon Energy has provided the Asset Age Profile data in Template 5.2 against the most elementary asset category. Documentation of instances where back cast unit costs generated have involved allocations of historical records that include expenditure across asset groups has been provided.

- Ergon Energy has prepared the information in accordance with the AER's definition clarification associated with Template 2.2 received on 2 and 7 July 2015.
- Activity Codes from Ergon Energy's General Ledger have been used to identify expenditure on Asset Replacement using the three (3) activity codes which align with this activity. They have also been used to identify Replacement Asset Quantity from stores issues for many distribution assets and in some instances quantity of assets issued against "Maintenance" activity codes to count failures. The Activity Code for Other is also listed as occasionally some of this expenditure contains an element of asset replacement. This is documented in detail for specifics assets in the individual asset tables in the BoP.

Activity Code	Description	Budget	Driver
53120	Corrective Reg Lines	OPEX	Maintenance
53150	Corrective Reg Subs	OPEX	Maintenance
54100	Forced Regulated Maintenance	OPEX	Maintenance
C2000	Network Refurbishment	CAPEX	Replacement
C2020	Ageing Asset Replacement	CAPEX	Replacement
C2050	Other Regulated System Capex	CAPEX	Other

- In compiling the 2014-15 RIN data, Ergon Energy has revised the analysis of expenditure to develop the data to a set of Groups and categories that both more closely reflect Ergon Energy's assets and for which data can be extracted and used for internal asset management purposes. The new approach is called the Ergon Energy view (EE view).

    1. Firstly, this method separates all replaced network assets into Ergon Energy groups and categories by the following;
        a. Asset function (determines the group);
        b. Asset expected life
        c. Asset cost;
    2. Allocates expenditure to all assets in Ergon Energy categories.
    3. Calibrates the 5 year average unit cost rates for each EE category according to SME's knowledge and any available data.
    4. Reallocates all replaced assets into the prescribed AER RIN groups and categories (RIN view).
    5. Applies the EE unit cost rates to all assets in the RIN categories.
    6. Adjusts the expenditure to reconcile with total capital expenditure for all Refurbishment and Replacement.

- The purpose that Ergon Energy has applied EE view method is that some of the pre subscripted AER categories include different types of asset with variants of unit cost rate and expected asset life in a single category. Ergon Energy has brought back the analysis back in a lower detail level to achieve a better estimate.
- This revision has the effect of adjusting the estimated expenditure for all years in the Category Analysis RIN from 2008-09 to 2014-15. Note a minor error in the stores coding of switchgear has also been corrected which has the effect of a minor adjustment to some replacement volumes in the Switchgear Category.

Table 1: Staking of a Wooden Pole

Minimum Requirements	Ergon Energy Response [Staking of a Wooden Pole]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1: Replacement Expenditure Volumes and Asset Failures, by Asset Category, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following variables: ▪ Expenditure by Asset Category (2014-15) ▪ Asset Replacements (2014-15) ▪ Asset Failures (2014-15)
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to Expenditure By Asset Category (2014-15) because the corporate Enterprise Resource Planning ERP and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist. It was not possible to use Actual Information, and an estimate is required in relation to Asset Replacements (2014-15) because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access data relating to each asset replaced does not exist. It was not possible to use Actual Information, and an estimate is required in relation to Asset Failures because Ergon Energy's Asset Management systems and processes did not allow adequate tracking of equipment once it is no longer in service.
How Estimated Information has been produced.	In relation to Expenditure, Ergon Energy has developed the following estimation methodology:

Minimum Requirements	Ergon Energy Response [Staking of a Wooden Pole]

Plant Cost Allocation Method

1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger (data in the Ellipse financial module) using the three (3) activity codes which align with this activity: These codes are:

Activity Code	Description	Budget	Driver
53120	Corrective Reg Lines	OPEX	Maintenance
53150	Corrective Reg Subs	OPEX	Maintenance
54100	Forced Regulated Maintenance	OPEX	Maintenance
C2000	Network Refurbishment	CAPEX	Replacement
C2020	Ageing Asset Replacement	CAPEX	Replacement
C2050	Other Regulated System Capex	CAPEX	Other

2) Note Network Refurbishment above refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately.

3) That portion of Asset Replacement expenditure associated with the **asset group - Lines and Distribution Plant (poles, pole tops, conductor, cable, services, distribution transformers and distribution switchgear)** has been determined from 'J Code' combinations.

4) The number of replacements is determined from maintenance work orders.

5) The total expenditure on Pole Stakes (material only) is extracted from the Ellipse inventory module, as a weighted average cost of the items in store. The "plant cost" for each financial year for the pole staking asset category is calculated by multiplying the number of pole stakes by the average cost of procurement.

6) The ratio may be adjusted to enable correction for errors caused when the ratio of labour to material costs varies from the average, or low volumes of assets lead to significant purchase cost variation. The unit plant cost is reviewed by the SME to confirm that the value is consistent with their experience. For the small number that were not consistent such as staking of poles, the ratio is adjusted to bring the value in line with the SME's expected values.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Ergon Energy considers the best estimate has been provided for the yearly

Minimum Requirements	Ergon Energy Response [Staking of a Wooden Pole]
	Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit asset cost is reviewed and plant costs adjusted by the SME to ensure that the value is consistent with their experience. In the absence of actual data, Ergon Energy considers that stores issue costs associated with the asset provides a good proxy for the distribution of other costs associated with installing the Staking Of A Wooden Pole. In relation to **Asset Replacement** information Ergon Energy has developed an estimate based on the following approach: ▪ As Staking pole is an activity and not an asset Ergon Energy has provided the number of poles staked per year based on Works Order data. Ergon Energy works orders associated with staking poles in its Ellipse works management module. In developing this estimate, Ergon Energy has assumed that work Orders are completed. Ergon Energy considers that the best estimate has been provided for Asset Replacement information on the basis that: ▪ Pole staking is not an asset but a refurbishment activity, therefore works orders are the appropriate record. ▪ Works order information is derived from Ergon Energy's Ellipse works management module. In relation to **Asset Failures** (for Staking of Poles), Ergon Energy has developed the following estimation methodology: ▪ Works Orders for pole maintenance have been reviewed. The works orders were filtered to include only staked poles and the number of poles replaced were counted by year. The number of (staked) poles replaced provides a measure of asset failures, since pole stakes are not replaced for reasons other than pole replacement. In developing this estimate, Ergon Energy has assumed that Staked (Nailed) poles are not replaced for reasons other than failure. Ergon Energy considers that the best estimate has been provided for Asset Failure information for Staked Poles on the basis that: ▪ As the pole stakes are not treated as an asset, but an activity, the works orders are therefore, the most effective method to track them. ▪ The number of (staked) poles replaced provides a measure of asset failures. **NOTE:** It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed: ▪ There can be a lag between when stores are issued, items are replaced and expenditure incurred. This can result in variances in the unit replacement cost over the five years ▪ When replacement quantities are low and not consistent from year to

Minimum Requirements	Ergon Energy Response [Staking of a Wooden Pole]
	year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. ▪ Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 2: Poles, Pole Top Structures

Minimum Requirements	Ergon Energy Response [Poles, Pole Top Structures]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1: Replacement Expenditure Volumes and Asset Failures, by Asset Category, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for : ▪ Asset failure data for High Voltage Poles, which include: o > 1 kV & < = 11 kV; WOOD o > 11 kV & < = 22 kV; WOOD o > 22 kV & < = 66 kV; WOOD o > 66 kV & < = 132 kV; WOOD o > 132 kV; WOOD o > 1 kV & < = 11 kV; CONCRETE o > 11 kV & < = 22 kV; CONCRETE o > 22 kV & < = 66 kV; CONCRETE o > 66 kV & < = 132 kV; CONCRETE o > 132 kV; CONCRETE o > 1 kV & < = 11 kV; STEEL o > 11 kV & < = 22 kV; STEEL o > 22 kV & < = 66 kV; STEEL o > 66 kV & < = 132 kV; STEEL o > 132 kV; STEEL ▪ Asset failure data for High Voltage Pole top structures which include: o > 1 kV & < = 11 kV o > 11 kV & < = 22 kV o > 22 kV & < = 66 kV

Minimum Requirements	Ergon Energy Response [Poles, Pole Top Structures]
	o > 66 kV & < = 132 kV o > 132 kV
Source of Actual Information	Actual Information for Asset Failure volumes for High Voltage Poles, Pole top structures and Overhead conductor only was sourced from e-Safe (corporate record of safety issues)
Methodology and assumption's applied in relation to Actual Information	Asset failure data for High Voltage Poles, Pole top structures and Overhead conductor. In order to obtain the information, it was necessary for Ergon Energy to manipulate the e-Safe (corporate record of safety issues) data into to three main Asset groups being, Conductor (including Deadend, Splice, Tie and Clamp) failures, Pole Top Structure (including Crossarm and Insulators) failures and Pole (including Stay) failures. The data has been filtered by financial year and voltage (where known). Data with an unknown or undefined voltage has been excluded. In doing so it was assumed that Dangerous Electrical Events as defined by the *Electrical Safety Act 2002 (QLD)* are failures. This data excludes extreme or atypical weather events.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following variables: ▪ Expenditure by Asset Category (2014-15) o Poles o Pole top structures ▪ Asset Replacements (2014-15) o Poles o Pole top structures ▪ Asset Failures (2014-15) Poles (Low Voltage) o < = 1 kV; WOOD o < = 1 kV; CONCRETE o < = 1 kV; STEEL ▪ Pole top structures (Low Voltage) o < = 1 kV
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to Expenditure by Asset Category and Asset Replacements for all classes in these categories because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist.

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response [Poles, Pole Top Structures]</th></tr>
<tr><td></td><td>It was not possible to use Actual Information, and an estimate is required in relation to Asset Failures for all classes in these categories because Ergon Energy's Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service. Whilst this information is not routinely available in the period of the backcast, Ergon Energy is working to implement capability that will allow provision of this data in the future.</td></tr>
<tr><td>How Estimated Information has been produced.</td><td>In relation to expenditure for all asset categories, Ergon Energy has developed the following estimation methodology:

Plant Cost Allocation Method

1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger using the three (3) activity codes which align with this activity: These codes are:

<table>
<tr><th>Activity Code</th><th>Description</th><th>Budget</th><th>Driver</th></tr>
<tr><td>53120</td><td>Corrective Reg Lines</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>53150</td><td>Corrective Reg Subs</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>54100</td><td>Forced Regulated Maintenance</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>C2000</td><td>Network Refurbishment</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2020</td><td>Ageing Asset Replacement</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2050</td><td>Other Regulated System Capex</td><td>CAPEX</td><td>Other</td></tr>
</table>
2) Note Network Refurbishment above refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately.

3) That portion of Asset Replacement expenditure associated with the Asset Groups - Lines and Distribution Plant (poles, pole tops, conductor, cable, services, distribution transformers and distribution switchgear) has been determined from 'J Code' combinations.

4) For each asset category the number of asset replacements for each financial year is determined from stores issues of the key plant item allocated to the activity codes from step 1. The key plant items counted are those stores items that become the asset category item once installed

5) The "plant cost" for each asset category is taken as the total stores issue cost for the key plant item for each financial year and is extracted from the Ellipse inventory module.

6) For the Lines and Distribution Plant, the expenditure for the financial year is calculated as the proportion of the ratio of the plant cost for the particular key plant item of all key plant items in the group times the total direct cost expenditure for the asset group. Using this ratio the total expenditure costs are apportioned appropriately to the each asset category.</td></tr>
</table>

Minimum Requirements	Ergon Energy Response [Poles, Pole Top Structures]
	In developing this estimate, Ergon Energy has made the assumptions that: ▪ All replacement expenditure is allocated across the Asset Categories in Table 2.2.1. ▪ The ratio of material costs to other direct costs (labour etc.), is consistent across assets. ▪ There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings) Ergon Energy considers the best estimate has been provided for the yearly Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit plant cost is reviewed and plant weightings altered by the SME to ensure that the value is consistent with their experience. In the absence of actual data, Ergon Energy considers that stores issue costs associated with the asset provides a good starting point for the distribution of other costs associated with installing the asset. In relation to Asset Failure, Ergon Energy has developed an estimate based on the following approach: ▪ Failures for LV Poles and Pole Top Structures were estimated from the HV Failures by applying the population ratio for LV to HV assets from the data in table 5.2.1. **NOTE:** It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed: ▪ There can be a lag between when stores are issued, items are replaced and expenditure incurred. ▪ When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 3: Overhead Conductor, Underground Cable and Service Lines

Minimum Requirements	Ergon Energy Response [Overhead Conductor, Underground Cable and Service Lines]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1: Replacement Expenditure Volumes and Asset Failures, by Asset Category, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.

Minimum Requirements	Ergon Energy Response [Overhead Conductor, Underground Cable and Service Lines]
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for : ▪ Asset failure data for High Voltage Overhead conductor which include: o > 1 kV & < = 11 kV o > 11 kV & < = 22 kV ; SWER o > 11 kV & < = 22 kV ; SINGLE-PHASE o > 11 kV & < = 22 kV ; MULTIPLE-PHASE o > 22 kV & < = 66 kV o > 66 kV & < = 132 kV o > 132 kV
Source of Actual Information	Actual Information for Asset Failure volumes for High Voltage Overhead conductor only was sourced from e-Safe (corporate record of safety issues).
Methodology and assumption's applied in relation to Actual Information	Asset Failure Data for High Voltage Overhead conductor. In order to obtain the information, it was necessary for Ergon Energy to manipulate the e-Safe data into to three main Asset groups being, Overhead Conductor (including Deadend, Splice, Tie and Clamp) failures, Pole Top Structure (including Crossarm and Insulators) failures and Pole (including Stay) failures. The data has been filtered by financial year and voltage (where known). Data with an unknown or undefined voltage has been excluded. This data excludes extreme or atypical weather events. In doing so it was assumed that Dangerous Electrical Events as defined by the *Electrical Safety Act 2002 (QLD)* constitute a failure.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following variables: ▪ Expenditure by Asset Category (2014-15) o Overhead conductors o Underground Cables o Service Lines ▪ Asset Replacements (2014-15) o Overhead conductors o Underground Cables o Service Lines ▪ Asset Failures (2014-15) o Overhead Conductors (Low Voltage), < = 1 kV o Underground cables o Service Lines

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response [Overhead Conductor, Underground Cable and Service Lines]</th></tr>
<tr><td>Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.</td><td>It was not possible to use Actual Information, and an estimate is required in relation to Expenditure and Asset Replacements for all asset categories because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist.

It was not possible to use Actual Information, and an estimate is required in relation to Asset Failures (except for HV OH conductors) because Ergon Energy’s Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service. Whilst this information is not routinely available in the period of the back cast, Ergon Energy is working to implement capability that will allow provision of this data in the future.</td></tr>
<tr><td>How Estimated Information has been produced.</td><td>In relation to Expenditure For Each Asset Category, Ergon Energy has developed the following estimation methodology:

1) All Low Voltage (<= 11kV) Services are included under the two “SIMPLE TYPE” categories below:

< = 11 kV ; RESIDENTIAL ; SIMPLE TYPE

< = 11 kV ; COMMERCIAL & INDUSTRIAL ; SIMPLE TYPE

2) This is because Ergon Energy has no sensible way to differentiate the “COMPLEX TYPE” Low Voltage (<= 11kV) services.

< = 11 kV ; RESIDENTIAL ; COMPLEX TYPE

< = 11 kV ; COMMERCIAL & INDUSTRIAL ; COMPLEX TYPE

3) The remaining High Voltage categories of services are constructed of assets which are reported as the individual assets from which they are constructed.

Plant Cost Allocation Method

1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger using the three (3) activity codes which align with this activity: These codes are:

<table>
<tr><th>Activity Code</th><th>Description</th><th>Budget</th><th>Driver</th></tr>
<tr><td>53120</td><td>Corrective Reg Lines</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>53150</td><td>Corrective Reg Subs</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>54100</td><td>Forced Regulated Maintenance</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>C2000</td><td>Network Refurbishment</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2020</td><td>Ageing Asset Replacement</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2050</td><td>Other Regulated System Capex</td><td>CAPEX</td><td>Other</td></tr>
</table>

2) Note Network Refurbishment above refers to the process of refurbishing a major part of the network like a feeder or a zone</td></tr>
</table>

Minimum Requirements	Ergon Energy Response [Overhead Conductor, Underground Cable and Service Lines]

substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately.

3) That portion of Asset Replacement expenditure associated with the **asset group - Lines and Distribution Plant (poles, pole tops, conductor, cable, services, distribution transformers and distribution switchgear)** has been determined from 'J Code' combinations.

4) For each asset category the number of asset replacements for each financial year is determined from stores issues of the key plant item allocated to the activity codes from step 1. The key plant items counted are those stores items that become the asset category item once installed. In some cases a ratio is applied to convert the stores issue quantity to the asset quantity e.g. 3,000 metres of single core UG 11kV cable becomes one (1) circuit kilometre of "> 1 kV & < = 11 kV UNDERGROUND CABLE" and 33 metres of service cable becomes one (1) residential service. For unitised assets like poles or distribution transformers the ratio is 1:1.

5) The "plant cost" for each asset category is taken as the total stores issue cost for the key plant item for each financial year is extracted from the Ellipse inventory module.

6) For the **Lines and Distribution Plant**, the expenditure for the financial year is calculated as the proportion of the ratio of the plant cost for the particular key plant item of all key plant items in the group times the total direct cost expenditure for the asset group. Using this ratio the total expenditure costs are apportioned appropriately to the each asset category.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Ergon Energy considers the best estimate has been provided for the yearly Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit plant cost is reviewed and plant weightings altered by the SME to ensure that the value is consistent with their experience. In the case of the conductor replacement, plant weightings have been adjusted achieve alignment with standard estimates, sensible relativity between the various asset categories and to set the total

Minimum Requirements	Ergon Energy Response [Overhead Conductor, Underground Cable and Service Lines]
	expenditure for 2014-15 to approximate the expenditure on conductor able to be identified with J Code combinations. In the absence of actual data, Ergon Energy considers that stores issue costs associated with the asset provides a good proxy for the distribution of other costs associated with installing the asset. ***Asset Failures – Overhead Conductors*** In relation to Asset Failures (for Overhead Conductors), Ergon Energy has developed the following estimation methodology: ▪ The ratio of HV circuit kilometres to LV circuit kilometres has been applied to the total failures from volumes for High Voltage Overhead conductor sourced from e-Safe (corporate record of safety issues) to estimate the failures of LV conductors. ***Asset Failures – Service Lines*** In relation to **Asset Failure**, Ergon Energy has developed an estimate based on the following approach: ▪ Service Lines are invariably replaced in response to the ability to "perform its intended function safely" as per the AER definition of Asset failure. Accordingly, the stores issues records for these assets costed to the OPEX Maintenance and CAPEX replacement activity codes are considered to be Failures for service lines. ***Asset Failures – Underground Cables*** In relation to Asset Failures (for Underground Cables), Ergon Energy has developed the following estimation methodology: ▪ FeederStat was used to identify an outage which is then attributed by some engineering knowledge and experience to a particular asset class. This data excludes extreme or atypical weather events. In developing this estimate Ergon Energy has assumed that all failures will lead to an outage. Ergon Energy considers that the best estimate has been provided for Asset Failures for substation plant categories on the basis that: ▪ a failure will lead to an outage, and the process for reporting these outages is consistently followed. It has not been possible from data available to exclude external events however Ergon Energy does not believe this has a material impact. **NOTE:** It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed: ▪ There can be a lag between when stores are issued, items are replaced and expenditure incurred. ▪ When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent

Minimum Requirements	Ergon Energy Response [Overhead Conductor, Underground Cable and Service Lines]
	unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 4: Distribution Transformers, Distribution Circuit Breakers and Fuses

Minimum Requirements	Ergon Energy Response [Distribution Transformers, Distribution Circuit Breakers and Fuses]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1: Replacement Expenditure Volumes and Asset Failures, by Asset Category, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following variables: ▪ Expenditure by Asset Category (2014-15) ▪ ASSET REPLACEMENTS (2014-15) ▪ ASSET FAILURES (2014-15)for Distribution Transformers for the Asset Categories: o POLE MOUNTED ; < = 22kV ; < = 60 kVA ; SINGLE PHASE o POLE MOUNTED ; < = 22kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE o POLE MOUNTED ; < = 22kV ; > 600 kVA ; SINGLE PHASE o POLE MOUNTED ; < = 22kV ; < = 60 kVA ; MULTIPLE PHASE o POLE MOUNTED ; < = 22kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE o POLE MOUNTED ; < = 22kV ; > 600 kVA ; MULTIPLE PHASE o POLE MOUNTED ; > 22kV ; < = 60 kVA ; SINGLE PHASE o POLE MOUNTED ; > 22kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE

Minimum Requirements	Ergon Energy Response [Distribution Transformers, Distribution Circuit Breakers and Fuses]
	o POLE MOUNTED ; > 22kV ; > 600 kVA ; SINGLE PHASE o POLE MOUNTED ; > 22kV ; < = 60 kVA ; MULTIPLE PHASE o POLE MOUNTED ; > 22kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE o POLE MOUNTED ; > 22kV ; > 600 kVA ; MULTIPLE PHASE o KIOSK MOUNTED ; < = 22kV ; < = 60 kVA ; SINGLE PHASE o KIOSK MOUNTED ; < = 22kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE o KIOSK MOUNTED ; < = 22kV ; > 600 kVA ; SINGLE PHASE o KIOSK MOUNTED ; < = 22kV ; < = 60 kVA ; MULTIPLE PHASE o KIOSK MOUNTED ; < = 22kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE o KIOSK MOUNTED ; < = 22kV ; > 600 kVA ; MULTIPLE PHASE o KIOSK MOUNTED ; > 22kV ; < = 60 kVA ; SINGLE PHASE o KIOSK MOUNTED ; > 22kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE o KIOSK MOUNTED ; > 22kV ; > 600 kVA ; SINGLE PHASE o KIOSK MOUNTED ; > 22kV ; < = 60 kVA ; MULTIPLE PHASE o KIOSK MOUNTED ; > 22kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE o KIOSK MOUNTED ; > 22kV ; > 600 kVA ; MULTIPLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; < = 60 kVA ; SINGLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 600 kVA ; SINGLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; < = 60 kVA ; MULTIPLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 600 kVA ; MULTIPLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > = 22 kV & < = 33 kV ; < = 15 MVA Note: In the case of Ergon Energy assets the “GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 600 kVA ; MULTIPLE PHASE” and “GROUND OUTDOOR / INDOOR CHAMBER

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response [Distribution Transformers, Distribution Circuit Breakers and Fuses]</th></tr>
<tr><td></td><td>MOUNTED ; > = 22 KV & < = 33 KV ; < = 15 MVA” categories include both distribution transformers and zone substation transformers.
▪ Distribution Switchgear
o < = 11 kV ; FUSE
o < = 11 kV ; CIRCUIT BREAKER (including > = 11 kV ; FUSE)
o > 11 kV & < = 22 kV ; CIRCUIT BREAKER
Note: High voltage and low voltage fuses replacement, expenditure and asset failure had been recorded in “< = 11 kV FUSE” category up until 2013/14. As per AER response of 02/07/2015; “the omission of a category for ‘fuses >11kV’ is intentional. AER staff note the definition of ‘switch’ includes fuses at higher voltages. Because of the high number of fuses at the <=11 kV category, these are asked for separately. All other categories have been rationalised for each Asset Group with a single ‘other’ available for those categories not listed.” from 2014/15 onwards, only low voltage fuses have been reported against the “< = 11 kV FUSE” category From 2014/15 onwards, the HV fuses have been reported in the group “<= 11 SWITCH” category.</td></tr>
<tr><td>Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.</td><td>It was not possible to use Actual Information, and an estimate is required in relation to Expenditure By Asset Category and Asset Replacements for these assets because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist.
It was not possible to use Actual Information, and an estimate is required in relation to Asset Failures because Ergon Energy’s Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service.</td></tr>
<tr><td>How Estimated Information has been produced.</td><td>In relation to Expenditure For Each Asset Category, Ergon Energy has developed the following estimation methodology:
Plant Cost Allocation Method
1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger using the three (3) activity codes which align with this activity: These codes are:
<table>
<tr><th>Activity Code</th><th>Description</th><th>Budget</th><th>Driver</th></tr>
<tr><td>53120</td><td>Corrective Reg Lines</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>53150</td><td>Corrective Reg Subs</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>54100</td><td>Forced Regulated Maintenance</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>C2000</td><td>Network Refurbishment</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2020</td><td>Ageing Asset Replacement</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2050</td><td>Other Regulated System Capex</td><td>CAPEX</td><td>Other</td></tr>
</table>
2) Note Network Refurbishment above refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to</td></tr>
</table>

Minimum Requirements	Ergon Energy Response [Distribution Transformers, Distribution Circuit Breakers and Fuses]

replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately..

3) That portion of Asset Replacement expenditure associated with the **asset group - Lines and Distribution Plant (poles, pole tops, conductor, cable, services, distribution transformers and distribution switchgear)** has been determined from 'J Code' combinations.

4) For each asset category the number of asset replacements for each financial year is determined from stores issues of the key plant item allocated to the activity codes from step 1. The key plant items counted are those stores items that become the asset category item once installed. In some cases a ratio is applied to convert the stores issue quantity to the asset quantity e.g. A three (3) switch Ring Main Unit is counted as 3 switches. For unitised assets like poles or distribution transformers the ratio is 1:1.

5) In the case of fuses, replacements have been obtained from stores issues of fuse carrier against CAPEX activity codes for replacement.

6) The "plant cost" for each asset category is taken as the total stores issue cost for the key plant item for each financial year is extracted from the Ellipse inventory module.

7) For the **asset group - Lines and Distribution Plant**, the expenditure for the financial year is calculated as the proportion of the ratio of the plant cost for the particular key plant item of all key plant items in the group times the total direct cost expenditure for the asset group. Using this ratio the total expenditure costs are apportioned appropriately to the each asset category.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Ergon Energy considers the best estimate has been provided for the yearly Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit plant cost is reviewed and plant weightings altered by the SME to ensure that the value is consistent with their experience.

In the absence of actual data, Ergon Energy considers that stores issue costs associated with the asset provides a good proxy for the distribution of

Minimum Requirements	Ergon Energy Response [Distribution Transformers, Distribution Circuit Breakers and Fuses]
	other costs associated with installing the asset. In relation to ***Asset Failure***, Ergon Energy has developed an estimate based on the following approach: ▪ The maintenance practice for distribution transformers and distribution circuit breakers is to run them to failure and then replace, therefore all replacements are assumed to be failures. It has not been possible from data available to exclude external events however Ergon Energy does not believe this has a material impact. ▪ Asset Fuse failures have been obtained from stores issues of fuse carriers against OPEX activity codes for maintenance. Ergon Energy considers that the best estimate has been provided for Asset Failure information for Distribution Transformers and Circuit Breakers on the basis that these assets are "run to fail", and therefore only replaced when they fail. **NOTE:** It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed: ▪ There can be a lag between when stores are issued, items are replaced and expenditure incurred. ▪ When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 5: Distribution Switches and Public Lighting

Minimum Requirements	Ergon Energy Response [Distribution Switches and Public Lighting]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1: Replacement Expenditure Volumes and Asset Failures, by Asset Category, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has limited reporting in Template 2.2 to Standard Control Services as clarified by the AER in its issue register for the Category Analysis RIN. As the provision of street lighting services was reclassified as an Alternative Control Service from 1 July 2010 associated costs and therefore metrics have not been reported for 2014-15 in Table 2.2.1.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response [Distribution Switches and Public Lighting]</th></tr>
<tr><td>Source of Actual Information</td><td>Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category</td></tr>
<tr><td>Methodology and assumption's applied in relation to Actual Information</td><td>Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category</td></tr>
<tr><td>Population of Estimated Information in Templates</td><td>Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following variables:
Expenditure By Asset Category (2014-15)
Asset Replacements (2014-15)
Asset Failures (2014-15) FOR DISTRIBUTION Switches:
< = 11 kV ; SWITCH
< = 11 kV ; CIRCUIT BREAKER
> 11 kV & < = 22 kV ; SWITCH
> 11 kV & < = 22 kV ; CIRCUIT BREAKER
> 22 kV & < = 33 kV ; SWITCH</td></tr>
<tr><td>Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.</td><td>It was not possible to use Actual Information, and an estimate is required in relation to Expenditure By Asset Category and Asset Replacements for these assets because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist.

It was not possible to use Actual Information, and an estimate is required in relation to Asset Failures because Ergon Energy's Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service.</td></tr>
<tr><td>How Estimated Information has been produced.</td><td>In relation to Expenditure For Each Asset Category, Ergon Energy has developed the following estimation methodology:

Plant Cost Allocation Method

1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger using the three (3) activity codes which align with this activity: These codes are:

<table>
<tr><th>Activity Code</th><th>Description</th><th>Budget</th><th>Driver</th></tr>
<tr><td>53120</td><td>Corrective Reg Lines</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>53150</td><td>Corrective Reg Subs</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>54100</td><td>Forced Regulated Maintenance</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>C2000</td><td>Network Refurbishment</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2020</td><td>Ageing Asset Replacement</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2050</td><td>Other Regulated System Capex</td><td>CAPEX</td><td>Other</td></tr>
</table>

2) Note Network Refurbishment above refers to the process of</td></tr>
</table>

Minimum Requirements	Ergon Energy Response [Distribution Switches and Public Lighting]

refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately.

3) That portion of Asset Replacement expenditure associated with the **asset group - Lines and Distribution Plant (poles, pole tops, conductor, cable, services, distribution transformers and distribution switchgear**) has been determined from 'J Code' combinations.

4) For each asset category the number of asset replacements for each financial year is determined from stores issues of the key plant item allocated to the activity codes from step 1. The key plant items counted are those stores items that become the asset category item once installed.

5) The "plant cost" for each asset category is taken as the total stores issue cost for the key plant item for each financial year is extracted from the Ellipse inventory module.

6) For the **asset group - Lines and Distribution Plant,** the expenditure for the financial year is calculated as the proportion of the ratio of the plant cost for the particular key plant item of all key plant items in the group times the total direct cost expenditure for the asset group. Using this ratio the total expenditure costs are apportioned appropriately to the each asset category.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Ergon Energy considers the best estimate has been provided for the yearly Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit plant cost is reviewed and plant weightings altered by the SME to ensure that the value is consistent with their experience.

In the absence of actual data, Ergon Energy considers that stores issue costs associated with the asset provides a good proxy for the distribution of other costs associated with installing the asset.

In relation to ***Asset Failure,*** Ergon Energy has developed an estimate based on the following approach:

- The stores issues costs for these assets costed to the OPEX code are

Minimum Requirements	Ergon Energy Response [Distribution Switches and Public Lighting]
	considered to be Failures. Ergon Energy considers that the best estimate has been provided for Asset Failure information for Distribution switches on the basis that planned replacements will be costed to CAPEX, augmentation will be costed to AUGEX and replacing failures will be costed to OPEX, and as we are using the issue cost of the replacement key asset then we are including the appropriate records. **NOTE:** It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed: ▪ There can be a lag between when stores are issued, items are replaced and expenditure incurred. This can result in variances in the unit replacement cost over the five years ▪ When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 6: Zone Transformers, Zone Substation Switchgear

Minimum Requirements	Ergon Energy Response [Zone Transformers, Zone Substation Switchgear]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Ergon Energy has not provided Actual Information, in accordance with the AER's definition for the variables in this asset category.
Source of Actual Information	Ergon Energy has not provided Actual Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Ergon Energy has not provided Actual Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following Transformers: ▪ Expenditure by Asset Category (2014-15) ▪ Asset replacement (2014-15) ▪ Asset failure (2014-15) ▪ For:

Minimum Requirements	Ergon Energy Response [Zone Transformers, Zone Substation Switchgear]
	o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 600 kVA ; MULTIPLE PHASE o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > = 22 KV & < = 33 KV ; < = 15 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > = 22 KV & < = 33 KV ; > 15 MVA AND < = 40 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > = 22 KV & < = 33 KV ; > 40 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 33 KV & < = 66 KV ; < = 15 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 33 KV & < = 66 KV ; > 15 MVA AND < = 40 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 33 KV & < = 66 KV ; > 40 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 66 KV & < = 132 KV ; < = 100 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 66 KV & < = 132 KV ; > 100 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 132 KV ; < = 100 MVA o GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > 132 KV ; > 100 MVA Note: In the case of Ergon Energy assets the “GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; > 600 kVA ; MULTIPLE PHASE” and “GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; > = 22 KV & < = 33 KV ; < = 15 MVA” categories include both distribution transformers and zone substation transformers.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required relation to ***Expenditure*** By Asset Category (2014-15), because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist. An estimation methodology has been developed in relation to providing expenditure data for individual asset categories. It was not possible to use Actual Information, and an estimate is required in relation to ***ASSET REPLACEMENT*** And ***ASSET FAILURES*** because Ergon Energy’s Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service.
How Estimated Information	**Expenditure By Asset Category (2014-15)**

Minimum Requirements	Ergon Energy Response [Zone Transformers, Zone Substation Switchgear]
has been produced.	In relation to expenditure for each asset category, Ergon Energy has developed the following estimation methodology:

Plant Cost Allocation Method

1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger using the three (3) activity codes which align with this activity: These codes are:

Activity Code	Description	Budget	Driver
53120	Corrective Reg Lines	OPEX	Maintenance
53150	Corrective Reg Subs	OPEX	Maintenance
54100	Forced Regulated Maintenance	OPEX	Maintenance
C2000	Network Refurbishment	CAPEX	Replacement
C2020	Ageing Asset Replacement	CAPEX	Replacement
C2050	Other Regulated System Capex	CAPEX	Other

2) Note Network Refurbishment above refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately.

3) The number of Asset Replacements is determined by identification of all scrapped assets (in this class) and matching the previous location with new equipment to obtain the year replaced. Scrapped is a term used and is equivalent to remove from service. To identify these scrapped assets, data tags such as Deleted, Out of Service, Disposed and Scrapped, as well as a hierarchy group called scrapped were used.

4) That portion of Asset Replacement expenditure associated with the **Asset Group – Substation Plant, (zone transformers, substation switchgear, protection and control equipment, and other)** has been determined from 'J Code' combinations.

5) Plant unit costs for representative items for each asset category have been obtained from Ergon Energy's current period contract rates for procurement of these items.

6) The "plant cost" for each financial year for each asset category is calculated by multiplying the number of replacements by the current cost of procurement of the representative item.

7) For the **Asset Group – Substation Plant**, the expenditure for the financial year is calculated as the proportion of the ratio of the plant cost for the particular key plant item of all key plant items in the group times the total direct cost expenditure for the asset group. Using this ratio the total expenditure costs are apportioned appropriately to the each asset category.

8) The ratio may be adjusted to enable correction for errors caused when the ratio of labour to material costs varies from

Minimum Requirements	Ergon Energy Response [Zone Transformers, Zone Substation Switchgear]

the average, or low volumes of assets lead to significant purchase cost variation. The unit plant cost is reviewed by the SME to confirm that the value is consistent with their experience. For the few that were not consistent, the ratio is adjusted to bring the value in line with the Standard Estimate which is Ergon Energy's expectation of cost of install of this asset.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Asset Replacement (2014-15)

In relation to Asset Replacement, Ergon Energy has developed an estimate based on the following approach:

- Identification of all scrapped assets (in this class) and matching the previous location with new equipment to obtain the year replaced.

In developing this estimate Ergon Energy has made the following assumptions:

- All scrapped assets are marked as such in the data source
- It was possible to determine where the asset was when it failed.

Asset Failure (2014-15)

In relation to Asset Failures, Ergon Energy has developed the following estimation methodology:

FeederStat was used to identify an outage which is then attributed by some engineering knowledge and experience to a particular asset class. This data excludes extreme or atypical weather events.

In developing this estimate Ergon Energy has assumed that all failures will lead to an outage.

Ergon Energy considers that the best estimate has been provided for Asset Failures for substation plant categories on the basis that:

- a failure will lead to an unplanned or forced outage, and the process for reporting these outages is consistently followed. It has not been possible from data available to exclude external events however Ergon Energy does not believe this has a material impact.

NOTE: It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed:

- There can be a lag between when stores are issued, items are replaced and expenditure incurred. This can result in variances in the

Minimum Requirements	Ergon Energy Response [Zone Transformers, Zone Substation Switchgear]
	unit replacement cost over the five years ▪ When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 7: Other

Minimum Requirements	Ergon Energy Response [Other]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition for: ▪ Static Var Compensators o Expenditure for the period (2014-15) o Asset Replacement for period (2014-15)
Source of Actual Information	Actual information for Static Var Compensators was sourced from Ellipse – Works Management Module (Project / Work Requests).
Methodology and assumption's applied in relation to Actual Information	In order to obtain the information it was necessary for Ergon Energy to obtain the Works Requests for the project. In doing so, it was assumed that there were no others replaced, this is a sound assumption as Ergon Energy only has four of these multi-million dollar pieces of equipment.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, in relation to the following variables: ▪ Expenditure by Asset Category (2014-15) for: o Current Transformers o Voltage Transformers o Capacitor Banks ▪ Asset replacement (2014-15) for:

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response [Other]</th></tr>
<tr><td></td><td>

o Current Transformers
o Voltage Transformers
o Capacitor Banks

Asset failure (2014-5) for:

o Current Transformers
o Voltage Transformers
o Capacitor Banks
o Static Var Compensator

</td></tr>
<tr><td>Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.</td><td>It was not possible to use Actual Information, and an estimate is required relation to Expenditure By Asset Category (2014-15), because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist.

An estimation methodology has been developed in relation to providing expenditure data for individual asset categories

It was not possible to use Actual Information, and an estimate is required in relation to ASSET REPLACEMENT And ASSET FAILURES because Ergon Energy’s Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service.</td></tr>
<tr><td>How Estimated Information has been produced.</td><td>EXPENDITURE BY ASSET CATEGORY (2014-15)

In relation to expenditure for each asset category, Ergon Energy has developed the following estimation methodology:

Plant Cost Allocation Method

1) The total expenditure on Asset Replacement (by financial year) is taken from the General Ledger using the three (3) activity codes which align with this activity: These codes are:

<table>
<tr><th>Activity Code</th><th>Description</th><th>Budget</th><th>Driver</th></tr>
<tr><td>53120</td><td>Corrective Reg Lines</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>53150</td><td>Corrective Reg Subs</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>54100</td><td>Forced Regulated Maintenance</td><td>OPEX</td><td>Maintenance</td></tr>
<tr><td>C2000</td><td>Network Refurbishment</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2020</td><td>Ageing Asset Replacement</td><td>CAPEX</td><td>Replacement</td></tr>
<tr><td>C2050</td><td>Other Regulated System Capex</td><td>CAPEX</td><td>Other</td></tr>
</table>
2) Note Network Refurbishment above refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts. All Expenditure reported is in line with the AER definition and relates to replacement of individual assets. Instances where no assets are replaced are insignificant and not reported separately..

3) The number of Asset Replacements is determined by</td></tr>
</table>

Minimum Requirements	Ergon Energy Response [Other]

identification of all scrapped assets (in this class) and matching the previous location with new equipment to obtain the year replaced. Scrapped is a term used and is equivalent to remove from service. To identify these scrapped assets, data tags such as Deleted, Out of Service, Disposed and Scrapped, as well as a hierarchy group called scrapped were used.

4) That portion of Asset Replacement expenditure associated with the **Asset Group Substation Plant, (zone transformers, substation switchgear, protection and control equipment, and other)** has been determined from 'J Code' combinations.

5) Plant unit costs for representative items for each asset category have been obtained from Ergon Energy's current period contract rates for procurement of these items.

6) The "plant cost" for each financial year for each asset category is calculated by multiplying the number of replacements by the current cost of procurement of the representative item.

7) For the **Asset Group Substation Plant,** the expenditure for the financial year is calculated as the proportion of the ratio of the plant cost for the particular key plant item of all key plant items in the group times the total direct cost expenditure for the asset group. Using this ratio the total expenditure costs are apportioned appropriately to the each asset category.

8) The ratio may be adjusted to enable correction for errors caused when the ratio of labour to material costs varies from the average, or low volumes of assets lead to significant purchase cost variation. The unit plant cost is reviewed by the SME to confirm that the value is consistent with their experience. For the few that were not consistent, the ratio is adjusted to bring the value in line with the Standard Estimate which is Ergon Energy's expectation of cost of install of this asset.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

***Asset Replacement** (2014-15)*

In relation to Asset Replacement, Ergon Energy has developed an estimate based on the following approach:

- Identification of all scrapped assets (in this class) and matching the previous location with new equipment to obtain the year replaced.
- Scrapped is a term used equivalent to remove from service and which

Minimum Requirements	Ergon Energy Response [Other]
	is assumed to lead to REPLACED. To identify these scrapped assets, data tags such as Deleted, Out of Service, Disposed and Scrapped, as well as a hierarchy group called scrapped were used. In developing this estimate Ergon Energy has made the following assumptions: ▪ All scrapped assets are marked as such in the data source ▪ We were able to determine where the asset was when it failed. ***Asset Failure*** *(2014-15)* In relation to Asset Failures, Ergon Energy has developed the following estimation methodology: ▪ FeederStat was used to identify an outage which is then attributed by some engineering knowledge and experience to a particular asset class. This data excludes extreme or atypical weather events. In developing this estimate Ergon Energy has assumed that all failures will lead to an unplanned or forced outage. Ergon Energy considers that the best estimate has been provided for Asset Failures for substation plant categories on the basis that: a failure will lead to an outage, and the process for reporting these outages is consistently followed. It has not been possible from data available to exclude external events however Ergon Energy does not believe this has a material impact. **NOTE:** It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed: ▪ There can be a lag between when stores are issued, items are replaced and expenditure incurred. ▪ When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 8: SCADA Network Control Master Stations and Local Wiring

Minimum Requirements	Ergon Energy Response [SCADA Network Control Master Stations and Local Wiring]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.

Minimum Requirements	Ergon Energy Response [SCADA Network Control Master Stations and Local Wiring]
	Local wiring is not recorded as a separate asset in Ergon Energy's systems. Accordingly, all local wiring is considered part of the asset to which it is attached and therefore not reported separately. This is in line with the AERs Issue Register – Issue No. 15.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information for: ▪ Expenditure by Asset Category (2014-15) ▪ Asset replacement (2014-15) ▪ Asset failure (2014-15) For: o Master Station Assets (Including local wiring for asset)
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required relation to ***Expenditure*** By Asset Category Or ***Asset Replacements*** (2014-15), because the corporate ERP and associated processes were not envisioned or configured with the level of detail requested by the AER. Processes within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes. Thus the ability to directly access the individual costs of each asset replaced does not exist. An estimation methodology has been developed in relation to providing expenditure data for individual asset categories. It was not possible to use Actual Information, and an estimate is required in relation to Asset Failures because Ergon Energy's Asset Management system and processes did not allow adequate tracking of equipment once it is no longer in service.
How Estimated Information has been produced.	By the characteristic of plant cost, expected life and function, Ergon Energy has changed the grouping of the asset, "Local Master Station" from the assigned category "Master Stations" to the assigned category "Field Devices". This will improve the further use of the data in the REPEX model. ***Expenditure By Asset Category*** *(2014-15)* In relation to expenditure for each asset category, Ergon Energy has developed the following estimation methodology: ***Plant Cost Allocation Method*** 1) The total expenditure on Replacement (by financial year) is taken from the General Ledger using the two activity codes which align with this activity: These codes are C2000 Network Refurbishment C2020 and

Minimum Requirements	Ergon Energy Response [SCADA Network Control Master Stations and Local Wiring]

C2013 Ageing Asset Replacement. Network Refurbishment refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts.

2) The number of Asset Replacements is determined by identification of all Replaced assets (in this class) through the use of secondary spreadsheets and databases developed by the secondary system teams. These spreadsheets and databases have become less accurate as Ergon Energy has attempted to move data into the corporate ERP – Ellipse, so far this has not been successful.

3) The total expenditure on the asset is extracted from the Ellipse inventory module, as is the total expenditure on materials. Ergon Energy considers that this ratio can be used to determine the proportion of other (non-material) costs as determined in step 1.

4) Using this ratio the total expenditure costs in activity codes C2000 and C2020 which include all direct costs can be apportioned appropriately to the asset.

5) The ratio may be adjusted to enable correction for errors caused when the ratio of labour to material costs varies from the average, or low volumes of assets lead to significant purchase cost variation. The unit plant cost is reviewed by the SME to confirm that the value is consistent with their experience. For the few that were not consistent, the ratio is adjusted to bring the value in line with the Standard Estimate which is Ergon Energy's expectation of cost of install of this asset.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Ergon Energy considers the best estimate has been provided for the yearly Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit asset cost is reviewed and plant costs adjusted by the SME to ensure that the value is consistent with their experience. In the absence of actual data, Ergon Energy considers that stores issue costs associated with the asset provides a good proxy for the distribution of other costs associated with installing the asset.

Asset Replacements

In relation to expenditure for each asset category, Ergon Energy has developed the following estimation methodology:

- Asset replacements were sourced from Asset Management Control system's SCADA master system and ellipse. Ergon Energy considers

Minimum Requirements	Ergon Energy Response [SCADA Network Control Master Stations and Local Wiring]
	the best estimate has been provided for Asset replacements as the SCADA master system contains the records and the Ellipse Asset management module contains asset attributes. In developing this estimate, it was assumed that the date installed was the year of manufacture. ***Asset Failures*** Ergon has changed the methodology of inferring .Asset failure quantities by deriving from a combination of known asset functional failures through Fdrstat (outage data base) event records and failures captured in E-Safe. This method may achieve a closer result towards actual information. Ergon is developing MSSS code to achieve producing actual information for asset failure statics.

Table 9: Field Devices and Local Wiring Assets

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, in accordance with the Notice requirements. Local wiring is not recorded as a separate asset in Ergon Energy's systems. Accordingly, all local wiring work is considered part of the asset to which it is attached and therefore not reported separately.
Population of Actual Information in templates	Ergon Energy has endeavoured to provide supporting evidence or confirmation of Actual installations, replacements and failures for the financial year 2014-15. For the financial year 2014-15, 276 relays (approximately 68% of the asset population data presented) are considered as Actual asset information, comprised of both installations and replacements. The population of Actual assets for the financial year 2014-15 is comprised of: • 200 Installations, • 76 Replacements, and • 15 Failures.
Source of Actual Information	Ergon Energy has sourced records confirming actual asset installations, replacements and failures from several sources including: • Protection Database System (PDS), • Artimus7 (A7) – Capital project progress reports, and FeederStat – 2014-15 failed-in-service records.
Methodology and assumption's applied in relation to Actual Information	Ergon Energy has obtained Actual asset information for the 2014-15 financial year utilising the following methodology: 1. Obtained an Actual asset population count, o Sourced by Ellipse and PDS records, o All information sources are cross-referenced and filtered to ensure individual asset counts; Ergon Energy asset ownership/maintenance; and determination of assets that are operational/in-service. 2. Identification of installed, replaced and failed-in-service asset counts, o Sourced by PDS records and Artimus7, o All information sources are cross-referenced and filtered to ensure individual asset counts and compared with the predetermined asset population count, o For projects with an unclear asset installation or replacement count, project sites are cross-referenced with

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]
	known site relays (i.e. the predetermined asset population count) and assigned an asset count in relation to the project's intent, ▪ For example, when considering a targeted relay model replacement project, the target model is cross referenced with the associated substation's entire listing of housed relays; targeted models are filtered; identified and counted for replacement. o Determination or identification between installed and replaced assets is defined by the asset's assigned project name, or individual asset record commentary. Should a project incorporate both installation and replacement asset works all project assets are counted as replaced as it is assumed that any installation work (and associated asset count) would be minimal, o Installation or replacement year is obtained from all PSR records (via PDS) identified as "complete" or "finalised" accompanied by a time-stamped confirmation date from the installation field crew are considered as an Actual installation/replacement. o All Artimus7 asset installation and replacement records identified as "complete" with no further funds assigned to the asset's project in sequential years (i.e. beyond 2013-14) are considered having been physically installed/replaced, 3. Identification of failed-in-service asset counts, o Sourced by FeederStat, o All information sources are cross-referenced and filtered to ensure individual asset counts and directly related to protection relays.
Population of Estimated Information in Templates	Ergon Energy has endeavoured to provide supporting evidence or accurate information with respect to Estimated installations, replacements and failures for the financial year 2014-15. Approximately 32% of the asset population data presented in Template 2.2 are considered as Estimated and have been procured from records that are incomplete or not time-stamped although it can be reasonably assumed that work associated with either installations, replacements or failures of the asset in question have been undertaken in 2014-15. Ergon Energy has provided Estimated Information in relation to the following variables: ▪ Expenditure by Asset Category (2014-15) ▪ Asset replacement (2014-15) ▪ Asset failure (2014-15)

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]
	For: o Field Devices (Including local wiring for assets) o Remote Terminal Units (RTU) o Audio Frequency Load Control (AFLC) o Protection Relays (RELAY)
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Although Ergon Energy has endeavoured to provide asset data as accurately as possible the following items below explain the causes and limitations in procuring Actual information for protection relays for the financial year 2014-15. ***Relay Installations and Replacements*** Ergon Energy's key corporate management system Ellipse does not store individual procurement, installation and/or commissioning dates within its asset registry nor does it track the logistical life of secondary system assets (including relays). The majority of data provided within Template 2.2 is procured from PDS (Protection Database System). Primarily utilised as a protection setting register, this database is not specifically designed to track the logistics of protection relays including installation, replacement, and failure records. PDS, however does attempt to track the implementation of protection setting work. This includes the initiation, creation, updating, development, approval, assignment and confirmation of relay setting work to operational staff in the field – which encompasses the installation of new relays and replacement of existing relays. PDS is able to report the status of these work tasks via Protection Setting Requests (PSRs). Manual extraction, manipulation, filtering and analysis of these PSR records and their associated operator commentary enables a measure of identification of relay work distinguishing between installations and replacements as well as the odd relay that fails in service. The majority of PSR records are time-stamped as they are processed, however work confirmation or feedback from the field has a high turn around cycle. Thus, reporting Actual installations for the financial year of 2014-15 in mid-July 2014 may not recover all overdue confirmations of installations and replacements from the field, especially work that was undertaken late in the 2014-15 financial year. A number of these PSR records have not been fully completed or time-stamped however, field confirmation has been given that the work has been completed. Such incomplete records and associated assets have been classed as an Estimate although it is most likely that they have been completed with record-keeping to be updated at a later date. An additional source of information that has been utilised to procure relay installations and replacements is the Artimus7 (A7) database. A7's Capex report for August 2015 has been procured to identify the progress of

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]
	secondary system projects. Manually filtering and determining how many impacted relays have either been installed or replaced has offered an estimation count of projects (and their associated relays) that has been confirmed completed within the 2014-15 financial year. It has been noted that some projects listed within A7 have incorporated both installation and replacement relay work. Ergon Energy has assumed that as the company has changed its business processes to limit/minimise augmentation works and focus upon refurbishment that relay assets affected by these projects shall be counted as replacements only offering an estimate count to template 2.2. All asset record data and associated work (i.e. installation or replacement) have been cross-referenced with the predetermined asset population count to ensure no double ups and assign suitable asset counts, where no data exists, relative to the project work (installation or replacement). ***Relay Failures*** Ergon Energy's key corporate management system Ellipse does not (as yet) store secondary system asset failure records. As resourcing for individual relay test data has not been updated for the financial year 2014-15, reliance has been given to FeederStat reports. **Joint Asset Management Inspection Tool (J-AMIT)** To assist in data collation Ergon Energy intends to initiate J-AMIT project as an in-house software tool to provide support for CBRM (condition based refurbishment maintenance), defect classification, works/maintenance management, data capture and validation requirements. This would address challenges of asset identification, classification, logistics, operational performance, tracking and history as well as provide an easier and quicker response of housekeeping or record keeping. Thus allowing Ergon Energy to provide actual data in the future.
How Estimated Information has been produced.	Ergon Energy has undertaken the following measures to produce Estimated relay asset information in relation to Template 2.2 for the financial year 2014-15. ***Relay Installations and Replacements*** Estimated relay installations for the financial year 2014-15, have been procured from PDS. Although PDS is not specifically designed to track the logistics of protection relays, it does attempt to track the progress of protection relay setting work by producing PSRs (Protection Setting Requests). Manual extraction, manipulation, filtering and analysis of these PSR records (procured via PDS) and their associated operator commentary enables a measure of identification of relay work distinguishing between installations and replacements as well as identification of some relays that fail in service. PSRs records identified as "complete" or "finalised" that are not time stamped have been classified as Estimate asset information. It is suspected that this is due to record keeping processes not fully implemented; or record

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]
	keeping managers waiting for written confirmation as opposed to verbal. In addition, field confirmation of installations and replacements take significant time to report back, thus relay work undertaken in late 2013-14 may not be time stamped until the early months of the 2014-15 financial year beyond the publishing and submission of this report. A7's Capex report for August 2014 has been procured to identify the progress of secondary system relays projects and cross check against PDS records. Manually filtering of the A7 Capex report and determining how many impacted relays have either been installed or replaced has offered an estimation count of projects (and their associated relays) that has been confirmed completed within the 2014-15 financial year. It has been noted that some projects listed within A7 have incorporated both installation and replacement relay work. Ergon Energy has assumed that as the company has changed its business processes to limit/minimise augmentation works and focus upon refurbishment that relay assets affected by these projects shall be counted as replacements only offering an estimate count to template 2.2. All asset record data and associated work (i.e. installation or replacement) have been cross-referenced with the predetermined asset population count to ensure no double ups and assign suitable asset counts, where no data exists, relative to the project work (installation or replacement). ***Relay Failures*** Not applicable. No estimate asset information has been utilised representing relay failure counts for financial year 2014-15. ***RTU AND AFLC REPLACEMENTS*** In relation to relay failures Ergon Energy has developed an estimate based on the following approach: ▪ RTU replacements were sourced from Asset Management Control systems' internal RTU and AFLC spreadsheets, SCADA master system and ellipse. Ergon Energy considers the best estimate has been provided for RTU and AFLC replacements on the basis that the secondary system team maintains the spreadsheets manually and are therefore the best information on these assets. ***RTU and AFLC Failures*** Asset failure quantities were derived from a known asset functional failures through Fdrstat event records. Up until 2013/14, Ergon Energy recorded the quantity of failed units as Asset Failures. From 2014/15, Ergon Energy has changed the definition and now reports number of tripping events as Asset Failures. ***Expenditure By Asset Category (2014-15)*** ***Plant Cost Allocation Method*** 1) The total expenditure on Replacement (by financial year) is taken from

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]

the General Ledger using the two activity codes which align with this activity: These codes are C2000 Network Refurbishment C2020 Ageing Asset Replacement. Network Refurbishment refers to the process of refurbishing a major part of the network like a feeder or a zone substation by replacing its subordinate parts.

2) The number of Asset Replacements is determined by identification of all Replaced assets (in this class) through the use of secondary spreadsheets and databases developed by the secondary system teams. These spreadsheets and databases have become less accurate as Ergon Energy has attempted to move data into the corporate ERP – Ellipse, so far this has not been successful.

3) The asset Material cost is determined from the purchasing contracts in the Ellipse inventory system.

4) This material cost is multiplied by the number of assets determined in step 2.

5) The result is adjusted to correct for errors caused when the ratio of labour to material costs varies from the average, or low volumes of assets lead to significant purchase cost variation. The unit plant cost is reviewed by the SME to confirm that the value is consistent with their experience. For the few that were not consistent, the ratio is adjusted to bring the value in line with the Standard Estimate which is Ergon Energy's expectation of cost of install of this asset.

In developing this estimate, Ergon Energy has made the assumptions that:

- All replacement expenditure is allocated across the Asset Categories in Table 2.2.1.
- The ratio of material costs to other direct costs (labour etc.), is consistent across assets.
- There is sufficient volume in each asset class to smooth price fluctuations (this has been made difficult by the AER groupings)

Ergon Energy considers the best estimate has been provided for the yearly Expenditure on the basis that actual total expenditure and inventory information has been used to estimate the asset category expenditure and spot calibration where the unit plant cost is reviewed and plant costs adjusted by the SME to ensure that the value is consistent with their experience. In the absence of actual data, Ergon Energy has proportioned the costs for substation plant and adjusted the values to approximate the Standard estimate values, whilst still totalling to the actual expenditure for substation replacement.

NOTE: It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed:

- There can be a lag between when stores are issued, items are replaced and expenditure incurred. This can result in variances in the unit replacement cost over the five years
- When replacement quantities are low and not consistent from year to

Minimum Requirements	Ergon Energy Response [Field Devices and Local Wiring Assets]
	year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost. Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 10: Communication and Local Wiring Assets

Minimum Requirements	Ergon Energy Response [Communication and Local Wiring Assets]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Local wiring is not recorded as a separate asset in Ergon Energy's systems. Accordingly, all local wiring is considered part of the asset to which it is attached and therefore not reported separately. This is in line with the AERs Issue Register – Issue No. 15.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated information, in accordance with AER's definition for ▪ Expenditure (2014-15) ▪ Asset Replacements Volume (2014-15) ▪ Asset Failure Volume (2014-15) For: ▪ Communications Network Assets ▪ Communications Site Infrastructure ▪ Communications Linear Assets
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information for Expenditure By Asset Category (2014-15) as the processes and systems within Ergon Energy that result in asset replacement are conducted as mixed bundles of differing asset classes and budgetary allocations. Thus the ability to directly access the individual costs of each asset replaced does not exist. An estimation methodology was used to provide expenditure data for

	individual asset classes. Local wiring is included with the asset for which it was used. It was not possible to use Actual Information For Asset Replacements Or Failure Volumes (2014-15) because Ellipse business rules do not include the requirement of recording asset history or traceability. At the completion of 2013-14 CA RIN Ergon Energy's Telecommunications team performed a full review on the Corporate Systems that hold the Expenditure, Asset Replacement Volume and Asset Failure Volume. It was ascertained the base structure of the Corporate System did not reach the basic requirements of the Telecommunications data. During 2014-15 several undertakings have taken place to set the Corporate Systems up to enable reporting of actual data for 2015-16. These undertakings include the following: ▪ Update of the J3 codes within Ellipse and Artemis 7 to align with the Telecommunications RIN Reporting Categories (completed July 2015) ▪ Alignment of the Telecommunications equipment with the Network Optimisation Failed in Service Annual Capital Program (FIS) (completed July 2015) ▪ Review of the Telecommunications Equipment Group Identifiers (EGI) and alignment of each item with a RIN Reporting Category and subsequent alignment to the FIS program (ongoing as new assets are introduced) ▪ Update the FIS reporting to enable actual data representation of failed and replaced assets (forecast completion August 2015) ▪ Implementation of accurate asset hierarchy updates through the Data Governance team (forecast completion September 2015) ▪ Review and ongoing implementation of physical asset inputs through the Asset Maintenance Officers (forecast completion June 2016) ▪ Update of the Telecommunication Project process to include alignment to the new J3 code structure, inclusion of asset reporting during the project lifecycle and updating of asset physicals in Ellipse at the conclusion of the commissioning stage (ongoing) ▪ Update of the Telecommunication Site assets to include all sites on the asset capitalisation list (forecast completion September 2015) ▪ Review and update of the asset life based on the EGI and aligned to the RIN Reporting Categories (forecast completion May 2016)
How Estimated Information has been produced.	In relation to ***Expenditure By Asset Category*** (2014-15), Ergon Energy developed the following estimation methodology: ▪ Ergon Energy has captured system and non-system Communication and Local Wiring Assets expenditure and replacement for analysis. ▪ Manually identify number of replacements in each asset category by excluding erroneous data that could not clearly be allocated to a communications asset category.

- Filter the data per financial year and allocate the expenditure based on that filter, making the assumption the asset was replaced the financial year it was purchased.
- Allocate the analysed expenditure of three system network Communication and Local Wiring Assets categories by applying ratio of system and non-system Communication and Local Wiring Assets expenditure which captured in the company account.
- Estimate replacement quantity by applying unit cost rate from the analysis of the above to system Communication and Local Wiring Assets CAPEX expenditure of each category.

In developing this estimate Ergon Energy has assumed that all sites are equal and no particular exemptions or additions have been made.

Ergon Energy considers the best estimate has been provide for communications assets on the basis that Ergon Energy's systems and processes have not recorded this information in the past. The information provided has been validated by experienced Engineers.

NOTE: It should be noted that there are inherent limitations with the weighted plant method that need to be disclosed:

- There can be a lag between when stores are issued, items are replaced and expenditure incurred. This can result in variances in the unit replacement cost over the five years
- When replacement quantities are low and not consistent from year to year, and stores costs are high, the weighted allocation method does not allow for the expenditure to be smoothed out to create a consistent unit replacement cost.

Nevertheless, the unit replacement cost is considered consistent with Ergon Energy's replacement costs when averaged over multiple years.

Table 2.2.2 - Descriptor Metrics

Table 11: Poles, Overhead Conductors and Underground Cables

Minimum Requirements	Ergon Energy Response [Poles, Overhead Conductors and Underground Cables]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Ergon Energy does not have "CBD" Poles, Conductor or Cable assets.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.2 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset

Information in templates	category.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables: ▪ Replacements
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It is not possible to use Actual Information and an estimate is required in relation to Asset Replacements because the assets do not have these categories attached.
How Estimated Information has been produced.	Asset volume in commission by feeder type for poles, conductor and cable is sourced from Ergon Energy's Smallworld GIS, Ellipse ERP and Outage Management System OMS. GIS is used to determine the conductor lengths broken down by feeder. A combination of ERP and GIS is used to get a count of poles broken down by feeder. The feeder type for each feeder is determined from the classifications in OMS. This allows asset volumes to be determined by feeder type. Ergon Energy's OMS has a feeder classification of Transmission. Assets associated with the Transmission classification were included in the asset volumes for "Rural Long" Assets for which no classification could be determined were allocated to the feeder type in the same proportion as other assets associated with the feeder type. In relation to Replacements, Ergon Energy has developed an estimate based on an approach whereby the ratio of Urban, Rural And Rural Long asset volumes and material type is used to assign a portion of the replacements to each category.

Table 12: Transformers

Minimum Requirements	Ergon Energy Response [Transformers]
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.2, Table 2.2.2 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for TOTAL MVA [currently in commission].
Source of Actual Information	Actual Information for TOTAL MVA [currently in commission] was sourced from ▪ For Zone transformers, MVA ratings have been sourced from Ergon Energy's corporate ERP – Ellipse (Asset Management Module) nameplate data. ▪ For Distribution Transformers, nameplate rating has been obtained from Ergon Energy's corporate ERP – Smallworld GIS data.
Methodology and assumption's applied in relation to Actual Information	***TOTAL MVA [currently in commission***] ▪ For Substation transformers, MVA ratings have been sourced from Ergon Energy's corporate ERP- Ellipse. The nameplate data is summated. ▪ For Distribution Transformers, nameplate rating has been obtained from the Smallworld GIS "slot" rating. ▪ Total MVA capacity currently in commission is then obtained by adding Power transformer data to Distribution transformer data.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables: ▪ TOTAL MVA DISPOSED OF ▪ TOTAL MVA REPLACED ▪ TOTAL MVA [replaced in current year]
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information. An estimate is required in relation to TOTAL MVA DISPOSED OF, because there is a large time lapse when transformers are sent to be tested for possible repair and then are disposed. It was not possible to use Actual Information. And an estimate is required in relation to TOTAL MVA REPLACED, because there is no direct record in our system of when an asset is replaced, or log of when it is replaced. It was not possible to use Actual Information. And an estimate is required in relation to TOTAL MVA [currently in commission], because data is obtained from a system that is not the master asset data.
How Estimated Information	***TOTAL MVA DISPOSED OF***

Minimum Requirements	Ergon Energy Response [Transformers]
has been produced.	***TOTAL MVA REPLACED*** ***TOTAL MVA*** [replaced in current year] In relation to TOTAL MVA, Ergon Energy has developed an estimate based on the following approach ▪ For Substation transformers, MVA ratings have been sourced from Ergon Energy's corporate ERP- Ellipse. The nameplate data is summated. ▪ For Distribution Transformers, nameplate rating has been obtained stores issues data. The nameplate rating is contained within the text description of distribution transformers in the inventory register. A temporary data table was produced by reading each distribution transformer description and giving it a rating. ▪ Total MVA capacity replaced each year is then obtained by adding Power transformer data to Distribution transformer data In developing this estimate, Ergon Energy assumed those transformers that are installed are booked to the correct code. Ergon Energy considers this the best estimate has been provided for these TOTAL MVA as the inventory system is well maintained and has rigorous processes and the manual searching was vigorous and included input from data professionals and engineers.

Category Analysis RIN Basis of Preparation

Template 2.3 Augex Project Data

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.3 Augex Project Data of Ergon Energy's completed 2014-15 Category Analysis RIN templates (14-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.3 Augex Project Data (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.3 Augex Project Data, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information;
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.
- how Ergon Energy is investigating the opportunity to invest in system and/or processes to record and produce "actual" data; and
- progress made to date and planned implementation date.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

Furthermore, the below additional requirement/s were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation. Responses to these requirements are made as attachment/s to this Basis of Preparation.

Table 1: Attachment/s to Basis of Preparation for Template 2.3 Augex Project Data

Notice Reference	Requirement	Attachments
7.1(c)(i), and 7.3(c)(i)	Where expenditure has been reported in real $2014-15, provide any calculations used to convert real to nominal dollars or nominal to real dollars for this purpose.	EECL 1415 CARIN_T2.3 AGX A1

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.3 Augex Project Data (Actual, Estimated or Consolidated) in Ergon Energy's completed 14-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

[1] Templates were reissued: 15 May, 19 June and 22 June.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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Template 2.3 Augex Project Data

Table 2.3.1 Augex Asset Data – Subtransmission Substations, Switching Stations and Zone Substation

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. The variable *"non material projects [forecast]"* has not been populated as it is only applicable to the Reset RIN and not the historically based Category Analysis RIN
	Ergon Energy has prepared the information provided in Template 2.3, Table 2.3.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has only included projects and expenditure related to augmentation of the network (only projects under augmentation financial activity codes C2010, C2030, C2040 and C2050 have been reported), excluding costs relating to non-network assets identified as part of the annual performance RIN preparation. To exclude non-network costs, the proportion of total non-network assets to network assets based on actual ellipse data was used to estimate the non-network costs for each project type. Ergon Energy has not included information for gifted assets, and no augmentation expenditure in relation to connections has been included in template 2.3. Projects were included for augmentation and the addition of equipment within sub-transmission substations i.e. monitoring and communication equipment under table 2.3.1, although there were no additional capacity (MVA) added to substations. These projects were therefore included as non-material projects. Unless otherwise indicated, 'Rating' or 'MVA added' refers to equipment's normal cyclic rating (for substations) or thermal rating (for lines and cables). The calculations of capacity are based on normal conditions and in response to paragraph 7.1(b), Ergon Energy defines "normal conditions": ▪ "When assessing compliance with the network security criteria it is important to select the correct plant ratings for each scenario. It should be noted that, the Normal Cyclic Capacity (NCC) of equipment applies during system normal conditions i.e. where all network elements are in service." NCC Values given for Transformers have been taken from February 2014 Transformer Cyclic Ratings Spreadsheet With regards to Related Party expenditure:

Minimum Requirements	Ergon Energy Response
	▪ Within the Ergon Energy group, the parent entity Ergon Energy Corporation Limited (EECL) maintains controlling interest over three reporting entities. These include Ergon Energy Queensland Pty Limited (EEQ) and Ergon Energy Telecommunications Pty Limited (EET) which are both 100% owned, and a jointly controlled entity SPARQ Solutions Pty Ltd (SPARQ) where Ergon Energy maintains a 50% ownership interest. EEQ is a non-competing electricity retailer; EET is a wholesale telecommunication service provider; and SPARQ is an information, communications and technology service provider. ▪ EECL provides management services to its subsidiaries. Accordingly, EEQ and EET do not have their own management structures. EECL pays SPARQ a charge in accordance with service level agreements which is captured as a corporate overhead. ▪ EECL is subject to common control as a Queensland Government Owned Corporation (GOC), with all shares held by shareholding Ministers on behalf of the State of Queensland and transacts with other State of Queensland controlled entities. However, the Queensland Government and State of Queensland controlled entities are not considered related parties for the purposes of the CA RIN due to the specific exclusion of government departments in the definition. ▪ Accordingly, Ergon Energy did not identify any Related Parties contract expenditure in relation to Augmentation projects and Related Party Margins is recorded as “zero”. ▪ All Non Related Party Contracts are calculated as the Total Contractors expenditure. Expenditure in ‘All related party contracts’ and ‘All non-related party contracts’ columns do not contribute to the total direct expenditure on an augex project (‘Total direct expenditure’) as required. ▪ Finally, all contract expenditure for augex projects under the ‘All related party contracts’ and ‘All non-related party contracts’ columns were allocated to the appropriate ‘Plant and equipment” expenditure and “Other Expenditure”. Ergon Energy has considered and complied with clarifications provided by the AER on issues related to template 2.3 and relevant to Ergon Energy. With regards to instructions specific to Table 2.3.1 (on regulatory template 2.3), Ergon Energy notes: ▪ Ergon Energy has reported all expenditure data for Augex in Table 2.3.1 in real $2014-15. Nominal dollars has been converted to real dollars using actual CPI rates (Mar-Mar) for the weighted average of eight capital cities as published by the Australian Bureau of Statistics (ABS). Calculations have been provided as **Attachment 1: Nominal to real values Template 2.3**.

Minimum Requirements	Ergon Energy Response
	▪ Ergon Energy only included data in table 2.3.1 for augmentation works where project close occurred within the year specified and did not include data for works where the project closed after the year specified but incurred expenditure prior to this date. ▪ Augmentation projects on a subtransmission substation, switching station and zone substation owned and operated by Ergon Energy with greater than or equal to $5 million (nominal) cumulative expenditure over the life of the project where project close occurred at any time in the year specified, have been reported separately in table 2.3.1. ▪ In this regard, both direct and indirect (overheads) costs were included in determining the cumulative expenditure over the life of a project as per the AER clarification however, only the direct cost was reportable in table 2.3.1. ▪ Projects with less than $5 million nominal expenditure over the life of the project where project close occurred at any time in the year specified have been consolidated into the expenditure figures in the penultimate row of table 2.3.1. ▪ All augmentation work on substations in Ergon Energy's network was included in table 2.3.1. There were no substations operating at notional transmission voltages. ▪ Each row in table 2.3.1 represents an individual substation and project. Ergon Energy does not conduct work on more than one substation per one project. Ergon Energy uses a parent project with child projects underneath the parent project to structure projects. The highest level (parent project) is the substation with all the components relevant to that one substation raised as child projects under the parent project. ▪ No substation augmentation projects in table 2.3.1 are related to other projects, including other tables in template 2.3. ▪ Ergon Energy did not select "Other – specify" for any projects disclosed in table 2.3.1. ▪ The substation ID's provided in table 2.3.1 represents Ergon Ellipse Asset substation identification number and the project ID is Ergon Energy's project number allocated within the Ellipse operating system. ▪ The primary trigger was selected within the drop down list provided. None of the projects listed in table 2.3.1 have any secondary triggers to be disclosed. Ergon Energy did not choose "Other – specify" for any projects disclosed in table 2.3.1 ▪ Voltages on substations listed in table 2.3.1 were entered in the format xx/xx or xx/xx/xx, reflecting the primary, secondary and tertiary voltages. ▪ Ergon Energy has complied with the required in put 'Pre' and 'Post'

Minimum Requirements	Ergon Energy Response
	substation ratings as per paragraph 7.2 (k) ▪ Ergon Energy only included procurement cost under 'Total expenditure' for transformers, switchgear, capacitors and other plant items. Installation costs have been reported separately in each table. With regards to Land and Easement expenditure: ▪ Total direct expenditure does not include any expenditure for land or easements. ▪ Furthermore, Ergon Energy input all expenditure directly attributable to the land purchase or easement compensation payments in the 'Land purchases' and 'Easements' columns, respectively, including legal, stamp duties and cost of purchase or easement compensation payments. Where contractor payments were not coded to the Land & Easement expense element the costs were included under "Installation Labour" or "Other Plant". ▪ Ergon Energy calculated 'Other Plant' expenditure as the total cost of all equipment and materials booked to the relevant project less actual cost for Transformers, Switchgear and Capacitors.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for the following variables in Template 2.3, Table 2.3.1 which requires expenditure data on a project close basis, for all initial regulatory years (2014-15). ▪ Installation Volume ▪ Installation (Labour) Expenditure ▪ Civil Works Expenditure ▪ Other Direct Expenditure ▪ Years Incurred ▪ All Non Related Party Contracts ▪ Land Purchase ▪ Easements ▪ Non Material Projects – Total Direct Expenditure ▪ Non Material Projects – Years Incurred ▪ Non Material Projects – Land Purchase ▪ Non Material Projects – Easements ▪ Voltage (KV) ▪ Substation Rating Normal Cyclic (MVA) ▪ Substation Rating N-1 Emergency (MVA) ▪ Transformers – Units added ▪ Transformers – MVA Added

Minimum Requirements	Ergon Energy Response
	▪ Transformers – Expenditure ▪ Switchgear – units added ▪ Switchgear – Expenditure ▪ Capacitors – MVAR added ▪ Capacitors – Expenditure The majority of Augmentation projects incurred cost over more than one financial year and in some cases over a number of financial years. Projects with project close dates within the reporting period (2014-15) would have had cost incurred before the reporting period (pre 2014-15), which was included in expenditure disclosed in table 2.3.1. Note: Project 00162727 included within reporting period 2013-14 was subsequently re-opened with $170,511 incurred within the reporting period 2014-15. Projects were included in table 2.3.1 only where the project close date occurred at any time in the year specified. Project close date (i.e. project finalisation date) is when all project costs have been recognised and reconciled, and not the date at which the project was put in service and capitalised. The project close date could differ from the project capitalisation date.
Source of Actual Information	Actual Information for the financial variables was sourced from Ergon Energy's Ellipse operating system. The following actual information for non-financial variables was sourced from "as built" schematics and relevant planning reports: ▪ Transformers – Units added ▪ Transformers – MVA Added ▪ Switchgear – Units added ▪ Capacitors – MVAR added ▪ Substation Rating Normal Cyclic (MVA) ▪ Substation Rating N-1 Emergency (MVA)
Methodology and assumption's applied in relation to Actual Information	Report was run from the Ellipse operating system which listed all projects closed within regulatory year 2015 under the Augex financial activity codes C2010, C2030, C2040 and C2050 – the MASTER C2010_C2030_C2040_C2050 report, excluding costs relating to non-network assets identified as part of the annual performance RIN preparation. To exclude non-network costs, the proportion of total non-network assets to network assets based on actual ellipse data was used to estimate the non-network costs for each project type. The Report included all Ergon Energy augmentation projects, not only those related to Subtransmission Substations, Switching Stations and

Minimum Requirements	Ergon Energy Response
	Zone Substations. The project list was filtered to include only those projects relating to Subtransmission Substations, Switching Stations and Zone Substations by analysing the project j-codes (asset classification codes) and extracting Subtransmission Substations, Switching Stations and Zone Substations projects. The extracted substation project list reported each project and their total cumulative expenditure over the life of the project, broken down by direct costs and overheads as well as their total annual expenditure as incurred (excluding overheads). Each project with a total (whole of life) expenditure of equal or greater than $5 million (nominal, inclusive of direct and overhead costs) was reported as a separate project in the RIN template. Those projects less than $5 million were labelled as a non-material project to be consolidated into a single substation line item in table 2.3.1. The report also provided cost per project for the following expenditure categories: Materials, Contractor cost, Labour cost, Purchases, Stores, Other direct cost. Further detailed expenditure reports were run from Ellipse on each material project providing details of each expense booked to the project. In order to report the information in the required expense categories per table 2.3.1, Ergon Energy applied the following methodology and assumptions to the data presented in the MASTER C2010_C2030_C2040_C2050 report: **Installation (Labour) Volume** was calculated as the sum of Total Labour Hours reported within Ellipse 660h reports for each project. **Installation (Labour) Expenditure** was calculated as the Sum of Contractors and Labour as per the MASTER C2010_C2030_C2040_C2050 report, less civil works labour identified through detailed analysis of labour expenditure for each project. **Civil Works Expenditure** was calculated on the Asset apportionment percentage for Substation Buildings on the Incurred To Date Costs (excluding overheads). There is no report available to provide this information as civil costs fall to the contractor expense elements. After reviewing detailed contractor and purchase transactions for Projects in Ellipse reports we could not identify with accuracy civil works costs. We therefore used the BPU apportionment for Substation buildings (percentage of project cost allocated to Substation buildings) and applied this percentage to the Total cumulative costs (excluding overheads) of the individual projects and input as civil works cost into table 2.3.1. **Transformer Expenditure** was identified and calculated by reviewing individual project transaction reports (Ellipse Fin 900h reports) and identifying and totaling individual transactions under expense categories for “purchases and material’ that related to transformers **Switchgear Expenditure** was identified and calculated by reviewing

Minimum Requirements	Ergon Energy Response
	individual project transaction reports (Ellipse Fin 900h reports) and identifying and totaling individual transactions under expense categories for “purchases and material’ that related to switchgear **Capacitor Expenditure** was identified and calculated by reviewing individual project transaction reports (Ellipse Fin 900h reports) and identifying and totaling individual transactions under expense categories for “purchases’ that related to capacitors. No capacitor expenditure was identified **Other Plant Expenditure** was calculated as the Total Materials and Purchases as per the MASTER C2010_C2030_C2040_C2050 report, less actual cost for Transformers, Switchgear and Capacitors. **Other Direct Expenditure** was calculated as the Total Other Costs as per the MASTER C2010_C2030_C2040_C2050 report, less the sum of Land and Easements. Total Other Cost as per MASTER C2010_C2030_C2040_C2050 report includes Land and Easement cost. Other Costs includes:- ▪ Capital Interest ▪ Computer ▪ Marketing ▪ Other ▪ Transport Internal ▪ Transport External ▪ Travel & Accommodation **Years Incurred** was sourced from the MASTER C2010_C2030_C2040_C2050 report. Projects reported in regulatory year 2015 are based on closure dates within this regulatory period, some projects will have incurred final costs in previous financial years. **Related Party Margins** is recorded as “zero”; Ergon Energy did not identify any Related Parties contract expenditure in relation to Augmentation projects. **All Non Related Party Contracts** is disclosed as the Total Contractors expenditure as per the MASTER C2010_C2030_C2040_C2050 report **Land Purchase and Easements** cost is included as Other Costs in the MASTER C2010_C2030_C2040_C2050 report. Land and Easement cost was therefore calculated by running an Ellipse report for activities 2010,2030,2040 & 2050 by expense element 6160 (Easement/Land), the MASTER_Augex Account Codes_WO Txns with EE 6160 Report. This report provided the total land and easement cost per project. To split the cost between Land Purchase and Easements, we used the BPU apportionment for Land (L5) (percentage of project cost allocated to Land) and Easements (L9) (percentage of project cost allocated to Easement) from MASTER BPU Vers 1 Data by BPU Code report and applied this percentage to the total Land and Easement expenditure as

Minimum Requirements	Ergon Energy Response
	per MASTER_Augex Account Codes_WO Txns with EE 6160 for each project and input as Land purchase or Easements in table 2.3.1. **Non Material Projects – Total Direct Expenditure** was sourced from the MASTER C2010_C2030_C2040_C2050 report. The total cumulative expenditure (excluding overheads) over the life of the projects identified as non- material projects as per the MASTER C2010_C2030_C2040_C2050 report was listed as Total Direct Expenditure for Non Material projects in table 2.3.1. Note: Project 00162727 included within reporting period 2013-14 was subsequently re-opened with $170,511 incurred within the reporting period 2014-15. **Non Material Projects – Years Incurred** was sourced from the RIN MASTER C2010_C2030_C2040_C2050 report **Non Material Projects** - **Land Purchase and Easements** was calculated by applying the same methodology as for Land Purchase and Easements for material projects described above. **Non-financial Variables** The following actual information for non-financial variables was sourced from “as built” schematics and relevant planning reports: ▪ Transformers – Units added ▪ Transformers – MVA Added ▪ Switchgear – units added ▪ Capacitors – MVAR added ▪ Substation Rating Normal Cyclic (MVA) ▪ Substation Rating N-1 Emergency (MVA) **Converting nominal to real values** Ergon Energy has reported all expenditure data for Augex in Table 2.3.1 in real $2014-15. Nominal dollars has been converted to real dollars using actual CPI rates (Mar-Mar) for the weighted average of eight capital cities as published by the Australian Bureau of Statistics (ABS). The MASTER C2010_C2030_C2040_C2050 report provided a split of total cumulative cost (excluding overheads) in nominal values for each year in which cost was incurred. Ergon Energy applied the relevant CPI rate for each specified year in which cost was incurred to convert the nominal values to real values. The following assumptions were applied in converting nominal values to real values: **Land & Easements –** The financial year in which land and easements costs were incurred was not specified within reporting data. The assumption that land and easement costs have been incurred first was applied to convert land and easement cost to real values. **Expenditure categories -** Cost incurred by financial year cannot be split by expense category. Total project cost nominal values per year incurred

Minimum Requirements	Ergon Energy Response
	have therefore been converted to real values and total real values apportioned into expenditure categories based on the nominal values allocated to each expense category.
Population of Estimated Information in Templates	Ergon Energy has not provided estimated information in relation to Table 2.3.1.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has not provided estimated information in relation to Table 2.3.1.
How Estimated Information has been produced.	Not applicable. Ergon Energy has not provided estimated information in relation to Table 2.3.1.

Table 2.3.2 Augex Asset Data – Subtransmission Lines

Table 2: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. The variable *"non material projects [forecast]"* has not been populated as it is only applicable to the Reset RIN and not the historically based Category Analysis RIN
	Ergon Energy has prepared the information provided in Template 2.3, Table 2.3.2 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy have considered and complied with clarifications provided by the AER on issues related to template 2.3 and relevant to Ergon Energy. Ergon Energy has only included projects and expenditure related to augmentation of the network (only projects under augmentation financial activity codes C2010, C2030, C2040 and C2050 have been reported). Ergon Energy has not included information for gifted assets, and no augmentation expenditure in relation to connections has been included in template 2.3. Unless otherwise indicated, 'Rating' or 'MVA added' refers to equipment's normal cyclic rating (for substations) or thermal rating (for lines and cables). The calculations of capacity are based on normal conditions and in response to paragraph 7.1(b), Ergon Energy defines

Minimum Requirements	Ergon Energy Response
	"normal conditions": "When assessing compliance with the network security criteria it is important to select the correct plant ratings for each scenario. It should be noted that, the Normal Cyclic Capacity (NCC) of equipment applies during system normal conditions i.e. where all network elements are in service." With regards to Related Party expenditure: ▪ Within the Ergon Energy group, the parent entity EECL maintains controlling interest over three reporting entities. These include EEQ and EET which are both 100% owned, and a jointly controlled entity SPARQ where Ergon Energy maintains a 50% ownership interest. EEQ is a non-competing electricity retailer; EET is a wholesale telecommunication service provider; and SPARQ is an information, communications and technology service provider. ▪ EECL provides management services to its subsidiaries. Accordingly, EEQ and EET do not have their own management structures. EECL pays SPARQ a charge in accordance with service level agreements which is captured as a corporate overhead. ▪ EECL is subject to common control as a Queensland GOC, with all shares held by shareholding Ministers on behalf of the State of Queensland and transacts with other State of Queensland controlled entities. However, the Queensland Government and State of Queensland controlled entities are not considered related parties for the purposes of the CA RIN due to the specific exclusion of government departments in the definition. ▪ Accordingly, Ergon Energy did not identify any Related Parties contract expenditure in relation to Augmentation projects and Related Party Margins is recorded as "zero". ▪ All Non Related Party Contracts are calculated as the Total Contractors expenditure. Expenditure in 'All related party contracts' and 'All non-related party contracts' columns do not contribute to the total direct expenditure on an augex project ('Total direct expenditure') as required. ▪ Finally, all contract expenditure for augex projects under the 'All related party contracts' and 'All non-related party contracts' columns were allocated to the appropriate 'Plant and equipment" expenditure With regards to instructions specific to Table 2.3.2 (on regulatory template 2.3), Ergon Energy notes: ▪ Ergon Energy has reported all expenditure data for Augex in Table 2.3.2 in real $2014-15. Nominal dollars has been converted to real dollars using actual CPI rates (Mar-Mar) for the weighted average of eight capital cities as published by the Australian Bureau of Statistics (ABS). Calculations have been provided as Attachment 1 to this Basis of Preparation. ▪ Ergon Energy only included data in table 2.3.2 for augmentation

Minimum Requirements	Ergon Energy Response
	works where project close occurred within the year specified and did not include data for works where the project closed after the year specified but incurred expenditure prior to this date. ▪ Ergon Energy did not identify any augmentation projects on a subtransmission line owned and operated by Ergon Energy with greater than or equal to $5 million (nominal) cumulative expenditure over the life of the project where project close occurred at any time in the year specified to report separately in table 2.3.2. Both direct and indirect (overheads) cost was included in determining the cumulative expenditure over the life of a project as per AER clarification. Only direct cost was included in table 2.3.2. ▪ Projects with less than $5 million nominal expenditure over the life of the project where project close occurred at any time in the year specified have been consolidated into the expenditure figures in the penultimate row of table 2.3.2. ▪ All augmentation work on subtransmission lines in Ergon Energy's network was included in table 2.3.2. There were no augmentation projects on lines or cables operating at notional transmission voltages that closed during the year specified. ▪ No subtransmission lines augmentation projects in table 2.3.2 are related to other projects, including other tables in template 2.3. ▪ With regards to Land and Easements, Ergon Energy notes that: ▪ Total direct expenditure does not include any expenditure for land purchases or easements. ▪ Ergon Energy did not record any land and easement projects and/or expenditure as separate line items in table 2.3.2. ▪ Ergon Energy input all expenditure directly attributable to the land purchase or easement compensation payments in the 'Land purchases' and 'Easements' columns, respectively, including legal, stamp duties and cost of purchase or easement compensation payments. Where contractor payments were not coded to the Land & Easement expense element, the costs were included under "Installation Labour" or "Other Plant".
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for the following variables in Template 2.3, Table 2.3.2 which requires expenditure data on a project close basis , for all initial regulatory year (2014-15).: ▪ Non Material Projects – Total Direct Expenditure ▪ Non Material Projects – Years Incurred ▪ Non Material Projects – Land Purchase ▪ Non Material Projects – Easements The majority of Augmentation projects incurred cost over more than one

Minimum Requirements	Ergon Energy Response
	financial year and in some cases over a number of financial years. Projects with project closed dates within the reporting period (2014-15) would have had cost incurred before the reporting period (pre 2014-15), which was included in expenditure disclosed in table 2.3.2. Projects were included in table 2.3.2 only where the project close date occurred at any time in the year specified. Project close date (i.e. project finalisation date) is when all project costs have been recognised and reconciled, and not the date at which the project was put in service and capitalised. The project close date could differ from the project capitalisation date.
Source of Actual Information	Actual Information for the financial variables was sourced from Ergon Energy's Ellipse operating system.
Methodology and assumption's applied in relation to Actual Information	Report was run from the Ellipse operating system which listed all projects closed within regulatory year 2014 - 2015 under the Augex financial activity codes C2010, C2030, C2040 and C2050 – the MASTER C2010_C2030_C2040_C2050 report, excluding costs relating to non-network assets identified as part of the annual performance RIN preparation. To exclude non-network costs, the proportion of total non-network assets to network assets based on actual ellipse data was used to estimate the non-network costs for each project type. This report included all Ergon Energy augmentation projects, not only those related to Subtransmission lines. The project list was filtered to include only those projects relating to Subtransmission lines by analysing the project j-codes (asset classification codes) and extracting Subtransmission line projects. The extracted line project list reported each project and their total cumulative expenditure over the life of the project, broken down by direct costs and overheads as well as their total annual expenditure as incurred (excluding overheads). Each project with a total (whole of life) expenditure of equal or greater than $5 million (nominal, inclusive of direct and overhead costs) was identified to be reported as a separate project in the RIN template. Those projects less than $5 million were labelled as a non-material project to be consolidated into a single subtransmission line item in table 2.3.2. No material projects with a total (whole of life) expenditure of equal or greater than $5 million (nominal, inclusive of direct and overhead costs) were identified within the reporting period (2014-15) reported as a separate project in the RIN template. **Non Material Projects – Total Direct Expenditure** was sourced from the MASTER C2010_C2030_C2040_C2050 report. The total cumulative expenditure (excluding overheads) over the life of the projects identified as non- material projects as per the MASTER C2010_C2030_C2040_C2050 report was listed as Total Direct Expenditure for Non Material projects in table 2.3.2. **Non Material Projects – Years Incurred** was sourced from the MASTER C2010_C2030_C2040_C2050 report. Projects reported in

Minimum Requirements	Ergon Energy Response
	regulatory year 2015 are based on closure dates within this regulatory period, some projects will have incurred final costs in previous financial years. **Non Material Projects** - **Land Purchase and Easements** cost is included as Other Costs in the MASTER C2010_C2030_C2040_C2050 report. Land and Easement cost was therefore calculated by running an Ellipse report for activities 2010,2030,2040 & 2050 by expense element 6160 (Easement/Land), the MASTER_Augex Account Codes_WO Txns with EE 6160 Report.. This report provided the total land and easement cost per project. To split the cost between Land Purchase and Easements, we used the BPU apportionment for Land (L5) (percentage of project cost allocated to Land) and Easements (L9) (percentage of project cost allocated to Easement) from MASTER BPU Vers 1 Data by BPU Code report and applied this percentage to the total Land and Easement expenditure as per MASTER_Augex Account Codes_WO Txns with EE 6160 for each project and input as Land purchase or Easements in table 2.3.2. **Non-financial Variables** - The following actual Information for non-financial variables was sourced from “as built” schematics and relevant planning reports: ▪ Route line length added – KM added ▪ Poles/Towers added ▪ Poles/Towers upgraded ▪ Overhead lines – Circuit Km added ▪ Overhead lines – Circuit Km upgraded ▪ Underground cables – Circuit Km added ▪ Underground cables – Circuit Km upgraded ▪ Voltage (KV) **Converting nominal to real values** Ergon Energy has reported all expenditure data for Augex in Table 2.3.2 in real $ 2014-15. Nominal dollars has been converted to real dollars using actual CPI rates (Mar-Mar) for the weighted average of eight capital cities as published by the Australian Bureau of Statistics (ABS). The MASTER C2010_C2030_C2040_C2050 report provided a split of total cumulative cost (excluding overheads) in nominal values for each year in which cost was incurred. Ergon Energy applied the relevant CPI rate for each specified year in which cost was incurred to convert the nominal values to real values. The following assumptions were applied in converting nominal values to real values: **Land & Easements –** The financial year in which land and easements costs were incurred was not specified within reporting data. The

Minimum Requirements	Ergon Energy Response
	assumption that land and easement costs have been incurred first was applied to convert land and easement cost to real values.
Population of Estimated Information in Templates	Ergon Energy has not provided estimated information in relation to Table 2.3.2.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has not provided estimated information in relation to Table 2.3.2.
How Estimated Information has been produced.	Not applicable. Ergon Energy has not provided estimated information in relation to Table 2.3.2.

Table 2.3.3 Augex Asset Data – HV/LV Feeders and Distribution Substations

Table 2.3.3.1 Descriptor Metrics

Table 3: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.3 - Augex project data, Table 2.3.3.1 - Descriptor Metrics (units upgraded; added in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has only included projects and expenditure related to augmentation of the network (only projects under augmentation financial activity codes C2010, C2030, C2040 and C2050 have been reported), excluding costs relating to non-network assets identified as part of the annual performance RIN preparation. To exclude non-network costs, the proportion of total non-network assets to network assets based on actual ellipse data was used to estimate the non-network costs for each project type. Ergon Energy has not included information for gifted assets, and no augmentation in relation to connections has been included in template 2.3. Ergon Energy have considered and complied with clarifications provided by the AER on issues related to template 2.3 and relevant to Ergon Energy. With regards to instructions specific to Table 2.3.3 (on regulatory

Minimum Requirements	Ergon Energy Response
	template 2.3), Ergon Energy notes: ▪ Metrics relating to augmentation works on the specified types (overhead lines, underground cables) of ***HV feeders*** owned and operated by Ergon Energy undertaken at any time during the year specified for projects with a cumulative expenditure over the life of the project greater than or equal to $0.5 million (nominal), have been reported. Descriptor metrics for Works on HV Feeders for projects with less than $0.5 million nominal expenditure over the life of the project were not required. ▪ Metrics relating to augmentation works on the specified types (overhead lines, underground cables) of ***LV feeders*** owned and operated by Ergon Energy undertaken at any time during the year specified for projects with a cumulative expenditure over the life of the project greater than or equal to $50,000 (nominal) have been reported. Descriptor metrics on works on LV Feeders for projects with less than $50,000 nominal expenditure over the life of the project were not required. ▪ Metrics relating to augmentation works on the specified types (pole mounted, ground mounted, indoor) of ***Distribution Substations*** owned and operated by Ergon Energy undertaken at any time during the years have been reported. ▪ For projects spanning across regulatory years, *'circuit km added'*, *'circuit km upgraded'* and 'Units" data was input according to the final year in which expenditure was incurred for the project.
Population of Actual Information in templates	Ergon Energy has used Actual Information, in accordance with the AER's definition, for the following variables in Table 2.3.3.1: ▪ Units Added & Units Upgraded - Distribution Substation Augmentations – Pole Mounted; ▪ Units Added & Units Upgraded - Distribution Substation Augmentations – Ground Mounted; ▪ Units Added & Units Upgraded - Distribution Substation Augmentations – Indoor.
Source of Actual Information	Ergon Energy notes the source of Actual Information for the following variables: ▪ Distribution Substation Augmentations, both Units Added & Units Upgraded, was sourced from MASTER C2010_C2030_C2040_C2050 report with introduced Distribution Categories and MASTER RIN Reporting Requisitioning Data Report; ▪ Raw conductor and cable acquisition (by metre) was sourced from MASTER RIN Reporting Requisitioning Data Report.
Methodology and assumption's applied in relation to Actual	In order to obtain the information, it was necessary for Ergon Energy to apply additional data qualifiers to the MASTER C2010_C2030_C2040_C2050 report to allow identification of each

Minimum Requirements	Ergon Energy Response
Information	parcel of works by Distribution categories in accordance with the requirements of Table 2.3.3.1 In doing so, it was assumed that: ▪ All Projects with Project Category (J2) Codes of either Subs-Sub-Transmission, Subs-Transmission, Lines-Sub-Transmission & Lines Transmission were outside the requirements of Table 2.3.3.2 and were eliminated from the reporting set. ▪ All projects where the primary Equipment Reference No had a 'GS' suffix, indicating a Generation Site, were eliminated from the reporting set, after verifying the scopes of a random selection of projects. ▪ Distribution Categories were identified from the reporting suite through the use of Project Category (J2) Codes Lines Distribution, Lines SWER, Subs Distribution and Subs SWER. ▪ Distribution Categories were validated through the use of Project Category (J3) Codes Overhead New, Upgrade or Replace; Underground New, Upgrade or Replace; Transformers New, Upgrade or Replace; Regulators New, Upgrade or Replace; SWER Isolators New, Upgrade or Replace; Steel Conductor New, Upgrade or Replace; Copper Conductor New, Upgrade or Replace; Services New, Upgrade or Replace ▪ Distribution Categories were validated through the use of Equipment Reference characteristics, such as: Equip ID Prefix SP = Substation Pole Mounted Equip ID Prefix GT = Ground Mounted Network Slot Equip ID Prefix AB = HV Isolating Device Network Slot ▪ Distribution Categories were validated through the use of Works Request Description Identifiers, such as: Reference to HV or HV Voltages (11, 22 & 33kV) Reference to SWER or SWER Voltages (12.7 & 19.1kV) Reference to LV or LV Voltages (0.240 & 0.415kV) Reference to ABC Installation (Arial Bunched Cable) Reference to UG or UG Assets (Padmount, RMU etc.) Reference to LIMS – A Dist. Substation Load Investigation management program ▪ Following the application of Distribution categories via the above process, any uncategorised projects were categorised through a review of the individual scope of works within the Works Request data. ▪ Actual information for Land Purchase and Easements was sourced from MASTER_Augex Account Codes_WO Txns with EE 6160 Report. As expected, Distribution assets, which are in the majority installed on Crown land, strung beneath sub-transmission assets on existing infrastructure in existing corridors or installed with the authority of the landholder by execution of a Wayleave, returned nominal values for land & easements either acquired or capitalised.

Minimum Requirements	Ergon Energy Response
	Disparity of unit cost rate arises due to the following factors: ▪ Units added/upgraded are based on the actual date of material acquisition extracted from the MASTER RIN Reporting Requisitioning Data Report, whereas installation costs are on an as incurred basis and costs have in some cases rolled over to the following financial period. ▪ Ergon Energy supply area covers 97% of the state of Queensland and as such, experiences geographical cost factors associated with the supply, transport & storage of materials at significant distance from logistic bases as well as an equally significant travel component for both internal & contract labour resources ▪ The process of determining feeder circuit length for Distribution works based on the actual length of conductor can be impacted by Ergon's material ordering process, whereby all conductor is issued from Material Services by full drum only. Subsequent unused portions of conductor are returned for credit on completion of the project. For projects where the initial conductor requisition occurs in one financial year and the return of surplus in the following financial year the circuit length calculation is overstated in the year of issue and equally understated in the year of return. ▪ During 2014-15 Ergon also undertook a number of Distribution projects which added no circuit length to the Distribution network: - **LV Distribution** average cost by circuit length determination is impacted by the LV Risk Mitigation program through the LV Spreader projects which incurred $3.36M in expenditure in 2014-15, and added zero circuit length to the LV Network. Low Voltage regulation projects, primarily due to the growth in Inverter Energy Systems with export capability, also saw a growth in expenditure of $0.5M from the previous financial year, again with no circuit length addition. - **HV Distribution** average cost by circuit length determination is impacted by the ACR (Auto Circuit Recloser) program which incurred $18.83M of expenditure in 2014/15 ($1.7M in 2013/14) and as Switchgear installation, does not add to the circuit length. This is reflected in the data showing the cost of materials that do not contribute to circuit length growth, that is equipment other than HV conductor, totalled $12.6M in 2014-15 compared to $7.2M in 2013-14.
Population of Estimated Information in Templates	Ergon Energy has used Estimated Information for all years in relation to: ▪ HV Feeder Augmentations – Overhead lines (circuit line length KM) added and upgraded. ▪ HV Feeder Augmentations – Underground cables (circuit line length KM) added and upgraded. ▪ LV Feeder Augmentations – Overhead lines (circuit line length KM)

Minimum Requirements	Ergon Energy Response
	added and upgraded ▪ LV Feeder Augmentations – Overhead lines (circuit line length KM) added and upgraded
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to HV & LV Feeder Augmentations, both Overhead Lines & Underground Cable Circuit Line Length km because no record of circuit length is maintained in alignment with individual projects. Ergon Energy has determined and proposed the following process changes to be made to be able to record and report actual data: ▪ Reconfigure the j-code project combinations to allow the categorization of capital projects in the Ellipse module that will reflect the RIN reporting category requirements; ▪ Project Sponsors would need to determine the actual circuit length added or upgraded as part of the scope of works for each project raised through the use of a spatial system such as Smallworld or Google Earth; and ▪ The data would be captured in Ellipse on the Work Request in order to be reported in direct relation to the project financial data. Due to the resource requirement to introduce these changes, Ergon Energy is in the planning phase and will endeavor to have the processes in place to be able to report actual data by 2016-17 reporting period.
How Estimated Information has been produced.	HV & LV Feeder Augmentations, both Overhead Lines & Underground Cable Circuit Line Length km. In relation to Circuit Line Length km, Ergon Energy has developed an estimate based on the following approach: ▪ Ergon Energy assumed that an average circuit line length was determined based on type of cable or conductor and the required metre of conductor span or underground cable required per circuit km as set out in 'Stock Section 10 Code tables and unit rate cost analysis V6'. ▪ Ergon Energy considers that the best estimate has been provided for HV & LV Feeder Augmentations, both Overhead Lines & Underground Cable Circuit Line Length km on the basis that there was no real data captured.

Table 2.3.3.2 Cost Metrics (Expenditure)

Table 4: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.

Minimum Requirements	Ergon Energy Response
	Ergon Energy has prepared the information provided in Template 2.3 - Augex project data, Table 2.3.3.2 - Cost Metrics (expenditure) in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has only included projects and expenditure related to augmentation of the network (only projects under augmentation financial activity codes C2010, C2030, C2040 and C2050 have been reported), excluding costs relating to non-network assets identified as part of the annual performance RIN preparation. To exclude non-network costs, the proportion of total non-network assets to network assets based on actual ellipse data was used to estimate the non-network costs for each project type. Ergon Energy has not included information for gifted assets, and no augmentation in relation to connections has been included in template 2.3. Ergon Energy have considered and complied with clarifications provided by the AER on issues related to template 2.3 and relevant to Ergon Energy. With regards to instructions specific to Table 2.3.3 (on regulatory template 2.3), Ergon Energy notes: ▪ Expenditure on augmentation works on the specified types (overhead lines, underground cables) of ***HV feeders*** owned and operated by Ergon Energy undertaken at any time during the year specified for projects with a cumulative expenditure over the life of the project greater than or equal to $0.5 million (nominal), have been reported. Works on HV Feeders for projects with less than $0.5 million nominal expenditure over the life of the project have been consolidated into the Non-material projects row of the table. ▪ Expenditure on augmentation works on the specified types (overhead lines, underground cables) of ***LV feeders*** owned and operated by Ergon Energy undertaken at any time during the year specified for projects with a cumulative expenditure over the life of the project greater than or equal to $50,000 (nominal), have been reported. Works on LV Feeders for projects with less than $50,000 nominal expenditure over the life of the project have been consolidated into the Non-Material Projects row of the table. ▪ Expenditure on augmentation works on the specified types (pole mounted, ground mounted, indoor) of ***Distribution Substations*** owned and operated by Ergon Energy undertaken at any time during the years have been reported. ▪ Projects were included for augmentation and the addition of equipment on HV Feeders, LV Feeders and Distribution substations i.e. monitoring and communication equipment under table 2.3.3.2, even though there were no additional HV Feeders, LV Feeders and distributions substations units added (circuit length kms).Expenditure has been recorded on an ‘as incurred’ basis in

Minimum Requirements	Ergon Energy Response
	nominal dollars' ▪ Expenditure related to land purchases and easements is not included in the 'Total Direct Expenditure' column. Land purchases and easements expenditure related to augmentation works on all ***HV feeders, LV Feeders*** or ***Distribution Substations*** owned and operated by Ergon Energy must be input in table 2.3.6.
Population of Actual Information in templates	Ergon Energy has used Actual Information, in accordance with the AER's definition, for all variables in Table 2.3.3.2 for the period 2014-15.
Source of Actual Information	Actual Information for Total Direct Expenditure was sourced from MASTER C2010_C2030_C2040_C2050 report, an extract from the Ellipse financial database of all Capital Works expenditure by cost category and financial year which was funded through Activity C2010, C2030, C2040 and C2050 (Augmentation).
Methodology and assumption's applied in relation to Actual Information	In order to obtain the information, it was necessary for Ergon Energy to apply additional data qualifiers to the MASTER C2010_C2030_C2040_C2050 report to allow identification of each parcel of works by Distribution categories in accordance with the requirements of Table 2.3.3.2 In doing so, it was assumed that: ▪ All Projects with Project Category (J2) Codes of either Subs-Sub-Transmission, Subs-Transmission, Lines-Sub-Transmission & Lines Transmission were outside the requirements of Table 2.3.3.2 and were eliminated from the reporting set. ▪ All projects where the primary Equipment Reference No had a 'GS' suffix, indicating a Generation Site, were eliminated from the reporting set, after verifying the scopes of a random selection of projects. ▪ Distribution Categories were identified from the reporting suite through the use of Project Category (J2) Codes Lines Distribution, Lines SWER, Subs Distribution and Subs SWER. ▪ Distribution Categories were further identified through the use of Project Category (J3) Codes Overhead New, Upgrade or Replace; Underground New, Upgrade or Replace; Transformers New, Upgrade or Replace; Regulators New, Upgrade or Replace; SWER Isolators New, Upgrade or Replace; Steel Conductor New, Upgrade or Replace; Copper Conductor New, Upgrade or Replace; Services New, Upgrade or Replace ▪ Distribution Categories were further identified through the use of Equipment Reference characteristics, such as: Equip ID Prefix SP = Substation Pole Mounted Equip ID Prefix GT = Ground Mounted Network Slot Equip ID Prefix AB = HV Isolating Device Network Slot ▪ Distribution Categories were further identified through the use of

Minimum Requirements	Ergon Energy Response
	Works Request Description Identifiers, such as: Reference to HV or HV Voltages (11, 22 & 33kV) Reference to SWER or SWER Voltages (12.7 & 19.1kV) Reference to LV or LV Voltages (0.240 & 0.415kV) Reference to ABC Installation (Arial Bunched Cable) Reference to UG or UG Assets (Padmount, RMU etc.) Reference to LIMS – A Dist. Substation Load Investigation management program ▪ Following the application of Distribution categories via the above process, any uncategorised projects were determined through a review of the individual scope of works within the Works Request data. ▪ Actual information for Land Purchase and Easements was sourced from Land and Easement MASTER_Augex Account Codes_WO Txns with EE 6160 Report. As expected, Distribution assets, which are in the majority installed on Crown land, strung beneath sub-transmission assets on existing infrastructure in existing corridors or installed with the authority of the landholder by execution of a Wayleave, returned nominal values for land & easements either acquired or capitalised. Disparity of unit cost rate arises due to the following factors: ▪ Units added/upgraded are based on the actual date of material acquisition extracted from the MASTER RIN Reporting Requisitioning Data Report, whereas installation costs are on an as incurred basis and costs have in some cases rolled over to the following financial period. ▪ Ergon Energy supply area covers 97% of the state of Queensland and as such, experiences geographical cost factors associated with the supply, transport & storage of materials at significant distance from logistic bases as well as an equally significant travel component for both internal & contract labour resources ▪ The process of determining feeder circuit length for Distribution works based on the actual length of conductor can be impacted by Ergon's material ordering process, whereby all conductor is issued from Material Services by full drum only. Subsequent unused portions of conductor are returned for credit on completion of the project. For projects where the initial conductor requisition occurs in one financial year and the return of surplus in the following financial year the circuit length calculation is overstated in the year of issue and equally understated in the year of return. ▪ During 2014-15 Ergon also undertook a number of Distribution projects which added no circuit length to the Distribution network: - **LV Distribution** average cost by circuit length determination is impacted by the LV Risk Mitigation program through the LV Spreader projects which incurred $3.36M in expenditure in 2014-15, and added zero circuit length to the LV Network. Low Voltage regulation projects, primarily due to the growth in Inverter Energy

Minimum Requirements	Ergon Energy Response
	Systems with export capability, also saw a growth in expenditure of $0.5M from the previous financial year, again with no circuit length addition. - **HV Distribution** average cost by circuit length determination is impacted by the ACR (Auto Circuit Recloser) program which incurred $18.83M of expenditure in 2014-15 ($1.7M in 2013-14) and as Switchgear installation, does not add to the circuit length. This is reflected in the data showing the cost of materials that do not contribute to circuit length growth, that is equipment other than HV conductor, totalled $12.6M in 2014-15 compared to $7.2M in 2013-14
Population of Estimated Information in Templates	Ergon Energy has not provided Estimated Information in Table 2.3.3.2.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has not provided Estimated Information in Table 2.3.3.2.
How Estimated Information has been produced.	Not applicable. Ergon Energy has not provided Estimated Information in Table 2.3.3.2.

Table 2.3.4 Augex Asset Data – Total Expenditure

Table 5: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.3, Table 2.3.4 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has only included projects and expenditure related to augmentation of the network (only projects under augmentation financial activity codes C2010, C2030, C2040 and C2050 have been reported). Ergon Energy has not included information for gifted assets, and no augmentation expenditure in relation to connections has been included in template 2.3. Total augmentation expenditure has been input for each asset group split by the groupings specified by the table. Expenditure has been recorded on an ‘as incurred’ basis in nominal

Minimum Requirements	Ergon Energy Response
	dollars'. Expenditure inputted under the 'land and easements' rows are mutually exclusive from expenditure that appears in the rows for the corresponding asset group. In regards to requirements in paragraph 7.7(b) Ergon Energy provides the following explanation in relation to reconciling the expenditure in Table 2.3.4 to the sum of the asset group augmentation expenditures in Table 2.3.1 (Subtransmission substations, switching stations, zone substations) and Table 2.3.2 (Subtransmission Lines) and Table 2.3.3 (HV/LV Feeders and Distribution Substations): ▪ The data sources for information disclosed in tables 2.3.1, 2.3.2, 2.3.3.2 and 2.3.4 are identical, being the MASTER C2010_C2030_C2040_C2050 report from the Ellipse operating system. The base data used for all tables will therefore reconcile, However, due to the inconsistencies in the basis of preparation and disclosure requirements, the following will apply to tables 2.3.1 and 2.3.2: ▪ Projects listed in Table 2.3.1 and Table 2.3.2 are disclosed on a project closed basis and projects included in Table 2.3.4 are disclosed on a cost incurred basis. ▪ Ergon Energy has reported all expenditure data for Augex in Table 2.3.1 and Table 2.3.2 in real $2014-15 as required by the Principles and Requirements in the Category Analysis RIN and expenditure data for Table 2.3.4 in nominal dollars. ▪ The majority of Augmentation projects listed in Table 2.3.1 and Table 2.3.2 incurred cost over more than one financial year and in some cases over a number of financial years. ▪ Projects with close dates within the reporting period (2014-15) and disclosed in Table 2.3.1 and Table 2.3.2 would have had cost incurred before the reporting period (pre-2014-15). This cost incurred before 2014-15 is not reported in Table 2.3.4 expenditures, as the cost did not incur within the reporting period (2014-15). ▪ Opposite to this, projects and the associated cost may have been reported in Table 2.3.4 in the year it incurred, but not reported in Tables 2.3.1 and 2.3.2 given the projects were not finalised and closed within the reporting years. ▪ Expenditure reported in Table 2.3.3.2 reconciles to expenditure disclosed in Table 2.3.4 for HV Feeders, LV Feeders, Distribution Substations, HV Feeders – Land purchases and Easements, LV Feeders – Land purchases and Easements and Distribution Substations – Land purchases and Easements, as the basis of preparation and data sources are identical.
Population of Actual Information in templates	Ergon Energy has used Actual Information, in accordance with the AER's definition for all variables in Table 2.3.4 for the period 2014-15.

Minimum Requirements	Ergon Energy Response
Source of Actual Information	Actual Information for Total Expenditure was sourced from MASTER C2010_C2030_C2040_C2050 report, an extract from the Ellipse financial database of all Capital Works expenditure by cost category & financial year which was funded through Activities C2010, C2030, C2040 and C2050 (Augmentation).
Methodology and assumption's applied in relation to Actual Information	Data disclosed in Table 2.3.4 was sourced from the MASTER C2010_C2030_C2040_C2050 report and reported as appearing on the reports without making any assumptions or adjustments to the data. HV Feeders – Land purchases and Easements, LV Feeders – Land purchases and Easements and Distribution Substations – Land purchases and Easements are reported at zero value. Distribution assets are placed within the road reserved and as such do not require land or easement acquisitions. Where distribution assets cross private property Ergon Energy takes Wayleave Agreements form the property owners, which are binding on subsequent owners, giving Ergon Energy the right to access and maintain the distribution assets without the need to acquire land. Projects under activity codes C2010, C2030, C2040 and C2050 that relates to augmentation, excluding costs relating to non-network assets identified as part of the annual performance RIN preparation, but could not be classified under the specified asset categories of subtransmission substations, switching stations, zone substations, subtransmission Lines, HV/LV feeders and distribution substations was disclosed as "other assets" in table 2.3.4. To exclude non-network costs, the proportion of total non-network assets to network assets based on actual ellipse data was used to estimate the non-network costs for each project type.
Population of Estimated Information in Templates	Ergon Energy has not provided estimated information in relation to Table 2.3.4.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has not provided estimated information in relation to Table 2.3.4.
How Estimated Information has been produced.	Not applicable. Ergon Energy has not provided estimated information in relation to Table 2.3.4.

Appendix A: Template 2.3 Table 2.3.2 (*Other – specify)*

Substation ID	Project Number	*Project Type*	Project Trigger	Reason for choosing "Other"	Additional comments
				N/A	

Category Analysis RIN Basis of Preparation

Template 2.5 Connections

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.5 Connections of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.5 Connections (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.5 Connections (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CA RIN Templates.

CA RIN (2014-15) Template 2.5 Connections contains information (data) which has been classified as an estimate in that it – "is not materially dependent on information recorded in Ergon Energy's historical accounting records, or other records used in the normal course of business, and whose presentation for the purposes of the CA (or EB) Notice is contingent on judgements and assumptions for which there may be valid alternatives".

Ergon Energy continues to look at reducing the need to make assumptions, and in accordance with the AER's CA RIN Definitions and Instructions are in the process of identifying opportunities for data quality improvement in support of the transition of data from Estimates to Actuals for future reporting periods.

Our data improvement initiatives will include: making changes to key systems; standardising reporting; changing field data capture processes, and positioning the business to being more agile to respond to changing regulatory frameworks and administrative processes.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.5 Connections, Ergon Energy has made comment herein as to:

- Why an estimate was required, including why it was not possible to use Actual Information; and
- The basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

Of note, the AER reissued CA RIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process.

[1] Templates were reissued: 15 May, 19 June and 22 June.

Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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Template 2.5 Connections

Table 2.5.1 - Descriptor Metrics

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.5, Table 2.5.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. As advised by the AER, Ergon Energy has not had regard to paragraph 9.1 of the AER's Principles and Requirements in Appendix E, which is noted as not being relevant to preparation of a response to a non-Reset RIN. In completing the template, Ergon Energy has not distinguished expenditure between Standard or Alternative Control Services. Similarly, Ergon Energy has not distinguished between capex or opex. Furthermore, costs have been measured as the direct cost, excluding overheads. This is in accordance with clauses 9.2 and 9.3 of the RIN Appendix E Principles and Requirements for Template 2.5. Ergon Energy has reported expenditure data as a gross amount, that is to say, customer contributions have not been subtracted from expenditure. Data has not been reported in relation to gifted assets, or connection services which have been classified as contestable by the AER. Rather, information relates only to non-contestable, regulated connection services, including works performed by third parties on behalf of Ergon Energy. For the 2014/2015 CA RIN, Ergon has aligned its definition of Contestable to align with AER's definition such that the 2014/2015 RIN data now includes: ▪ Contestable customers which included work undertaken by third parties engaged by customers; and ▪ Net costs on jobs that had received a gift (the costs for these jobs excludes the value of the gift). Ergon Energy does not have negotiated connection services; therefore no metrics are included in this regard. For augmentation metrics, the 'km added' reported refers to the net addition of circuit line length resulting from augmentation work of complex connections. The definition for complex connections has been

Minimum Requirements	Ergon Energy Response
	referred to in this regard, and for other metrics as relevant. Only augmentation for connections relating to customer connection requests (as per the defined term for connection expenditure) has been reported in Template 2.5. That is, no double counting in reporting of augmentation expenditure has occurred between Template 2.5 (Connections) and Template 2.3 (Augex). *MVA added* for distribution substations installed for connection services was calculated as the sum of the nameplate rating of all distribution substations installed for the relevant year. Unless explicitly stated as not being provided fields with no value entered should be considered as having no expenditure or units in the relevant year
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for the following variables in Table 2.5.1 for 2014-15, for both financial and non-financial information: ▪ Mean Days to Connect Customers ▪ GSL Breaches ▪ Customer Complaints ▪ GSL Payments The categorisation requested in the template for all other variables is not available in the underlying source systems and therefore Ergon Energy has provided Estimated Information (refer below).
Source of Actual Information	For non-financial information (volumes), actual data was available from Ellipse for the Mean Days to Connect Customers. GSL Report was used to provide actual data for GSL Breaches and Payments. Feedback And Complaints Tracking System (FACTS) was the source for actual data for Customer Complaints.
Methodology and assumption's applied in relation to Actual Information	In order to obtain the information, Ergon Energy applied the following methodology and assumptions: **Non-Financial Metric - Mean Days to Connect Residential Customers** Mean Days to Connect Residential Customers data has been sourced from existing Ellipse reporting in relation to total customer connection time. This file was cross referenced with the work requests related to residential customers to identify the applicable work requests within the subcategory **Non-Financial Metrics - GSL Breaches, Customer Complaints** Volume of GSL breaches is a count of approved "Connection of Supply" GSL claims recorded in the GSL Report application. Number of complaints has been sourced directly from FACTS

Minimum Requirements	Ergon Energy Response
	application which is an enterprise system. The number provided is a count of complaints with a feedback class of either “SUPPLY - NEW SERVICE/EXTENSION” or “MAJOR CUSTOMER CONNECTION” **GSL Payments** GSL payments are a summation of payment amounts for approved “Connection of Supply” GSL claims recorded in the GSL Report application.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation the following Financial information and non-financial metrics in Table 2.5.1 for 2014-15, for both financial and non-financial information: ▪ Connections ▪ Substations Installed ▪ Substations Installed MVA ▪ Circuit Kilometres ▪ Cost per Lot ▪ Residential Distribution Substations Installed Total Spend ▪ Subdivision Distribution Substations Installed Total Spend ▪ Commercial Distribution Substations Installed Total Spend Estimated information for connection LV circuit kilometres added has been derived from an average rate per connection.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	The categorisation requested in the template does not exist within the Ellipse system. Whilst the source data is based on actual transactions, RIN categorisation has been determined based on applying assumptions and methodologies (discussed below). Estimated information for connection LV circuit kilometres added has been derived from an average rate per connection. Variability in booking practices (LV connections) resulted in anomalies in the data. Given the significant quantity of underlying work requests and time available Ergon Energy has not been able to verify this information spatially.
Source of Estimated Information	Underlying actual information for financial (expenditure) and non-financial information for Table 2.5.1 was sourced from Ellipse. However, to disaggregate into the required metrics, an overlay of the below assumptions and methodology was required by Ergon Energy.
How Estimated Information has been produced.	**Financial information and non-financial metrics** ▪ Connections ▪ Distribution Substations Installed ▪ Installed MVA ▪ Circuit Kilometres ▪ Augmentation HV/LV

Minimum Requirements	Ergon Energy Response
	Financial and non-financial information has been presented on an as incurred basis, the non-financial information was pro-rata on a consistent basis with the financial expenditure. A filter was incorporated into the underlying data in order to exclude contestable, gifted, metering and street lighting work requests based on system information found on the work requests. The Ellipse system provides the appropriate subcategories to differentiate between Residential, Commercial and Subdivision. The Embedded Generation subcategory does not exist in Ellipse and therefore the work requests attributable to this category were required to be manually identified by cross referencing the embedded generation contracts with work requests. The Metric information requested for connections differentiating between overhead and underground is not available via a system report. To obtain this information requisitioning data was used to identify by the materials used on each work request whether a connection was an overhead or underground connection. Distribution Substations installed were also sourced from the requisition data on the work request and the nameplate rating were used to Determine MVA added. The Metric information requested for differentiating between HV and LV is not available via a system report. To obtain this information requisitioning data was used to identify by materials whether a work request was likely to be HV and LV. Circuit Kilometres added was taken from the requisitioning data and the associated total spends on the work requests was categorised accordingly. The specifics of the process were as follows: Financial information and non-financial metrics (connections, Installed MVA, Circuit Kilometres added) were sourced from Ellipse by the running an adhoc MERS (Mincom Ellipse Reporting System) report “RIN Reporting Requisitioning Data V6” built internally for the purposes of producing requisitioning data. The report extracts relevant requisitioning data associated with connections and includes fields that would allow cross referencing and filtering to produce the category breakdown required for completion of Template 2.5. Of note: ▪ A report was run against the Master Transactional File (all ellipse source data) and limited to be greater than 1 July 2006 (to ensure it covers all possible transactions within the review period) ▪ A report was run by the Activity codes (part of the Ellipse general ledger combination to classify transactions) relevant to all potential customer connections, specifically - C2220, C2120, C2110, C2080, C2070, C2085 and C2060. (C2090 – Generation – not included);

Minimum Requirements	Ergon Energy Response

- All XX coded Stock Section 10 codes were excluded as these do not relate to customer connections
- The report was then hard coded to allow other data to be imported and filtered to achieve the required categorisation - The following specific steps were applied
  - *Ratio* – applies a ratio to the quantities for each SS10 item (e.g. conductor is divided by the appropriate amount to create circuit KM's). Some are coded at 0 to prevent double counting (e.g., Pillar Bases are '0' but pillar bases are '1').
  - *RIN Code* – rolls stock description code (Stock Section 10) codes up to a view the more closely aligns with the RIN.
  - *EE Code* – rolls the Stock Section 10 codes up to a view that more closely aligns with a typical Ergon Energy view.
  - A view produced that summarises the Stock Section 10 to Cables that is OH or UG. This is ultimately used to classify the work request as either OH or UG. If the work requests consists of both components the element with the higher Qty determines the classification
  - A view produced that summarises the Stock Section 10 to cables as LV, HV or Services. This is ultimately used to classify the work request as either LV, HV or Service. If the work requests consists of multiple components the element with the higher Qty determines the classification

A separate MERs report was then produced to match the unique identifying "work order" in the requisitioning data to the global unique identifier "work request" and associated parent project.

A report was run of the financial results in business objects (Report writing tool) and the Requisition data is cross referenced to this report. It should be noted that unsuccessful work was removed (work that did not proceed and where the project costs have been operational expensed to a value of Nil).

The final output allows all the above data to be filtered to show the classifications required for the financial information and non-financial metrics (connections, Installed MVA, Circuit Kilometres added).

LV Circuit Kilometres added has been determined by utilising an average rate per connection. The work requests for the relevant segment were reviewed and normalised based on circuit kilometres requisitioned (to exclude obvious anomalies). The average rate for each segment was then applied to the actual number of connections for each period.

Following feedback provided from the AER as part of their Category Analysis RIN benchmarking metrics analysis (draft), Ergon Energy has reported 2014-15 costs in relation to "DISTRIBUTION SUBSTATION INSTALLED TOTAL SPEND ($000'S)" for Residential, Commercial/Industrial and Subdivision connection types in table 2.5.1,

Minimum Requirements	Ergon Energy Response
	as the isolated cost of installing distribution substations, rather than the entire project cost which includes a distribution substation. To obtain the Total Estimated Spend on substations a view of the actual cost of substation equipment costs was extracted from Ellipse and combined with the estimated costs to install a substation as per the Customer Connection Group Price Book. This price book contains pricing at the same level as the RIN coding we have applied to our stock items permitting a mapping of the estimate to the actual equipment costs. The value of this spend is an estimate based on the estimated cost to install each transformer (labour and equipment) as per the price book used to estimate this work, and actual cost of the transformer itself. Ergon Energy considers this to be the appropriate basis to provide the best estimate possible as it used actual system generated source data from the underlying work requests to be able to provide the information on the descriptor metrics requested

Table 2.5.2 - Cost Metrics by Connection Classification (Volumes and Expenditure)

Table 2: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.5, Table 2.5.2 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. In completing the template, Ergon Energy has not distinguished expenditure between Standard Control Services or Alternative Control Services. Similarly, Ergon Energy has not distinguished between capex or opex. Furthermore, costs have been measured as the direct cost, excluding overheads. Ergon Energy has reported expenditure data as a gross amount, that is to say, customer contributions have not been subtracted from expenditure. Data has not been reported in relation to gifted assets, or connection services which have been classified as contestable by the AER. Data relates only to non-contestable, regulated connection services, including works performed by third parties on behalf of Ergon Energy. Ergon Energy does not have negotiated services; therefore no metrics are included in this regard.

Minimum Requirements	Ergon Energy Response
	The definition for complex connections has been referred to in relation to cost and descriptor metrics as relevant. Only augmentation for connections relating to customer connection requests (as per the defined term for connection expenditure) has been reported in Template 2.5. That is, no double counting in reporting of augmentation expenditure has occurred between Template 2.5 (Connections) and Template 2.3 (Augex).
Population of Actual Information in templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, for all variables in Table 2.5.2 for regulatory year 2014-15, for both financial and non-financial. Although underlying actual information was available in some instances, the categorisation requested in the template were not available in the source systems. Rather, estimation was required by Ergon Energy using an overlay of assumptions and methodologies as described below.
Source of Actual Information	Not applicable: Ergon Energy has provided Estimated Information, in accordance with the AER's definition.
Methodology and assumption's applied in relation to Actual Information	Not applicable: Ergon Energy has provided Estimated Information, in accordance with the AER's definition.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition, for all variables in Table 2.5.2 for the regulatory year 2014-15, for both financial and non-financial information. Although underlying actual information was available for the following variables, the categorisation requested in the template is not available in the underlying source systems and estimation was required by Ergon Energy using an overlay of assumptions and methodologies: ▪ Residential Complex connection LV and HV ($000's) & (000's) ▪ Commercial/industrial complex connection HV (customer connected at HV) ($000's) & (000's) ▪ Subdivision complex connection LV ($000's) & (000's) ▪ Embedded generation simple connection LV ($000's) & (000's) ▪ Embedded generation complex connection HV (small capacity and large capacity) & (000's) ($000's). ▪ Complex Connection Sub-Transmission ($000's) & (000's) Ergon Energy has provided Estimated Information for the following variables, as information was not able to be directly sourced from systems: ▪ Residential - simple connection LV ($000's) & (000's) ▪ Commercial/industrial - simple connection LV ($000's) & (000's) ▪ Commercial/industrial - complex connection HV (customer connected at LV, minor HV works) ($000's) & (000's)

Minimum Requirements	Ergon Energy Response
	▪ Commercial/industrial -complex connection HV (customer connected at LV, upstream asset works) ($000's) & (000's) ▪ Subdivision - complex connection HV (no upstream asset works) ($000's) & (000's) ▪ Subdivision - complex connection HV (with upstream asset works) ($000's) & (000's)
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	For the variables noted above, whilst the source data is based on actual transactions the categorisation requested in the template does not exist within Ergon Energy's Ellipse system. Furthermore, an estimate is required in relation to splitting simple LV connections between the Residential and Commercial segments because Ergon Energy does not have a data field to make this segregation. Similarly, an estimate is required in relation to differentiating between upstream and non-upstream works as the actual dollars and physicals are all captured on a single project or work request. An estimate is required to split the total cost of work to the substation cost component as Ergon Energy does not use Activity based costing on these projects.
How Estimated Information has been produced.	The Ellipse system provides the appropriate subcategories to differentiate between Residential, Commercial and Subdivision. The Embedded Generation subcategory does not exist in Ellipse and therefore the work requests attributable to this category were required to be manually identified. The Metric information requested for differentiating between Simple and Complex, HV and LV is not available via a system report. To obtain this information requisitioning data was used to identify by materials whether a work request for each specific connection was likely to be simple/ complex, HV and LV. Ergon Energy was not able to use the information on the work request to appropriately classify simple connections between the residential and Commercial/Industrial subcategories, please refer section below for additional steps taken The specifics of the process were as follows; Financial information and non-financial metrics were sourced from Ellipse by running an adhoc MERS (Mincom Ellipse Reporting System) report "RIN Reporting Requisitioning Data V6" been built internally for the purposes of producing requisitioning data. The purposes of the report was to extract relevant requisitioning data associated with connections and include fields that would allow cross referencing and filtering to produce the category breakdown required in the information notice. Of note:

Minimum Requirements	Ergon Energy Response

- The report was run against the Master Transactional File (all ellipse source data) and limited to be greater than 1 July 2006 (to ensure it covers all possible transactions within the review period)
- The report is run by the Activity codes (part of the Ellipse general ledger combination to classify transactions) relevant to all potential customer connections, specifically - C2220, C2120, C2110, C2080, C2070, C2085 and C2060. (C2090 – Generation – not included);
- All XX coded Stock Section 10 codes were excluded as these do not relate to customer connections
- The report was then hard coded to allow other data to be imported and filtered to achieve the required categorisation- The following specific steps were applied
  - ***Ratio*** – applies a ratio to the quantities for each SS10 item (e.g. conductor is divided by the appropriate amount to create circuit KM's). Some are coded at 0 to prevent double counting (e.g., Pillar Bases are '0' but pillar bases are '1').
  - ***RIN Code*** – rolls stock description code (Stock Section 10) codes up to a view the more closely aligns with the RIN.
  - ***EE Code*** – rolls the Stock Section 10 codes up to a view that more closely aligns with a typical Ergon view.
  - A view produced that summarises the Stock Section 10 to Cables that is OH or UG.
  - A view produced that summarises the Stock Section 10 to cables as LV, HV or Services.

A separate MERs report was then produced to match the unique identifying "work order" in the requisitioning data to the global unique identifier "work request" and associated parent project.

A report was run in MERs to obtain a count of work orders associated with projects with classification J3 code of "New" or "upgrade to services" to ensure only connections were included.

A report was run of the financial results in business objects (Report writing tool) and the Requisition data is cross referenced to this report. It should be noted that unsuccessful work was removed (work that did not proceed and where the project costs have been operational expensed to a value of Nil).

A filter was incorporated into the data set in order to exclude contestable, gifted, metering and street lighting work requests based on system information

The final output allows all the above data to be filtered to show the classifications required for the financial information and non-financial metrics. The non-financial information, quantitates have been taken from the relevant work request and pro-rated on an as incurred basis consistent with financial information

Minimum Requirements	Ergon Energy Response
	Ergon Energy considers this to be the appropriate basis to provide the best estimate possible as it used actual system generated source data from the underlying work requests to be able to provide the information on the categorisation requested <u>Residential and Commercial – Simple LV Connection</u> In relation to the above variable Ergon Energy has developed an estimate based on the following approach: ▪ System data was available for Simple connection LV which incorporates both Residential and Commercial/Industrial subcategories ▪ A high level split of the aggregate data based on customer numbers in each segment for each year has been used to apportion Simple connection LV between Residential and Commercial/Industrial subcategories In developing this estimate, Ergon Energy has made the following assumptions: ▪ Customer numbers in each segment provide a good proxy for the apportion of Simple connection LV Ergon Energy considers this approach represents the best estimate on the basis that: ▪ Actual data is not available; and ▪ Customer numbers in each of the subcategories are expected to provide a good proxy for the distribution of Simple LV Connections <u>Upstream and Non-Upstream Components</u> In relation to the above variable Ergon Energy is unable to differentiate between upstream and non-upstream works at the underlying work request level. Ergon Energy has previously provided as part of its regulatory reset submission a basis for splitting the components for each category based on sampling of completed projects to determine a reasonable basis for apportionment. The % split of upstream components has been applied to the actual source data to provide an estimated breakup of the upstream components. Ergon Energy consider that this represents the best estimation on the basis that: ▪ Actual data is not available; and ▪ The method is consistent with that previous used by Ergon Energy. For the current period (2014-15) sampling undertaken produced the following % splits for Upstream works. ▪ Commercial /Industrial 42% ▪ Subdivision 12%

Category Analysis RIN Basis of Preparation

Template 2.6 Non Network

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.6 Non Network of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.6 Non Network (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.6 Non Network , Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.6 Non Network (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

Jenny Doyle
Group Manager Regulatory Affairs
Email: jenny.doyle@ergon.com.au
Phone: (07) 3851 6416
Mobile: 0427 156 897

[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.6 Non Network

Table 2.6.1 Non-Network Expenditure

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.6, Table 2.6.1 Non Network Expenditure in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. In completing Table 2.6.1 – Non-Network Expenditure, Ergon Energy notes that: ▪ Ergon Energy has reported Non Network expenditure in relation to standard control services only. ▪ Ergon Energy has inserted additional *"asset categories"* under the *"service subcategory"* to represent office furniture and equipment, plant and equipment, crane borer plant HCV and other fleet assets. These *"asset categories"* were added as they have incurred $1 million or more (nominal) in capital expenditure in the regulatory year; ▪ Ergon Energy has included the replacement, installation, operation and maintenance of non-network buildings, fittings and fixtures in non-network buildings and property expenditure. This includes expenditure related to real chattels; ▪ Ergon Energy has included expenditure related personal chattels (e.g. furniture) under Non-network Office Furniture & Equipment. ▪ Ergon Energy has included in non-network IT and communication expenditure, costs associated: o SCADA and Network Control that exist at the Corporate office side of gateway devices; o IT & Communications related to management, dispatching and coordination, etc. of network work crews; o Common costs shared between the SCADA and Network Control Expenditure and IT & Communications Expenditure categories with no dominant driver related to either of these expenditure categories; and o Network metering recording and storage at non network sites. ▪ Ergon Energy has reported all expenditure directly attributable to Motor Vehicles including: purchase, replacement, operation and maintenance of motor vehicles assets registered for use on public roads, excluding plant and equipment. Depreciation has been

Minimum Requirements	Ergon Energy Response
	excluded as it does not meet the definition of Operating Expenditure. ▪ Ergon Energy has included all expenditure directly attributable to the replacement, installation, maintenance and operation of Non-network assets in non-network other expenditure. This includes: o non road registered motor vehicles; non road motor vehicles; o mobile plant and equipment; tools; trailers (road registered or not); o elevating work platforms not permanently mounted on motor vehicles; and o Small Trailer Mounted Mobile Generators (Excludes Trailer Mounted Network Generators and Mobile Substations)
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for Table 2.6.1 for: ▪ Buildings and Property; ▪ IT and Communications; ▪ Motor vehicles; ▪ Office furniture and equipment; ▪ Plant and Equipment; ▪ Crane Borer Plant HCV; ▪ Other fleet assets; and ▪ Other expenditure.
Source of Actual Information	Actual Information for the variables was sourced from Ergon Energy's ERP – Ellipse.
Methodology and assumption's applied in relation to Actual Information	Data was sourced from Ergon Energy's ERP – Ellipse. [Expenditure Report EEA90R OMD]. The report requests several inputs: Responsibility Centre/s (RC), Activity Code/s, and Period of inquiry. The RC and Activity is based on Ergon Energy's Chart of Accounts from which actual expenditure is reported against. The output is itemised lines of expenditure data listed against an account code and where administered as such, the work order number and respective details are given (equipment ID, work category, workgroup etc.). The Capex and Opex figures have been determined as follows. ***BUILDING AND PROPERTY*** CAPEX: Buildings and Property Capex is extracted from Ergon Energy's ERP – Ellipse Project Accounting module and analysed to identify the type of

Minimum Requirements	Ergon Energy Response
	asset purchased / constructed. The data is filtered to exclude Expense Elements 5000 – *Capitalisation*, and EE 8100 – *Business Overheads*. The first of these is excluded as it relates to credits which hit the GL account once a capital expenditure is 'capitalised' and begins its depreciation process. The later expense element is excluded as this represents the application of corporate overheads against capex rather than a cost directly attributable to Buildings and Property. Line items were reviewed and where expenditure related personal chattels (e.g. furniture) they were reported under Non-network Other expenditure – Furniture & Fittings. The Buildings and Property Capex numbers in table 2.6.1 of the RIN are the cumulative sum of the twelve months for the regulatory (financial) year. OPEX: It was assumed that all Buildings and Property Opex is recorded against Responsibility Centres 1250, 1255, 1260, 1270, 1280, 1290, 1300, 1310 and Activities 63900, 63910, 63920, 63930 and 62500 as detailed in the Chart of Accounts through running the OMD Expenditure Report. ▪ RC1250 is named Service Capability and is a support function for the RC's 1255-1290 (Property Services – Facilities) and RC1300 (Property Construction). Activities 63900-63930 are described as Property Services (Maintenance & Non-maintenance), while 62500 is Business Support Services and relates to the support related functions for the delivery of direct services. ▪ Data is filtered to exclude Expense Elements 5000 – Capitalisation, and EE 8100 – Business Overheads. ▪ The data was also filtered based on the equipment reference. Historically, some expenditure under these RC and Activities has been fully attributable to non-regulated assets and non-standard control services. Where equipment references (or their child assets) are identified as: CAHA (Non-regulated Cairns site), TIPO (Thursday Island Office) & TIRI (Thursday Island Depot), these costs were excluded. ▪ Line items are reviewed and where the Work Order Description can be confidently identified as a chattel, the item was highlighted in green and reported within the 'Other' Expenditure category, rather than the 'Buildings and Property' category. These items broadly fall within the 'Furniture' and 'Capital Purchases' work categories (Job Code 5), although not all furniture and purchases fall under the AER's definition of a chattel. There are some (minimal) expenditure line items which are listed with the above RC and activities and are reported against a network or fleet related asset. These items were identified by the Equip Reference field.

Minimum Requirements	Ergon Energy Response
	These assets are not non-network property assets, but Opex has been spent against them in the context of Property based expenditure (or on-charged). These items remain in the data and are reported as part of this expenditure. In the context of the overall expenditure, they account for less than 0.5%. There remains expenditure reported that is considered not directly attributable to an asset (i.e. building). This includes costs which support the people who deliver the services to the assets and general administration costs. These costs are predominately listed under activity 62500. The Buildings and Property Opex data reported in table 2.6.1 represents a cumulative sum of the twelve months for the regulatory (financial) year. ***IT AND COMMUNICATIONS*** Data was sourced from Ergon Energy's ERP – Ellipse. Client devices capital expenditure was extracted from the direct purchase Work in Progress codes which were analysed to identify client devise expenditure. No operating costs were recorded against client devices. Client Devices Expenditure is expenditure related to a hardware device that accesses services made available by a server. Client Devices Expenditure includes hardware involved in providing desktop computers, laptops, tablets and thin client interfaces and handheld end user computing devices including smart phones, tablets and laptops. Recurrent opex is extracted from a specific code (RC 0385) established within the Ellipse general ledger. As this represents a total cost to Ergon Energy it is reduced by the relevant percentage as calculated for the reporting of overheads, leaving the cost applicable to Standard Control. Recurrent capex is unable to be extracted directly from a report. Rather it is a balancing item which is calculated by subtracting the total non-recurrent and client device from the total reported IT & Communications costs. There was no Non-recurrent capital expenditure during 2014-15. ***MOTOR VEHICLES*** The Opex cost of motor vehicles was based on an extraction of transport transactions from the relevant transport costing elements. The non-related opex transport costs were then removed. The remaining relevant transactions contain an equipment number. Each equipment number has been aligned to its relevant RIN classification. The RIN classification is now stored and maintained in Ellipse as part of the equipment nameplate. In instances were an equipment number was not assigned to a transaction, the unassigned costs were apportioned across the RIN categories based on the already assigned proportions.

Minimum Requirements	Ergon Energy Response
	Hire vehicles (Hire Car, Hire Light Commercial Vehicle, Hire Heavy Commercial Vehicle and Other) have been identified separately due to their different total cost structure compared to Ergon Energy owned motor vehicles. Ergon Energy regards hire vehicle OPEX as a valid expenditure to benchmark its business performance, but not to directly benchmark against owned motor vehicle OPEX. Hire vehicles were identified in the abovementioned process by a unique set of equipment group identification numbers. Ergon Energy has made this categorisation to highlight its change in strategic direction of focusing on its own fleet and reduce its use of hire vehicles. The actual registration and Insurance costs are not directly costed to the fleet item in the Ellipse system. Registration and Insurance costs are costed to each fleet item as part of a Fleet Management Fee. The Fleet management fee also includes depreciation. To remove depreciation from the opex exercise, the fleet management fee was removed in total and the registration costs were added back. The Capex cost of motor vehicles was based on an extraction of transactions from the relevant fleet Work In Progress Activity accounts (C-Accounts) in the general ledger, with reference to the transport costing elements related to fleet equipment numbers in the general ledger. All transactions from all fleet related Work In Progress Activity accounts were extracted. All the transactions linked to fleet equipment numbers were identified from this extract from the general ledger and isolated as the total CAPEX cost related to Fleet vehicles for the specific financial years in question. The equipment number is assigned a RIN classification which is stored and maintained in Ellipse. The transport transactions were then filtered to those relating to the specific EGI numbers associated to the above mentioned fleet assets. The CAPEX costs relating to the equipment number and its relevant RIN classification were summed by regulatory year to provide the numbers for each group of equipment. The standard control services portion of motor vehicle costs was calculated by extracting from the Ellipse General Ledger a listing of all activity codes that have incurred an internal transport charge. This was then summarised into standard control, alternate control, isolated and non-regulated using the activity segment of the Ellipse coding structure. The proportion of total vehicle costs that relates to standard control services was then calculated. ***OTHER EXPENDITURE*** There is no capex or opex for other expenditure as Ergon Energy's total non-network capital expenditure is reported against specific categories. ***OTHER NSP NOMINATED CATEGORIES*** ***Office Furniture & Equipment*** The capital expenditure on these items was sourced directly from 2014-

Minimum Requirements	Ergon Energy Response
	15 Annual Performance RINs. As the capital expenditure is all by way of direct purchases and in accordance with the approved Cost Allocation Method (CAM) these do not incur overheads. As these items are individually of low value Ergon Energy does not incur expenditure on their repair and maintenance, hence opex is shown as zero. ***Plant & Equipment*** This category includes all non-vehicle items of plant and equipment including ladders, portable generators and a wide variety of other items. The categorisation between the Annual Performance RIN and the Category Analysis RIN is different where we have vehicle mounted equipment. However, analysis is performed to consolidate vehicle and vehicle mounted equipment (e.g. cranes) into the Vehicle category in accordance with the definition in the CA RIN. The remaining Vehicle and Plant and Equipment costs from the AP RIN are reported in the Plant & Equipment category in the CA RIN. ***Crane Borer Plant HCV*** The Opex cost of Crane Borer Plant HCV was based on an extraction of transport transactions from the relevant transport costing elements. The non-related opex transport costs were then removed. The remaining relevant transactions contain an equipment number. Crane Borer Plant HCV is one unit which is made up of two assets (Truck + Plant). Crane Borer Plant HCV is represented by an equipment group identification numbers [G-FVPLCB and G-FVHRT and G-FVMRT]. The Opex costs relating to these equipment numbers and RIN classification of Crane Borer (HCV) were summed by regulatory year to provide the numbers for the template. The Capex cost of Crane Borer Plant HCV was based on an extraction of transactions by equipment number and RIN classification of Crane Borer (HCV). The CAPEX costs relating to this equipment number and RIN classification of Crane Borer (HCV) were summed by regulatory year to provide the numbers for the specific equipment group. ***Other Fleet Assets*** Opex costs relating to EGI numbers for Trailers, Forklifts, Trenchers, Winches, Cranes, Small generators (not Network Generators), Self-propelled EWP (not mounted to trucks), compressors, All Terrain Vehicles and Quad Bikes have been included in “other fleet assets”. These fleet assets have been aligned to a RIN classification type of Other which is stored and maintained in Ellipse. An extraction of transport transactions from the relevant transport costing elements was sourced. The non-related opex transport costs were then removed. The remaining relevant transactions contain an equipment number. The equipment number is assigned a RIN classification which is stored and maintained in Ellipse. The transport transactions were then filtered to

Minimum Requirements	Ergon Energy Response
	those relating to the specific EGI numbers associated to the above mentioned fleet assets. The Opex costs were then summed by regulatory year to provide the numbers for the template. Capex costs relating to EGI numbers for Trailers, Forklifts, Trenchers, Winches, Cranes, Small generators (not Network Generators), Self-propelled EWP (not mounted to trucks), compressors, All Terrain Vehicles and Quad Bikes have been included in “other fleet assets”. The assets have specific equipment numbers which are assets have been aligned to a RIN classification type of Other which is stored and maintained in Ellipse
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER’s definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER’s definition.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER’s definition.

Table 2.6.2 Annual Descriptor Metrics – IT & Communications Expenditure

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.6, Table 2.6.2 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. In completing Table 2.6.2 – Non-Network Expenditure, Ergon Energy notes that it has: ▪ applied a simple average to determine the result where there were different values over the year; ▪ calculated user numbers based on active user accounts; ▪ calculated total client devices including hand held devices; ▪ scaled employee numbers, user numbers and number of devices in order to represent standard control services metrics only.
Population of Actual	Actual Information, in accordance with the AER’s definition for Table

Minimum Requirements	Ergon Energy Response
Information in templates	2.6.2, has been provided for the following variables. ▪ Employee numbers; ▪ User number; and ▪ Number of devices.
Source of Actual Information	Actual Information was sourced from: ▪ Annual stakeholder reports of Ergon Energy for Employee numbers. ▪ Software compliance reports For User numbers; ▪ Microsoft Active Directory report for User numbers; and ▪ System Centre Configuration Manager (SCCM) (Auto discover) and Active Directory for Number of devices. An SCS percentage was applied to underling data extracted. This was sourced from SCS% sourced from Template 2.10 Overhead workings (refer Basis of Preparation for Template 2.10).
Methodology and assumption's applied in relation to Actual Information	In order to obtain the information, it was necessary for Ergon Energy to request information from SPARQ Solutions who is the ICT provider for Ergon Energy. **Employee numbers** were sourced from annual stakeholder reports of Ergon Energy. **User numbers** were sourced from the Microsoft Active Directory report. ***Number of Devices*** The information was sourced using Microsoft applications - SCCM (Auto discover) and Active Directory. Microsoft Active Directory report - Active Directory is a Directory Service product produced by Microsoft and used by SPARQ, Ergon Energy, and Energex to manage network user accounts and computer objects .All employees are given a user account within active directory. Underpinning the directory service is a database which contains unique identifiers for each object as well as various attributes associate with those objects. Reports are run against this database to determine the number of employees, active computers etc. SCCM (System Centre Configuration Manager) is a Microsoft product used for systems management. SCCM has the ability to auto discover devices on the network and determine what software etc. is running on them. Software compliance reports are produced using a variety of sources. SCCM is a primary source for the majority of software however other discovery tools (e.g. Quest Discovery for databases) are used along with manual audits of applications based on vendor licensing models. An SCS percentage was applied to all source data to meet requirements of the RIN. The SCS% was sourced from Template 2.10

Minimum Requirements	Ergon Energy Response
	Overhead workings (refer Basis of Preparation for Template 2.10). The SCS% applied was 78.32% for 2014-15.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Table 2.6.3 Annual Descriptor Metrics – Motor Vehicles

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.6, Table 2.6.3 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. In completing Table 2.6.3 – Non-Network Expenditure, Ergon Energy notes that: ▪ Data has been scaled to ensure reporting relative to standard control services only; KMs is an average across the fleet so the application of the SCS does not impact the outcomes in this respect. ▪ Ergon Energy has applied a simple average to determine the result where there were different values over the year.
Population of Actual Information in templates	Ergon Energy has used Actual Information, in accordance with the AER's definition, for: ▪ Average Kilometres Travelled; ▪ Number purchased (Commissioned into service); ▪ Number Leased; and ▪ Number in Fleet.
Source of Actual Information	Actual Information for the variables was sourced: ▪ Km travelled is sourced from BP and CALTEX Fuel Card transactions which are reported by SG Fleet as Quarterly

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response</th></tr>
<tr><td></td><td>Annualised Use Reports (Excel spreadsheet);
▪ Number or assets (by category) commissioned into service and, number in fleet (by category) is recorded in the Ellipse Equipment Register and reported in the Fleet Asset Management Annual Review Document. Number in fleet includes assets with status of In Service, Out of Service and Temporary.</td></tr>
<tr><td>Methodology and assumption's applied in relation to Actual Information</td><td>Fleet Asset Management Annual Review is utilised to report number of assets commissioned and number in fleet by category including leased if applicable. Data for the Annual Review is sourced from "Ellipse Full Listing Report"

Number in Fleet for each RIN category is actual information at a point in time.

Average kilometres travelled is sourced from annual SG Fleet data regarding quarterly annualised use reports by fleet category and as per RIN grouping detailed below.

The CA RIN defined term for
▪ CAR equates to Ergon Energy Passenger Vehicle definition.
▪ LIGHT COMMERCIAL VEHICLE incorporates Ergon Energy's Light Service Truck (LST) and 4WD and 2WD Light Commercial Vehicles definitions.
▪ ELEVATED WORK PLATFORM (HCV) equates to Ergon Energy MEWP Insulated definition + the HRT and MRT.
▪ HEAVY COMMERCIAL VEHICLE incorporates Ergon Energy HR/ MR and LR Trucks which do not have Crane Borer or Elevated work platforms attached.

RIN CRANE BORER PLANT (HCV) definition incorporates Ergon Energy Crane Borer Plant and the HRT/MRT which the crane borer is attached to. The AER's template does not allow the inclusion of the Crane Borer Plant (HCV) category in Table 2.6.3. The below data, which relates to the Crane Borer Plant category, has not been included in the Heavy Commercial Vehicle metrics.

<table>
<tr><th rowspan="6">Crane Borer Plant</th><th>Descriptor metric</th><th>2014-15</th></tr>
<tr><td>Average kilometres travelled (000s)</td><td>10.87</td></tr>
<tr><td>Number purchased (commissioned into service)</td><td>5</td></tr>
<tr><td>Number leased</td><td>0</td></tr>
<tr><td>Number in fleet</td><td>65</td></tr>
<tr><td>Proportion of total expenditure allocated as regulatory expenditure (%)</td><td>0.8758</td></tr>
</table>
</td></tr>
<tr><td>Population of Estimated Information in Templates</td><td>Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.</td></tr>
<tr><td>Why is it not possible to provide Actual Information, and why Estimates are required, including reasons</td><td>Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.</td></tr>
</table>

Minimum Requirements	Ergon Energy Response
why Estimates are Ergon Energy's best estimates.	
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Category Analysis RIN Basis of Preparation

Template 2.7 Vegetation Management

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the AER's Category Analysis RIN, and specific to the information presented in Template 2.7 Vegetation Management of Ergon Energy's completed 2013-14 Category Analysis RIN templates (13-14 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.7 Vegetation Management (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.7 Vegetation Management, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

Furthermore, the below additional requirement/s were identified by Ergon Energy as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation. Responses to these requirements are made as attachment/s to this Basis of Preparation.

Table 1: Attachment/s to Basis of Preparation for Template 2.7 Vegetation Management

Notice Reference	Requirement	Attachments
Appendix E, paragraph 12.4 (a) – (b)	▪ Provide individual maps showing each vegetation management zone (Ergon Energy has three zones), and ▪ A map showing the total network area with the borders of each vegetation management zone.	EECL 1415 CARIN_T2.7 VGMT A1 [Central] EECL 1415 CARIN_T2.7 VGMT A2 [Northern] EECL 1415 CARIN_T2.7 VGMT A3 [Southern] EECL 1415 CARIN_T2.7 VGMT A4 [Network]

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.7 Vegetation Management (Actual, Estimated or Consolidated) in Ergon Energy's completed 13-14 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process.

[1] Templates were reissued: 15 May, 19 June and 22 June.

Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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Template 2.7 Vegetation Management

Identifying Vegetation Management Zones

For the purposes of completing Template 2.7, Ergon Energy has identified **three** vegetation management zones across the geographical area of Ergon Energy's network. Importantly, each contiguous area nominated below is a vegetation management zone, and each part of the network is covered by only one vegetation management zone (i.e. non-overlapping).

- In nominating Zones, Ergon Energy considered areas where costs are imposed by legislation, regulation or ministerial order, and areas of the network where other recognized drivers affect the costs of performing vegetation management work.
- The decision to use the three management regions (Northern, Central, Southern) as the Category Analysis RIN "vegetation management zones" was made because Ergon Energy's vegetation management program is externally delivered in three separate contracts, one in each region. Ergon Energy has little variation in costs, compliance or restrictions imposed by legislations, regulations or ministerial orders within its network area, so it is the cost and composition of each of these contracts which are the greatest drivers affecting costs of performing vegetation management work.

The use of the three management regions as vegetation management zones allows for highly accurate reporting direct from Ergon Energy's corporate systems with costing and reporting structures aligned to those regions. This will also facilitate efficient and consistent reporting against required RIN variables into the future with respect to geographical zones. As such, all reporting is now noted as "Actual Information" for 2014-15 on the basis that:

- Data is derived directly from Ergon Energy corporate systems and,
- No derivation has occurred that is materially significant – ie >5% of values.

In accordance with Appendix E, Principles and Requirements paragraph 12.4 of the AER's Notice, Ergon Energy has provided as the attachments to this Basis of Preparation (refer above), individual maps showing each vegetation management zone and also a map showing the total network area with the borders of each vegetation management zone.

Regulations and Self-Imposed Standards Impacting Zones

As required by Appendix E, Principles and Requirements paragraph 12.7(a)-(b) of the AER's Notice, Ergon Energy notes the following summary of regulations (table 1) and self-imposed standards (table 2) impacting on all three Zones/Regions in Ergon Energy's network area.

Table 1: Regulations Impacting Zones

Regulations imposing a material cost on performing vegetation management works	
▪ Electrical Safety Act 2002	▪ Commonwealth Environmental Protection Biodiversity Conservation Act 1999
▪ Electrical Safety Regulation 2002	▪ Aboriginal Cultural Heritage Act 2003
▪ Electricity Act 1994	▪ Fire and Rescue Act 1990
▪ Environmental Protection Act 1994	▪ Information Privacy Act 2009
▪ Nature Conservation Act 1992	▪ Agricultural Chemicals Distribution Control
▪ Nature Conservation (Protected Plants)	

Regulations imposing a material cost on performing vegetation management works	
Conservation Plan 2000	Regulation 1998
▪ Vegetation Management Act 1999	▪ QESI Powerline Code of Practice 2008

Table 2: Self Imposed Standards Impacting Zones

Self-imposed standards applicable to Ergon Energy's vegetation management works
▪ EP12 Ergon Energy Environment and Cultural Heritage Policy
▪ ES000904R120 Ergon Energy Guideline for Management of Declared Plants
▪ ES000200R101 (Ver. 3) Ergon Energy Health Safety & Environment Improvement Plan 2012-2017
▪ NA000403R425 Guidelines for Monitoring Bushfire Weather Conditions, Fuel Conditions and Bushfire Danger Ratings
▪ SGNW0003Bushfire Mitigation Strategy
▪ STNW0602 Vegetation Clearance Profile Standard
▪ STNW0607 Standard for Vegetation Management
▪ STNW0707 Standard for Preventative Maintenance Programs
▪ STMM001 Standard for Vegetation Management Data Collection
▪ STNW0609 Standard for Vegetation Management Inspection and Assessment
▪ STNW0610 Standard for Vegetation Management Audit
▪ STNW06014 Standard for Negotiation for Removal or Herbicide Treatment of Unsuitable Trees
▪ STNW0616 Standard for Managing Vegetation Management Complaints
▪ AS 4373-2007 Pruning of Amenity Trees

Cost Impact of Regulations and Self-Imposed Standards on Zones

An explanation of the cost impact of the above regulatory and self-imposed standards is also required under Appendix E, Principles and Requirements paragraph 12.7(c) of the AER's Notice.

In this regard, Ergon Energy notes that the Regulatory impact on costs is the same across all Zones/Regions. Ergon Energy has limited external regulations that guide the maintenance of vegetation clearances from the network, compared to other NSPs.

Ergon Energy is required to maintain a safe and reliable network under section 148 of the Electrical Safety Regulation 2002 through maintaining safe clearances between vegetation and power lines:

> *"An electricity entity must ensure that trees and other vegetation are trimmed and other measures taken, to prevent contact with an overhead electric line forming part of its works that is likely to cause injury from electric shock to any person, or, damage to property."*

Ergon Energy maintains this level of safety, as well as ensuring a level of power supply reliability, through a preventative maintenance style of vegetation management program which maintains adequate clearances between vegetation and the electrical network.

There is no bushfire risk mitigation legislation in Queensland specifically targeting NSPs such as Ergon Energy. The Queensland *Fire and Rescue Service Act 1990*, which is the key bushfire related legislation for

Queensland, does not specifically mention electricity NSPs. However, as a land manager Ergon Energy has an obligation to manage bushfire risks associated with its network and vegetation management practices. The risk of fire ignition from Ergon Energy electrical assets is minimised by ensuring that they are safe and properly designed, constructed and maintained. Vegetation management practices employed by Ergon Energy inherently do not increase bushfire risk, as slashing or other mechanical methods (which can cause sparks or dense regrowth and increased fuel levels) are typically not used, and vegetation density is typically decreasing or stabilising over time.

Ergon Energy's obligations and rights under the *Electrical Safety Regulation 2002* and *Electricity Act 1994* allow the operation of a vegetation management program that meets requirements of a number of Queensland regulations, such as the Nature Conservation (Protected Plants) Conservation Plan 2000. In general, Queensland regulations relating to vegetation management recognise the highly disturbed nature of powerline corridors and do not impose overly complicated requirements in terms of surveys or herbicide application.

Where Ergon Energy's network enters State Forests or other Reserves, the Queensland Electrical Supply Industry (QESI) Code of Practice for Maintenance of electricity corridors in Queensland parks and forests (2008) determines that Ergon Energy must have an Environmental Work Plan (EWP) for maintenance activities to occur in these areas. Ergon Energy has also developed many Environmental Management Plans (EMPs) containing these EWPs, which are developed in collaboration with the tenure management authority. EMPs typically contain restrictions on treatment methods and clearance distances to reduce the impact of vegetation management on the location, including aesthetics. These areas, which are typically heavily vegetated, represent some of Ergon Energy's most expensive areas to manage vegetation clearances.

Ergon Energy's Vegetation Management Program

The frequency of inspection and treatment of vegetation is cyclical, triggering at a defined date based on determined treatment cycle length. Cycle lengths are variable across the network and are determined by the estimated vegetation growth rate of each Vegetation Zone, optimum timing to reduce long term costs, or how long the vegetation can remain untreated before it enters the Clearance Space surrounding conductors.

Vegetation Zones (VZs) are represented in Smallworld (Ergon Energy's Geographic Information System) as spatial polygons with defined boundaries based on feeder design and Bioregion classification.

The Clearance Space surrounding conductors is determined by conductor movement and arcing potential, and is variable based on network voltage. The required clearances are documented in Ergon Energy's Standard for Vegetation Clearance Profile (STNW0602).

Inspection and treatment of VZs are triggered and managed through the Ellipse ERP (Ergon Energy's Enterprise Management System) with asset-specific information stored against each VZ within Ellipse. This information includes how many poles and kilometres of line are within the VZ, line voltage, what bioregion the VZ is in, the cycle length that the VZ has been assigned, and the estimated treatment costs of managing vegetation within that VZ each cycle.

In recognition of the differences in treatment techniques required between urban and rural areas, VZs are distinctly split into rural and urban zones, with urban zones typically having shorter cycle times and less intrusive treatment techniques than rural zones.

Treatment methods used in urban areas are generally restricted to pruning and whole tree removal. Pruning is conducted wherever possible to AS 4373-2007 Pruning of Amenity Trees, which is designed to protect tree health. Where pruning is highly likely to negatively and permanently impact the health of a tree, or where the required clearance space cannot be maintained during the treatment cycle, removal of trees is preferred. Ergon Energy works with private owners and Local Government by providing adequate notice of intent, and

to ensure such removals are agreed upon or reasons for removal are understood. Tree replacement costs are not captured separately to treatment costs.

Rural VZs are managed to a treatment "corridor" which maintains set distances around the network based on network voltage. Mature trees on the edges of the corridor are form pruned away from the network, while vegetation below the network is selectively managed to allow the retention of low and slow growing plant species. Preferred treatment methods for managing vegetation under the network are chemical-based and highly selective. These include spot foliar spraying, cut stump application, basal barking and stem injection. Some application of residual herbicide in pelletised or soil injection form is used in selected locations where permitted and where environmentally acceptable, to target undesirable woody vegetation.

Almost all inspection and treatment of vegetation is conducted by contractors engaged by Ergon Energy. A very small percentage of treatment work is done by appropriately trained depot staff during emergency situations or when vegetation is found to be posing unacceptable safety risk and is not planned to be treated in the vegetation management program within required remediation timeframes.

Visual assessment of vegetation presenting a potential hazard to the Ergon Energy overhead network is undertaken as part of the normal preventative maintenance for vegetation management. Similarly, overhang on distribution lines is not required to be removed on line voltages less than 33kV, unless shown to be obviously defective or hazardous.

It has been noted, Ergon Energy's vegetation management program is demonstrating a continual reduction in average maintenance costs ($ per span). In short, this has been possible through:

- optimising the timing of treatment of each VZ based on location-specific maintenance cycles tuned for average rainfall and other environmental variables;
- enforcing contract requirements that ensure continued reduction in vegetation exposure (such as mandatory use of follow up herbicide wherever mechanical clearance was undertaken);
- targeted removal of incompatible vegetation in urban areas, often with collaboration with Local Government; and
- completion of previously neglected "backlog" areas between 2008-09 and 2012-13 using additional funding and contractor resources, allowing the whole Ergon Energy vegetation management program to move to a cost effective preventative cyclical style program.

Table 2.7.1 Descriptor Metrics by Zone

Table 3: Addressing Minimum BOP Requirements

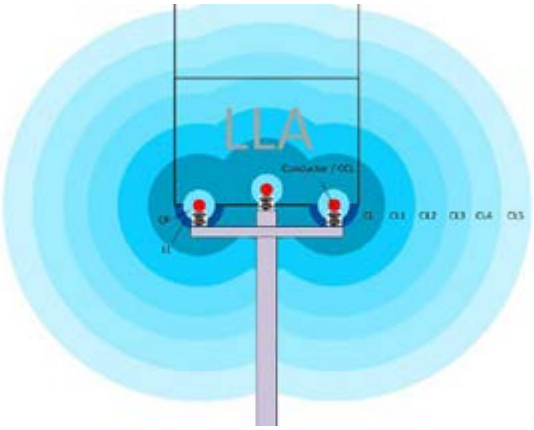
Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.7, Table 2.7.1 Descriptor Metrics by Zone, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	All information is reported as Actual Information for 2014-15 on the basis that: ▪ Data is derived directly from Ergon Energy corporate systems and, ▪ No derivation has occurred that is materially significant – ie >5% of

Minimum Requirements	Ergon Energy Response
	values.
Source of Actual Information	All information is sourced from Ergon Energy corporate systems and Queensland Government supported and managed zonal classifications
Methodology and assumption's applied in relation to Actual Information	Ergon Energy has established a methodology employed during previous reporting cycles of disaggregating the required CA RIN template categories from that derived directly from corporate systems. No additional derivation of significance (>5%) has been applied to this information and any variances from previous reporting are resultant from the continual updating of actual system data. **Route Line Length** Total route line length for 2014-15 in respect of Ergon Energy's network has been sourced from Smallworld. A methodology was employed whereby data was obtained for the current regulatory year (2014-15) by overlaying all conductors and cables in the system and then dissolving all the conductors and cables which overlapped, into one line segment. The route length of the conductors was then calculated using Feature Manipulation Engine (FME). The route Line Length does not equate to the circuit length as the circuit length includes multiple circuits. The circuit length is reported excluding the circuit length of service lines. Following AER clarifications provided in relation to variable DOEF0301 which noted the intent of this variable is to measure the aggregate distance between poles and/or towers, Ergon Energy confirms that where: ▪ two sets of lines that run on different sets of poles (or towers) share the same easement the lines are counted separately; ▪ there are multiple circuits on a span, the length of each span is considered only once; and ▪ a span shares multiple voltages, the length of the span is also considered only once; and ▪ captures the length of both underground cables and overhead lines **Number of Maintenance Spans** ROAMES inspection data from Cycle 2 & 3 network capture between March 2014 and August 2015 has been used to determine value. The calculation of Maintenance Spans from the total spans in the sample extract is on the basis of the number of spans in which ROAMES recorded intrusions into clearance spaces that would normally be targeted for Urban and Rural treatment as detailed below: **Urban** Maintenance spans are spans with intrusions into the CL1 and CL2 clearance space where: ▪ CL1 is the nominated minimum clearance space (voltage

Minimum Requirements	Ergon Energy Response

dependant) plus 1 metre

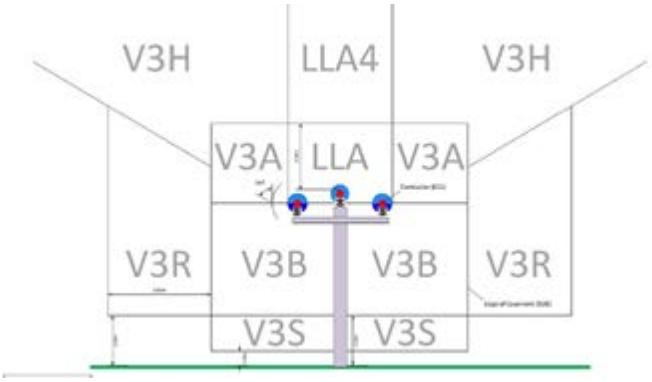
- CL2 is the nominated minimum clearance space (voltage dependent) plus 2 metres



Rural

Maintenance spans are spans with intrusions into the V3B and V3A clearance space where:

- V3B is the nominated area from 2 metres above ground to conductor height which accounts for the maintenance space for chemical and mechanical treatment in rural areas
- V3A is the nominated area from conductor height to clearance space for the maintenance space for mechanical treatment in rural areas.



Total Length of Maintenance Spans

The methodology employed by Ergon Energy involves combining the outputs of both Route Line Length and Maintenance Span data to report the length of Maintenance Spans. Please refer to above methodologies in determining these.

Length of Vegetation Corridors

Ergon Energy considers that the total length of Vegetation Corridors is equal to the total Route Length as derived from Smallworld data using the methodology described earlier in this section. Ergon Energy manages vegetation throughout the entire route length of its network thus all are considered vegetation corridors for the purpose of this

Minimum Requirements	Ergon Energy Response
	variable. **Average Number of Trees per Maintenance Span** Ergon Energy has employed a methodology for reporting this variable by applying the guidance provided by the AER on 7th February 2014. The AER noted it considered a tree to be: *a perennial plant (of any species including shrubs) that is:* ▪ *equal to or greater in height than 3 metres (measured from the ground) in the relevant reporting period; and* ▪ *of a species which could grow to a height such that it may impinge on the vegetation clearance space of power lines.* For 2014-15 information Ergon Energy has sourced data from its Remote Observation Automated Modelling Economic Simulation (ROAMES) LiDAR program. ROAMES seeks to enable Ergon Energy with remote observation capability initially by flying over the network assets in an aerial vehicle equipped with sensor system, processing the resulting data and providing reporting and visualisation back to the business. For Urban vegetation areas, the number of trees was interpreted as number of "intrusions" found within 2.0 metres of the Clearance Zone. From field assessments, this proximity is found to contain almost all trees inspected and treated by vegetation contractors. A methodology was then employed for 2014-15, such that: ▪ Average number of trees per urban vegetation maintenance span= (Total number of intrusions recorded as occurring within 2.0m from the captured conductor location [as reported at time of analysis] / Total number of ROAMES - reported spans [as reported at time of analysis]) For Rural vegetation zones, the number of trees was interpreted as number of "intrusions" found within the treatment corridor as well as those found outside the corridor which could potentially impact on the network upon failure (i.e. potential "hazard" or "danger" trees). ▪ Average number of trees per rural vegetation maintenance span= (Total number of intrusions recorded as occurring within 2.0m from the captured conductor location [as reported at time of analysis] / Total number of ROAMES - reported spans [as reported at time of analysis]) Information provided for 2014-15 is considered Actual in accordance with AER requirements. **Average Frequency of Cutting Cycle** Ergon Energy's methodology in reporting this variable consists of the application of cycles for each Vegetation Zone taking into account the number of spans within each vegetation zone, the number of maintenance spans in 2014-15 (as above). This provides an average

Minimum Requirements	Ergon Energy Response
	frequency of cutting cycle for the purposes of reporting Actual Information for the 2014-15 year.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.

Table 2.7.2 Expenditure Metrics by Zone

Table 4: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.7, Table 2.7.2 Expenditure Metrics by Zone, in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	All information is reported as Actual Information for 2014-15 on the basis that: ▪ Data is derived directly from Ergon Energy corporate systems and, ▪ No derivation has occurred that is materially significant – ie >5% of values.
Source of Actual Information	All information is sourced from Ergon Energy corporate systems namely Ellipse and Artemis 7. The foundation for all costing lies within Ellipse with Artemis 7 providing and easily reconcilable planning, management and reporting view of this.
Methodology and assumption's applied in relation to Actual Information	Ergon Energy has established a methodology employed during previous reporting cycles of disaggregating the required CA RIN template categories from that derived directly from corporate systems. No additional derivation of significance (>5%) has been applied to this information and any variances from previous reporting are resultant from the continual updating of actual system data. The methodology Ergon Energy has applied lies in the collation of the building blocks of the Ellipse costing system – work orders are costed to at detailed task level with costs aggregated up to general ledger activity codes – in the case of vegetation management these codes are

Minimum Requirements	Ergon Energy Response
	52160 and 53160. The detail below this – task or standard job level for work orders is able to be disaggregated reliably and by definition into the variables for this template.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.

Table 2.7.3 Descriptor Metrics Across All Zones - Unplanned Vegetation Events

Table 6: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	For all initial regulatory years in Table 2.7.3, Descriptor Metrics across all zones – Unplanned Vegetation Events, cells are shaded Orange, indicating an exception to the requirement to report where Ergon Energy does not currently collect of report this information (refer paragraph 1.3(j) of Appendix E Principles and Requirements). Furthermore, it is noted in requirements specific to the Unplanned Vegetation Events Table (refer paragraph 12.17), Ergon Energy is not required to provide information in table 2.7.3 for initial Regulatory Years where it does not currently have it, and may shade the cells black. For Regulatory Years 2015 and thereafter, Ergon Energy must provide this information.
Population of Actual Information in templates	All information is reported as Actual Information for 2014-15 on the basis that data is accessed directly from Ergon's eSafe safety incident record database without any interpolation or assumption.
Source of Actual Information	Information is sourced from the eSafe safety incident database.
Methodology and assumption's applied in relation to Actual Information	All recorded incidents which involve fire resulting from Ergon assets are classed as Dangerous Electrical Events (DEEs). Incidents reported in this table are any DEEs categorised as ground/bush/grass fire with cause described as vegetation in contact with Ergon's network. Data analysis involved manually searching incident descriptions and classifications for incidents that met the CARIN 2.7.3 requirements.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information in relation to all variables in the table.

Category Analysis RIN Basis of Preparation

Template 2.8 Maintenance

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.8 Maintenance of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.8 Maintenance (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.8 Maintenance, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.8 Maintenance (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.8 Maintenance

Table 2.8.1 - Descriptor Metrics for Routine and Non-Routine Maintenance

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.8 - Maintenance, Table 2.8.1 - Descriptor metrics for routine and non-routine maintenance in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has limited reporting in Template 2.8 to Standard Control Services as clarified by the AER in its issue register for the Category Analysis RIN. In completing Table 2.8.1 - Descriptor metrics for routine and non-routine maintenance, Ergon Energy notes that: ▪ Where tasks were carried out for simultaneous inspection of assets and vegetation or for access track maintenance, this expenditure is reported under maintenance (not vegetation management) ▪ Ergon Energy has inserted additional Maintenance Asset Categories o Communications, Meters and Ancillary Costs under the *Various Assets*‘:, to represent costs incurred for routine and non-routine maintenance of communications and metering equipment and for the costs associated with rates, leases , rents and electricity charges for asset sites - Zone Substations and Communications sites. No units of measure were provided as this category captures a multitude of information not included in existing CA RIN categories. This is required for completeness of reflection of all routine and non-routine maintenance costs o Access Tracks under Ground Clearance to represent tasks completed for routine and non-routine maintenance for access tracks along and adjacent to rural lines These maintenance expenditure subcategories were added as it is material and not yet included in any other maintenance expenditure subcategory. ▪ Ergon Energy does not have any Dual Function assets, therefore records no *Sub-transmission asset maintenance – for DNSPs with Dual Function Assets*. Accordingly, all metrics are reported as Zeroes. ▪ All metrics are reported as zeroes in relation to *Zone Substation Equipment Maintenance*, for asset sub category *Transformers - HV*

Minimum Requirements	Ergon Energy Response
	because all Zone Substation Transformers are reported within variable Transformers – Zone Substation ▪ Ergon Energy does not have any CBD feeders in its network, therefore all metrics in relation to *Network Underground Cable Maintenance: By Location* on asset subcategory *CBD feeders* is reported as zeroes. ▪ Furthermore Ergon does not carry out any routine maintenance on underground cables as such and reporting of quantities is limited to the internal inspection of pillars related to low voltage cable reticulation. ▪ For all other variables the reporting of zero indicates that there was not maintenance performed in relation to that variable for that particular year. This is due to asset strategy change within the reporting period to start a new maintenance program or suspend or cease an existing one. ▪ Ergon Energy has recorded planned Maintenance Cycles as allowable under the AER definitions. It should be noted that delivery to cycle was approaching 100 %(97.4% average across all asset groups) in 2014-15 thus reporting planned cycles is appropriate.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information in relation to all variables in the table.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information in relation to all variables in the table.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information in relation to all variables in the table.
Population of Estimated Information in Templates	Estimated Information for variables was sourced from Ergon Energy's core systems on the basis of: ▪ Asset Quantity for the Period - Smallworld GIS ▪ Asset Quantity Maintained – Ellipse and Artemis 7 ▪ Asset Av Age – Smallworld GIS Inspection and Maintenance Cycle – Standard for Preventive Maintenance
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	In the case of variables Asset Quantity for the Period and Asset Av Age there is sufficient data disparity within Smallworld GIS presently to classify records as best endeavour estimates. For variable Asset Quantity Maintained, Ergon Energy does not maintain records at the required level of disaggregation and so used suitable collation of actual figures from Ellipse and Artemis 7 to produce best endeavours estimates.
How Estimated Information	Ergon Energy has established a methodology employed during previous reporting cycles of disaggregating the required CA RIN

Minimum Requirements	Ergon Energy Response
has been produced.	template categories from that derived directly from corporate systems. No additional derivation of significance (>5%) has been applied to this information and any variances from previous reporting are resultant from the continual updating of actual system data. The methodology Ergon Energy has applied lies in the collation of the building blocks of the Ellipse works management system – work orders are costed to at detailed task level – in the case of maintenance these codes are: Routine - 52100, 52120, 52130, 52140, 52150, 52160 and Non-Routine - 53100, 53120, 53130, 53140, 53150, 53160. The detail below this – task or standard job level for work orders is able to be disaggregated reliably and by definition into the variables for this template. ***Asset Quantity At Year End*** In relation to Asset Quantity Ergon Energy has developed an estimate on the following basis: ▪ 2014-15 – Direct output from Smallworld GIS disaggregated to align with best endeavours to CA RIN categories ▪ On this basis Ergon Energy considers that the best estimate has been provided ▪ An assumption has been used to determine the 'number of poles' for 'pole tops and overhead lines' and 'all poles'. Ergon Energy's assumption is that for every 'pole top' there must be an associated pole, and thus the asset quantity at year end should be the same value for these two variables. ▪ An assumption has been used to determine the quantities for 'earth mats' against the asset category 'distribution substation - other equipment'. For every "installed transformer" for "distribution substation transformers", there must be an "earth mat" therefore these quantities should be the same. Similarly the number of distribution substation properties maintained has been assumed to be consistent with the quantities of installed transformers. ▪ It is noted that an assumption has been used to determine the number of distribution transformers within zone substations. Ergon Energy has assumed that each zone substation has a distribution transformer, thus the asset quantity at year end must be equal to all zone substation properties. ▪ Ergon Energy has recorded the "Protection systems maintenance" asset population of Protection Relay from the "FIELD DEVICES" source data for table 5.2.1. ▪ Ergon Energy has recorded the "SCADA & network control maintenance" asset population of Master Station and RTU from the "FIELD DEVICES" source data for table 5.2.1

Minimum Requirements	Ergon Energy Response
	Asset Quantity Maintained In relation to Asset Quantity Maintained (Routine), Ergon Energy has developed an estimate on the following basis: ▪ 2014-15 – Direct output from Ellipse and Artemis 7 disaggregated to align with best endeavours to CA RIN categories Ellipse captures information down to work type task level and Artemis 7 provides collation of this into nominated programs of work. On this basis Ergon Energy considers that the best estimate has been provided. In relation to Asset Quantity Maintained (Non-Routine), Ergon Energy has developed an estimate on the following basis: ▪ 2014-15 – Direct output of costs at GL Activity from Ellipse disaggregated to align with best endeavours to CA RIN categories ▪ Ellipse captures information at a higher level (GL Activity) than for routine maintenance (Work Task Type). This means that Ergon Energy assessed proportionate numbers of work orders across the CA RIN categories from that higher level Ellipse collected data. ▪ The proportions disaggregated to CA RIN category are based on assessment of non-routine costs for 2014-15 and number of work orders applied across known costs for that year. The proportions used to disaggregate 2014-15 costs were based on those derived through manual scrutiny of individual work orders created against the GL Activities for the previous years. The percentage proportions were confirmed as being applicable for the 2014-15 year through once again sampling of transactional data. Ergon Energy considers that the best estimate has been provided. ***Asset Average Age*** In relation to Asset Quantity Ergon Energy has developed an estimate on the following basis: ▪ 2014-15 – Direct output from Smallworld GIS disaggregated to align with best endeavours to CA RIN categories. This variable is included as estimated due to the attributes captured within Smallworld GIS not aligning directly with CA RIN categories therefore some disaggregation involved collation of similar assets into different CA RIN lines. Ergon Energy has used the highest value asset type in the asset group as a basis. ▪ Data quality on asset age has improved across the years 2010-11 to 2014-15 with the number of assets with the asset age attribute available increasing. This means that the numbers of older assets added to dataset far exceeded the numbers of new assets added. The result is that the annual snapshot of asset average age is greater and most accurate for 201415

Minimum Requirements	Ergon Energy Response
	▪ Ergon Energy has used the following formula to calculate the average age for the Protection and SCADA asset groups; $$\frac{\sum_{year=\ 1919/20}^{2014/15} Asset\ volume\ (year) * Asset\ current\ age}{Total\ Asset\ volume}$$ On this basis Ergon Energy considers that the best estimate has been provided. ***Inspection and Maintenance Cycle*** In relation to Inspection and Maintenance Cycle, Ergon Energy has developed an estimate on the following basis: ▪ 2014-15 – Direct interpretation of the Standard for Preventive Maintenance disaggregated to align with best endeavours to CA RIN categories As per instruction, selection of the highest cost inspection/maintenance cycle where multiple cycles apply to the same CA RIN category On this basis Ergon Energy considers that the best estimate has been provided.

Table 2.8.2 - Cost Metrics for Routine and Non-Routine Maintenance

Table 2: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Blacked out cells	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
Consistency with Notice requirements	Ergon Energy has prepared the information provided in Template 2.8 - Maintenance, *Table 2.8.2 - Cost metrics for routine and non-routine maintenance* in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has limited reporting in Template 2.8 to Standard Control Services as clarified by the AER in its issue register for the Category Analysis RIN. Furthermore, the total amount for this table has been reconciled with the total maintenance expenditure for Standard Control Services as classified in the year reported. In completing *Table 2.8.2 - Cost metrics for routine and non-routine maintenance*, Ergon Energy notes that: ▪ Where expenditure was incurred for simultaneous inspection of assets and vegetation or for access track maintenance, this

Minimum Requirements	Ergon Energy Response
	expenditure is reported under maintenance (not vegetation management) ▪ Ergon Energy has inserted additional Maintenance Asset Categories o Communications, Meters and Ancillary Costs under the *Various Assets*':, to represent costs incurred for routine and non-routine maintenance of communications and metering equipment and for the costs associated with rates, leases , rents and electricity charges for asset sites - Zone Substations and Communications sites. o Access Tracks under Ground Clearance to represent costs incurred for routine and non-routine maintenance for access tracks along and adjacent to rural lines These maintenance expenditure subcategories were added as it is material and not yet included in any other maintenance expenditure subcategory. ▪ Ergon Energy does not have any Dual Function assets, therefore records no *Sub-transmission asset maintenance – for DNSPs with Dual Function Assets*. Accordingly, all metrics are reported as Zeroes. ▪ All metrics are reported as zeroes in relation to *Zone Substation Equipment Maintenance*, for asset sub category *Transformers - HV* because all Zone Substation Transformers are reported within variable Transformers – Zone Substation ▪ Ergon Energy does not have any CBD feeders in its network, therefore all metrics in relation to *Network Underground Cable Maintenance: By Location* on asset subcategory *CBD feeders* is reported as zeroes.
Population of Actual Information in templates	All information for Routine Maintenance is reported as Actual Information for 2014-15 on the basis that: ▪ Data is derived directly from Ergon Energy corporate systems; and ▪ No derivation has occurred that is materially significant – i.e. >5% of values.
Source of Actual Information	All information for Routine Maintenance is sourced from Ergon Energy corporate systems namely Ellipse, Artemis 7 and Smallworld.
Methodology and assumption's applied in relation to Actual Information	In relation to Routine Maintenance Expenditure: Ergon Energy has established a methodology employed during previous reporting cycles of disaggregating the required CA RIN template categories from that derived directly from corporate systems. No additional derivation of significance (>5%) has been applied to this information and any variances from previous reporting are resultant from the continual updating of actual system data. The methodology Ergon Energy has applied lies in the collation of the

Minimum Requirements	Ergon Energy Response
	building blocks of the Ellipse costing system – work orders are costed to at detailed task level with costs aggregated up to general ledger activity codes – in the case of Routine maintenance these codes are: ▪ Routine - 52100, 52120, 52130, 52140, 52150, 52160 The detail below this – task or standard job level for work orders is able to be disaggregated reliably and by definition into the variables for this template.
Population of Estimated Information in Templates	Estimated information for Non-Routine Maintenance was sourced from Ergon Energy's core systems: Ellipse and Artemis 7
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	For variable Non-Routine Maintenance Ergon Energy does not maintain records at the required level of disaggregation and so used suitable collation of actual figures from Ellipse and Artemis 7 to produce best endeavours estimates. Ergon Energy will continue to reduce the need for assumptions, and in accordance with the AER's CA RIN Definitions and Instructions are in the process of identifying opportunities for data quality improvement in support of the transition of data from Estimates to Actuals for future reporting periods. Ergon Energy's data improvement initiatives will include: making changes to key systems; standardising reporting; changing field data capture processes, and positioning the business to being more agile to respond to changing regulatory frameworks and administrative processes.
How Estimated Information has been produced.	In relation to Non-Routine Maintenance: Ergon Energy has established a methodology employed during previous reporting cycles of disaggregating the required CA RIN template categories from that derived directly from corporate systems. No additional derivation of significance (>5%) has been applied to this information and any variances from previous reporting are resultant from the continual updating of actual system data. The methodology Ergon Energy has applied lies in the collation of the building blocks of the Ellipse costing system – work orders are costed to at detailed task level with costs aggregated up to general ledger activity codes – in the case of Non-Routine maintenance these codes are: ▪ Non-Routine - 53100, 53120, 53130, 53140, 53150, 53160. The detail below this – task or standard job level for work orders is able to be disaggregated reliably and by definition into the variables for this template. Also in relation to Non-Routine Maintenance, Ergon Energy has developed estimates on the following basis: ▪ 2014-15 – Direct output of costs at GL Activity from Ellipse disaggregated to align with best endeavours to CA RIN categories

Minimum Requirements	Ergon Energy Response
	▪ Ellipse captures information at a higher level (GL Activity) than for routine maintenance (Work Task Type). This means that Ergon Energy assessed proportionate levels of expenditure across the CA RIN categories from that higher level Ellipse collected data. The proportions disaggregated to CA RIN category are based on assessment of non-routine costs for 2014-15 applied across known costs for that year. The proportions used to disaggregate 2014-15 costs were based on those derived through manual scrutiny of individual work orders created against the GL Activities for the previous years. The percentage proportions were confirmed as being applicable for the 2014-15 year through once again sampling of transactional data. ▪ Ergon Energy considers that the best estimate has been provided.

Category Analysis RIN Basis of Preparation

Template 2.9 Emergency Response

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.9 Emergency Response of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.9 Emergency Response (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.9 Emergency Response (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.9 Emergency Response

Table 2.9.1 Emergency Response Expenditure (OPEX)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.9, Table 2.9.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Regard has also been given to the AER's confirmation that where the instructions for template 2.9 ask for: (A) Total emergency response opex (B) Opex for major event (defined) and for major storms (defined) (C) Opex for Major Event Days (MEDs) (defined). the AER noted that: ▪ (B) is intended to capture costs where they can be attributable to particular events whereas (C) is to reflect all emergency response opex on days that were MEDs. ▪ The RIN instructions ultimately result in a double reporting of costs in (B) and (C) where an event for example, triggers an MED however AER expect to have visibility of opex on a daily basis under item (C) where the MED event is identified. ▪ AER also wouldn't necessarily expect daily opex for events identified in (C) to sum up to amounts reported for the same event in (B) given other activity on those days.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for all variables in Table 2.9.1 for the period 2014-15
Source of Actual Information	Actual Information for the variables was sourced from Ergon Energy's ERP – Ellipse.
Methodology and assumption's applied in relation to Actual Information	In respect of (B) MAJOR EVENTS O&M EXPENDITURE ($000'S), Ergon Energy notes: ▪ In order to obtain the information, it was necessary for Ergon Energy to select work orders from Enterprise Resource Planning (ERP) (Ellipse); ▪ Ergon Energy's Ellipse Code for Forced Maintenance (54100) has been used as it aligns to the AER's definition of Emergency Response. ▪ Data represents the total emergency response expenditure

Minimum Requirements	Ergon Energy Response
	attributed to major events (clarified by the AER to mean an event triggering a 'major event day' - a term that is defined in the Service Target Performance Incentive Scheme (STPIS), including costs extending prior and past associated declared MED days as well as costs associated with Major Storms of Category 1 or above (but not necessarily result in an MED). ▪ These costs are calculated by accessing ERP (Ellipse) data contained in work orders created specifically for capture of costs for the specifically listed events. These work orders capture and collate all transactions applicable to the listed events ▪ Note that costs for major events occurring in a previous year that have flowed into the current year have been included. In respect of (C) MAJOR EVENT DAYS O&M EXPENDITURE ($000'S), Ergon Energy notes: ▪ In order to obtain the information, it was necessary for Ergon Energy to select transactions from ERP (Ellipse) for each day identified as an MED. ▪ Emergency response expenditure incurred on the specific MED was reported by identifying daily operating expenditure incurred on each date. ▪ A sum of the emergency response expenditure incurred across the MED days related to a specific event was also calculated. ▪ Although consistent with the AER's guidance in this regard, Ergon Energy notes that under this approach, data reported: o captures total emergency response on these dates not only for abnormal events but also for normal daily events; o does not capture the total emergency response associated with the abnormal event which caused the MED but incurred in prior, or subsequent non-MED days.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Category Analysis RIN Basis of Preparation

Template 2.10 Overheads

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.10 Overheads of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.10 Overheads (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.10 Overheads, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.10 Overheads (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.10 Overheads

Table 2.10.1 - Network Overheads Expenditure

Table 1: Addressing Minimum BOP requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.10, Table 2.10.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Overhead expenditure has been reported before it is allocated to services (Alternative Control Services (ACS) or Standard Control Services (SCS)) or direct expenditure, and before any part of it is capitalised. Furthermore, regard has been given to the guidance provided from the AER in its Issues register, noting that Network Overheads has six compulsory categories and allowance for other (new) nominated categories (i.e. a new basis, break from previous Annual Performance RINs).
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Source of Actual Information	Base data sourced from Mincom Ellipse Reporting System (MERS) *Trial Balance* report to return net support costs (or "overhead") for the 2014-15 financial year. Net support costs form the basis of the overhead pool. Report parameters are set as follows: ▪ District: EECL (Ergon Energy Corporation Limited) – the distribution entity; ▪ Responsibility Centre (RC): All (Business Unit groups responsible for expenses for a function/location) ▪ Activity: 62000 to 65040 (Type of work being undertaken, this range captures all "overhead" activities) ▪ Product: All (Product or service being provided) ▪ Element: 3300 to 8370 (excluding 8115, 8120CL, 8350, 8355) (Nature of the expense, this range captures all "overhead" elements) In accordance with the Cost Allocation Method (CAM) adjustments to net support costs have been made to include Fleet depreciation charges and exclude Training and Redundancy costs. The resulting data represents the total "overhead pool" by RC by year.
Methodology and assumption's applied in	Network Overheads have been calculated by applying the underlying methodology of the CAM and Ergon Energy's associated overhead

Minimum Requirements	Ergon Energy Response
relation to Actual Information	processes to actual support costs to derive actual overheads across the Network Overheads categories. **Allocation to Overhead Category** Each RC has been allocated to an overhead category within either Network Overheads or Corporate Overheads (AER defined terms), based on professional judgement as to the most appropriate category for each RC. As required, data currently reported as 'Network Operating Costs' in Ergon Energy's Annual Performance RIN has been collated / mapped to Network Overheads in the Category Analysis RIN, and disaggregated into the six mandatory subcategories: ▪ network management ▪ network planning ▪ network control and operational switching ▪ quality and standard functions (including standards and manuals, compliance, quality of supply, reliability, network records (GIS), and asset strategy (other than network planning) ▪ project governance and related functions (including supervision, procurement, works management, logistics and stores) ▪ other (including training, OH&S functions, network billing, and customer service). Other expenditure categories reflect annual reporting, with each category reported appropriately under Network Overhead. Specific categories that have been reported in the Overheads template which are normally treated as direct costs by Ergon Energy are: ▪ Network Operating costs ▪ Meter Reading ▪ Customer Service ▪ Feed-in Tariff/Solar Bonus ▪ Non-network Alternatives ▪ Training and ▪ Other Costs **Disaggregation by SCS, ACS, Unregulated Service Classifications** Network Overheads have been disaggregated across Standard Control Services (SCS), Alternative Control Services (ACS) and Unregulated Services classifications (Ergon Energy has no Negotiated distribution services) based on the Cost Allocation Method and Classification of Services as well as an internal overhead model to determine the percentage allocation of each RC across the service types. **Capitalised Overheads**

Minimum Requirements	Ergon Energy Response
	Capitalised overheads have been calculated in accordance with Ergon Energy's current CAM and previous CAMP (QCA approved Cost Allocation Methods and Procedures) and consistent with the capitalisation policy which has not changed over the period. Ergon Energy considers it prudent to allocate overheads to Capital expenditures due to the size and nature of the capital expenditures. Capital expenditure is a key driver for the incurring of overheads and to not allocate overheads would undervalue the true cost of the Capital program. **Reconciliation** Due to adjustments to overhead rates throughout the year the above allocation does not result in an exact apportionment across service types and therefore a pro-rata adjustment has been applied to reconcile to actual overhead applied by service type. This has been achieved by pro-rating disaggregated values by year.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Table 2.10.2 - Corporate Overheads Expenditure

Table 2: Addressing Minimum BOP requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 2.10, Table 2.10.2 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Overhead expenditure has been reported before it is allocated to services (ACS or SCS) or direct expenditure, and before any part of it is capitalised.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Minimum Requirements	Ergon Energy Response
Source of Actual Information	Base data sourced from Mincom Ellipse Reporting System (MERS) *Trial Balance* report to return net support costs (or "overhead") for the 2014-15 financial year. Net support costs form the basis of the overhead pool. Report parameters are set as follows: ▪ District: EECL (Ergon Energy Corporation Limited) – the distribution entity; ▪ Responsibility Centre (RC): All (Business Unit groups responsible for expenses for a function/location) ▪ Activity: 62000 to 65040 (Type of work being undertaken, this range captures all "overhead" activities) ▪ Product: All (Product or service being provided) ▪ Element: 3300 to 8370 (excluding 8115, 8120CL, 8350, 8355) (Nature of the expense, this range captures all "overhead" elements) In accordance with the CAM adjustments to net support costs have been made to include Fleet depreciation charges and exclude Training and Redundancy costs. The resulting data represents the total "overhead pool" by RC by year.
Methodology and assumption's applied in relation to Actual Information	Corporate Overheads have been calculated by applying the underlying methodology of the CAM and Ergon Energy's associated overhead processes to actual support costs to derive actual overheads across the Corporate Overheads categories. **Allocation to Overhead Category** Each RC has been allocated to an overhead category within either Network Overheads or Corporate Overheads (AER defined terms), based on professional judgement as to the most appropriate category for each RC. For Corporate Overheads there has been a change in categories following corporate restructuring at the end of the previous year. Whilst some categories remain unchanged, a number of categories have been either added or deleted therefore impacting prior year comparisons. **Disaggregation by SCS, ACS, Unregulated Service Classifications** Corporate Overheads have been disaggregated across SCS, ACS and Unregulated Services classifications (Ergon Energy has no Negotiated distribution services) based on the CAM and Classification of Services as well as an internal overhead model to determine the percentage allocation of each RC across the service types. **Capitalised Overheads** Capitalised overheads have been calculated in accordance with Ergon Energy's current CAM and previous CAMP (QCA approved Cost Allocation Methods and Procedures) and consistent with the capitalisation policy which has not changed over the period.

Minimum Requirements	Ergon Energy Response
	Ergon Energy considers it prudent to allocate overheads to Capital expenditures due to the size and nature of the capital expenditures. Capital expenditure is a key driver for the incurring of overheads and to not allocate overheads would undervalue the true cost of the Capital program. **Reconciliation** Due to adjustments to overhead rates throughout the year the above allocation does not result in an exact apportionment across service types and therefore a pro-rata adjustment has been applied to reconcile to actual overhead applied by service type. This has been achieved by pro-rating disaggregated values by year.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Category Analysis RIN Basis of Preparation

Template 2.11 Labour

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.11 Labour of Ergon Energy completed 2014-15 Category Analysis RIN templates, this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.11 Labour (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provide additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.11 Labour (Actual, Estimated or Consolidated) in Ergon Energy's completed 2008-09-2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.11 Labour

Note:

The 2014-15 RIN 2.11 Labour Template has been completed utilising the methodologies of the previous year. There has been no material change to the calculation process.

Table 2.11.1 – Cost Metrics per Annum

Table 2.11.2 – Extra Descriptor Metrics for Current Year

Table 1: Addressing Minimum BOP requirements

Minimum Requirements	Ergon Energy Response
Consistency with the requirements of the Notice	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. In exception to this, Ergon Energy has not separately reported Labour Hire and Employee costs under each classification level. This information is deemed as "optional" in Tables 2.11.1 and 2.11.2. Also of note, Ergon Energy has labour costs which are not catered for by the lines provided in Template 2.11 Labour, tables 2.11.1 and 2.11.2. These have been included in the template by merging them with other Labour Classifications as follows: ▪ blue collar workers labour costs that should be categorised as either Corporate or Network Overheads labour costs (given the Ergon Energy practice for all blue collar employees to cost to overhead activities such as training, meetings, lost time, etc.) have been included in the Intern, Junior Staff, Non Field Work Apprentice classification; ▪ white collar workers labour costs that should be categorised as Direct Network labour costs (given the Ergon Energy practice for all employees who engage in Direct Network Activity to cost to the activity regardless of Labour classification) have been included in the Skilled Non Electrical Worker classification.
	Ergon Energy has prepared the information provided in Template 2.11, table 2.11.1 Cost Metrics per Annum and table 2.11.2 Extra Descriptor Metrics for Current Year in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Only labour costs relating to the provision of Standard Control Services are reported in the Template. Ergon Energy confirms quantities of labour, expenditure or stand down periods are not reported multiple times across the tables.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information in relation to all variables in the table.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information in relation to all variables in the table.

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response</th></tr>
<tr><td>Methodology and assumption's applied in relation to Actual Information</td><td>Not applicable. Ergon Energy has provided Estimated Information in relation to all variables in the table.</td></tr>
<tr><td>Population of Estimated Information in Templates</td><td>Ergon Energy has provided Estimated Information in relation to all variables in the table.</td></tr>
<tr><td>Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.</td><td>Variables in relation to Ergon Energy CA RIN Labour data has been categorised as Estimated Information based on the AER's definition in the CA RIN.

This is due primarily to process of employee allocation to RIN Labour Category. A material portion of Ergon Energy's Employee and Position data does not align directly with the CA RIN Labour Category definitions. To overcome this issue Ergon Energy utilises a rule methodology to allocate all employees to CA RIN Labour Category. These rules are subjective and continue to be refined for more definitive accuracy with the aim to providing actual information in future years. It is on this basis that Ergon Energy's CA RIN Labour results are deemed to be Estimated Information for the 2014-15 period.

Actual Ellipse ERP system, Labour Costing, Finance, Payroll & Employee data is used as the source data.</td></tr>
<tr><td>How Estimated Information has been produced.</td><td>Ellipse Payroll, HR & Finance modules are the sources of the base data for the Labour modelling.

In order to report the information, it was necessary for Ergon Energy to undertake a number of steps as detailed below:

A. OVERHEADS

1. Allocate Ergon Employees to RIN Labour Classifications

Ergon Energy has allocated employees to the RIN Labour Categories based on combinations of employee resource & position. Resultant employee classifications are provided in the table below.

<table>
<tr><th>RIN Category</th><th>2014-15</th></tr>
<tr><td>Executive Manager</td><td>5</td></tr>
<tr><td>Senior Manager</td><td>34</td></tr>
<tr><td>Manager</td><td>163</td></tr>
<tr><td>Professional</td><td>1,025</td></tr>
<tr><td>Semi Professional</td><td>709</td></tr>
<tr><td>Support Staff</td><td>1,063</td></tr>
<tr><td>Intern</td><td>3</td></tr>
<tr><td>Skilled Electrical Worker</td><td>1,171</td></tr>
<tr><td>Apprentice</td><td>261</td></tr>
<tr><td>Unskilled Worker</td><td>255</td></tr>
<tr><td>Grand Total</td><td>4,689</td></tr>
</table>

Data as at 30 June 2015 data was used to establish the employee to RIN Labour Classification. This data was then used as the basis of allocating employee payroll & work order labour costing data to RIN Labour classifications.</td></tr>
</table>

Minimum Requirements	Ergon Energy Response

2. Determine RIN Labour Classification % Split for Labour payroll costs and hours per Responsibility Centre

Ergon Energy has used actual 2014-15 employee Ellipse payroll transactions combined with the Employee RIN Labour Classification data (point 1 above) to calculate Payroll labour costs & hours by RIN Classification per employee.

This data was then aggregated to show Payroll costs and hours per responsibility centre and RIN Labour Classification.

These costs will have the RIN Overhead SCS % allocation applied to them to ensure they reflect only the employees SCS work component.

This is the best estimate based on available information.

3. Determine Overhead Work Order Labour Costing $ & Hours by RIN Classification and Responsibility Centre

Ellipse employee labour costing transactions for overhead activities were combined with the Employee RIN Labour Classification data (point 1 above). This was aggregated to determine the responsibility centre results.

These costs will have the RIN Overhead SCS % allocation applied to them to ensure they reflect only the employees SCS work component.

4. Determine Labour Costing Recoveries $ & Hours by RIN Classification and Responsibility Centre

Ellipse employee labour costing recovery transactions were combined with the Employee RIN Labour Classification data (point 1 above). This was aggregated to determine the responsibility centre results.

These costs will have the RIN Overhead SCS % allocation applied to them to ensure they reflect only the employees SCS work component.

5. Allocate Non Labour costs to Cost Centre and RIN Labour categories

Actual Ellipse GL annual balances were used as source data for the non Labour type costs – Training, Staff Awards, Personal Protective Equipment, Employee Subsidies, etc.

Ellipse payroll ordinary hours worked per cost centre per RIN Labour Classification (see above) were used to allocate these costs. It was assumed that Ordinary hours worked represented the consumption driver as this reflected the physical employee numbers that would consume these costs in the normal day to day running of the business.

These costs will have the RIN Overhead SCS % allocation applied to them to ensure they reflect only the employees SCS work component.

6. Labour Hire

Ergon Energy did not apply the option of showing Labour Hire separately. Instead these costs and hours were included in the Overhead categories and Labour classification in which it was incurred.

Ellipse General Ledger Labour Hire $ annual balances were used as the cost source transactions. No source of data was available for hours or Labour classification.

Minimum Requirements	Ergon Energy Response

Accordingly, it was necessary to apply a Cost centre SCS GL Labour Hire costs / Average Rate Assumption.

- An average rate for Support or Managerial was determined using current Supplier Panel information.
- Rates were de-escalated by CPI to determine an average rate for each financial year.

The following Labour Classification assumption / mappings were required:

- White collar professional type costs centre - Manager
- All other cost centres – Support Staff

This basis was used as it was not possible to determine an alternate methodology due to data constraints & reporting capability.

7. Determine SCS component of cost centre and RIN Labour classification costs and hours

SCS Opex % and SCS Capex % were determined as part of the RIN Overhead workings (refer Basis of Preparation for Template 2.10) and combined to determine a Total SCS % for each cost centre. The Total SCS% was unique to each year.

This Total SCS% was applied to the aggregate Payroll, Overhead activity Labour Costing, Labour Recovery, Labour Hire, Other costs and hours per cost centre and per RIN labour classification to calculate the SCS component for populating the RIN Labour template variables.

This basis was used as it was not possible to determine an alternate allocation methodology based on data constraints & reporting capability.

8. SCS Direct Network Activity defined as Overheads by RIN

Ellipse employee labour costing transactions for the SCS Direct Network activities defined as Network Overhead by the RIN guidelines was the source data. This was combined with Employee RIN Labour Classification data (point 1 above) and aggregated to produce results by RIN Labour Classification. Activities included in this data are activities such as Demand Management, Customer Service, Network Operating and Metering activities.

This is defined as Network Overhead for the purpose of the Labour template as per RIN guidelines.

This data does not need further breakdown as it is 100% SCS related activity.

9. Combine the SCS Allocated Overhead costs & the SCS Direct Network Overhead to calculate Total Corporate & Network Overhead data

The data from steps 6 & 7 above are combined to produce total Corporate and Network Overhead data per RIN Labour Classification. This data is used to calculate template results

B. DIRECT NETWORK ACTIVITY

1. Direct Network activity Costs and Hours

Ellipse employee labour costing transactions for the SCS Direct Network activities were combined with the Employee RIN Labour Classification data

Minimum Requirements	Ergon Energy Response

(point 1 above). This includes for example the Demand Management, Customer Service, Network Operating and Metering activities Labour costs & hours.

This is defined as Network Overhead for the purpose of the Labour template as per RIN guidelines.

This data does not need further breakdown as it is 100% SCS related activity.

Leave, Workers Comp, Super and Payroll Tax costs

Ergon Energy used its Corporate Oncost rates data to estimate Leave, Workers Comp, Superannuation and Payroll Tax costs. The rates were applied as per Ergon Energy Ellipse costing rules – i.e. Oncost Rate % multiplied by specific Labour expense(s).

These costs were determined by cost centre and RIN Labour classification by applying the rate to the cost centre & labour classification payroll data.

This basis was used to ensure the Oncosts reconciled to the amount provisioned for and costed to overheads in the 2014-15 year.

C. Stand Down Occurrences

Actual Employee stand down payroll transactions for 2014-15 were used as the base data of this section of the template

The RIN Labour Classification was added to the data as per Part A.1 above.

RIN Overhead Categories and SCS Activity % were added based on the RIN Overhead workings data.

The data was aggregated to derive an estimate of SCS Stand downs by Overhead category and Direct Network activity.

All Skilled Electrical Worker, Apprentice and Non Skilled Electrical Worker Stand Downs were assumed to be Direct Network related.

D. Calculation based on assumption of 1880 hours per FTE ASL

Ergon Energy's normal business reporting uses the FTE assumption of 1880 hours or 9 day fortnight engagement. This is based on the fact that that 67% of Ergon Energy employees are engaged on a 9 day fortnight basis.

The ASLs for each classification Level reflect the average paid FTEs for each classification level over the course of the year.

This allowed for the calculation of the number of ASL as follows:

$$\frac{\text{(SCS Ordinary Hours + SCS Overtime Hours)}}{1880 \text{ hours}}$$

E. Calculate Per ASL Values

- **Average Productive Work Hours per ASL(0'S)** was calculated as:

$$\frac{\text{(Ordinary Hours + Overtime Hours)}}{\text{ASL count}}$$

- **Stand-Down Occurrences per ASL (0'S)** is the number of stand down occurrences, per annum per labour category / ASL count.
- **Stand-Down Occurrences** were sourced from Ellipse payroll data.

Minimum Requirements	Ergon Energy Response
	▪ **Average Productive Work Hours per ASL-Ordinary Time (0'S)** is calculated as *Ordinary Time Hours / ASL Count.* ▪ **Average Productive Work Hours Hourly Rate per ASL-Ordinary Time (0'S)** represents - *Ordinary Time Cost / Ordinary Time Hours* ▪ **Average Productive Work Hours per ASL-Overtime (0'S)** represents - *Overtime Hours / ASL count* ▪ **Average Productive Work Hours Hourly Rate per ASL-Overtime** represents - *Overtime Cost / Overtime Hours.* ▪ **Total Labour Cost** is the *aggregation* of all costs. These calculations represent the most appropriate alignment of Ergon Energy source data with the variables prescribed within the RIN requirements.

Category Analysis RIN Basis of Preparation

Template 2.12 Input Table

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 2.12 Input Table of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 2.12 Input Table (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 2.12 Input Table , Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 2.12 Input Table (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and prior years) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

Jenny Doyle
Group Manager Regulatory Affairs
Email: jenny.doyle@ergon.com.au
Phone: (07) 3851 6416
Mobile: 0427 156 897

[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 2.12 Input Table

Table 2.12 Input Table

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 12.1 Table 12.1 Input Tables in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. It is noted that Table 12.1 Input Tables does not represent an exhaustive list of expenditure. The summation of input costs for each category do not reconcile to total expenditures amounts reported in all respective templates given limitations of the template. It is also noted there are no requirements in the RIN regarding reconciliation that involve template 2.12. ▪ Within the Ergon Energy group, the parent entity Ergon Energy Corporation Limited (EECL) maintains controlling interest over three reporting entities. These include Ergon Energy Queensland Pty Limited (EEQ) and Ergon Energy Telecommunications Pty Limited (EET) which are both 100% owned, and a jointly controlled entity SPARQ Solutions Pty Ltd (SPARQ) where Ergon Energy maintains a 50% ownership interest. EEQ is a non-competing electricity retailer; EET is a wholesale telecommunication service provider; and SPARQ is an information, communications and technology service provider. ▪ EECL provides management services to its subsidiaries. Accordingly, EEQ and EET do not have their own management structures. EECL pays SPARQ a charge in accordance with service level agreements which is captured as a corporate overhead. ▪ EECL is subject to common control as a Queensland Government Owned Corporation (GOC), with all shares held by shareholding Ministers on behalf of the State of Queensland and transacts with other State of Queensland controlled entities. However, the Queensland Government and State of Queensland controlled entities are not considered related parties for the purposes of the CA RIN due to the specific exclusion of government departments in the definition. ▪ Ergon Energy did not identify any Related Parties contract expenditure in relation to direct capital and operating expenditure. ▪ EECL's corporate overheads and non-network IT and communications costs include related party costs incurred from

Minimum Requirements	Ergon Energy Response
	SPARQ. As SPARQ operates on a cost pass through model, there are no Related Party Margins to report.
Population of Actual Information in templates	Not applicable - Ergon Energy has provided Estimated Information, in accordance with the AER's definition.
Source of Actual Information	Not applicable - Ergon Energy has provided Estimated Information, in accordance with the AER's definition.
Methodology and assumption's applied in relation to Actual Information	Not applicable - Ergon Energy has provided Estimated Information, in accordance with the AER's definition.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information, in accordance with the AER's definition for all variables in Table 2.12 Input Tables for all initial regulatory years.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required because the corporate Enterprise Resource Planning (ERP) and associated processes were not envisioned or configured with the level of detail requested by the AER in mind. Ergon Energy considers that it has used its best endeavours to provide its best estimate of direct material cost, direct labour cost, contract cost and other costs based on the available data in the Ellipse General Ledger and the AER Category Analysis RIN's definitions.
How Estimated Information has been produced.	Base data sourced from Ellipse was used to establish a total and the initial split between direct material cost, direct labour cost, contract cost and other costs. Cost elements within the chart of accounts were used to allocate costs between direct material cost, direct labour cost, contract cost and other costs. The cost elements were not sufficiently detailed to provide the correct costs to meet the Category Analysis RIN's definition for direct labour cost, contract costs and other costs, because direct labour is recorded at average standard labour cost rates (not actual incurred payroll costs) and reconciled in aggregate. The estimates for the labour data compiled for Template 2.11 were used to adjust labour costs in Template 2.12 for corporate, network and directly allocated overhead and direct labour costs in order for them to balance to the labour costs shown in Template 2.11. Other costs were then calculated as a balancing item after deducting direct material cost and the adjusted totals for direct labour costs and contract costs. This ensured that the row totals remained unchanged. No apportionment was required to be made for direct material cost. It was identified within the base data sourced from Ellipse using specific cost elements. Total emergency response expenditure [contained in Template 2.9. Emergency Response] was not included in the protected Template 2.12 required for submission. Accordingly, these costs were not included because additional line items could not be inserted into

Minimum Requirements	Ergon Energy Response
	Template 2.12 else there was no line item to which appropriate mapping could be undertaken. However Ground clearance - access tracks and Various assets contained in Template 2.8 were mapped to the respective Routine or Non Routine maintenance “Other” categories in the Inputs tab. Furthermore, the following items in Template 2.6 Non network but without a dedicated line available in the Inputs tab, were mapped to the Motor Vehicle line item: ▪ CRANE BORER PLANT HCV ▪ OTHER FLEET ASSETS ▪ EWP Hired ▪ Car Hired ▪ LCV Hired ▪ Other Hire Finally, the remaining ‘OTHER - DNSP nominated” categories contained in Template 2.6 Non network were mapped to “OTHER” in the NNW section of the Inputs tab (row 83): ▪ OFFICE FURNITURE AND EQUIPMENT ▪ PLANT AND EQUIPMENT

Category Analysis RIN Basis of Preparation

Template 4.1 Public Lighting

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 4.1 Public Lighting of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 4.1 Public Lighting (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 4.1 Public Lighting, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirement/s were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 4.1 Public Lighting (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and for years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

Jenny Doyle
Group Manager Regulatory Affairs
Email: jenny.doyle@ergon.com.au
Phone: (07) 3851 6416
Mobile: 0427 156 897

[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 4.1 Public Lighting

Table 4.1.1 - Descriptor Metrics for Current Year (2014-15)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 4.1 - Public Lighting, Table 4.1.1 - Descriptor metrics for current year (2014-5) in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. As advised by the AER, Ergon Energy has not had regard to paragraph 17.1 of the AER's Principles and Requirements in Appendix E, which is noted as not being relevant to preparation of a response to a non-Reset RIN. Data has not been reported in relation to gifted assets, or public lighting services which have been classified as contestable. However, non-contestable, regulated public lighting services reported includes work performed by third parties on behalf of Ergon Energy. Finally, Ergon Energy does not have negotiated services in relation to public lighting therefore no metrics are included in this regard.
Population of Actual Information in templates	Ergon Energy has used Actual Information, in accordance with the AER's definition, for all variables in Table 4.1.1 for the period 2014-15
Source of Actual Information	Actual Information for the variables was sourced from Public Lighting Management software, Lightmap. Lightmap is a geographical information system that provides information in relation to spatial location of public lighting assets and asset information.
Methodology and assumption's applied in relation to Actual Information	As a result of an external audit on all Streetlights that was completed during the prior year, Ergon Energy now has compiled and validated data stored and accessible via a new software program Lightmap by Geomatic Technologies (introduced in 2014-15). The outcomes of the audit resulted in a notable change in quantities reported in volume and Light category as legacy source information from previous RIN's is replaced by updated accurate data from Lightmap. Data was extracted from the Lightmap software. Pivot tables were then developed from this extract to identify Public Lighting assets that were established in the database at the end of each regulatory year (financial year) for Ergon Energy Owned and Operated (former Rate 1) lights. These pivot tables also included a breakdown by the light type classification. It is assumed that the Lightmap data is an accurate record of actual

	assets.
Population of Estimated Information in Templates	Not applicable. Ergon Energy has provided Actual Information in relation to Table 4.1.1.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not applicable. Ergon Energy has provided Actual Information in relation to Table 4.1.1.
How Estimated Information has been produced.	Not applicable. Ergon Energy has provided Actual Information in relation to Table 4.1.1.

Table 4.1.2 - Descriptor Metrics Annually (Volumes and Expenditure)

Table 2: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Ergon Energy has left blank, the cells for *Volume of GSL Breaches* and *GSL Payments*. Ergon Energy does not have a GSL scheme for Public Lighting, and is therefore not required to report data in respect of GSLs. However the cell is not shaded orange for blacking out as per instructions. Given a 'zero' is a valid and logical answer, but no scheme exists for Ergon Energy, it is not appropriate to enter 'zero'.
	Ergon Energy has prepared the information provided in Template 4.1 - Public Lighting, Table 4.1.2 - Descriptor metrics annually in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has not distinguished between expenditure for public lighting services between Standard and Alternative Control Services when completing Template 4.1 Table 4.1.2. Furthermore, expenditure has not been distinguished between capex and opex. This was further clarified by the AER in its issues register, where it noted that all items of capex and opex that were necessary to provide the services listed in templates 4.1 to 4.4 were to be included. In this regard, costs have been measured as the direct cost, excluding overheads. Expenditure has been reported as a gross amount, by not subtracting customer contributions. Furthermore, data has not been reported in relation to gifted assets, or public lighting services which have been classified as contestable.

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response</th></tr>
<tr><td></td><td>However, non-contestable, regulated public lighting services reported includes work performed by third parties on behalf of Ergon Energy.

Finally, Ergon Energy does not have negotiated services in relation to public lighting therefore no metrics are included in this regard.</td></tr>
<tr><td>Population of Actual Information in templates</td><td>Ergon Energy has used Actual Information, in accordance with the AER's definition, for:
Total Light Installation Volumes and Expenditure for 2014-15
Total Light Replacement Volumes and Expenditure for 2014-15
Total Light Maintenance Volumes and Expenditure for 2014-15
Volume of Customer Complaints for 2014-15</td></tr>
<tr><td>Source of Actual Information</td><td>Actual Information for Light Installation, Replacement and Maintenance Expenditure was sourced from Ellipse General Ledger extracts.

Actual information for Light Installation and Replacement volumes was sourced from Ellipse Requisition data report extracts.

Actual information for Light Maintenance volumes was sourced from Ellipse Project reports, FMC reports and Ellipse Requisition data report extracts.

Actual Information for Volume of Customer Complaints was sourced from FACTS.</td></tr>
<tr><td>Methodology and assumption's applied in relation to Actual Information</td><td>Total Public Light installation, replacement and maintenance expenditure was calculated by assigning relevant Activity Codes against the corresponding RIN sub-category as below and extracting the general ledger direct costs from Ellipse Financial reporting.
<table>
<tr><th>RIN Sub Category</th><th>Activity Codes</th></tr>
<tr><td>Light Installation</td><td>C2050 Other Regulated System Capex
C2060 Domestic & Rural Cust Requested Works
C2070 Commercial & Industrial Cust Req Works
C2080 Other Customer Requested Works
C2110 Lg CustConnections Constructed
C2120 Street Lighting Constructed</td></tr>
<tr><td>Light Replacement</td><td>C2000 Network Refurbishment
C2020 Ageing Asset Replacement
C2040 Augmentation
C2130 Street Lighting Refurbishment</td></tr>
<tr><td>Light Maintenance</td><td>52180 Preventive Reg Streetlights
53180 Corrective Reg Streetlights
54180 Forced Reg Street Light Maint</td></tr>
</table></td></tr>
</table>

Minimum Requirements	Ergon Energy Response

In relation to Light Installation Major/ Minor and Poles Volume, Ergon Energy has developed the following approach:

It was necessary for Ergon Energy to apply a stock code to all items to reflect what that item was used for. An Ellipse report was run to identify transactions associated with the key stock items with a street light stock section.

Transactions were filtered to remove activities for external work and internal movements between stores.

The following activity codes were identified as related to Ergon Energy's key New Streetlight Installation activity:

- C2050 – Other Regulated System Capex
- C2060 – Domestic & Rural Customer Requested Works
- C2070 – Commercial & Industrial Customer Requested Works
- C2080 – Other Customer Requested Works
- C2110 - Lg Cust Connections Constructed
- C2120 – Street Lighting Constructed

A new report called "RIN Reporting Requestioning Data Streetlighting Capital" has been built to pick up the volume of Streetlight components issued from Stores and the material cost associated with the above activity codes.

Major Luminaires, Minor Luminaires and all poles values were then totalled for Light Installation subcategory totals.

A check was conducted to ensure that Work Orders details from the Ellipse financial extracts could be matched from the Requisition report to ensure that the stock requisitioned had its costs incurred in the same financial period.

The data collected was only for regulated, non-contestable streetlights as per the RIN definition

In relation to Light Replacement Major/ Minor and Poles Volume, Ergon Energy used a similar approach to Light Installation volumes above.

The following activity codes were identified as related to Ergon Energy's key Streetlight Replacement activity:

- C2000 Network Refurbishment
- C2020 Ageing Asset Replacement
- C2040 Augmentation
- C2130 Street Lighting Refurbishment

The above methodology has changed from the 2013/14 CA RIN which only included Expenditure from C2130 Street Lighting Refurbishment whereas the addition of other Replacement Activities provides a more

Minimum Requirements	Ergon Energy Response
	accurate overview of Light Replacement activity. A check was conducted to ensure that Work Orders details from the Ellipse financial extracts could be matched from the Requisition report to ensure that the stock requisitioned had its costs incurred in the same financial period. Stock and financial data were able to be matched with no significant variance. The volumes reported are on an incurred basis The data collected was only for regulated, non-contestable streetlights as per the RIN definition. In relation to Light Maintenance Major/ Minor and Poles Volume, Maintenance was broken into the two subcategories of Preventative Maintenance (Activity Code 52180) and Corrective and Forced Maintenance (Activity codes 53180 & 54180). Preventative Maintenance volumes were sourced from end of financial year Ellipse Project and FMC reports on Bulk Lamp Replacement and Road Patrol projects for Major and Minor Lights. Corrective and Forced maintenance volumes were calculated by applying a stock code to all items to reflect what that item was used for. An Ellipse report was run to identify transactions associated with the key stock items with a street light stock section. Transactions were filtered to remove activities for external work and internal movements between stores and identify Corrective (53180 – Corrective Reg Streetlights) and Forced (54180 – Forced Reg Streetlights) maintenance activities. A new report called “RIN Reporting Requestioning Data Streetlighting Capital” has been built to pick up the volume of Streetlight components issued from Stores. Lamps, luminaires and brackets values were then totalled for the respective volume subcategory provided. Poles values for all maintenance types of Preventative, Corrective and Forced utilised the same methodology as Corrective and Forced Maintenance units above. All Maintenance activity totals where then summarised for the CA RIN subcategory Maintenance volumes. The data collected was only for regulated, non-contestable streetlights as per the CA RIN definition. Installation and Replacement expenditure (CAPEX) has excluded Gifted asset expenditure however Maintenance (Opex costs) has included Gifted Asset maintenance costs. In order to obtain the information for Volume of Customer Complaints, it was necessary for Ergon Energy to report only negative feedback from FACTS and exclude other forms of feedback including positive feedback and enquiries.
Population of Estimated Information in Templates	Ergon Energy has used Estimated Information in relation to the following variables ▪ Mean Days to rectify/replace Public Lighting assets (days) for the period 2014-15

Minimum Requirements	Ergon Energy Response
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to ▪ Mean Days to rectify/replace Public Lighting assets because FeederSTAT does not record Public Lighting outages as a reportable category.
How Estimated Information has been produced.	In relation to Mean Days to rectify/replace Public Lighting assets, Ergon Energy has developed an estimate based on the following approach: ▪ Ellipse reporting of number of days for Streetlight Work Orders between creation and close-out of work order (actual information). Note that this will not necessarily be a proper reflection if there is an extended period between when work is completed and the Work Order is closed out. Field Force Automation will address this. ▪ Work orders for negative days and no end date where identified have been removed. ▪ Data entered into FeederSTAT was unable to be extracted. These are for 'rectify/replace' of critical infrastructure and is completed 80% of the time on the day reported which means a true average would be below that estimated. Ergon Energy considers that the best estimate has been provided for Light Replacement Volumes on the basis that: ▪ Further filtering of available information is not available to define the required parameters; ▪ The information sources are the most accurate available within Ergon Energy's reporting systems. Ergon Energy plans on further enhancing its systems in relation to Light Installation, Replacement and Maintenance Volumes and Expenditures during 2015-16 with the aim of providing Actual information in future RIN reporting periods. Ergon Energy considers that the best estimate has been provided for Mean Days to rectify/replace Public Lighting assets on the basis that: ▪ Further filtering of available information is not available to define the required parameters; and ▪ The average number of days between creation and close-out of Streetlight Work Orders is expected to provide a reasonable proxy for Mean Days to rectify/replace Public Lighting assets.

Table 4.1.3 - Cost Metrics (Average Unit Cost)

Table 3: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice	Ergon Energy has populated all variables for cells shaded yellow as

Minimum Requirements	Ergon Energy Response
requirements	required by the Notice.
	Ergon Energy has prepared the information provided in Template 4.1 - Public Lighting, Table 4.1.3 - Cost metrics in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has not distinguished between expenditure for public lighting services between Standard and Alternative Control Services when completing Template 4.1. Furthermore, expenditure has not been distinguished between Capex and Opex. This was further clarified by the AER in its issues register, where it noted that all items of Capex and Opex that were necessary to provide the services listed in templates 4.1 to 4.4 were to be included. In this regard, costs have been measured as the direct cost, excluding overheads. Expenditure has been reported as a gross amount, by not subtracting customer contributions. Furthermore, data has not been reported in relation to gifted assets, or public lighting services which have been classified as contestable. However, non-contestable, regulated public lighting services reported includes work performed by third parties on behalf of Ergon Energy. Finally, Ergon Energy does not have negotiated services in relation to public lighting therefore no metrics are included in this regard
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information in accordance with RIN requirements for all variables.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information in accordance with RIN requirements for all variables.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information in accordance with RIN requirements for all variables.
Population of Estimated Information in Templates	Ergon Energy has used Estimated Information in relation to Average Unit Cost for Major and Minor Light Installation, Replacement and Maintenance for 2014-15
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to Average Unit Cost for Major and Minor Light Installation and Replacement for 2014-15 as Energy reporting systems do not report to the individual unit expenditure level. Capital expenditure (Installation and Replacement) was able to use unit volumes that were relatable back to materials and direct expenditure. Light Maintenance was able to use material and maintenance costs averages to determine an estimated Light maintenance average.
How Estimated Information has been produced.	Ergon Energy has developed an estimate based on the following approach:

Minimum Requirements	Ergon Energy Response
	Average Unit Cost for Major and Minor Light Installation and Replacement for 2014-15 Several reports were run from Ellipse to provide primary information on : ▪ Volume of lamps, luminaires, brackets and poles linked to Installation / Replacement Activity Codes for each period by breakdown into Major/ Minor grouping and light type subcategory ▪ Average cost of lamps, luminaires, brackets and poles linked to Installation / Replacement Activity Codes for each period by breakdown into Major/ Minor grouping and light type subcategory ▪ General Ledger information for the ratio of Material Cost to Direct costs for Installation and Replacement activity codes. An average weighted volume methodology was used to calculate the number of major components (lamps, luminaires, brackets and poles) used in an average installation or replacement of major and minor streetlights. The data was extracted from Ellipse requisitioning data for respective activity codes used for Installations and Replacements. The Average unit price for lamps, luminaires, brackets and poles is then entered against the average weighted volume of materials for the average Material Price for each item. The average Material Price is multiplied by the average ratio of Material Costs from the Requisition Reports against Direct Costs sourced from the General Ledger over the 2014-15 period. Assumptions made for this data includes: ▪ Streetlights have been based on Luminaire volume as the primary value for calculation of Number of Streetlights and the basis for weighted average volume between the asset categories. ▪ Only Lamps, Luminaires, poles and brackets have been included in the material cost. Other materials have been excluded due to the difficulty in extracting base information to be included in the estimate. These four categories are the main components in Streetlight installation. ▪ Luminaires for installations were only reported if data was available for the Light categories in both luminaire and lamp. Average Unit Cost for Major and Minor Light Maintenance for 2014-15 An average cost for the Bulk Lamp Replacement (BLR) and Road Patrol activities was determined per light. Bulk Lamp Replacement was calculated by dividing the total cost of the program by the number of inspections conducted in a year. This data was sourced from monthly reports extracted from Ellipse. The Road Patrol average was an estimate from the Lines Maintenance manager who utilised validation from Ellipse estimates and other costs to deduct a nominal value. The average raw material cost for maintenance from the requisition

Minimum Requirements	Ergon Energy Response
	reports was calculated through a weighted average methodology and Stores Oncosts added to find the average material cost of BLR program. The Weighted average cost of each lamp type was then readded for both major and minor lights. The average lamp cost was calculated from the Installation and Replacement methodology above. The averages of the Bulk Lamp Replacement program Road Patrol (for Major lights only) was added to the average lamp cost. Ergon Energy considers that the best estimate has been provided for the above values as the reporting systems are unable to expand to further granular levels without a decline in integrity of estimates methodology used. Ergon Energy plans on further enhancing its reporting systems in relation to Light Installation, Replacement and Maintenance Volumes and Expenditures during 2015-16 with the aim of providing Actual information in future RIN reporting periods.

Category Analysis RIN Basis of Preparation

Template 4.2 Metering

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the AER's Category Analysis RIN, and specific to the information presented in Template 4.2 Metering of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 4.2 Metering (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 4.2 Metering, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

Ergon Energy continues to look at identifying opportunities for data quality improvement in support of the transition of data from Estimates to Actuals for future reporting periods.

Our data improvement initiatives will include: making changes to key systems; standardising reporting; changing field data capture processes, and positioning the business to being more agile to respond to changing regulatory frameworks and administrative processes.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirement/s were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 4.2 Metering (Actual, Estimated or Consolidated) in Ergon Energy's completed 13-14 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day.

Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

[1] Templates were reissued: 15 May, 19 June and 22 June.

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Template 4.2 Metering

Table 4.2.1 - Metering Descriptor Metric (Volumes)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with the requirements of the Notice	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Ergon Energy notes that it does not have regulated metering services relating to meter categories Type 4 and Type 5. Type 5 metering is not permitted in Queensland as per the National Metrology Procedures Part A. Ergon Energy has identified this in the basis of preparation. Accordingly, metrics have been populated as 'zeroes' in this regard.
	Ergon Energy has prepared the information provided in Template 4.2, Table 4.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. As advised by the AER, Ergon Energy has not had regard to paragraph 16.1 of the AER's Principles and Requirements in Appendix E, which is noted as not being relevant to preparation of a response to a non-Reset RIN. Ergon Energy has not distinguished Metering services between Standard and Alternative Control Services when completing Template 4.2, Table 4.2.1. Data has not been reported in relation to metering services which have been classified as contestable. Non-contestable, regulated metering services have been reported by Ergon Energy including work performed by third parties on behalf of Ergon Energy.
Use of Actual Information	Ergon Energy has been unable to provide Actual Information, in accordance with the AER's definition for Table 4.2.1 for 2014-15
Source of Actual Information	Ergon Energy has been unable to provide Actual Information, in accordance with the AER's definition for Table 4.2.1 for the period 2014-15
Methodology and assumption's used in relation to Actual Information	Ergon Energy has been unable to provide Actual Information, in accordance with the AER's definition for Table 4.2.1 for the period 2014-15
Use of Estimated Information	Ergon Energy has provided Estimated Information in relation to variables in Table 4.2.1 for all categories associated with Meter Type 6 for the period 2014-15
Why is it not possible to use Actual Information, and why an estimate is required	It was not possible to use Actual Information, and an estimate is required in relation to Meter Type 6 volumes as available historical asset information records were unable to provide an accurate

Minimum Requirements	Ergon Energy Response
	differentiation between the asset subcategories. Also, available data extracts did not correlate with the financial year periods required for reporting as reporting has previously occurred on an ad hoc basis. An estimate was used with the closest available actual information (to the corresponding financial year) in Ergon Energy's asset management systems.
How the estimate has been produced	In relation to Single Phase Meter population and Multiphase Meter population. Ergon Energy has developed an estimate based on the following approach: Total regulated meters: ▪ The total number of all regulated and non-regulated meters was taken as the unique count of NMIs and Meter Numbers from the Meter/Tariff Table in the Microsoft Access Data adhoc extract from the FACOM (Customer Information System) in the month of July 2015. ▪ Non-regulated and contestable meters were identified on the basis of the count of "Large (>100MWH pa) NMI sites who were not EEQ customers and excluded NMI sites that are with EEQ and charged MDA/MDP charges. ▪ Non-regulated, contestable meters for Large NMI customers and meters in isolated communities not part of the NEM were subtracted from the total number of all meters, leaving the total number of regulated meters. (Note: This includes meters at "Small" NMI customer Sites where Ergon is RP and MPB) Within this estimated data it is possible to identify the number of multiphase and single phase meters. Multiphase meters were derived from the addition of two types of multiphase meters and is inclusive of CT Meters: ▪ Pre 2001 - Multiphase meters in service prior to 2001 was taken as the number of three phase meters prior to 2001 were calculated by a manual search of historical records in FACOM and supplier records ▪ Post 2001 – a unique property number system was introduced Ergon Energy wide in March 2001 for all multiphase meters that allows these to be readily identified by their property identifier format. A total count of meters purchased with numbers like "9xxxxxxx" is taken from a Microsoft Access Data ad hoc FACOM extract from July 2015. Single phase meter volumes were calculated by subtracting the total of multiphase meters from the total of regulated meters. Ergon Energy considers that the best estimate has been provided on the basis that:

Minimum Requirements	Ergon Energy Response
	▪ We have used actual data taken from our Customer Information System as close to annual alignments as was available. ▪ Some variations will exist due to customer transfers and daily customer additions and removals. ▪ Pre 2001 three (3) phase meter counts are estimated from manually extracted asset records based on historical records. In relation to Current Transformer Meter population and Direct Connect Meter population: Ergon Energy has developed an estimate based on the following approach: ▪ The Current Transformer meter estimate is a portion of the total three phase meter population. This is based on the current count (2.5.2014) of CT Meters in the Ellipse asset register with an applied Maintenance Schedule Task (MST). All CT Meters have MSTs and are maintained on a periodic basis in accordance with National Electricity Rules (NER) Chapter 7. ▪ The list of NMIs with MSTs (CT Meters) was imported and linked to the same ad hoc Microsoft access FACOM data base extracts to query how many existed with Retailer = Ergon Energy Qld (EEQ) in the month of July 2015. A quantity of EEQ customers are treated as Non-regulated and these were subtracted to obtain the total regulated CT Meter count for 2014-15. The CT Meter count is subject to variation year to year due to influence of the contestable market. The Direct Connected meter population was calculated by subtracting the total Current Transformer meters from the total regulated Single Phase and Multiphase meter counts. Ergon Energy considers that the best estimate has been provided on the basis that: ▪ The overall number of meters is an actual value with the methodology of the split between sub-categories being an estimated 99% accurate. ▪ CT meter estimates are based on actual data taken from FACOM and Ellipse data. ▪ The current list of NMIs with CT meters (those with MSTs) is compared to the list of NMIs that have Retailer = EEQ to derive a count of CT meters for the year. ▪ This count is decreased by the number of Non-regulated EEQ customers in the year to derive the count of regulated CT Meters.

Table 4.2.2 - Cost Metrics (Expenditure and Volumes)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with the requirements of the Notice	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Ergon Energy notes that it does not have regulated metering services relating to meter categories Type 4 and Type 5. Type 5 metering is not permitted in Queensland as per the National Metrology Procedure Part A. Ergon Energy has identified this in the basis of preparation. Accordingly, metrics have been populated as 'zeroes' in this regard.
	Ergon Energy has prepared the information provided in Template 4.2 - Metering, Table 4.2.2 - Cost Metrics in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has not distinguished between expenditure for Metering services between Standard and Alternative Control Services when completing Template 4.2, Table 4.2.1. Furthermore, expenditure has not been distinguished between capex and opex. This was further clarified by the AER in its issues register, where it noted that all items of capex and opex that were necessary to provide the services listed in templates 4.1 to 4.4 were to be included. In this regard, costs have been measured as the direct cost, excluding overheads. Data has not been reported in relation to metering services which have been classified as contestable. Non-contestable, regulated metering services have been reported by Ergon Energy including work performed by third parties on behalf of Ergon Energy. Finally, consistent with guidance provided by the AER in its issues register in relation to certain meter services costs, Ergon Energy notes that: ▪ meter data costs that could be attributable to specific meter reading activities has been reported as part of the cost for the relevant meter reading services category; and ▪ data processing costs which could not be attributable to a specific activity has been reported in the "other costs (metering)" category.
Use of Actual Information	Ergon Energy has used Actual Information, in accordance with the AER's definition, for the following variables in Table 4.2.2 - Cost Metrics (volumes): ▪ Meter Purchases ▪ Meter Testing ▪ Meter Investigation

Minimum Requirements	Ergon Energy Response
	▪ Scheduled Meter Reading ▪ Special Meter Reading ▪ New Meter Installation ▪ Meter Replacements ▪ Meter Maintenance Ergon Energy has used Actual Information, in accordance with the AER's definition, for the following variables in Table 4.2.2 - Cost Metrics (expenditure): ▪ Meter Purchases ▪ Meter Testing ▪ Meter Investigation ▪ Scheduled Meter Reading ▪ Special Meter Reading ▪ Meter Replacements ▪ Meter Maintenance
Source of Actual Information	Sources of Actual Information for the following variables, are noted below: ▪ Meter Purchases volumes were sourced from Supplier Performance reports based on Ellipse data and Billing Records of Non-Regulated and Non Contestable Meters to Retailers. ▪ Meter Purchases expenditure was sourced from Supplier Performance reports based on Ellipse data and Billing Records of Non-Regulated and Non Contestable Meters to Retailers. ▪ Meter Testing volumes were sourced from GSL Reporting Service Order completion reports based on Citrix data and from Ellipse reports based on Activity Codes and Work Orders. ▪ Meter Testing expenditure was sourced from Ellipse reports based on Activity Codes and Standard Jobs. ▪ Meter Investigation volumes were sourced from GSL Reporting Service Order completion reports based on Citrix data. ▪ Meter Investigation expenditure was sourced from Ellipse reports based on Activity Code and Standard Job numbers ▪ Scheduled Meter Reading expenditure was sourced from Ellipse reports based on Activity Code and Standard Job numbers ▪ Scheduled Meter Reading volumes were sourced from Operational reports based on FACOM data referencing existing and historical annual meter reading reports and excludes self reads, annual reads or depot reads for scheduled reading purposes. ▪ Special Meter Reading volumes were sourced from GSL Reporting

Minimum Requirements	Ergon Energy Response
	Service Order completion reports based on Citrix data. ▪ Special Meter Reading expenditure was sourced from Ellipse Reports for Standard Jobs relating to Special Reads. ▪ New Meter Installations volumes were sourced from GSL Reporting Service Order completion reports based on Citrix data. ▪ Meter Replacement volumes were sourced from Ellipse reports based on Meter Changes from Service Orders. ▪ Meter Replacement expenditure was sourced from Ellipse Reports for Activity Codes and Standard Jobs. ▪ Meter Maintenance expenditure was sourced from Ellipse Reports for Activity Codes and Standard Jobs. ▪ Meter Maintenance volumes were sourced from GSL Reporting Service Order completion reports based on Citrix data and from Ellipse reports based on Activity Codes and Work Orders.
Methodology and assumption's used in relation to Actual Information	In order to obtain the information, it was necessary for Ergon Energy to take the following approach: ▪ Meter Purchase volumes and expenditure - was summarised from the Supplier Performance reports. Meters supplied are not distinguished from non-regulated or contestable meters until they are booked from stores and have therefore not been removed (which would represent less than 1% of volume). Spare part meter costs were included for the MK3 meter with no other charges as the remaining meter types are scrapped and refurbished by an external party who would incur any of these costs. A RITI (Receive Inspect Test Issue) process was not utilised during this period and no testing of equipment costs are involved for testing of meters during the purchasing process. ▪ Meter Testing expenditure was extracted from Ellipse Reports using Activity Code 52130 Preventive Maintenance Regulated Meters with cross referencing to the Standard Job for Meter Test (MMP010- LV Revenue Metering 10 Yearly Site Maintenance, MMP050 - LV Revenue Metering 5 Yearly Site Maintenance), Maintenance Type MP. Costs associated with Business Overheads were removed. The In-situ testing work order costs were also included from Activity Code 53130 with overheads removed. ▪ Meter Testing volume data was developed on the assumption that each work order raised from the above cross reference was equivalent to one Meter Test. The in Situ meter testing program was counted from the number of 10/12 Meter Condition Monitoring service orders. ▪ Meter Investigation expenditure are summarised from Ellipse reports cross referencing expenditure from Activity 56000 (Customer Installation Services), 56050 (Revenue Protection Services) and 56200 (Alternative Control Services) and filtered for the Standard metering job types – "10/1 Meter Query" and "Type 18

Minimum Requirements	Ergon Energy Response
	Revenue Protection". ▪ Meter Investigation volumes are the total number of Service orders raised for job types "10/1 Meter Query" and "Type 18 Revenue Protection". In doing so, it was assumed that a service order was counted as one meter investigation. ▪ Scheduled Meter Reading expenditure is summarised from Ellipse Reports for Activity Code 56020 Mass Market Meter Reading and Standard Jobs QNOMRB, QCEMRB and QSOMRB which represents the collection of data cost. It is assumed that journalled costs for Activity Code 56020 would be Scheduled Meter Reading as the above Standard Jobs are the largest component. ▪ Scheduled Meter Reading volumes are summarised from monthly MVRS reports with 12 months rolling data. This is data sourced from FACOM and MVRS and consolidated into the end of month operational reports. ▪ Special Meter Reading expenditure was extracted from Ellipse Reports using Activity Code 56200 Alternative Control Services and 56020 Mass Market Meter Reads with cross referencing to the below Standard Jobs: ▪ 711 Special Reads ▪ 811 Check Read – Cust Requested ▪ 821 Check Read - Ergon Requested Reading ▪ 831 Check Read - Major/Demand Requested Reading ▪ 841 Check Read - Billing Estimated Reading ▪ 861 Check Read - EEQ Requested Reading ▪ Special Meter Reading volumes are summarised from GSL Reporting Service Order completion reports extracting the total number of Special Reads and Check Read related to the list above for each year which correspond to the Standard Jobs above. ▪ New Meter Installations volumes are the total number of Service orders raised for service order types "Initial Connections" (sourced from GSL Reporting Service Order completion reports). An assumption is made that the data request is only for Initial Connection numbers and not for inclusion of meters installed as a replacement or upgrade for other customer or business requests. ▪ Meter Replacement expenditure was provided from two sources. The first was extracted from Ellipse Reports using Activity Code 56000 Customer Installation Services with cross referencing to Standard Job Q10191. The second source was from Capex Ellipse Reports using Activity Code C2020 for Meter Replacement Projects below with the material component of Relays / Receivers removed: ▪ In Situ – FIS

Minimum Requirements	Ergon Energy Response
	▪ South West BAZ Replacement Project ▪ Wide Bay BAZ Replacement Project ▪ Meter Replacement volumes were provided from the meter replacement project reports for the programs below summarising the meter replacement volumes. ▪ In Situ – FIS ▪ South West BAZ Replacement Project ▪ Wide Bay BAZ Replacement Project ▪ Meter Maintenance expenditure are extracted from Ellipse Reports using corrective maintenance Standard jobs within Activity Code 53130 Corrective Maintenance Reg Meters and 52130 Preventative Maintenance Reg Meters and Q1031 Maintain Meter Standard Jobs from 56000 Customer Installation Services. Expenditure for Non-Revenue meter maintenance i.e. High Voltage and statistical metering, in-situ testing and communication costs removed by a manual analysis of work order descriptions ▪ Meter Maintenance volumes were developed by addition of: ▪ number of Service Orders for Type 11.4 and Type 10.3 with unregulated and non-reportable work being excluded i.e. Service Orders raised for Net Base Project. ▪ work orders raised from corrective maintenance Standard jobs within Activity Code 53130 Corrective Maintenance Reg Meters and 52130 Preventative Maintenance Reg Meters and was equivalent to one Meter Maintenance job.
Use of Estimated Information	Ergon Energy has used Estimated Information in relation to the following variables the following variables in Table 4.2.2 - Cost Metrics (expenditure): ▪ Scheduled Meter Reading ▪ New Meter Installation ▪ Other Metering Meter Type 6 expenditure
Why is it not possible to use Actual Information, and why an estimate is required	Reasons as to why it was not possible to provide Actual Information, and why an estimate is required in relation to each of the variables is noted below: ▪ New Meter Installation expenditure as New Meter costs and New Services costs are bundled together and are not able to be accurately separated to report on the two categories separately. ▪ Meter Maintenance volumes included an estimation of service orders to be excluded based on an average from meter maintenance expenditure to be excluded. ▪ Other Metering Meter Type 6 expenditure is recorded under general Activity Codes and best measures are made to ensure that Other Metering Activities are recorded from the below methodology but

Minimum Requirements	Ergon Energy Response
	not all activities may have been captured.
How the estimate has been produced	New Meter Installation expenditure In relation to New Meter Installation expenditure, Ergon Energy has developed an estimate based on the following approach: ▪ Step 1: All Costs for 2007-2013 for New Services and Meters was Extracted from Ellipse. ▪ Step 2 : A filter was applied to "J3 Code - D Services – New" and total Costs for "New Services" Projects 2007 to 2013 by expenditure category: Labour, Materials and Other was derived as a % of the Total (exc Overheads) (I.e. Ratio 37: 51: 12%) ▪ Step 3: A filter was applied to "J3 Code - D Meters – New" and total Costs for "New Meters" Projects 2007 to 2013 by expenditure category : Labour, Materials and Other derived as a % of Total (exc Overheads) (I.e. Ratio 17 : 80 : 3 %) ▪ Step 4: The total costs was divided by 7 to get an average annual cost for "New Services" and "New Meters". ▪ Step 5: An extract of Service Order Data for 2011/12 & 2012/13 was used to provide an Average No of Services per annum. The average annual cost for Labour, Materials and Other for "New Services" was divided by the average number of services to derive a per Unit Services cost which caters for the all Services Materials and Labour and Other costs to install Meters and Services. ▪ Step 6: Next an estimate of the total number of meters installed per annum was derived from the average number of meters installed on all 11/12 & 12/13 Service Order types. This was used to build an estimate of the total Meter Materials cost per annum, (including Receivers, Current Transformers and incidental meter material components). The total materials cost was divided by the number of meters to obtain an average per unit cost for meters per installation. The % of Labour, Materials and Other costs for "New Meters" was used to derive the per unit cost for each cost component. ▪ Step 7: Labour was estimated at 1 hour of a Technical Service Person at the 2014-15 rate and added to the New Meters total for an average per unit cost. ▪ Step 8: The average per unit cost for Labour Materials and Other including installation from Step 7 is applied to the total Number of Service Orders for new installation Service orders in each year to derive the total cost of "New Meter Installations". In developing this estimate, Ergon Energy has made the following assumptions: ▪ The costs for "New Services" and "New Meters" is calculated over 7 Years was used as Project Completion dates could not be determined to allocate costs to a particular year and a Large portion

Minimum Requirements	Ergon Energy Response
	of costs defaulted to 2007.) ▪ Labour and Other costs associated with the actual installation of Meters are included as part of the average cost of “New Services” installed over period 2006/07 – 2012/13 (past 7 years). ▪ Materials, Labour and Other costs in New Meters accounts for the Meter Equipment costs and associated handing, freight and Meter Laboratory Services l are included in the “New Meters Average costs for 2006/07 – 2012/13 (past 7 years)Metering installation costs as part of NEW SERVICES is based on the incremental labour cost to install and test the meter. Given Ergon Energy crews are already at site, travel costs to site are deemed as NIL as these costs are constant regardless of whether a meter is installed. An allowance of an average of 1 hour labour has been allocated. This framework emphasises the efficiency of bundling services and leveraging off requirements to attend site to connect new installations. This assumption is based on advice from Subject Matter Experts involved in the provision of new services and the meter installation process. ▪ These two figures are totalled and multiplied against the number of New Meter Installation values to determine total expenditure. ▪ An assumption is made that the data request is only for Initial Connection numbers and not for inclusion of meters installed as a replacement or upgrade for other customer or business requests. ▪ As advised by the AER, CAPEX costs have been included. Ergon Energy considers the best estimate has been provided for New Meter Installation expenditure on the basis that: ▪ No exact figure is available; ▪ Cost estimates are based on Ellipse and FACOM data; ▪ Average expenditure is expected to provide a good approximation of actual costs; ▪ The assumptions and methodology underpinning the estimated cost data have been verified by Subject Matter Experts using the Steps outlined above; and ▪ Best endeavours have been used to extract values from existing data. Ergon Energy considers that actual information for New Meter Installation will be available for 2015/16 CA RIN reporting as Metering has been changed from a SCS to ACS Service. Installation expenditure will separate the Connections (SCS) component of the installation from the Metering (ACS) component . Analysis will still be conducted at a Standard Job and Work Order description level to ensure only required expenditure is reported. Other Metering Meter Type 6 expenditure

Minimum Requirements	Ergon Energy Response
	In relation to Other Metering Meter Type 6 expenditure, Ergon Energy determined an estimate based on the following approach: ▪ Other Metering Type 6 expenditure consists of the totalling of the following subtotals: ▪ Actual Other Metering Type 6 Capex ▪ Actual Other Metering Type 6 Opex ▪ Estimated MDP Processing costs Other Metering Type 6 Capex subtotal was calculated by subtracting the total of CAPEX expenditure (New Meter Installation and Meter Replacement) from the General Ledger Capex total. Other Metering Type 6 Opex subtotal was calculated by summing the total expenditure that had been mapped against Standard Jobs in Activity Codes that were not previously reported in the other subcategories by Activity Codes that is listed in the Metering General Ledger Extract and excluded any unreportable expenditure at a Work Order description level. i.e. Unregulated, contestable or Network Monitoring Expenditure. Estimates were then used for calculating the MDP Processing costs which consists of additional cost of processing, storage and delivery of metering data and the management of relevant NMI Standing Data in accordance with the Rules. In developing this estimate for these additional costs, Ergon Energy has made the following assumptions: ▪ 16 staff are required on a full-time basis for processing of regulated data (based on an estimate from the MDP manager). These staff costs have been calculated at an average of the stated pay grade over the five years ▪ Licencing costs for software licencing, data warehousing and process systems costs were proportioned between the estimated usage between regulated and non-regulated meter data purposes by best estimates of the Meter Data Manager. Ergon Energy considers the best estimate has been provided for Scheduled Meter Reading on the basis that system and resource costs are not allocated between regulated and non-regulated activities and cost estimates and the associated methodology for deriving these estimates were verified by relevant Subject Matter Experts. The Other Metering Type 6 Capex and Other Metering Type 6 Opex subtotals and Meter Data Processing estimated expenditure were added to provide a total Other Metering Type 6 expenditure. Ergon Energy considers that actual information for Other Type 6 Metering Expenditure will be available for 2015/16 CA RIN reporting as Metering has be changed from a SCS to ACS Service and dedicated Activity Codes for Metering work have been established. Analysis will still be conducted at a Standard Job and Work Order description level

Minimum Requirements	Ergon Energy Response
	to ensure only required expenditure is reported. Load Control and Receivers expenditure is included in the Other Metering Type 6 expenditure category. ▪ Ergon Energy considers that the best estimate has been provided on the basis that the expenditure will represent the majority of Metering activity costs that have not been reported in the other subcategories. Other Metering Meter Type 7 expenditure ▪ In relation to Other Metering Meter Type 7, expenditure is reported as zero value as unmetered supplies are contestable work. i.e. watchman lights.

Category Analysis RIN Basis of Preparation

Template 4.3 Fee Based ACS

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 4.3 Fee Based ACS of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 4.3 Fee Based ACS (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 4.3 Fee Based ACS (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 4.3 Fee Based ACS

Table 4.3.1 - Cost Metrics for Fee Based Services (Expenditures and Volumes)

Table 1: Addressing Minimum BOP Requirements

<table>
<tr><th>Minimum Requirements</th><th>Ergon Energy Response</th></tr>
<tr><td rowspan="2">Consistency with Notice requirements</td><td>Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.</td></tr>
<tr><td>Ergon Energy has prepared the information provided in Template 4.3, Table 4.3.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.

As advised by the AER, Ergon Energy has not had regard to paragraph 15.1 of the AER's Principles and Requirements in Appendix E, which is noted as not being relevant to preparation of a response to a non-Reset RIN.

For the purposes of completing Template 2.7, Ergon Energy has reported categories for fee-based services that were listed in its Annual Pricing Proposal encompassing each relevant year taking note of Appendix E, Principles and Requirements, paragraph 15.2 of the AER's Notice.

However, there are instances where the Pricing Proposal category headings differ slightly to the mandatory categories in the template therefore the following mapping has been applied:

<table>
<tr><th>CA RIN Mandatory Category</th><th>EECL Pricing Proposal</th></tr>
<tr><td>De-energisation</td><td>De-energisation during business hours</td></tr>
<tr><td>Re-energisation</td><td>Re-energisation during business hours</td></tr>
</table>

Relative to requirement 15.2 only fee-based services have been populated in this template. The mandatory category, 'energisation' is a Connection Service classified as a Standard Control Service (not a fee-based or quoted service), therefore has been excluded. Only operating costs have been reported, no capex is captured for fee based services.

Furthermore, in meeting requirements of Appendix E, Principles and Requirements paragraph 15.3 of the AER's Notice, Table 2 (following) provides a description of each fee based service listed in regulatory template 4.3 including the purpose of each service and the activities which comprise each service.

Costs have been measured as the direct cost, excluding overheads.</td></tr>
<tr><td>Population of Actual Information in templates</td><td>Ergon Energy has used Actual Information, in accordance with the AER's definition, for all variables in Table 4.3.1.</td></tr>
<tr><td>Source of Actual Information</td><td>Actual Information for the variables was sourced from a combination of Ellipse, MERs Financial Reporting and FACOM.</td></tr>
<tr><td>Methodology and</td><td>In order to obtain the information, it was necessary for Ergon Energy to</td></tr>
</table>

Minimum Requirements	Ergon Energy Response
assumption's applied in relation to Actual Information	combine the total count of services from the two source systems being Ellipse and FACOM for the product codes applicable to fee based services for 2014-15. The data used to populate the template was extracted from the Ellipse General Ledger and then using the segment of the chart of account established for this purpose the revenue and costs relating to Alternative Control Services was identified. The amount of overheads was identified by using the relevant account code and then excluding this amount from direct costs. Due to the extraction of volumes and values from disparate systems, some results are showing volumes without costs (or vice versa). These services are immaterial in nature. Note: in accordance with Schedule 8 s225, Ergon Energy is unable to charge for disconnection of supply of electricity to premises.
Population of Estimated Information in Templates	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Table 2: Fee Based Services

The Fee Based Services in the below table are reflective of all of the categories of Fee Based Services that were listed in Ergon Energy's Annual Pricing Proposal of each relevant year in accordance with Appendix E, Principles and Requirements, paragraph 15.2 of the AER's Notice.

Common and Miscellaneous Services	Purpose / Activities of each service
Subdivision Fees	Fees associated with assessing a customer's application requesting a connection be made between the Ergon Energy network and a subdivision. Includes subdivision works carried out by contractors and/or Ergon Energy.
Project Fees	Fees associated with assessing an application requesting a connection to be made (or altered) between the Ergon Energy network and the customer's installation. Applies to small customer connections only (i.e. a customer classified as a Standard Asset Customer (SAC)).
De-energisation	De-energisation commenced during business hours, all instances
Re-energisation	Re-energisation commenced during business hours, not "after de-energisation for debt"
Re-test at customer's installation during business hours	Customer has submitted Form A and the Retailer has issued a Service Order Request, but installation fails test and cannot be connected, requiring a re-test of the installation - business hours
Supply Abolishment during business hours	Decommissioning of a NMI and associated metering. May be used where a property is to be demolished; supply is no longer required; an alternative connection point is to be used; or a redundant supply is to be removed
Temporary Builders Supply, not in permanent position- single phase metered – business hours	Connection of a single phase supply to a meter location that is not permanent.
Temporary Builders Supply not in permanent position - multi phase metered – business hours	Connection of a multi-phase supply to a meter location that is not permanent
Restoration of supply required due to customer action, during business hours	For example: service fuse replacement or restoration of loss of supply caused by the customer's installation - business hours

Common and Miscellaneous Services	Purpose / Activities of each service
Wasted truck visit - one person crew	Service is not able to be completed after truck has left the depot. Includes: Retailer/customer cancels service order after truck has left the depot but before service order is completed; Crew is unable to access site to perform service order; or Customer has submitted Form A and the Retailer a Service Order Request, but the installation is not ready on arrival at site.
Wasted truck visit – two person crew	Service is not able to be completed after truck has left the depot. Includes: Retailer/customer cancels service order after truck has left the depot but before service order is completed; Crew is unable to access site to perform service order; or Customer has submitted Form A and the Retailer a Service Order Request, but the installation is not ready on arrival at site.
Wasted truck visit	Service is not able to be completed after truck has left the depot. Includes: Retailer/customer cancels service order after truck has left the depot but before service order is completed; Crew is unable to access site to perform service order; or Customer has submitted Form A and the Retailer a Service Order Request, but the installation is not ready on arrival at site.

Category Analysis RIN Basis of Preparation

Template 4.4 Quoted

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 4.4 Quoted of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 4.4 Quoted (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provide additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 4.4 Quoted (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 4.4 Quoted Services ACS

Table 4.4.1 - Cost Metrics for Quoted Services (Expenditures and Volumes)

Table 1: Addressing Minimum BOP Requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 4.4, Table 4.4.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. As advised by the AER, Ergon Energy has not had regard to paragraph 15.1 of the AER's Principles and Requirements in Appendix E, which is noted as not being relevant to preparation of a response to a non-Reset RIN. For the purposes of completing Template 2.7, Ergon Energy has reported categories of Quoted Services that were listed in its Annual Pricing Proposal of each relevant year taking note of Appendix E, Principles and Requirements, paragraph 15.2 of the AER's Notice. In meeting requirements of Appendix E, Principles and Requirements paragraph 15.3 of the AER's Notice, **Table 2** below provides a description of each Quoted Service listed in regulatory template 4.4 including the purpose of each service and the activities which comprise each service. Costs have been measured as the direct cost, excluding overheads. Furthermore, the AER noted at Issue 58 in the Issues Register that recoverable work projects (including all costs associated with customer requested capital works for which the prime purpose is to satisfy a customer requirement other than new or increased supply) was to be included as quoted services and hence captured in template 4.4. These projects have been excluded from connections works under template 2.5.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for all variables in Table all variables in Table 4.4.1
Source of Actual Information	Actual Information for the variables was sourced from Ergon Energy's Ellipse, MERS Financial Reporting and FACOM. Ergon Energy currently has extensive work underway to replace legacy systems and to streamline delivery of field services allowing immediate data capture i.e. Field Force automation. The Customer Information System (Facom) will also be replaced with PEACE in the forthcoming year.
Methodology and assumption's applied in relation to Actual Information	In order to obtain the information, it was necessary for Ergon Energy to combine the total count of services from the two source systems being Ellipse and FACOM for the product codes applicable to quoted based services for the required years. The data used to populate the template was extracted from the Ellipse

Minimum Requirements	Ergon Energy Response
	General Ledger and then using the segment of the chart of account established for this purpose the revenue and costs relating to Alternative Control Services was identified. The amount of overheads was identified by using the relevant account code and then excluding this amount from direct costs. Due to the extraction of volumes and values from disparate systems, some results are showing volumes without costs (or vice versa). Most services are immaterial in nature with the exception of emergency recoverable works. In this instance, the following three services should be assessed together in aggregate Other Recoverable Works, Removal / Relocation of Ergon Energy assets at customer request, and emergency recoverable works. There are limitations in matching expenditure to volumes for services performed, as in some cases, the costs for minor ACS work performed on the same day by the same team has been ultimately captured against one service, not multiple services.
Population of Estimated Information in Templates	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Table 2: Ergon Energy Quoted Services

The Quoted Services in the below table are reflective of all of the categories of Quoted Services that were listed in Ergon Energy's Annual Pricing Proposal of each relevant year in accordance with Appendix E, Principles and Requirements, paragraph 15.2 of the AER's Notice.

Quoted Services	Purpose and Activities of Service
Removal/Relocation of Ergon Energy assets at customer request	Removal, relocation or rearrangement of assets at customer request, that would not otherwise have been required for the efficient management of the network, or covered by another service.
Other recoverable works	Removal, relocation or rearrangement of assets at customer request, that would not otherwise have been required for the efficient management of the network, or covered by another service.
Large Customer Connections	Negotiated network design and construction contracts which require design and construction of connection assets for major network customers classified as an Individually Calculated Customer (ICC), Connection Asset Customer (CAC) or an Embedded Generator (EG). Gifted assets are specifically excluded.
Emergency Recoverable Works	Work carried out as a result of an emergency or third party action that would not otherwise have been required for the efficient management of the network, or covered by another service. For example: repair of assets due to vehicle accident.
Move point of attachment during business hours - single/multi phase	De-energisation, followed by physical dismantling then reattachment of service and re-energisation. Typically one hour or less on site.
Relocation of point of attachment of service (single visit) - single/multi phase during business hours	De-energisation, followed by physical dismantling then reattachment of service and re-energisation. Typically one hour or less on site.
Tiger tails	Installation of covers on service lines
Provision of historical metering data	Request for historical metering data prior to the previous 2 years, on request.
Provision of metering data above minimum requirements	For example: urgent delivery, summarisation of metering data etc
Meter test	Meter test by EECL for EECL whole current type 5-7 meters only. Only available where meter installed and operational.
Change Tariff	Change to tariff, that requires meter reprogramming (except for controlled load timing changes)

Quoted Services	Purpose and Activities of Service
Change Time Switch	Change to time switch setting
Removal of a meter	Remove meter and re-commission installation on request; no re-wiring required
Removal of load control device	Remove load control relay or time clock on request
Special meter read	Off-cycle meter read, during business hours
Reprogram Card Meters	Attend and reprogram card meters to reflect retail tariffs, outside scheduled visit
Exchange Meter (Type 5-7)	Like for like meter exchange on request, unless not allowed by regulation.
Move the meter (Type 5-7)	Relocate meter from current position and re-commission installation on request; no change of service point
Provision of Connection Services above minimum requirements	Customer requested increase in reliability or quality of supply beyond the standard
Higher reliability or quality of supply	Customer requested increase in reliability or quality of supply beyond the standard
Overhead service upgrade - no change to load	For example change from single phase to multi phase and/or increase capacity
Underground service upgrade	For example change from single phase to multi phase and/or increase capacity
Provision, installation and maintenance of meters above minimum requirements	Provision of meters above the minimum regulatory requirements on request
Prepayment Meters at Customer Request	Installation of pre-payment meters on request - see Notified Prices for conditions.
Temporary De-energisation single visit during business hours - no dismantling	Temporary de-energisation and re-energisation of supply at the service fuse to allow customer or contractor to work close - no dismantling of service required (i.e. no service line drop). Typically 1 hour or less on site
De-energisation after hours	De-energisation commenced after business hours, all instances
Re-energisation after hours	Re-energisation commenced after business hours, all instances
Restoration of Supply required due to	For example: service fuse replacement or restoration of loss of supply caused by the customer's installation

Quoted Services	Purpose and Activities of Service
customer action - after hours	- after hours
Subdivision Fees	Other fees associated with services Ergon Energy provides in considering sub-division plans. Includes fees associated with specification and design and the auditing of design and construction.
Project Fees	Other fees associated with services Ergon Energy provides in considering customer initiated projects. Includes application fees for major customer connections, and fees relating to specification and design and the auditing of design and construction.
High Load Escort	Request by customer to disconnect and reconnect to the distribution network and lift wires to allow a high load vehicle through the most appropriate corridor
Rectification of illegal connections	Repair works to re-establish a safe and legal connection
Conversion of aerial bundled cables	Conversion of separate aerial cables to bundled aerial cables.
Provision of service during business/after hours requiring one/two person crew	For example: safety observer, installation inspection, query tariff, revenue protection activity - business hours / after hours. Tree trimming, switching - business / after hours
Provision of service during business hours requiring one person crew	For example: safety observer, installation inspection, query tariff, revenue protection activity - business hours
Provision of service during business hours requiring two person crew	For example: tree trimming, switching - business hours
Provision of service after hours, requiring one person crew	For example: safety observer, installation inspection, query tariff, revenue protection activity - after hours
Provision of service after hours requiring two person crew	For example: tree trimming, switching - after hours
LV Service Line Drop and Replace in Single Visit during Business Hours - Physical Dismantling	Temporary de-energisation and re-energisation of supply to allow customer or contractor to work close - the service will be physically dismantled or disconnected (e.g. Overhead Service dropped). Typically 1 hour or less on site
HV Service line drop and replace in single	Temporary de-energisation and re-energisation of supply to allow customer or contractor to work close -

Quoted Services	Purpose and Activities of Service
visit during business hours	High Voltage Switching and access is required.
HV Service line drop and replace in single visit after hours	Temporary de-energisation and re-energisation of supply to allow customer or contractor to work close - High Voltage Switching and access is required.
LV Service line drop and replace two visits during business hours (same day) - physical dismantling	Temporary de-energisation and re-energisation of supply to allow customer or contractor to work close - the service will be physically dismantled or disconnected (eg Overhead Service dropped).
LV Service line drop and replace two visits after hours (same day) - physical dismantling	Temporary de-energisation and re-energisation of supply to allow customer or contractor to work close - the service will be physically dismantled or disconnected (eg Overhead Service dropped).
Temporary de-energisation two visits during business hours (same day)- no dismantling	Temporary de-energisation and re-energisation of supply at the service fuse to allow customer or contractor to work close - no dismantling of service required (i.e. no service line drop).
Meter check read	Off-cycle meter read, during business hours
Erection of extra poles (only on a customer's installation)	Erection of extra poles (only on a customer's installation)
Relocation of point of attachment of service (two visits)- single/multi phase during business hour	De-energisation, followed by physical dismantling then reattachment of service and re-energisation

Category Analysis RIN Basis of Preparation

Template 5.2 Asset Age Profile

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 5.2 Asset Age Profile of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 5.2 Asset Age Profile (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 5.2 Asset Age Profile, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirement/s were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 5.2 Asset Age Profile (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 5.2 Asset Age Profile

Ergon Energy provides the below comments specific to individual asset groups / categories represented in Template 5.2.

Ergon Energy has revised its method of determining the economic life reported in table 5.2.1. Ergon Energy has estimated the reported economic life for all asset categories using the calibrated values from the REPEX model provided by Ergon Energy as part of the 2015-20regulatory reset process, and Reset RIN. These values are derived from the 2013-14 RIN Age Profiles as previously reported, calibrated to the Ergon Energy 4-year average replacement volume scenario from 2010-11 to 2013-14. With the categories that were not feasible to calibrate in the REPEX model, Ergon Energy has used the similar characteristics and closest engineering life asset category's calibrated life for a substitute.

Ergon Energy continues to look at reducing the need to make assumptions, and in accordance with the AER's CA RIN Definitions and Instructions are in the process of identifying opportunities for data quality improvement in support of the transition of data from Estimates to Actuals for future reporting periods.

Our data improvement initiatives will include: making changes to key systems; standardising reporting; changing field data capture processes, and positioning the business to being more agile to respond to changing regulatory frameworks and administrative processes.

It should be noted that data has been sourced through the efforts of a number of independent subject matter experts. The Category Analysis RIN Code has been applied to both Table 2.2.1 and 5.2.1 has been used to consolidate all data.

Table 5.2.1 - Asset Age Profile

Table 1: Poles

Minimum Requirements	Ergon Energy Response - Poles
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has considered and complied with clarifications provided by the AER on 2 July 2015 on issues related to template 5.2.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period (1919-20-2012-13) ▪ Age Profile (installed assets, quantity currently in commission by year) ▪ Economic Life (mean and standard deviation)
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	**AGE PROFILE** Because it was not possible to provide Actual Information in relation to age profiles date for all asset categories within the Poles Asset Group, all data is declared as estimated and estimation was required for. ▪ Natural poles manufactured pre mid 1960s were not fitted with an identification disc. Furthermore, a large data gap exists for around 20% of poles which have lost or have no disc. ▪ For Wood poles (both not reinforced and reinforced) this involves poles installed from 1964 to the present which is the era when they were known to be used. ▪ For Concrete/Steel Poles, this involves poles installed from 1980 to the present as this is the known era where substantial quantities of concrete and other steel poles were known to have been installed. ▪ For steel streetlight poles, this involves poles installed from 1990 to the present as this is the period of time for which installation of UG

Minimum Requirements	Ergon Energy Response - Poles
	cable increased and therefore so too did the installation of streetlights on dedicated poles. **ECONOMIC LIFE** It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** In relation to Age Profile, Ergon Energy has developed an estimate based on the following approach: In the absence of specific records, Ergon Energy has attempted to infer Year of installation from related or nearby asset data records. In continued absence of reasonable results, Ergon Energy has attempted to infer near-YOM from records about the manufacturing and available records from Manufacturers. In continued absence of reasonable results, Ergon Energy has used more tenuous relationships to determine an age profile as it is understood that an important end purpose of the RIN Template 5.2.1 data is to use it to populate the AER's REPEX model. Similar age inference processes were used during the development of Ergon Energy's internal condition based refurbishment maintenance (CBRM) modelling. In developing this estimate, Ergon Energy has made the following assumptions: ▪ That similar nearby assets will have been installed at approximately the same time ▪ For poles that are still unknown that on average the same number of poles are installed (of the same type) each year. Ergon Energy considers that the best estimate has been provided for Age Profile on the basis that: ▪ A hierarchy of logic has been used so that the best possible value for the Age Profile was chosen, including basing the age on surrounding equipment and finally at the lowest level distributing the years across the period that the poles were known to be used. ▪ Ergon Energy uses the Field Mobile Computing (FMC) to provide Pole Maintenance data to the cooperate system. There are delay between the installation date and inspection date. This causes distortion in the age profile of the newly installed pole data. This distortion will be cleared after the maintenance inspection. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year

Minimum Requirements	Ergon Energy Response - Poles
	average replacement volume scenario from 2010/11 to 2013/14.

Table 2: Pole Staking

Minimum Requirements	Ergon Energy Response – Pole Staking
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has considered and complied with clarifications provided by the AER on 2 July 2015 on issues related to template 5.2.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period(1919-20-2014-15) Age Profile (installed assets, quantity currently in commission by year) Economic Life (mean and standard deviation).
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	**AGE PROFILE** Because it was not possible to provide Actual Information in relation to age profiles date for all asset categories within the Poles Staking Category, all data is declared as estimated and estimation was required for: ▪ Natural poles manufactured pre mid 1960s were not fitted with an identification disc. Furthermore, a large data gap exists for around 20% of poles which have lost or have no disc. For Wood poles (both not reinforced and reinforced) this involves poles installed from 1964 to the present which is the era when they were known to be used. **ECONOMIC LIFE** It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation

Minimum Requirements	Ergon Energy Response – Pole Staking
	is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** In relation to Age Profile, Ergon Energy has developed an estimate based on the following approach: ▪ Ergon Energy has used Works Order information to obtain age profile back to 2002, beyond this the population was spread between 1985 (date of commencement of pole staking) and 2002. Known duplicates generated during a system conversion in 2004 and 2005 have been manually removed. In developing this estimate, Ergon Energy has made the following assumptions: ▪ There were no staked poles before 1985 ▪ Closed works orders equate to installed pole stakes ▪ Staked poles are NOT counted as a unique asset, they are counted under the poles category, including these in pole counts will lead to counting duplicates and totals will then not equal the totals in table 2.8.1 Ergon Energy considers that the best estimate has been provided for Age Profile on the basis that: ▪ For staking of wooden poles. Work Orders were used to estimate the number of poles back to 2002, earlier results have been manually populated to include the total number of poles **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 3: Overhead Conductors and Underground Cables

Minimum Requirements	Ergon Energy Response – Overhead and Underground Cables
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category

Minimum Requirements	Ergon Energy Response – Overhead and Underground Cables
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period(1919/20-2014-15) ▪ Age Profile - Conductor Age ▪ Conductor Voltage and phase where these are not populated in GIS. ▪ Economic Life (mean and standard deviation)
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	**AGE PROFILE** It was not possible to use Actual Information, and an estimate is required in relation to conductor age because Ergon Energy holds very little asset data on the installation date for overhead or underground conductors. Design processes from around 2008 create such data for the small percentage of assets constructed since that time. In some cases where conductor phase and voltage are not populated in GIS, these were inferred from other attributes. **ECONOMIC LIFE** It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	<u>Overhead Conductor Age</u> In relation to overhead conductor age, Ergon Energy has developed an estimate based on the following approach: ▪ Get the latest date the line was installed, upgraded or replaced in a Smallworld design. ▪ Get the earliest pole treatment year of poles the line is mounted on. If this date is within the date range specified for the construction in the CBRM QESI inferred date table, use this date. ▪ If the conductor is mounted on "Natural Round" poles and 1955 is within the date range specified for the construction in the CBRM QESI inferred date table, use 1955. ▪ If the conductor is in NQ and its construction is one of ('200','203','204','205','207','208','211','212','213','214') use 1985. ▪ If the construction has a numeric value use the nominal year from CBRM QESI inferred date table for the construction. ▪ If the construction is non-numeric, use the alternative nominal year

Minimum Requirements	Ergon Energy Response – Overhead and Underground Cables

from CBRM QESI inferred date table for the construction.

- Date is unknown.

In developing this estimate, Ergon Energy has made the following assumptions:

- The energisation processes all installed new conductor.
- Conductors for which no age was able to be determined, were added to the amounts for aged conductors, in the same proportion as the aged conductor to the total age for each year.

Underground Conductor Age

In relation to underground conductor age, Ergon Energy has developed an estimate based on the following approach:

- Get the installation recorded against the cable in GIS.
- Get the latest date the cable was installed, upgraded or replaced in a Smallworld design.
- Traverse the network downstream from the cable and determine the date as follows
  - Installation date of downstream cable.
  - Age of downstream switches.
  - Age of downstream transformers.
  - Age of supporting poles.
  - Age of ground-mounted substation or pillar.
- Nominal year assigned to the QESI code associated with the cable's construction.
- Date is unknown

RIN Template 5.2.1 is populated from Ergon Energy's GIS system for Subtransmission, Distribution and LV underground cable. The age profile has been inferred from connected assets, downstream transformers and switchgear and installation age ranges for cable types. Ergon Energy notes there is a small disparity between the total quantity of HV cable in the RIN snapshot database and the earlier data extraction for the CBRM model data.

In developing this estimate, Ergon Energy has made the following assumptions:

- Cables for which no age was able to be determined, were added to the amounts for aged cables, in the same proportion as the aged cable to the total age for each year.

ECONOMIC LIFE

Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived

Minimum Requirements	Ergon Energy Response – Overhead and Underground Cables
	from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 4: Service Lines

Minimum Requirements	Ergon Energy Response – Service Lines
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. SERVICE LINES BY CONNECTION VOLTAGE ▪ All Low Voltage (<= 11kV) Services are included under the two "SIMPLE TYPE" categories below: < = 11 kV ; RESIDENTIAL ; SIMPLE TYPE < = 11 kV ; COMMERCIAL & INDUSTRIAL ; SIMPLE TYPE ▪ This is because Ergon Energy has no sensible way to differentiate the "COMPLEX TYPE" Low Voltage (<= 11kV) services. < = 11 kV ; RESIDENTIAL ; COMPLEX TYPE < = 11 kV ; COMMERCIAL & INDUSTRIAL ; COMPLEX TYPE ▪ The remaining High Voltage categories of services are constructed of assets which are reported as the individual assets from which they are constructed.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period(1919-20-2014-15) ▪ Age Profile ▪ Economic Life
Why is it not possible to provide Actual Information,	**AGE PROFILE** It was not possible to use Actual Information, and an estimate is

Minimum Requirements	Ergon Energy Response – Service Lines
and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	required in relation to Service line age, because Ergon Energy holds very little asset data on quantity of or installation date for overhead and underground services, pillars and pits. Design processes from around 2008 create such data for these assets. There are insufficient records to provide even a reasonable estimate of this profile. The impacts of natural disasters such as Cyclones are often considerable, and LV service failures in such situations are common. Cyclones and flooding across Queensland have had significant impact in this area. Post disaster restoration records of LV Services replacement have not proven to be effective. Records of prior Ergon Energy entities for LV Services are scant. **ECONOMIC LIFE** It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** In relation to service lines age, Ergon Energy has developed an estimate based on the following approach: For each connection point ▪ Find the nearest structure (pole, pit, pillar or gms site) to the connection point ▪ If the nearest structure is a pole, assign the inferred age for the pole to the service. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 5: Transformers by Mounting Type and Operating Voltage

Minimum Requirements	Ergon Energy Response – Transformers by Mounting Type and Operating Voltage
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. According to further guidance provided by the AER in regards to

Minimum Requirements	Ergon Energy Response – Transformers by Mounting Type and Operating Voltage
	template 5.2 in its Issues Register, Ergon Energy notes that: ▪ Transformers mounted within self-contained substations are reported against the "kiosk" mounting type. The self-contained substations securely enclose all components of the substation within a confined unit. ▪ Furthermore, it is noted that the AER expect by their nature, that pad-mount substations are encased units and therefore transformers within these units to be classified as a kiosk mounting type.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Transformer Asset Group, for the period (1919-20-2014-15) ▪ Age Profile (All variables) ▪ Economic Life (All variables) Substation Transformers: o All Pole Mounted Transformer o All Kiosk Mounted Transformer o All Ground Mounted Transformers Other Assets Including: o CURRENT TRANSFORMERS o VOLTAGE TRANSFORMERS o CAPACITOR BANKS ▪ STATIC VAR COMPENSATOR
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	**AGE PROFILE** It was not possible to use Actual Information, and an estimate is required in relation to installation year because Ergon Energy employs run to end of life strategies for a number of these assets and Year of Manufacturer/Installation has not been routinely collected. **ECONOMIC LIFE**

Minimum Requirements	Ergon Energy Response – Transformers by Mounting Type and Operating Voltage
	It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** In relation to Age Profile Ergon Energy has developed an estimate based on the following approach: The year of installation is determine by following this hierarchy until an answer is found: ▪ COMM-DATE (Commissioning Date) nameplate against the asset in Ellipse. ▪ YOM (Year of Manufacture) nameplate against the asset in Ellipse. ▪ date_installed attribute of the asset in Smallworld. ▪ date_installed attribute of the associated substation in Smallworld. ▪ treatment year nameplate against the pole the asset is mounted on ▪ latest YOM or COMM-DATE nameplates against equipment at the GMS site the asset is mounted on. ▪ earliest premise status date for customers associated with the asset substation. Where the above logic results in blank or a non-sensible value those assets are distributed to the same shape distribution as the assets with a real or inferred age. Note, Age Profile For substation transformers >22kV (row 96 on) is predominantly actual data as only small gaps in age data exist. In developing this estimate, Ergon Energy has made the assumption that customers are associated to the asset. Ergon Energy considers that the best estimate has been provided for Age Profile on the basis that: ▪ A hierarchy of rules is used so that the best sources are interrogated first working down to the more tenuous connections **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 6: Switchgear by Voltage and Function - Fuses

Minimum Requirements	Ergon Energy Response – Switchgear by Voltage and Function - Fuses
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period(1919-20-2014-15) ▪ Age Profile ▪ Economic Life
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	**AGE PROFILE** It was not possible to use Actual Information, and an estimate is required because the relevant fields are not completed in Ellipse. **ECONOMIC LIFE** It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** The age profile has been estimated using the assumption that each distribution transformer has one set of HV and one set of LV fuses up until 2013/14. From 2014-15 onwards, only LV fuses have been reported against the "< = 11 kV FUSE" category as per AER response of 02/07/2015; "the omission of a category for 'fuses >11kV' is intentional. AER staff note the definition of 'switch' includes fuses at higher voltages. Because of the high number of fuses at the <=11 kV category, these are asked for separately. All other categories have been rationalised for each Asset Group with a single 'other' available for

Minimum Requirements	Ergon Energy Response – Switchgear by Voltage and Function - Fuses
	those categories not listed.”. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 7: Switchgear by Voltage and Function - Circuit Breakers and Switches

Minimum Requirements	Ergon Energy Response – Switchgear by voltage and function – Circuit Breakers and Switches
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER’s definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER’s definition for the variables in this asset category
Methodology and assumption’s applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER’s definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period(1919-20-2014-15) ▪ Age Profile ▪ Economic Life
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	**AGE PROFILE** It was not possible to use Actual Information, and an estimate is required because the relevant fields are not completed in Ellipse. In this case the query emulates the CBRM data extraction query logic for age inferring for distribution assets. **ECONOMIC LIFE** It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation

Minimum Requirements	Ergon Energy Response – Switchgear by voltage and function – Circuit Breakers and Switches
	is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** Switch age is determined in the following order ▪ The COMM-DATE (Commissioning Date) nameplate against the switch physical in Ellipse. ▪ The YOM (Year of Manufacture) nameplate against the switch physical in Ellipse. ▪ The year the latest design, containing an Install, Upgrade or Replace action against the switch, was energised. ▪ The age of the site on which the switch is mounted, determined as follows o For poles, get the inferred age for the pole using the logic described in the pole age profile above. o For GMS sites, get the latest Year of Manufacture or Commissioning Date nameplate values for equipment mounted on the site. o For zone substation sites, get the default CBRM date for equipment located at the zone substation. ▪ Where the above logic results in blank or a non-sensible value those assets are distributed to the same shape distribution as the assets with a real or inferred age. ▪ The high voltage fuses age profile has been estimated using the assumption that each distribution transformer has one set of HV and one set of LV fuses. From 2014-15 onwards, the HV fuses have been reported in the group "<= 11 SWITCH" category as per AER response of 02/07/2015; "the omission of a category for 'fuses >11kV' is intentional. AER staff note the definition of 'switch' includes fuses at higher voltages. Because of the high number of fuses at the <=11 kV category, these are asked for separately. All other categories have been rationalised for each Asset Group with a single 'other' available for those categories not listed." **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 8: Public Lighting

Minimum Requirements	Ergon Energy Response – Public Lighting

Minimum Requirements	Ergon Energy Response – Public Lighting
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice. Ergon Energy has considered and complied with clarifications provided by the AER on 2 July 2015 on issues related to template 5.2.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period (1919-20-2014-15) ▪ Age Profile ▪ Economic Life
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Actual Information for the variables was sourced from -FMC system. In order to obtain the information, it was necessary for Ergon Energy to record the year of manufacture of luminaires at time of bulk lamp replacement. In doing so, it was assumed that all lamps were replaced as a part of the bulk lamp replacement program, and that brackets were installed at the same time as luminaires as there is no asset data on brackets. **AGE PROFILE** It was not possible to provide Actual Information, and an estimate is required in relation to year of manufacture or install because approximately 35% of luminaires had no year of manufacture recorded. In this case the year of manufacture was assigned at random between 1990 and the last known inspection date. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Minimum Requirements	Ergon Energy Response – Public Lighting
How Estimated Information has been produced.	**AGE PROFILE** Ergon Energy has used similar approach to the age profile of Street Light Poles as Poles data. For further information of the estimation method refers to table 1 Poles. In the absence of Luminaires and Brackets records, Ergon Energy has attempted to estimate luminaires by distributing YOM to unknown asset. In continued absence of reasonable results, Ergon Energy has attempted to infer near-YOM from records. In continued absence of the results, Ergon Energy has used more tenuous relationships to determine an age profile as it is understood that an important end purpose of the RIN Template 5.2.1 data is to use it to populate the AER's REPEX model. In developing this estimate, Ergon Energy has made the following assumptions: ▪ Ergon Energy assumes that the luminaires and the brackets are installed and replaced at the same time. ▪ For luminaires that are unknown that on average the same number of poles are installed (of the same type) between 1990 and 2011. Ergon Energy considers that the best estimate has been provided for Age Profile on the basis that: ▪ Ergon Energy uses the Field Mobile Computing (FMC) to provide Pole Maintenance data to the cooperate system. There are delay between the installation date and inspection date. This causes distortion in the age profile of the newly installed pole data. This distortion will be cleared after the maintenance inspection. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14. Ergon Energy has used SME knowledge to assign an estimate as the economic life and the square root of the life as the standard deviation.

Table 9: SCADA Network Control Master Stations

Minimum Requirements	Ergon Energy Response – SCADA Network Control Master Stations
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in

Minimum Requirements	Ergon Energy Response – SCADA Network Control Master Stations
	Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period(1919-20-2014-15) ▪ Age profile ▪ Economic life
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to: **AGE PROFILE** As some of these projects are in implementation phase but not fully completed so installation data is not yet available. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.
How Estimated Information has been produced.	<u>AGE PROFILE 2014-15</u> In relation to installed assets 2014-15, Ergon Energy has developed an estimate based on the number of projects that are in implementation or were scheduled for that time period. In developing this estimate, Ergon Energy has made the assumption that projects have commenced as scheduled. <u>Standard Life (mean and standard deviation)</u> In relation to Standard life (mean and standard deviation), Ergon Energy has developed an estimate based on the following approach: ▪ Manufacturer recommendations ▪ Experience with the products ▪ Component failures

Minimum Requirements	Ergon Energy Response – SCADA Network Control Master Stations
	▪ Technical capabilities. In developing this estimate, Ergon Energy has made the following assumptions: ▪ That all hardware is equal, for example that a 25 year old RTU should have the same service life as a brand new one.

Table 10: Protection Systems, Field Devices and Local Wiring Assets

Minimum Requirements	Ergon Energy Response – Protection Systems, Field Devices and Local Wiring
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2 in accordance with the Notice requirements. Local wiring is not recorded as a separate asset in Ergon Energy's systems. Accordingly, all local wiring work is considered part of the asset to which it is attached and therefore not reported separately.
Population of Actual Information in templates	Ergon Energy has endeavoured to provide supporting evidence or confirmation of Actual installations and replacements for the financial year 2014-15. ***Protection Relays*** For the financial year 2014-15, 276 relays (approximately 68% of the asset population data presented) are considered as Actual asset information, comprised of both installations and replacements. The composition of Actual relay assets for the financial year 2014-15 is as follows: ▪ 200 Installations, and ▪ 76 Replacements.
Source of Actual Information	***Protection Relays*** Ergon Energy has sourced records confirming actual asset installations, replacements for the financial year 2014-15 from several sources including: ▪ Ellipse – Asset Register, ▪ Protection Database System (PDS).
Methodology and assumption's applied in relation to Actual Information	Ergon Energy has obtained Actual asset information for the 2014-15 financial year utilising the following methodology: ***Protection Relays***

Minimum Requirements	Ergon Energy Response – Protection Systems, Field Devices and Local Wiring
	1. Obtained an Actual asset population count, ▪ Sourced by Ellipse and Protection Database System (PDS) records, ▪ All information sources are cross-referenced and filtered to ensure individual asset counts, Ergon Energy asset ownership/maintenance, and determination of assets that are operational/in-service. 2. Identification of installation or replacement year, ▪ Sourced by PDS records and past RIN submissions, ▪ Installation or replacement year is obtained from all Protection Setting Requests (PSR) records identified as "complete" or "finalised" accompanied by a time-stamped confirmation date from the installation field crew.
Population of Estimated Information in Templates	Ergon Energy has endeavoured to provide to provide supporting evidence or accurate information with respect to Estimated installations and replacements for the financial year 2014-15. ***Protection Relays*** For the financial year 2014-15, 131 relays (approximately 32% of the asset population data presented) are considered as Estimated asset information, comprised of both installations and replacements. The composition of Estimated relay assets for the financial year 2014-15 is as follows: ▪ 10 New installations, and ▪ 174 Replacements.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Although Ergon Energy has endeavoured to provide asset data as accurately as possible the following items below explain the causes and limitations in procuring Actual information for protection relays for the financial year 2014-15. It was not possible to use Actual Information, and an estimate is required in relation to: **AGE PROFILE** It is not possible to procure an Actual Information for age profiles as assets have been inherited from multiple previous energy distribution suppliers before the amalgamation of Ergon Energy. Legacy assets records are incomplete once transferred to Ellipse. As previously stated approximately 68% of asset records retain information to procure an asset age with the remainder estimated. Thus asset age populations presented in regulatory template 5.2 are proclaimed by Ergon Energy as an estimate.

Minimum Requirements	Ergon Energy Response – Protection Systems, Field Devices and Local Wiring
	ECONOMIC LIFE Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14. **Joint Asset Management Inspection Tool (J-AMIT)** To assist in data collation Ergon Energy intends to initiate J-AMIT project as an in-house software tool to provide support for CBRM defect classification, works/maintenance management, data capture and validation requirements. Future implementation of this tool would address Ergon's existing challenges of asset identification, classification, logistics, operational performance, tracking and history as well as provide an easier and quicker response of housekeeping or record keeping.
How Estimated Information has been produced.	Ergon Energy has obtained Estimated asset information for the 2014-15 financial year utilising the following methodology: ***Protection Relays*** 1. Obtained an Actual asset population count: ▪ Sourced by Ellipse and PDS records, ▪ All information sources are cross-referenced and filtered to ensure individual asset counts, identification of Ergon Energy asset ownership/maintenance, and determination of assets that are operational/in-service. 2. Assignment of installation or replacement year: ▪ Sourced by PDS records and past RIN submissions, ▪ All incomplete relay asset records without time-stamp dates are defined as estimates, ▪ Incomplete relay asset records assigned with an Estimated instalment or replacement date of the 2014-15 financial year, have been procured from PSR records (derived from PDS) with an identifiable 'due year' date as being 2014-15 and labelled as with a project management stage as "complete" or "finalised", however have no confirmed completion time-stamped date from field representatives. ***Relay Installations and Replacements*** Ergon Energy's key corporate management system Ellipse does not store individual procurement, installation and/or commissioning dates within its asset registry nor does it track the logistical life of secondary system assets (including relays).

Minimum Requirements	Ergon Energy Response – Protection Systems, Field Devices and Local Wiring
	Majority of data provided within Template 5.2 has been procured from PDS (Protection Database System). Primarily utilised as a protection setting register, this database is not specifically designed to track the logistics of protection relays including installation, replacement, and failure records. PDS however does attempt to track the implementation of protection relay setting work. This includes the initiation, creation, updating, development, approval, assignment and confirmation of relay setting work to operational staff in the field – which encompasses the installation of new relays and replacement of existing relays. PDS is able to report the status of these work tasks via PSRs. Manual extraction, manipulation, filtering and analysis of these PSR records and their associated operator commentary enables a measure of identification of relay work distinguishing between installations and replacements as well as the odd relay that fails in service. Majority of PSR records are time-stamped as they are processed, however work confirmation or feedback from the field has a high turn around cycle. Thus, reporting Actual installations for the financial year of 2014-15 in mid-July 2014 may not recover all overdue confirmations of installations and replacements from the field, especially work that was undertaken late in the 2014-15 financial year. A number of these PSR records have not been fully completed or time-stamped however, after field work has been accomplished. These incomplete records and their associated assets records have been classed as an Estimate although it is most likely that they have been completed with record-keeping updated at a later date. All asset record data and associated work (i.e. installation or replacement) have been cross-referenced with the predetermined asset population count to ensure no double ups and assign suitable asset counts, where no data exists, relative to the project work (i.e. differentiating between installation or replacement work).

Table 11: Communications and Local Wiring Assets

Minimum Requirements	Ergon Energy Response – Communications and Local Wiring Assets
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset

Minimum Requirements	Ergon Energy Response – Communications and Local Wiring Assets
	category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period (2014-15) ▪ Age Profile ▪ Economic Life
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, and an estimate is required in relation to Age Profile because after a detailed analysis of the available data in Ellipse, Stride, VQSM, Small World and consultation with SME's was completed, it was confirmed that the base data remains incomplete. This base data has been improved over the last twelve months and will be completely rectified by FY end 2015-16 to enable reporting of actual data. It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	**AGE PROFILE** As we have not completed the updating of our base data in the corporate systems, based on expenditure for financial year 2014-15 we have reported installations calculated by Telecommunications Project Managers. **ECONOMIC LIFE** Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Table 12: Other Assets

Minimum Requirements	Ergon Energy Response – Other Assets (CT's, VT's and CP's)
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice.

Minimum Requirements	Ergon Energy Response – Other Assets (CT's, VT's and CP's)
	Ergon Energy has prepared the information provided in Template 5.2, Table 5.2.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category
Source of Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Methodology and assumption's applied in relation to Actual Information	Not applicable. Ergon Energy has provided Estimated Information, in accordance with the AER's definition for the variables in this asset category.
Population of Estimated Information in Templates	Ergon Energy has provided Estimated Information in relation to the following variables, for all Asset categories in the Asset Group, for the period (1919-20-2014-15) ▪ Economic Life ▪ Age Profile
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	It was not possible to use Actual Information, for Economic Life given economic life is an estimate in accordance with the definitions provided by the AER. Estimation was therefore applied. The standard deviation is also therefore an estimate as it is derived from the mean economic life.
How Estimated Information has been produced.	Ergon Energy has estimated the reported economic life for this asset group using the calibrated values from the REPEX model provided by Ergon Energy as part of the Submission RIN. These values are derived from the 2013/14 RIN Age Profiles calibrated to the Ergon 4 year average replacement volume scenario from 2010/11 to 2013/14.

Category Analysis RIN Basis of Preparation

Template 5.3 Maximum Demand at Network Level

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 5.3 Maximum Demand at Network Level of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 5.3 Maximum Demand at Network Level (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 5.3 Maximum Demand at Network Level (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and prior years) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 5.3 Maximum Demand at Network Level

Table 5.3.1 - Raw and Weather Corrected Coincident MD at Network Level (Summed at Transmission Connection Point)

Table 1: Addressing Minimum BOP requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Ergon Energy has also provided data in relation to Embedded Generation, Weather Corrected Network Coincident Maximum Demand (for both 10% POE and 50% POE). These cells were shaded orange allowing for 'blacking out' had such information was not collected. The raw maximum demand used for weather correction is adjusted demand. Embedded generation taken into account at the system level includes scheduled and unscheduled generation
	Ergon Energy has prepared the information provided in Template 5.3, Table 5.3.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for all variables in Table 5.3.1 for the last complete regulatory year
Source of Actual Information	Actual Information for the variables was sourced from Ergon Energy's Statistical Metering Database (SMDB). Ergon Energy maintains a series of secure, managed databases known as the SDMB that contain historic demand and weather (sourced from the Bureau of Meteorology data). A full version control of the metered data is maintained within SMDB and the database is regularly backed-up. Access to the environment is secure and provided only to those persons who require access in order to conduct and manage the load forecasting process, and planning studies, with any changes to the datasets tracked and recorded. The database is constantly being fed new demand data from a variety of sources including *AEMO* accredited Meter Data Agents (MDA) for all *NEM* meter data file formatted (MDFF) data for Transmission *Connection* Points (and hence Ergon Energy System Total Demand).
Methodology and assumption's applied in relation to Actual Information	Relative to the information provided for variables in the Table 5.3.1, it was necessary for Ergon Energy to apply the following methodologies and assumptions: ▪ *RAW NETWORK COINCIDENT* **(Native)** Maximum demand

Minimum Requirements	Ergon Energy Response
	obtained from SMDB. ▪ *DATE MD OCCURRED* as extracted from the SMDB aligned with native maximum peak. ▪ *HALF HOUR TIME PERIOD MD OCCURRED* was read from the SMDB, as being the same as the National Electricity Rules (NER) defined "trading interval". The value reported for this variable is the 30 minute period ending on the hour or on the half hour over which the native maximum demand was recorded. The interval is identified by the *time* at which it ends. ▪ WINTER/SUMMER PEAKING data reported aligns with Ergon Energy's own network demand forecasting cycles, under which Summer Peak is considered to occur in the period 1 October to 31 March inclusive while Winter Peak is considered to occur in the period 1 April to 30 September inclusive. This cannot correspond with the form of the definition of a regulatory year due the seasonal nature of customer demand for energy on the network assets. For clarity, Ergon Energy forecasts with the latest available recorded annual maximum demands which are derived from measurements over the 12 month period ending summer. That is to say, for example, for the purpose of forecasting zone substation maximum demand, 2014-15 is the 12 month period ending 01/04/2015 00:00, of which winter MDs are recorded during period 01/04/2014 00:30 - 01/10/2014 00:00 and summer MDs are recorded during period 01/10/2014 00:30 - 01/04/2015 00:00. ▪ EMBEDDED GENERATION data was obtained from the SMDB as the aggregation of all measurable embedded generation on the Ergon Energy regulated network. Maximum demands are extracted at time of the Native Annual System Maximum Demand (COINCIDENT). Only those sites where Ergon Energy has 30 minute interval meters installed and recorded are used in this variable. The coincident values cannot be determined for sites without 30 minute interval metering. Estimates that up to 100 MW of micro-embedded generation is therefore not included in the metric 'Embedded Generation'. Ergon Energy is of the opinion that this would not introduce a material impact on the use of the information. A negative sign is used to indicate directional flow of energy ▪ *WEATHER* CORRECTED *(10% POE) NETWORK COINCIDENT MD*, and *WEATHER CORRECTED (50% POE) NETWORK COINCIDENT MD.* In order to obtain weather adjusted peak demand, Ergon Energy has employed a methodology involving: o Daily temperature maximum and minimum observations are obtained from the Bureau of Meteorology for weather stations within the Ergon Energy franchise area. o In reference to temperature correction, actual summed coincident demand at the Network Terminal Connection Point

Minimum Requirements	Ergon Energy Response
	and embedded generation as read from SMDB is weather corrected using the following: Constructing a multivariate maximum demand equation for both summer and winter season separately over the last 14 years, using variables of Temperature (Maximum and minimum), Gross State Product (source Australian Bureau of Statistics-ABS), Air-conditioning Data (load) (Source Energy Consult) are obtained over the data set. These coefficients and equation is used to model demand. o Daily historical weather parameters (temperature maximums and minimums) are passed through the multivariate equation and maximum annual demand is obtained. o The listing of annual peak demand is made for all set of consistent temperature to produce an associated histogram o The annual peak demands were analysed / measured from the histogram to obtain 10 POE and 50 POE values. o In doing so, it was assumed that temperature correction using temperature data from all years is an appropriate technique applied to the current customer base to produce temperature corrected peak demand.
Population of Estimated Information in Templates	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.
How Estimated Information has been produced.	Not Applicable. Ergon Energy has provided Actual Information, in accordance with the AER's definition.

Category Analysis RIN Basis of Preparation

Template 5.4 Maximum Demand and Utilisation at Spatial Level

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 5.4 Maximum Demand and Utilisation at Spatial Level of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 5.4 Maximum Demand and Utilisation at Spatial Level (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 5.4 Maximum Demand and Utilisation at Spatial Level (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory control period whereas the 2014-15 (and prior years) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 5.4 Maximum Demand and Utilisation at Spatial Level

Table 5.4.1 – Non Coincident & Coincident Maximum Demand

Table 1: Addressing Minimum BOP requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Of note, where an asset was not commissioned or de-commissioned for that regulatory year, the rating field is left blank. A 'zero' is a possible reading for maximum demand, therefore it would be inappropriate to enter 'zero' for demand prior to commissioning or following decommissioning. Where available and/or relevant, Ergon Energy has also provided data in relation to Substation Rating, Adjustments – Embedded Generation, Weather Corrected Maximum Demand (for both 10% PoE and 50% PoE). Alternatively, these cells (shaded orange allowing for 'blacking out' if such information was not collected) have been blacked out or left 'zero' in line with the abovementioned comment.
	Ergon Energy has prepared the information provided in Table 5.4.1 in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and Definitions in Appendix F to the Notice.
Population of Actual Information in templates	Ergon Energy has provided Actual Information, in accordance with the AER's definition, for all variables of Table 5.4.1. for a given substation (zone or subtransmission) where metering is available and functional for any given year.
Source of Actual Information	Actual information for the following variables was sourced from the Substation Investment Forecasting Tool (SIFT), a joint Ergon Energy / Energex solution for, among other requirements, the containing of data for the production of network demand forecasts and the process of developing the network demand forecasts. Load measurement data within SIFT is populated from NEM settlements data, SCADA readings, Network Statistical metering (same standard as NEM type 4) and for those substations where no CTs nor VTs exist MD values are simulated from retail billing data, deemed daily demand profiles and premises connection topology. The raw maximum demand used for weather correction is native demand. ▪ WEATHER CORRECTED MD 10% PoE ▪ WEATHER CORRECTED MD 50% PoE ▪ RAW ADJUSTED MD

Minimum Requirements	Ergon Energy Response
	▪ DATE MD OCCURRED ▪ HALF HOUR TIME PERIOD MD OCCURRED ▪ ADJUSTMENTS - EMBEDDED GENERATION. (Ergon Energy only has unscheduled Generation in the subtransmission network) ▪ WINTER/SUMMER PEAKING ▪ SUBSTATION RATING
Methodology and assumption's applied in relation to Actual Information	Relative to the provision of information in Template 5.4, Table 5.4.1 – Non-Coincident and Coincident Maximum Demand, Ergon Energy makes the following comments (including specific definitions of variables and sub categories applied): ▪ Those substations in group "SUBTRANSMISSION SUBSTATION" are Bulk Supply Substations which are wholly owned and maintained by Ergon Energy. ▪ No Transmission Connection Point (TCP) substations that supply Subtransmission voltages (>=66kV) have been listed. ▪ Transmission Connection Point (TCP) substations that supply distribution voltages (<=33kV) have been listed with the ZONE SUBSTATION grouping. ▪ Those substations that are privately owned have been listed as" (###) Private Substation" where '###' is a unique code used by Ergon Energy forecasters to explicitly identify the RIN entry for internal audit purposes. ▪ Those substations that are Ergon Energy owned and supply a single consumer have been listed as" (###) Private Substation" where '###' is a unique code used by Ergon Energy forecasters to explicitly identify the RIN entry for internal audit purposes. ▪ SUBSTATION RATING is taken to be the Normal Cyclic Capacity (NCC). NCC is the maximum permissible peak daily loading for a given load cycle that the substation can supply each day of its life. ▪ SUBSTATION RATING - Normal Cyclic Capacity (NCC) rating (in MVA) which does not vary between non-coincident and coincident peaks. Where no NCC rating is available, name-plate rating has been used for Ergon Energy assets, and Authorised Maximum Demand for customer-owned assets. Since using the SIFT solution as the source of the data for the CA_RIN the NCC rating is calculated slightly different. SIFT determines the smallest individual substation element NCC rating and multiplies this by the number of units installed at the substation. The previous CA_RIN simply summated the individual elemental NCC ratings at a substation. ▪ RAW ADJUSTED MD – Cleansed (of switching events) Native Demand. This is an aggregate of the "As Delivered" substation raw readings with any downstream embedded generation raw readings. Maximum demands are extracted both at time of Seasonal System Maximum Demand (COINCIDENT) and Substation Seasonal

Minimum Requirements	Ergon Energy Response
	Maximum Demand (NON-COINCIDENT). Effects of "temporary closure of major industrial customers" are not accounted for as Ergon Energy does not measure energy not supplied to a consumer. The MD reported is the highest average demand recorded over a half hour period within a season. ▪ Reported MVA values are at the time of RAW ADJUSTED MD MW readings. Ergon Energy currently does not store independent seasonal MVA peak readings. ▪ HALF HOUR TIME PERIOD MD OCCURRED – is the same as the NER definition of a "trading interval". The value reported for this variable is the 30 minute period ending on the hour or on the half hour over which the MD was recorded. The interval is identified by the *time* at which it ends. ▪ DATE MD OCCURRED – The date on which the native non-coincident and native coincident maximum demand of a substation was recorded in date format dd/mm/yyyy. ▪ WINTER/SUMMER PEAKING data reported aligns with Ergon Energy's own network demand forecasting cycles, under which Summer Peak is considered to occur in the period 1 October to 31 March inclusive while Winter Peak is considered to occur in the period 1 April to 30 September inclusive. This cannot correspond with the form of the definition of a regulatory year due to the seasonal nature of customer demand for energy on the network assets. For clarity, Ergon Energy forecasts with the latest available recorded annual maximum demands which are derived from measurements over the 12 month period ending summer. That is to say, for example, for the purpose of forecasting zone substation maximum demand, 2014-15 is the 12 month period ending 01/04/2015 00:00, of which winter MDs are recorded during period 01/04/2014 00:30 - 01/10/2014 00:00 and summer MDs are recorded during period 01/10/2014 00:30 - 01/04/2015 00:00. ▪ ADJUSTMENTS - EMBEDDED GENERATION – is the aggregation of embedded generation downstream of a substation. Maximum demands are extracted both at time of Annual System Maximum Demand (COINCIDENT) and aggregate embedded generation Seasonal Maximum Demand (NON-COINCIDENT). Only those sites where Ergon Energy has interval meters installed are used in this variable. A negative sign is used to indicate directional flow of energy, negative being energy delivered to the Ergon Energy network from the embedded generator. ▪ COINCIDENT – variable measure at the time of Ergon Energy System Maximum Demand. ▪ NON-COINCIDENT – variable measured at time of substation or embedded generation annual maximum demand over the regulatory period. Of note, over the required period there have been a number of large

Minimum Requirements	Ergon Energy Response
	customer transfers to Powerlink TNSP from Ergon Energy LNSP. As this load has not disappeared from the Queensland economy and for consistency of demand-to-GSP correlation these Transmission Network Connected Premises (TNCP) have been removed from the history provided. These TNCP connections have been at transmission voltages, not involving Subtransmission substations or zone substation assets. The AER requirement is to include these TNCP load history where a segment of a DNSP's network is transferred to the TNSP. As there have been no asset transfers from Ergon Energy with these TNCP transfers the AER ruling is deemed to have been adhered to. **Weather Correction of Raw Readings:** Daily temperature maximum and minimum observations are obtained from the Bureau of Meteorology for weather stations within the Ergon Energy franchise area. Raw aggregate coincident Native (with energy supplied by downstream embedded generation) substation demands are sourced from the Statistical Metering Database (SMDB) and weather corrected using the following: Coefficients for a multivariate equation using variables of Temperature (Maximum and minimum), Saturday, Sunday and holidays are obtained over each year's data set. These coefficients and equation are used to model maximum demands. Historical weather parameters (temperature maximums and minimums) are passed through the multivariate equation to produce modelled daily peak demand commensurate with the daily temperatures. The daily demand figures were used to obtain annual peak demand figures over all previous temperature data sets. The annual peak demands were analysed to obtain 10 PoE and 50 PoE values for each year. In doing so, it was assumed that temperature correction using temperature data from all years is an appropriate technique applied to the current consumer base to produce temperature corrected peak demand. The magnitude of temperature correction to the peak MW demand, expressed as a ratio of that demand is applied to the raw MVA value to provide temperature adjusted peak demand in MVA.
Population of Estimated Information in Templates	Ergon Energy has used Estimated load readings when neither statistical metering nor SCADA is installed at a substation, or in cases where metering has failed for an extended period of time.
Why is it not possible to provide Actual Information, and why Estimates are required, including reasons why Estimates are Ergon Energy's best estimates.	In cases where neither statistical nor SCADA metering is installed at a substation, estimates of demand are derived from consumer billed kWh, deemed energy profiles and network topology. Readings from these substations will continue to be based on energy sales and deemed profiles until such time as plant replacement allows for the inclusion of SCADA. These substations are of a low installed capacity and base

Minimum Requirements	Ergon Energy Response
	cost construction. In cases where metering has failed over long periods of time, estimates are derived from linear interpolation of like monthly readings and annual peaks drawn from these estimated monthly peaks.
How Estimated Information has been produced.	In cases where statistical metering has failed over long periods of time, estimates are derived from linear interpolation of like monthly readings (with a time stamp period the same as the previous year) and annual peaks drawn from these estimated monthly peaks. In these cases the time of peak is estimated to be the same as the previous.

Category Analysis RIN Basis of Preparation

Template 6.3 – Sustained Interruptions

1 July 2014 to 30 June 2015

Foreword

In response to requirements of the Australian Energy Regulator's (AER) Category Analysis Regulatory Information Notice (RIN), and specific to the information presented in Template 6.3 – Sustained Interruptions of Ergon Energy's completed 2014-15 Category Analysis RIN templates (2014-15 CARIN Templates), this Basis of Preparation document has been prepared by Ergon Energy with a view to:

- demonstrate how the information provided in relation to Template 6.3 – Sustained Interruptions (and associated Tables and/or variables) is consistent with the requirements of the Notice;
- explain the source from which Ergon Energy obtained the information provided in the template; and
- explain the methodology Ergon Energy applied to provide the required information, including any assumptions Ergon Energy made.

In circumstances where Ergon Energy has provided input using Estimated Information in relation to Template 6.3 – Sustained Interruptions, Ergon Energy has made comment herein as to:

- why an estimate was required, including why it was not possible to use Actual Information; and
- the basis for the estimate, including the approach used, assumptions made and reasons why the estimate is a best estimate, given the information sought in the Notice.

As relevant, Ergon Energy has provided additional detail beyond the minimum requirements if it was considered it may assist a user to gain an understanding of the information presented in the regulatory templates.

No additional requirements were identified as requiring provision of additional information or attachment/s over and above completed templates or Basis of Preparation.

This Basis of Preparation document should be read in conjunction with the information presented in Template 6.3 – Sustained Interruptions (Actual, Estimated or Consolidated) in Ergon Energy's completed 2014-15 CARIN Templates.

Of note, the AER reissued CARIN templates (but not a revised Notice) to Ergon Energy multiple times, the latest reissue occurring on 22 June 2015[1]. The reissued (protected) templates allow for submission of the 2014-15 Regulatory Year data only.

In comparing the 2014-15 data to prior years, it should also be noted that the AER required Ergon Energy to provide category analysis information for the 2013-14 regulatory year as part of the Reset RIN process. Importantly, the Reset RIN required Ergon Energy to report information based on its new cost allocation methods (CAM) and classifications of service (CoS) to apply for the 2015-20 regulatory period whereas the 2014-15 (and years prior to 2013-14) data is presented using the CAM and CoS of the day. Whilst the AER considered compliance with the Reset RIN in relation to Category Analysis information as compliance with the Category Analysis RIN for the 2013-14 regulatory year, care should now be taken when comparing any data series inclusive of the 2013-14 year.

Enquiries or further communications should be directed to:

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[1] Templates were reissued: 15 May, 19 June and 22 June.

Template 6.3 – Sustained Interruptions

Table 6.3.1 - Sustained Interruptions to Supply (from 1 July 2014)

Table 1: Addressing Minimum BOP requirements

Minimum Requirements	Ergon Energy Response
Consistency with Notice requirements	Ergon Energy has prepared the information provided in Template 6.3 Sustained Interruptions, Table 6.3.1 - Sustained Interruptions to Supply in accordance with the Notice requirements, including the Principles and Requirements set out in Appendix E and definitions in Appendix F to the Notice. Ergon Energy has populated all variables for cells shaded yellow as required by the Notice. Ergon Energy has populated the "Detailed reason for interruption" (column 'G'), for events with actual information where available. Where the actual information was not available a logical process has been applied to provide the "Detailed reason for interruption" data in Table 6.3.1. This process is described within Assumptions and Methodology section of the Basis of Preparation. It should be noted that system changes were applied on 1 July 2015 to provide alignment between the data captured for a sustained, unplanned interruption event and the detailed reason for interruption requirements of Table 6.3.1. In addressing future Notices Ergon Energy will report directly sourced, actual information for this field. Table 6.3.1 contains both planned and unplanned, completed interruption events Table 6.3.1 contains sustained interruptions to supply applying the STPIS Appendix A, "inferred" definition of sustained interruption whereby the duration of interruption is greater than one minute. It is noted that the Notice provides an alternate definition of "sustained" interruption being greater than 0.5 seconds. [CA RIN Appendix E, 18.2] Table 6.3.1 contains information that is consistent with Appendix E, 18.4. Interruption events that are excluded under Clause 3.3 (a) of the STPIS are identified in the "Reason for interruption" field of Table 6.3.1. The events that excluded through application of Clause 3.3 (a) present "0" in the "Effect on unplanned SAIDI (by feeder classification)" and the "Effect on unplanned SAIFI (by feeder classification)" fields with Table 6.3.1. [CA RIN Appendix E, 18.4] Table 6.3.1 contains detailed reason for each interruption event. Where the actual data for the interruption event provides alignment to the "Detailed reason for interruption" options offered in Table 6.3.1, actual data has been sourced directly from the interruption event record. Where there is no direct alignment between the recorded, actual reason for the interruption and the options in Table 6.3.1, a structured and logical assessment of the details for each event has been performed to interpret

Minimum Requirements	Ergon Energy Response
	the detailed reason. An explanation of the structured logical process applied in the data interpretation is offered below in the Methodology and Assumption's section
Population of Actual Information in templates	With the exception of a small portion of the information provided in the "Detailed reason for interruption" (Column G), Ergon Energy has provided actual information that is both sourced directly from the OMS and information that is interpreted and translated from the OMS in Table 6.3.1 - Sustained interruptions to supply for the 2014-15 regulatory year. Where information is provided it is done so in accordance with the AER's definitions and applying the assumptions and methodology that is described within this Basis of Preparation.
Source of Actual Information	The data used to populate Table 6.3.1 has been sourced from outage event records within Ergon Energy's Outage Management System (FDRSTAT).
Methodology and assumption's applied in relation to Actual Information	Table 6.3.1 contains unplanned interruption events in which the required period of notice was not provided prior to interrupting customers. These events included interruptions to supply to allow "Forced Corrective Maintenance" activities required to address emerging and identified equipment defects in order to prevent the occurrence of a wider spread interruption event or to prevent the occurrence of an equipment failure that results in a safety risk to personnel and the public. [CA RIN Appendix E, 18.3] Interruption events that occurred on a nominated Major Event Day (MED) are identified in the "MED" field of Table 6.3.1 and represented by "YES" in this column. The events that occur on a nominated MED present the contribution of the event to the feeder classification SAIDI and SAIFI in columns J and K of Table 6.3.1. [CA RIN Appendix E, 18.5] In recent years Ergon Energy has developed and implemented a software application to link between the SCADA and the FDRstat to automatically and accurately create outage event records. The progressive implementation of this enhanced capability has highlighted limitations in the Ergon Energy Reliability Reporting Application. The reporting application classifies an outage event as sustained for the purpose of reliability performance reporting based on the elapsed time between the first customer interrupted and the last customer restored. All interruptions within the event classified as sustained contribute to the reported SAIDI and SAIFI performance. As a result any momentary supply interruptions within an outage event contribute to the SAIDI and SAIFI performance. The over reporting affected has a minimal impact on the accuracy of the reported performance for 2014-15, with the most pronounced effect observed in the Short Rural SAIFI with a 1.18% inaccuracy. Because effect on accuracy is low and the inaccuracy results in over reporting against STPIS, Ergon Energy believes it is not material. 10 sustained events have been identified as consisting of momentary interruptions to customers. When considering the average customer interruption duration these events are identified as having an average

Minimum Requirements	Ergon Energy Response
	duration of 1 minute or less. In order to obtain the information for the year 2014-15, Ergon Energy applied the following assumptions: ▪ The sustained interruption definition is intended to align with the STPIS definition of duration greater than one minute (Appendix A of the SPTIS). The methodology applied to provide the information in response to the Notice for the regulatory year 2014-15: ▪ Date of event – extracted from OMS outage table, field – ACT_START_DATETIME, date that the interruption event commenced ▪ Time of interruption – extracted from OMS outage asset and OMS outage asset history tables, field – ACT_TIME_OFF- represents the time the first customer was interrupted ▪ Asset ID – extracted from OMS outage asset and OMS outage asset history tables, field FEEDER_ID ▪ Feeder classification (CBD, Urban, Short Rural, Long Rural) – determined in accordance with STPIS Appendix A Definitions ▪ Reason for interruption – extracted from the OMS outage table, field CAUSE_CODE_ID (Trigger) – translated to match Table 6.3.1 requirements ▪ Detailed reason for interruption (where actual information is provided) - extracted from the OMS outage table, field CAUSE_CODE_ID (Trigger) – translated to match Table 6.3.1 requirements ▪ Number of customers – OMS outage asset and OMS outage asset history tables, field – CUSTOMER_COUNT ▪ Average Duration – Calculated as the ratio of aggregate customer minutes interrupted and number of customers interrupted – source data from – OMS outage asset and OMS outage asset history tables ▪ Effect on unplanned SAIDI (by feeder classification): Calculation is the sustained unplanned Customer Minutes experienced on the Feeder DIVIDED BY Average Number of Customers of the Feeder's classification. (Planned and other STPIS excluded events have no effect on unplanned SAIDI or SAIFI and as such will be reported as '0'.) ▪ Effect on unplanned SAIFI (by feeder classification): Calculation is the sustained unplanned Customers Interrupted on the Feeder DIVIDED BY Average Number of Customers of the Feeder's classification. (Planned and other STPIS excluded events have no effect on unplanned SAIDI or SAIFI and as such will be reported as '0'.) ▪ MED – Major Event Days are identified through application of the methodology described in Appendix D of the STPIS ▪ The OMS was not configured to collect or report the detailed

Minimum Requirements	Ergon Energy Response
	information of an interruption event as requested in column G "Detailed reason for interruption" and therefore Ergon has provided both information directly sourced from the OMS tables and where appropriate applied a structured and logical methodology to assign a detailed reason. "Detailed reason for interruption" representing directly sourced and matched data: ▪ Animal - Animal Impact ▪ Animal - Animal nesting/burrowing, etc and other ▪ Animal – Other ▪ Asset failure – Zone substation (partial) ▪ Other – "All variations" ▪ Network Business – Network error ▪ Network Business – Switching and protection error ▪ Third party – Fire ▪ Third party – Other ▪ Third party – Dig-in ▪ Third party – Unauthorised access ▪ Third party – Vehicle impact ▪ Unknown – Unknown ▪ Vegetation – Blow-in/Fall-in – NSP responsibility ▪ Vegetation – Grow-in – NSP responsibility ▪ Vegetation – Blow-in/Fall-in – Other responsibility ▪ Vegetation – Grow-in – Other responsibility It should be noted that the detailed reason of Zone Substation was able to be directly sourced from the OMS tables for the majority of events however through the process applied to address the data gap in the detailed reason field an additional 5 interruption events affecting 13 feeders were identified as Zone Substation, Asset failure events. The limitations of the OMS also prevented the accurate reporting of detailed reason for those interruption events occurring beyond the Service Fuse to a customer premise. Within Table 6.3.1 these events are represented in the "Other" Reason for interruption field and the "Service fuse and beyond" Detailed reason for interruption field. For the 2014-15 Regulatory Year, limitations within Ergon Energy's Outage Management System prevented the population the "Detailed reason for interruption" field, (Column G) with directly sourced and matched actual data for all events. Where these limitations exist a systematic and logical analysis of the interruption event data has allowed the interpretation of a detailed reason for the interruption aligned with the

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Table 6.3.1 requirements.

- Ergon Energy's OMS had technical limitations that prevented simple translation from source data to the detailed reason as requested through Table 6.3.1 for some interruption events;
- OMS changes have been implemented for the 2015/16 Regulatory Year to allow reporting using a direct relationship between actual information and the required detailed reasons field in response to future Notices.

Where the information presented in Table 6.3.1 required interpretation and translation the process and assumptions applied are described below.

The "detailed reason for interruption" categories that required interpretation and translation of source data:

- Asset Failure – LV
- Asset Failure – Distribution substation
- Asset Failure – HV
- Asset Failure – Zone substation (partial)
- Asset Failure – Subtransmission

The methodology applied to identify the "detailed reason for interruption" provided in Table 6.3.1 is:

- Where the FDRSTAT event trigger is Unassisted Failure, UG Cable Joint, Leakage / Pole Top Fire, UG Cable Failure, Conductor Connection Failure, the event is classified as an "Asset Failure" in Table 6.3.1
- The detailed information within the FDRSTAT event record is further analysed to identify the "Detailed reason for the interruption" using the following rules:

1. If the Event Type is "Distribution Event", and;
    - If customers supplied by 1 distribution transformer are interrupted, and;
    - If key words are NOT in the commentary or log text of the event, and;
    - If the trigger equals UG Cable Failure or UG Cable Joint Failure, and;
    - If the commentary contains the key words "LV Wires" or "LV Conductors"

    The Detailed Reason is the **LV** network
2. If the Event Type is "Distribution Event", and;
    - If customers supplied by ONLY 1 distribution transformer are interrupted, and;
    - If key words are in the commentary or log text of the event,

Minimum Requirements	Ergon Energy Response
	and; o If the trigger DOES NOT equal UG Cable Failure or UG Cable Joint Failure, and; o If the commentary DOES NOT contain the key words “LV Wires” or “LV Conductor”, and; o If the commentary DOES NOT contain the key words “HV Wires Down” The Detailed Reason is the **Distribution Sub** 3. If the Event Type is “Distribution Event”, and; o If customers supplied by more than 1 distribution transformer are interrupted, and; o If the customers interrupted are supplied by 1 HV distribution feeder, and; o If customers supplied by ONLY 1 distribution transformer are interrupted, and; o If the commentary contains the key words “HV Wires Down” The Detailed Reason is the **HV** network 4. If the Event Type is “Distribution Event”, and; o If customers supplied by more than 1 distribution transformer are interrupted, and; o If the customers interrupted are supplied by more than 1 HV distribution feeder, and; o If the Event Type is “Subtransmission Event”, and; o If the distribution feeder’s parent zone substation normally supplies only 1 HV distribution feeder, and; o If the customers interrupted are supplied by only 1 HV distribution feeder, The Detailed Reason cannot be assigned – **Manual Review** of the interruption detailed information is required and a manual data entry required populating the “Detailed reason for interruption” field. 5. If the Event Type is “Subtransmission Event”, and; o If the distribution feeder’s parent zone substation normally supplies more than 1 HV distribution feeder, and; o If the customers interrupted are supplied by more than 1 HV distribution feeder, The Detailed Reason is the **Subtransmission** network 6. If the Event Type is “Subtransmission Event”, and; o If the distribution feeder’s parent zone substation normally supplies more than 1 HV distribution feeder, and;

Minimum Requirements	Ergon Energy Response
	o If the customers interrupted are supplied by only 1 HV distribution feeder, The Detailed Reason is the **HV** network The assignment of the detailed reason for interruption following the logical interpretation process applies to 8% of individual feeder outage events that are presented in Table 6.3.1. Assumption: Zone Substation fault events are already discretely flagged with triggers of Other Zone substation or Transformer Trip – Zone Sub by the Switching Coordinator at the time of the event. Therefore these events were not required to be considered in the above mentioned process.