Jemena Electricity Networks (Vic) Ltd

2016-20 Electricity Distribution Price Review Regulatory Proposal

Revocation and substitution submission

Attachment 8-12 Parsons Brinckerhoff - Conversion of RIN information to actuals

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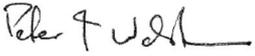
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1. Introduction

1.1   Background and purpose

Jemena Electricity Networks (Vic) Ltd, (JEN), owns and operates the electricity network that safely, reliably and affordably services over 319,000 homes and businesses across North West Melbourne—from Mickleham to Footscray, and Gisborne South to Ivanhoe. JEN is required to respond to Regulatory Information Notices (RINs) served on JEN by the Australian Energy Regulator (AER). Along with providing 'actual information' in the RIN response, a large proportion of the data provided is 'estimated information'.

The AER requires providers such as JEN to transition from providing Estimated Information to Actual Information for the presentation of 2015 information. In preparing for this transition JEN has examined the number of estimated items in the Economic Benchmarking (RIN B) and Category Analysis (RIN C) and identified where possible the measures required to collect and report actual information. There are 81 items in total across the two RINs currently considered estimated.

In June 2015, JEN engaged Parsons Brinckerhoff Australia Pty Limited (Parsons Brinckerhoff) to undertake a review of JEN's proposed measures to transition from estimated to actual information.

The purpose of this report is to present the outcomes of Parsons Brinckerhoff's review of JEN's proposed solutions to provide actual information in future RIN responses.

1.2   Parsons Brinckerhoff's experience

Parsons Brinckerhoff has audited the non-financial RIN B and RIN C information for JEN since 2012. As such, we have detailed knowledge of the systems and process used to collect and report the information and have assessed the reported information against the RIN definitions for Actual and Estimated information.

Parsons Brinckerhoff has also audited the non-financial RIN information for six other Network Service Providers.

1.3   Interpretation of definitions

The definitions of actual information, estimated information and materiality are presented in Table 1.1 below.

Table 1.1   AER RIN Definitions

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

Term	AER Definition
Estimated information	Information presented in response to the Notice whose presentation is not Materially dependent on information recorded in DNSP's historical accounting records or other records used in the normal course of business, and whose presentation for the purposes of the Notice is contingent on judgments and assumptions for which there are valid alternatives, which could lead to a Materially different presentation in the response to the Notice.
Material	Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively to influence the economic decisions of users (including the AER) taken on the basis of the information provided in accordance with the Notice. This definition is based on the definition of materiality in the accounting standard AASB 1031. This accounting standard provides context for the interpretation of this definition of materiality.

Source: Economic benchmarking RIN For distribution network service providers, Instructions and Definitions, AER, November 2013.

The definition of Actual Information requires the information to be "Materially dependent on information recorded in DNSP's historical accounting records or other records used in the normal course of business". In applying this definition, we have considered that records held for the purpose of regulatory reporting meet this definition, despite that they are not otherwise used in the business. An example is information about the Substation Rating N-1 Emergency. JEN does not operate its older equipment using an emergency rating, although such a rating can be established and reported.

The definition of Material requires a subjective assessment to be made as to the ability of the Information to "influence the economic decisions of users (including the AER)". For most Information we have little evidence of the intended use of the information and hence have made best attempts to consider the degree of inaccuracy caused by estimation, modelling or data error when considering whether a misstatement is Material.

1.4   Approach

Parsons Brinckerhoff's approach to this review was to:

- obtain proposed solutions from JEN

- review proposed solutions against the AER definitions from the RINs

- discuss revisions necessary to fully comply with AER RIN definitions with JEN

- verify revised solutions put forward by JEN.

2. JEN initial assessment

Prior to Parsons Brinckerhoff's review, JEN made an assessment of potential solutions for all 24 items in RIN B and 57 items in RIN C. The proposed solutions are grouped into eight categories as presented in Table 2.1. Not all solutions were used in each RIN, with six proposed for RIN B, and seven for RIN C.

Table 2.1   Proposed solutions

Proposed solution	RIN B	RIN C
Can be treated as a "calculation actual". *Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.*	11	6
May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae.	1	24
Requires a system upgrade	-	4
Requires a change in an existing process	5	9
Requires external party to capture and provide relevant information for e.g. the contractor invoice needs to spell out the details of the job broken into material, labour etc	-	1
Methodology can be verified and endorsed by auditors	1	5
Any other, pls specify in next column	1	8
Cannot be treated as an actual as data cannot be captured or are not available in JEN's systems/does not fit in any of the above	5	-
(Blank)	1	-
Total	**24**	**57**

Source: Jemena Electricity Networks (Vic) Ltd, 18 June 2015

A full list of all items of estimated data and JEN's proposed solutions are presented in Appendix A and Appendix B.

3. Parsons Brinckerhoff assessment

Following a desktop review and after holding workshops with JEN staff, Parsons Brinckerhoff has made an assessment of whether the proposed solutions would meet the definition of Actual Information within the relevant RIN. Updated tables containing Parsons Brinckerhoff's assessments are presented in Appendix A and Appendix B.

3.1 Information that can be considered Actual Information

JEN has recently introduced a new version of SAP called 'One SAP'. Some of the previously estimated information is now directly collected and reported through One SAP. In some instances, a new report is required to produce the information in accordance with the RIN definitions.

3.2 Information that will remain Estimated until a change is made

For the majority of information, a change in process or systems is required to collect and report the information as Actual Information. The information cannot be retrospectively changed, so the information will remain Estimated Information for the portion of the year before the change is made.

3.3 Information that will remain Estimated

Some information will continue to be Estimated Information because actual data will never be available. This is because the information is either defined as an estimated quantity or actual data cannot be determined.

The RIN recognised some of these, including:

- RIN B Table 3.6: Quality of Service: TABLE 3.6.2 - Energy not supplied: RIN allows this to be estimated
- RIN C Table 5.2 Asset Age Profile Mean and Standard deviation: RIN allows this to be estimated.

An example of where actual data cannot be determined is the installation dates of some assets that historically have not been recorded and a methodology to estimate the age of assets has been developed. As the installation dates can never be determined, the information will never meet the definition for Actual Information until such time as the inaccuracy becomes immaterial. JEN cannot provide Actual Information for the following:

- RIN B Table 3.3.4.2 Asset Lives - estimated residual service life: Estimated as some asset installation dates are unknown.
- RIN C Table 2.8.1 Table 2.8.1 Descriptor metrics for Routine and Non-routine maintenance: Estimated as some asset installation dates are unknown.

JEN also has some unique characteristics where the collection of Actual Information would seem inappropriate. In such cases, it is recommended that JEN should discuss with the AER the need to produce Actual Information, with a view to obtaining agreement to continue to provide Estimated Information. The information in this category is:

- RIN C Table 5.4 MD & Utilisation Level for SA zone substation: As feeders are shared with another DNSP, it is not practical to directly measure demands, although this may be possible in future if smart meters are installed to all customers.

- RIN C Table 5.4 Subtransmission Substation – Raw Adjusted MD –abnormal conditions: Given that the load transfer associated with the abnormal condition is estimated, the information must be considered as Estimated Information. Direct measurement of the load transfer is impracticable as this would require the installation of metering equipment at every feeder tie location.

Appendix A

List of solutions for RIN B – Economic Benchmarking

Table A.1   RIN B

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
3.3 : Assets : Table 3.3.4 : Asset Lives							
Table 3.3.4.1 : Asset Lives - estimated service life of new assets							
DRAB1407	Meters		Cannot be treated as an actual as data cannot be captured or are not available in JEN's systems/does not fit in any of the above		Installation date data is available in SAP ISU (a report is also available) as is the expected life. No further actions required.	Actual data is available	Actual
DRAB1408	"Other" assets with long lives		Cannot be treated as an actual as data cannot be captured or are not available in JEN's systems/does not fit in any of the above		This category consists of Supervisory cable assets and Communication assets (SCS and NS tables) and Public Lighting (ACS table). Data is already actual as it is based on actual volumes installed and assumed lives.	Actual data is available	Actual
DRAB1409	"Other" assets with short lives		Requires a change in an existing process		Data is already actual as it is based on actual volumes installed and assumed lives. New report required.	Actual data is available	Actual
Table 3.3.4.2 : Asset Lives - estimated residual service life							
DRAB1507	Meters		Cannot be treated as an actual as data cannot be captured or are not available in JEN's systems/does not fit in any of the above		No change is possible	These data items are based on asset age data which has a degree of estimation. JEN cannot provide actual information.	Estimated as some asset installation dates are unknown. JEN cannot provide actual information.

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DRAB1508	"Other" assets with long lives		Cannot be treated as an actual as data cannot be captured or are not available in JEN's systems/does not fit in any of the above		No change is possible	These data items are based on asset age data which has a degree of estimation. JEN cannot provide actual information.	Estimated as some asset installation dates are unknown. JEN cannot provide actual information.
DRAB1509	"Other" assets with short lives		Requires a change in an existing process		No change is possible	These data items are based on asset age data which has a degree of estimation. JEN cannot provide actual information.	Estimated as some asset installation dates are unknown. JEN cannot provide actual information.
3.4 : Operational data : Table 3.4.3 : System demand							
DOPSD0102 to DOPSD0212	Annual system maximum demand characteristics – MW measure	The data for these variables is estimated as it is calculated based on assumptions rather than extracted directly from metered data.	Methodology can be verified and endorsed by auditors		Refer to RIN C tab , Row 83	Assumption is that the relationship between demand and temperature remains constant - JEN use long run data so adding one more year makes only a small change. JEN to validate that change is not material. JEN to add a step to the process to check for changes in consumption/customer behaviour that might materially alter ther relationship and invalidate the use of long run data.	Actual

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DOPSD0302	Average power factor conversion for low voltage distribution lines	The variable is estimated due to the assumptions made and that it could not be directly drawn from JEN's internal business records.	Cannot be treated as an actual as data cannot be captured or are not available in JEN's systems/does not fit in any of the above	For the actual data the 15/30min average KW and KVA at each distribution substation needs to be recorded for the whole year. Going forward maybe we can utilise AMI data but not sure if that can be treated as actual as AMI meters are installed at customer premises which does not account for LV line /transformer losses.	Install power quality meters on 20% of JEN distribution substations, to record kW and KVA data for the whole year • 1250 meters x $40,000 per meter (with communications) = $50,000,000 • JEN recommends discussions with the AER on continue to accept estimated data [i.e. not a prudent investment]	Measurement is impractical as PF changes along each LV feeder and for each LV feeder. The calculation of an average is required. Options to meet the definition of actual information are: 1. Using existing meters at HV feeder level adjusted for HV customer loads and the inductance of distribution transformers - the large number of load flow studies required makes this option impractical 2. Measurement on a sampling basis from new meters installed on the LV network.	Actual, but recommend further discussions with AER to continue reporting estimated information so as to avoid the additional costs

3.5 : Physical Assets : Table 3.5.1.3/4 : Circuit Capacity MVA

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DPA0301	Overhead low voltage distribution	JEN has estimated the data for this variable because it is calculated and is not an actual, measured value	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		The information is based on actual data, no assumptions.	The information is based on actual data, no assumptions.	Actual
DPA0302	Overhead 6.6 kV	JEN has estimated this variable as it does not currently capture the weighted average MVA capacity for HV OH lines in the normal course of business. As	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable		No change	The information is based on actual data, no assumptions.	Actual
DPA0304	Overhead 11 kV				No change	The information is based on actual data, no assumptions.	Actual

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DPA0306	Overhead 22 kV	the data is not directly available from JEN's internal business records, a suitable estimate is provided.	using a formulae.		No change	The information is based on actual data, no assumptions.	Actual
DPA0309	Overhead 66 kV	JEN has estimated this variable as it does not currently capture weighted average MVA capacity for sub transmission lines in the normal course of business. As the data is not directly available from JEN's internal business records, a suitable estimate is provided.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		No change	The information is based on actual data, no assumptions.	Actual
DPA0401	Underground low voltage distribution	JEN has estimated the data for this variable because it is calculated and is not an actual, measured value.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		No change	The information is based on actual data, no assumptions.	Actual
DPA0403	Underground 6.6 kV	JEN has estimated this variable as it does not currently capture the weighted average MVA capacity for HV underground network in the normal course of business. As the data is not directly available from JEN's internal business records, a suitable estimate is provided.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		No change	The information is based on actual data, no assumptions.	Actual
DPA0405	Underground 11 kV				No change	The information is based on actual data, no assumptions.	Actual
DPA0408	Underground 22 kV				No change	The information is based on actual data, no assumptions.	Actual

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DPA0410	Underground 66 kV	JEN has estimated this variable as it does not currently capture the weighted average MVA capacity for 66kV underground lines in the normal course of business. As the data is not directly available from JEN's internal business records, a suitable estimate is provided.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		Distribution transformer capacity owned by HV customer is not recorded in JEN system because JEN does not have policy to collect this information (may be customer privacy issue? Or unnecessary information for JEN. But we have been reporting the data as per the RIN definition for proxy - as summation of non-coincident individual maximum demands. For 2013 and 2014 we use the average p.f to convert kW to KVA but we can extract the actual p.f from GABI system for individual customer which takes extra time.	The rating of Overhead segment is incorrectly included in the calculation. JEN intend to adopt same approach as for lines, and use the capacity for the underground cable segment of the feeder only. Hence ok.	Actual

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Table 3.5.2							
DPA0502	Distribution transformer capacity owned by High Voltage Customers	As per the AER RIN explanatory statement where this information is not available to the NSP, it is to report a summation of non-coincident individual maximum demands of each such directly connected customer whenever they occur (i.e. the summation of a single annual MD for each customer) as a proxy for capacity within the customer's installation. The variable should be the sum of the direct information where this is available and of the proxy MVA measure where the direct measure is not available. JEN does not currently record the distribution transformer capacity owned by high voltage customers and has therefore provided a suitable estimate.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.	JEN to start recording the installed capacity of customer owned substations. The reported data will be estimated until the capacity of all customer owned substations has been determined.	Estimated until all data has been recorded.
3.6 : Quality of Service: TABLE 3.6.2 - Energy not supplied							
DQS0201	Energy Not Supplied (planned)	JEN has estimated these variables because it is calculated	Can be treated as a "calculation actual" Data is sourced from one		No change	RIN states that Actual information should be provided if available,	Estimated. RIN allows this information to be

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DQS0202	Energy Not Supplied (unplanned)	and is not an actual, measured value. The energy not supplied has been routinely reported by JEN at the end of each year. JEN has referred to these reports to populate these variables. The feeder maximum demand, load factor, power factor and number of customers are calculated using data from JEN's core asset management systems.	of the JEN systems and is then used to calculate the required variable using a formulae.			else estimated information (p. 37). JEN provides estimated information in accordance with option 4 on p37 on the RIN.	estimated (p.37)
3.6 : Quality of Service: TABLE 3.6.3 -System Losses							
DQS03	System losses	JEN has estimated this variable as system loss data is captured internally in financial years (i.e. 1 July to 30 March), not in calendar years. JEN had to therefore convert the data to calendar years (using some assumptions). JEN cannot therefore claim the variable to be actual information.	Requires a change in an existing process		Needs to get clarification from AER because we provide this data in RIN A where we clearly mention that this is financial year data. For DLF submission (in accordance with NER/AER requirement) in March every year we need to calculate this data for financial year. Nor sure why AER needs this data in RIN B for calendar year.	JEN propose to calculate losses at aggregate level for calendar year in same way as for DLF calculations, which is on a financial year basis. This appears acceptable.	Actual

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
3.7 : Operating Environment - Table 3.7.2							
DOEF0208	Average number of trees per urban and CBD vegetation maintenance span	The Vegetation Management System (VMS) does not record the number of trees actually requiring maintenance. The VMS records the number of maintenance spans but not the number of trees per maintenance span. Therefore JEN provided an estimate for this information.	Requires a change in an existing process		Actions required: Upgrade the VMS with the capability to record tree volume data. Redesign the span assessment process to also capture relevant tree volumes data. Increase the number of assessors to account for the new process and data capture.	Proposed process will record actual data.	Actual
DOEF0209	Average number of trees per rural vegetation maintenance span		Requires a change in an existing process		Actions required: Upgrade the VMS with the capability to record tree volume data. Redesign the span assessment process to also capture relevant tree volumes data. Increase the number of assessors to account for the new process and data capture.	Proposed process will record actual data.	Actual

RIN Reference	Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
DOEF0213	Standard vehicle access	JEN has estimated this information because this variable is not recorded in the GIS as a characteristic against each pole.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae	Actions required: Upgrade the GIS with new fields to capture distance a non-standard vehicle is required. Capture the information over the course of one inspection cycle.	GIS needs to be programmed to have a yes/no field added to the poles editor for "non-standard vehicle access". All 5200 poles, in the HBRA, will need to be visited (list excludes public lighting only poles). This solution addresses all HBRA locations which would account for 95% (estimated) of poles not accessible by 2-wheel drive vehicles. For the LBRA a new custom query needs to be written focusing on waterway and rail easements which cannot be accessed by 2-wheel drive vehicles. This solution in the LBRA is temporary for one inspection cycle (4 years) in which JEN asset inspectors can capture data for the new GIS field "non-standard vehicle access". New report required.	Intent is 95% complete (HPRA) by end 2015. Use current process for LBRA, leading to non-material inaccuracy, so can be considered Actual Information.	Actual

Appendix B

List of solutions for RIN C – Category Analysis

Table B.1   RIN C

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
2.2 Repex						
Table 2.2.1						
GENERAL COMMENTS (apply to expenditure column for all asset groups); REPLACEMENT EXPENDITURE, ASSET CATEGORY	REPEX direct expenditure data for 2014 was sourced from JEN's internal SAP system. Although JEN was able to source the data at the asset group level and to some degree at the asset category level from its ERP systems, JEN provided its best estimate for areas within the asset category that are not recorded in its ERP systems.	Requires a change in an existing process		Expenditure in ERP systems to be captured as per the RIN's template	Currently, dollars provided by finance, who consider financial data is estimated as the dollars are allocated to RIN categories as the volume weighted average cost. Volumes are manually determined from project records. PB agrees that this would be considered estimated information. JEN propose to modify SAP to collect info in required categories, hence recording Actual information.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
SERVICE LINES BY: CONNECTION VOLTAGE; CUSTOMER TYPE; CONNECTION COMPLEXITY (EXPENDITURE)	REPEX direct expenditure data for Service Lines replacement 2014 was sourced from JEN's internal SAP system. Although JEN was able to source the data at the asset group level (service lines) and to some degree at the asset category level from its ERP systems, JEN provided its best estimate for areas within the asset category that are not recorded in its ERP systems such as the split between residential and commercial service lines.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		As to split the replacement volume of services by residential and commercial is possible (as explained below), JEN to calculate the expenditure according to the volume is also possible.	JEN propose to write a report on GIS to determine volumes of residential and Commercial/Industrial. Change SAP to collect financial info in required categories. For 2015, will not have collected data, so split financials in proportion of unit costs and volumes.	Estimated for 2014/15 due to allocation. Actual thereafter
SERVICE LINES BY: CONNECTION VOLTAGE; CUSTOMER TYPE; CONNECTION COMPLEXITY (VOLUME)	The data is sourced from JEN's internal SAP system. An equipment list edit transaction IH08 is used to extract the details of SAP equipment type LV COND that have been set to status RMVD for the 2014 period. A portion of the service lines replaced was captured in the SAP system. Accordingly, estimation was required for JEN to determine the split of rural and commercial/industrial.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.	Moving forward, JEN to add another category in splitting between residential and commercial on the ERP system by checking the NMI connected to the service.	Data already recorded. New report is required.	New report is required.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
OTHER BY: FUNCTION (ASSET REPLACEMENTS)	Connectors are not recorded as individual equipment in our Geographical Information System (GIS) and therefore the volumes was required to be estimated	Requires a change in an existing process		Only one connector project in the next 5 years, JEN will be able to calculate the volume manually.	Data to be collected manually - ok	Actual
Table 2.2.2						
ASSET VOLUMES TOTAL POLES BY: FEEDER TYPE ASSET VOLUMES: UNDERGROUND CABLES	Actual allocation of the volume of poles and underground cable to the urban and rural short categories as of December 2014 is not captured in JEN's internal system, and accordingly this was required to be estimate.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		Volume of poles and underground cable to be captured by urban and rural short category at the end of every year. This is possible to do.	Proposed change is to capture the actual assets installed by feeder category at the end of each year. Hence, the Actual data will be recorded.	Actual
2.3 Augex						
Table 2.3.1						
Substation Rating N-1 Emergency (MVA)	For new transformers JEN knows the N-1, 2 hour emergency rating of the transformer. JEN does not use or keep records of N-1 emergency 2 hour ratings for old transformers.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		Derive methodology to produce calculations of the 2 hour emergency rating for JEN's 'old' transformers. This would likely still be an estimate. Alternatively since JEN doesn't know/use this rating continue to provide the actual cyclic rating for its 'old' transformers instead.	JEN to assign an N-1 emergency rating. JEN to note in BoP that rating not used in investment planning and hence not used in course of business and hence may not meet the Actual definition.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Civil Works (expenditure)	JEN does not capture civil works separately in its SAP system and as such an estimate had to be made.	Any other, please specify in next column	For major zone sub projects (>$5M) the civil works expenditure components would need to be identifiable and separable somehow in SAP. This is likely a system change and/or a process change to have the pm classify expenditure as civil works. Note that we still need the expenditure split by material, contract, labour, other, related party, and overheads split to fill in the other categories and sections in the RIN. Also where the civil works are only a component of a contractors cost, JEN will need to identify this in SAP, and separately identify the works that are only civil works related.	Requires a process change to be able to identify civil works and a SAP change to record the info.	Options to estimate the data using a percentage split based on business case costs will not produce Actual information. Requires a process change to be able to identify civil works and a SAP change to record the info.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Total Direct (expenditure)	Prior to 2013 there were embedded overheads included in the labour rate, according to the RIN definitions. These have been removed using a percentage relevant to the year in which the labour cost was incurred. As such this has been classified as an estimate. The costs were also escalated to real $2014.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		This won't be a problem going forward once all major projects with costs before 2013 have closed. Until then this could be classified as a 'calculated actual' rather than an estimate if this is acceptable.	Some estimation is required for multi-year projects with expenditures prior to 2013, as Actual information cannot be determined retrospectively. Hence information will be Estimated until projects are closed. Actual thereafter	Information will be Estimated until projects are closed. Actual thereafter
Expenditure Breakdown where project is turnkey	If project is turnkey JEN would need to request and record the actual expenditure of the contractor split down into the RIN categories i.e material cost (transformers/switchgear/capacitors), civil works, other.	Any other, pls specify in next column		Ensure that for major zone sub projects (>$5M), the tendered or quoted/incurred cost includes a breakdown split into the RIN categories. This includes any variations that occur over the course of the project. The alternative is not to provide the material and civil works split for turnkey projects and to list the costs as other, if the AER would find this acceptable.	Some estimation is required for multi-year projects with expenditures prior to 2013, as Actual information cannot be determined retrospectively. Hence information will be Estimated until projects are closed. Actual thereafter.	Information will be Estimated until projects are closed. Actual thereafter

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Table 2.3.2						
Poles and Towers (Added/ Upgraded)	JEN does not record the exact number of poles added and upgraded for each major project.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		Suggest we continue with current estimation/calculated actual methodology as these projects are very few on JEN. Or changes good be made in GIS to record actual changes made by a particular project so that the actual number of poles added or upgraded could be viewed later and determined. Alternatively a process change could be to make the designers/pm report there estimate/actual in the project close form.	One SAP requires the number of poles to be added as part of the Project Closing Form so the FAR is updated. As One SAP now has required information, no further change required to produce Actual Information.	Actual
Poles and Towers (including structures and civil works) (Expenditure)	JEN does not separate expenditure relating to poles (including structures and civil works).	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae	Suggest we continue with current estimation/calculated actual methodology as these projects are very few on JEN. Alternatively this would require a change in SAP and pm process to allow costs for pole/structures and pole related civil works to be separately identifiable in SAP.	Requires a process change to be able to identify civil works and a SAP change to record the info.	Proposal to continue with an estimate will not provide Actual information. Requires a process change to be able to identify civil works and a SAP change to record the info. Same change as for Civil Works Table 2.3.1.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Civil Works (expenditure)	JEN does not capture civil works separately in its SAP system and as such an estimate had to be made.	Any other, pls specify in next column	For sub-t line projects (>$5M) the civil works expenditure components would need to be identifiable and separable somehow in SAP. This is likely a system change and/or a process change to have the pm classify expenditure as civil works. Note that we still need the expenditure split by material, contract, labour, other, related party, and overheads split to fill in the other categories and sections in the RIN. Also where the civil works are only a component of a contractors cost, JEN will need to identify this in SAP, and separately identify the works that are only civil works related.	Requires a process change to be able to identify civil works and a SAP change to record the info.	Options to estimate the data using a percentage split based on business case costs will not produce Actual information. Requires a process change to be able to identify civil works and a SAP change to record the info. Same change as for Civil Works Table 2.3.1.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Total Direct (expenditure)	Prior to 2013 there were embedded overheads included in the labour rate, according to the RIN definitions. These have been removed using a percentage relevant to the year in which the labour cost was incurred. As such this has been classified as an estimate. The costs were also escalated to real $2014.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		This won't be a problem going forward once all major projects with costs before 2013 have closed. Until then this could be classified as a 'calculated actual' rather than an estimate if this is acceptable.	Projects opened pre 2013 contain embedded overheads included in the labour rate. These overheads will continue to be removed using a percentage relevant to the year in which the labour cost was incurred. Hence, this information will have an estimated component.	Information will have an estimated component for pre 2013 expenditures until projects are closed. Actual thereafter
Table 2.3.3.1						
HV Feeder Augmentations (volume)	JEN has not recorded the actual added or upgraded overhead lines or underground cables for each (material) project and so these must be estimated	Requires a change in an existing process		GIS projects updates could possibly contain the project WBS code and have some mechanism to view/track actual changes that are made due to that project to determine the actual amount of overhead/underground that is added/upgraded. Or a project close out form should be altered to capture the actual length of overhead and underground lines added and upgraded for DSA projects (this will likely still be the pm's estimate). Alternatively continue to estimate using the scope of works.	JEN propose to continue same manual process of using design drawings to determine line lengths. Data to be entered into One SAP. As data is from a reliable source, it can be considered as Actual Information.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
LV Feeder Augmentations (volume)		Requires a change in an existing process		GIS projects updates could possibly contain the project WBS code and have some mechanism to view/track actual changes that are made due to that project to determine the actual amount of overhead/underground that is added/upgraded. Or a project close out form should be altered to capture the actual length of overhead and underground lines added and upgraded for DSA projects (this will likely still be the pm's estimate). Alternatively continue to estimate using the scope of works.	JEN propose to continue same manual process of using design drawings to determine line lengths. Data to be entered into One SAP. As data is from a reliable source, it can be considered as Actual Information.	Actual
Distribution Substation Augmentations (volume)	JEN has not recorded the actual transformers upgraded or added project and so these have been estimated using the scope of works.	Requires a change in an existing process		Project close out form should be altered to capture the actual number and type of substations added and upgraded for every WBS created. Alternatively continue to estimate using the scope of works.	Data to be captured into One SAP at project close. As actual volume data is recorded, it can be considered to be Actual Information.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Table 2.3.3.2						
HV Feeder Augmentations (expenditure)	JEN projects are not separated into overhead and underground. Each individual project also did not have a cost split into overhead and underground categories. Also the expenditure information used to obtain this category was based on the methodology to split out augmentation capex into the required categories in table 2.3.4 as outlined above.	Any other, pls specify in next column		New SAP project structure splits field costs by overhead/underground. This can be used to derive a project %overhead/underground split of a project. This % split would be applied to the entire project to estimate the costs to allocate for overhead/underground for the project. It is still somewhat an estimate as it assumes that all other costs have the same % split as the field work. For projects with the old SAP structure or where SAP does not have sufficient information the business case cost estimate still seems to be the best estimate of the % split.	JEN propose to establish recording of overhead separately from underground through a project structure change and SAP change. Until change is made, information will be estimated.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
LV Feeder Augmentations (expenditure)		Any other, pls specify in next column		New SAP project structure splits field costs by overhead/underground. This can be used to derive a project %overhead/underground split of a project. This % split would be applied to the entire project to estimate the costs to allocate for overhead/underground for the project. It is still somewhat an estimate as it assumes that all other costs have the same % split as the field work. For projects with the old SAP structure or where SAP does not have sufficient information the business case cost estimate still seems to be the best estimate of the % split.	JEN propose to establish recording of overhead separately from underground through a project structure change and SAP change. Until change is made, information will be estimated.	Estimated until change is made. Actual Information thereafter.
Distribution Substation Augmentations (expenditure)	Where a project involves multiple project types JEN has not recorded the expenditure split by substation type.	Any other, pls specify in next column		In 99.9% of cases there will only be 1 sub type per project. If this is the case costs can be allocated as actual. To account for the other small % of cases, if actuals were required JEN would need to implement a process to capture the actual % split in its SAP system.	Sometimes, a project will require the installation of GT and Pole mounted substations in same job. Does not occur often so unlikely to be a material issue, hence meets definition of Actual Information. Suggest assign to category with the dominate cost.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Table 2.3.4						
Table 2.3.4 (Expenditure)	Augex expenditure data for 2014 was sourced from the JEN SAP system and reconciled back to JEN's Regulatory Accounts. Augex expenditure is reported as an estimate in this template as the Augex expenditure data was derived and further categorised in to the sub-categories required using the methodology as outlined in section 2.3 "General Approach" above. As a result of this process, assumptions were made that make the expenditure data for each sub category an estimate rather than actual.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.		Actual data extracted is categorised based on rules so technically it is already an actual.	Data is based on service codes. Each service code maps to only one category. No allocation of service codes across categories, so data is considered Actual Information.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
2.5 Connections						
SUBDIVISION UNDERGROUND CONNECTIONS (000'S) SUBDIVISION OVERHEAD CONNECTIONS (000'S)	Although the number of pits installed are actual data extracted from GIS, these two variables are considered an estimate because the number of connections is assumed to be 1.7 times the number of pits installed.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.	Formulae (multiplication factor of 1.7) is determined based on network average number of connections per service pit.	Revised approach is to change GIS to capture future connections pits/pillar to lots.	Proposed approach will not produce Actual information as the number of services per pit is an assumption that may change in each year from the average. Revised approach to change GIS to capture future connections pits/pillar to lots will provide Actual Information.	Estimated until change is made. Actual Information thereafter.
RESIDENTIAL AUGMENTATION HV (NET CIRCUIT KM ADDED) RESIDENTIAL AUGMENTATION LV (NET CIRCUIT KM ADDED) COMMERCIAL/INDUSTRIAL AUGMENTATION HV (NET CIRCUIT KM ADDED) COMMERCIAL/INDUSTRIAL AUGMENTATION LV (NET CIRCUIT KM ADDED) SUBDIVISION AUGMENTATION HV (NET CIRCUIT KM ADDED) SUBDIVISION AUGMENTATION LV (NET CIRCUIT KM ADDED)	The source of the data is SAP. The data is based on the actual volume (length) of the conductor or cable posted to the SAP projects during the period. Although the GIS is the asset database and recorded the length of conductor and cable installed on the network, there has not been a relationship between the SAP project and the length of conductor or cable installed.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		The material posted in SAP was broken down into cable and conductor and summated, therefore 'manipulated' was selected. The degree of manipulation that was undertaken is considered 'low'.	OneSAP collects the required data. New report required to extract.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
COMMERCIAL/INDUSTRIAL AUGMENTATION HV (TOTAL SPEND $000'S) COMMERCIAL/INDUSTRIAL AUGMENTATION LV (TOTAL SPEND $000'S) COMMERCIAL/INDUSTRIAL DISTRIBUTION SUBSTATION (TOTAL SPEND $000'S)	This variable is an estimate because we do not capture costs in SAP directly in accordance with the 'Descriptor Metric' categories as set out in the RIN. Although the actual expenditure for these variables are determined by SAP activity mapping methodology, projects that consist of costs associated with HV, LV and distribution substations augmentation are estimated based on a sample of projects cost split into these 'Descriptor Metrics' categories calculated in 2013.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		Actual expenditure for these variables were estimated using mapping methodology, and the costs were then amalgamated to produce the final result, therefore 'manipulated' was selected. The degree of manipulation that was undertaken is considered 'low'.	The proposed allocation methodology will not produce Actual information. Revised solution is to collect timesheet info from field and modify SAP to record.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
SUBDIVISION AUGMENTATION HV (TOTAL SPEND $000'S) SUBDIVISION AUGMENTATION LV (TOTAL SPEND $000'S) SUBDIVISION DISTRIBUTION SUBSTATION (TOTAL SPEND $000'S)	This variable is an estimate because we do not capture costs in SAP directly in accordance with the 'Descriptor Metric' categories as set out in the RIN. Although the actual expenditure for these variables are determined by SAP activity mapping methodology, projects that consist of costs associated with HV, LV and distribution substations augmentation are estimated based on a sample of projects cost split into these 'Descriptor Metrics' categories calculated in 2013.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae	Actual expenditure for these variables were estimated using mapping methodology, and the costs were then amalgamated to produce the final result, therefore 'manipulated' was selected. The degree of manipulation that was undertaken is considered 'low'.	Revised solution is to collect timesheet info from field and modify SAP to record.	The proposed allocation methodology will not produce Actual Information. Revised solution is to collect timesheet info from field and modify SAP to record. Same issue as above.	Estimated until change is made. Actual Information thereafter.
SUBDIVISION COST PER LOT ($)	This variable is an estimate because we do not capture costs in SAP in accordance with this requirement as set out in the RIN. The data is recorded only as a component of the whole project cost.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.	It is calculated based on two variables.	Revised solution is to change GIS to capture future connections pits/pillar to lots.	The number of services per pit is an assumption that may change in each year from the average. This approach will not result in Actual information. New solution is to change GIS to capture future connections pits/pillar to lots. Same issue as above.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
COMMERCIAL/INDUSTRIAL COMPLEX CONNECTION HV (CUSTOMER CONNECTED AT LV, MINOR HV WORKS) ($000'S) COMMERCIAL/INDUSTRIAL COMPLEX CONNECTION HV (CUSTOMER CONNECTED AT LV, UPSTREAM ASSET WORKS) ($000'S)	This is an estimate rather than an actual because there are not specific activity codes to differentiate between minor HV works and upstream asset works.	Any other, pls specify in next column	Methodology needs to be reviewed. Perhaps a sample of projects need to be evaluated to determine the percentage split.	Requires a SAP change to collect information in the required categories of upstream and no-upsteam works.	Proposed solution contains an assumption of the number of connection supplied from a pit/pillar and cannot produce Actual Information. Requires a SAP change to collect information in the required categories of upstream and no-upsteam works.	Estimated until change is made. Actual Information thereafter.
COMMERCIAL/INDUSTRIAL SIMPLE CONNECTION LV (000's) COMMERCIAL/INDUSTRIAL COMPLEX CONNECTION HV (CUSTOMER CONNECTED AT LV, MINOR HV WORKS) (000'S) COMMERCIAL/INDUSTRIAL COMPLEX CONNECTION HV (CUSTOMER CONNECTED AT LV, UPSTREAM ASSET WORKS) (000'S) COMMERCIAL/INDUSTRIAL COMPLEX CONNECTION HV (CUSTOMER CONNECTED AT HV) (000'S) COMMERCIAL/INDUSTRIAL COMPLEX CONNECTION SUB-TRANSMISSION (000'S)	This is an estimate rather than an actual because there is no relationship between connection volumes and the different commercial/industrial categories.	Any other, pls specify in next column	Methodology needs to be reviewed.	System change to collect data in required categories. (No issue for residential as all connections are simple). Issue with industrial estates where number of connections is not recorded. May need a GIS solution as well.	System change to collect data in required categories.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
SUBDIVISION COMPLEX CONNECTION LV (000'S) SUBDIVISION COMPLEX CONNECTION HV (NO UPSTREAM ASSET WORKS) (000'S) SUBDIVISION COMPLEX CONNECTION HV (WITH UPSTREAM ASSET WORKS) (000'S)	Although the number of pits installed are actual data extracted from GIS, these two variables are considered an estimate because the number of connections are assumed to be 1.7 times the number of pits installed.	Can be treated as a "calculation actual" Data is sourced from one of the JEN systems and is then used to calculate the required variable using a formulae.	Formulae (multiplication factor of 1.7) is determined based on network average number of connections per service pit.	Assign number of future connections to each pit/pillar. The WBS number (CHL and CHH) already maps to RIN categories so financials map ok. Volumes thru change to GIS.	The number of services per pit is an assumption that may change in each year from the average. This approach will not result in Actual information. Resolve through assigning number of future connections to each pit/pillar.	Estimated until change is made. Actual Information thereafter.
2.7 Vegetation Management						
Table 2.7.1						
LBRA and HBRA, Total length of maintenance spans (km) for "Urban and CBD" and "Rural" feeders	The VMS does not record the length of spans. The VMS records the pole number which represents the span closer to the zone substation from that pole. This variable is also not recorded in the GIS as a characteristic against each span and therefore required to be estimated.	Requires a system upgrade	Actions required: Upgrade the VMS with the capability to record the length of spans. Use a spatial search (x-y coordinates available in the VMS) to calculate span lengths. Verify span lengths by reconciling with the JEN GIS.	New solution proposed by JEN. Use GIS pole reference, which includes span length, in VMS. Work orders also contain pole ref, so the span length can be reported by maintenance span by the contractor.	New solution reports on actual data so appears ok.	Estimated till VMS upgraded. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
LBRA and HBRA, Average number of trees per maintenance span (0's) for "Urban and CBD" and "Rural" feeders	This variable was estimated for 2014. The VMS does not record the number of trees actually requiring maintenance. The VMS records the number of maintenance spans but not the number of trees per maintenance span.	Requires a system upgrade		Actions required: Upgrade the VMS with the capability to record tree volume data. Redesign the span assessment process to also capture relevant tree volumes data. Increase the number of assessors to account for the new process and data capture.	Proposed solution reports on actual data so appears ok.	Estimated till VMS upgraded. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Table 2.7.2						
General Comments; Table 2.7.2 Expenditure Metrics by Zone	Information is sourced from SAP, the ERP system that JEN uses to capture its financial information. As, expenditure is incurred, it is captured by activity (cost collectors). Activity codes can be used to identify various maintenance activities. Some overheads applied to the direct costs have been removed for this template, as the requirement is to disclose direct costs only. As the activities in SAP are not setup to aggregate into the regulatory categories, estimates have been made to meet the requirements of the templates. The activities are allocated (% based) into categories e.g. routine, condition based and emergency.	Requires external party to capture and provide relevant information for e.g the contractor invoice needs to spell out the details of the job broken into material, labour etc.		For JEN only two zones are applicable; they are LBRA and HBRA. A process has commenced to transition the capture of costs to align with the RIN template variables. A full transition is expected for the 2016 CY.	Solution already in place.	Estimated for 2014/15 due to allocation. Actual thereafter
LBRA and HBRA, Contractor Liaison expenditure ($000's)	An individual cost collector in SAP was not available for 2014.	Requires a change in an existing process		For 2015 this variable will be a percentage of an actual; compared with 2014 which was a percentage of an estimate. A full transition is expected for the 2016 CY.	SAP change required to collect data into HBRA and LBRA.	Estimated until change is made. Actual Information thereafter.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
LBRA and HBRA, Other Vegetation Management Costs not specified in sheet ($000's)	As per general comments above.	Requires a change in an existing process		For 2015 this variable will be a percentage of an actual; compared with 2014 which was a percentage of an estimate. A full transition is expected for the 2016 CY.	SAP change required to collect data into HBRA and LBRA.	Estimated until change is made. Actual Information thereafter.
2.8 Maintenance						
Table 2.8.1 Descriptor metrics for Routine and Non-routine maintenance						
ASSET QUANTITY - INSPECTED/ MAINTAINED	Information is sourced from SAP. The pole and asset inspection activity involves pole, pole top, overhead conductor, underground cable termination, substation, switchgear and overhead service conductor inspection. The volume of pole top, overhead line and service line maintenance are broken down by pole tops and overhead lines; and service lines was estimated because JEN does not record the volume of inspections in these maintenance asset categories separately.	Requires a system upgrade	When an asset is retired in GIS develop a system to record the reason for the retirement.	Two separate reports need to be written in GIS for each of the 20 items in Table 2.8.1. GIS needs to be modified to return certain measurements from SAP. Write a custom report in GIS to consolidate the 40 individual reports.	Proposed solution will provide actual data.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
AVERAGE AGE OF ASSET GROUP	Information is sourced from SAP and GIS. This data was able to be provided with some estimation of the date of installation.	Methodology can be verified and endorsed by auditors		Jemena uses various methods to estimate the age of an asset for which an installation date never existed. The methods may be refined as or if new more accurate information becomes available. Business processes have been developed to ensure dates are captures as accurately as possible for all future installations or retirements.	These data items are based on asset age data which has a degree of estimation. JEN cannot provide actual information.	Estimated. For each asset class, some asset installation dates are unknown and could lead to a material difference. JEN cannot provide actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Table 2.8.2 Cost Metrics for Routine and Non-Routine Maintenance						
POLE TOP, OVERHEAD LINE & SERVICE LINE MAINTENANCE Non-Routine Maintenance POLE INSPECTION AND TREATMENT Routine Maintenance OVERHEAD ASSET INSPECTION Routine Maintenance NETWORK UNDERGROUND CABLE MAINTENANCE: BY VOLTAGE and BY LOCATION LV - 11 to 22 kV, Non-Routine Maintenance; 33 kV and above, Routine and Non-Routine Maintenance; Location, Routine and Non-Routine Maintenance DISTRIBUTION SUBSTATION EQUIPMENT & PROPERTY MAINTENANCE Routine and Non-Routine Maintenance ZONE SUBSTATION EQUIPMENT MAINTENANCE Routine and Non-Routine Maintenance ZONE SUBSTATION PROPERTY MAINTENANCE Routine and Non-Routine Maintenance SCADA & NETWORK CONTROL MAINTENANCE Non-Routine Maintenance PROTECTION SYSTEMS MAINTENANCE Routine and Non-Routine Maintenance	Information is sourced from SAP, the ERP system that JEN uses to capture its financial information. As expenditure is incurred, it is captured by activity (cost collectors). Activity codes can be used to identify various maintenance activities. Some overheads applied to the direct costs have been removed for this template, as the requirement is to disclose direct costs only. As the activities in SAP are not setup to aggregate into the regulatory categories, further work to categorise the data to meet the requirements of the templates has been performed.	Requires a change in an existing process		Business processes need to be strengthened to ensure activities are recorded against the same cost collector or same activity counter for all variants of that activity. This will enable consistent aggregation from year to year, i.e. the same set of cost collectors will roll into the same set of regulatory categories each year. Develop a SAP tool for grouping JEN activities into RIN categories. Develop a SAP tool for the allocation of overheads (for project management and year end validation). Ongoing management of the RIN categories dataset is required.	JEN's categories are not a one to one with AER categories - currently manually identified and cost split. The proposed solution would collect and report actual data.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
2.9 Emergency						
(A) TOTAL EMERGENCY RESPONSE EXPENDITURE ($000'S)	Information is sourced from SAP, the ERP system that JEN uses to capture its financial information. As, expenditure is incurred, it is captured by activity (cost collectors). Activity codes can be used to identify various maintenance activities. Some overheads applied to the direct costs have been removed for this template, as the requirement is to disclose direct costs only. As the activities in SAP are not setup to aggregate into the regulatory categories, estimates have been made to meet the requirements of the templates. The activities are allocated (% based) into categories e.g. routine, condition based and emergency.	Requires a change in an existing process		Work orders required to be set up for capturing costs related to the event	Change required in SAP to collect emergency response expenditure.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
4.1 Public Lighting						
TABLE 4.1.1 - Descriptor Metrics over 2013-14						
Light Replacement - Major Road Light Replacement - Minor Road	Jemena is unable to calculate the unit rate for each light type within the major road or minor road category and therefore we have been required to make the assumption that the material cost for each type of light has minimal impact on the overall unit rate. Therefore we have assumed that all light types in the same category are the same unit rate.	Requires a system upgrade	There are various light types on major and minor roads across JEN. The notifications that are used to capture the work performed on these lights do not capture the light type. Hence we are unable to determine a unit rate for different light types. There may be a way of cross referencing the asset number from the notification to the light type stored in GIS but this is very labour intensive and unreliable as a large proportion of the lights on minor roads are being (or have been) converted to T5 lights due to the T5 conversion program.	Requires a process change. An individual PM order needs to be set up for each type of luminaire, the cost associated with the replacement of each luminaire needs to be charged to the appropriate PM order and the notification needs to be linked to the appropriate PM order.	The proposed solution will record the information to calculate the required values to provide Actual Information.	Actual
Light Maintenance - Major Road Light Maintenance - Major Road				Requires a process change. An individual PM order needs to be set up for each type of luminaire, the cost associated with the replacement of each luminaire needs to be charged to the appropriate PM order and the notification needs to be linked to the appropriate PM order.	The proposed solution will record the information to calculate the required values to provide Actual Information.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
4.2 Metering						
TABLE 4.1.1 - Descriptor Metrics over 2013-14						
Meter Volumes	Accurate actuals required interrogation of the Asset Data Base for 2014. The meter volume data is retrieved at the end of each year from JEN's two SAP systems (legacy and new)—SAP-ISU for Type 4 meters and CIS+ for Type 5 and Type 6 meters	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		No Change Required. The RIN Template requires an annual average, the formulae as is calculates a simple estimated average for the year based on system actuals for start and end of year but does not consider the profile of meters in the year.	Calculation of an average is consistent with the definition of Actual Information.	Actual

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
5.2 Asset Age Profile						
Mean and Standard deviation	For a percentage of the assets, installation dates are estimated and are used to calculate the mean and standard deviation.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation. - A large enough volume is required to calculate the standard deviation and mean	Mean and Std Dev can remain estimated per RIN 1.6(b). This is required as some asset installation dates are also estimated where installation date has not been recorded. JEN cannot provide actual information.	Estimated. RIN allows that data can be estimated.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Poles (various)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	No category has known installation dates for all assets. The degree of estimation is material so JEN cannot provide Actual information. Assets with unknown installation dates are profiled in accordance with Asset Age Profiling Methodology ELEPR0011	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
PL	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
OH Conductor (various)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Underground cables (various)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Service Lines – Residential and Commercial and Industrial (Simple Type)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Transformers – Pole Mounted, Kiosk Mounted, Ground Outdoor / Indoor Chamber Mounted (excluding zone substation transformers)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear – HV Fuses	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear switches	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear – Switch (Isolators, Air Break Switches)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear – Switch (Gas)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear – Switch (RMU)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear – Switch (Circuit Breaker)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Switchgear – Switch (ACR)	Dates for asset installation were not known for all assets. Actual installed dates were combined with estimates to produce age profiles.	May be treated as a "calculation actual" Data is sourced from one of the JEN systems, manipulated and is then used to calculate the required variable using a formulae		JEN has put its effort to allocate estimated dates for assets with unknown dates. Below are the justifications: Estimation techniques generally fall into two categories, information from nearby assets and information from external sources. Nearby asset information includes information such as: • the installation date of the same class of asset within a close geographical area such as poles of the same material and type within 1km radius; • the installation date of different assets within the same logical group such as the date of a crossarm being cascaded to an attached insulator; and • the installation date of assets that logically would have been installed at a similar time to the unknown asset such as a Sub-Transmission pole being installed at the same time as the rest of the pole line. External information sources included: • External Plan References; and • historic substation files showing the establishment date of a substation being used to date the conductors being fed by the substation.	Ditto	Estimated as some assets have unknown installation dates. JEN cannot provide Actual information.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
5.3 MD Network Level						
Weather corrected (10% PoE) network coincident MD Weather corrected (50% PoE) network coincident MD	This data is estimated as it is calculated based on assumptions rather than extracted directly from metered data.	Methodology can be verified and endorsed by auditors	Not a calculated actual as it is not a textbook formula. Different methodologies could be applied, therefore the methodology we use should be verified.	Continue with established process.	The weather correction is a calculation based on JEN's methodology and as such should be considered Actual Information. Verification is not required.	Actual
5.4 MD & Utilisation Level						
Subtransmission Substation – Weather Corrected MD Zone Substation – Weather Corrected MD	This data is estimated as it is calculated based on assumptions rather than extracted directly from metered data.	Methodology can be verified and endorsed by auditors	Not a calculated actual as it is not a textbook formula. Different methodologies could be applied, therefore the methodology we use should be verified.	Continue with established process.	The weather correction is a calculation based on JEN's methodology and as such should be considered Actual Information. Verification is not required.	Actual
SA zone substation: Zone Substation – Raw Adjusted MD – Coincident & Non-coincident Zone Substation – Date MD Occurred – Non-coincident Zone Substation – Time MD Occurred – Non-coincident Zone Substation – Winter/Summer Peaking – Non-coincident	JEN load at zone substation SA consists of sections of feeders. Metering of the JEN load supplied by SA is unavailable, therefore the MD must be estimated.	Methodology can be verified and endorsed by auditors	Would require installation of more meters or significant improvement in availability of smart meter data to get actual data - high capital cost. Recommend to get auditors to verify our estimation methodology.	Continue with estimation process and advise AER of reasons for not providing actual information for ZSS SA	An estimation approach is not likely to produce Actual Information. Recommend that an exception be requested from AER given the unique nature of the situation.	Estimated. Request exemption from AER.

Description	Reason for estimation	Proposed solution	Initial solution	Final solution	PB's initial finding	PB's final finding
Subtransmission Substation – Raw Adjusted MD –abnormal conditions Zone Substation – Raw Adjusted MD – abnormal conditions	If the station is under abnormal conditions at the time of coincident MD, the metered demand value stored in PI will reflect the abnormal condition. As the MD value is required to be adjusted to system normal conditions, the MD must be estimated.	Methodology can be verified and endorsed by auditors	Would require either installation of meters on every switch/isolator on JEN network or significant improvement in availability of smart meter data to get actual data, and lots of manual processing of data - high capital cost, not able to be implemented quickly. Recommend to get auditors to verify our estimation methodology.	Continue with estimation process used to adjust recorded MDs to account for system abnormal conditions and advise AER of reasons for not providing actual information.	Given that the load transfer is estimated, the information must be considered as Estimated Information. Given that direct measurement of the load transfer is impracticable, recommend that an exception be requested from AER	Estimated. Request exemption from AER.