Jemena Electricity Networks (Vic) Ltd

Response to the EDPR Reset RIN

Basis of preparation for Historical Information

Information from RY 05 to 15 and 16 to 20

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TABLE OF CONTENTS

2. EXPENDITURE

2.4 AUGEX MODEL

See schedule 1 for more information and responses relating to this section of the RIN and JEN's approach to running the Augex model.

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 2.4.1	AUGEX MODEL INPUTS - ASSET STATUS - SUBTRANSMISSION LINES	Estimated – maximum demand data and route line length Actuals – Line Voltage, Line Ratings Forecast – Average growth per annum	The maximum demand (MD) data requested is weather corrected 50% POE data. This involves adjusting actuals and will therefore be an estimation. In addition JEN does not measure the actual system normal MD on its Subtransmission lines. JEN does not record the route line length of individual subtransmission lines as at December 31 of each year. This was estimated using GIS data.	The actual system normal summer MD data for JEN's subtransmission lines in this table was simulated by running load flow studies in PSSE using the summer non-coincident zone-substation MD actuals. The summer MD actuals were obtained from the JEN Load Demand Forecast as in previous RIN's. The MD data was corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level". The route line length of each line was estimated using Subtransmission line length data extracted from GIS which was used to derive the physical assets circuit length data in previous RIN's. The circuit length data was adjusted using the circuit data sheet to obtain the route length rather than the circuit length.	The actual system normal summer MD data for JEN's subtransmission lines in this table was simulated by running load flow studies in PSSE using the summer non-coincident zone-substation MD actuals. The MD data was then corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level". The route line length of each line was estimated using Subtransmission line length data extracted from GIS which was used to derive the physical assets circuit length data in previous RIN's. The circuit length data was adjusted to obtain the route line	JEN assumes and believes that its method of calculating summer MD's for sub-transmission lines is adequate for use in the augex model. It is also assumed that the application of a single system level weather correction factor to the actual simulated MD data for each line is adequate for use in the augex model. For the route line length calculation it has been assumed that JEN has not installed any new multiple circuit OH line sections in between 2010 and 2014. This is consistent with JENs standard and projects undertaken in that period.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
				The summer ratings were obtained from JEN planning records of subtransmission line ratings which are based on the circuit data sheets.	length by: • deducting lengths determined from the circuit data sheet where there were multiple circuits per pole • Reducing the underground cable lengths where there were multiple cables in a circuit. The forecast % p.a. growth was determined using the difference between the simulated 50% POE 2020 MD MVA loading and the 2014 50% POE MD MVA loading on each line.	JEN does keep records of N-1 emergency ratings for its subtransmission lines. The thermal rating has therefore been inserted under both categories.

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 2.4.2	AUGEX MODEL INPUTS - ASSET STATUS - HIGH VOLTAGE FEEDERS	Estimated – maximum demand data Actual – Voltage, Route line length, Ratings Forecast – Average growth per annum	The maximum demand (MD) data requested is weather corrected 50%POE data. This involves adjusting actuals and will therefore be an estimation. In addition JENs systems do not record the power factor of HV feeders and the MW loading therefore has to be estimated.	The summer HV feeder MVA MD actuals and ratings were obtained from the JEN Load Demand Forecast as in previous RIN's. The MD data was corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level". The route line length of each line was determined from actuals reported in previous annual RIN's from actual length data extracted from GIS.	The summer HV feeder MVA MD actuals and ratings were obtained from the JEN Load Demand Forecast as in previous RIN's. The MW actuals were calculated by applying the applicable Zone-substation load power factor to the above MVA actuals. The MD data was then corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level". The route line length of each line was determined from actuals reported in previous annual RIN's from actual length data extracted from GIS. JEN does not use different operational ratings for its HV feeders. As such the normal cyclic rating has been used in both columns. The forecast % p.a. growth was determined using the difference between the 50% POE 2020 MD MVA loading and the 50% POE	JEN assumes that the application of a single system level weather correction factor to the actual simulated MD data for each line is adequate for use in the augex model. JEN assumed that using the zone-substation power factor is an adequate representation of the HV feeder power factor.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					corrected actual 2014 MD MVA loading on each line.	
TABLE 2.4.3	AUGEX MODEL INPUTS - ASSET STATUS - SUBTRANSMISSION SUBSTATIONS, SUBTRANSMISSION SWITCHING STATIONS AND ZONE SUBSTATIONS	Estimated – maximum demand data Actual – Substation Voltage, No. of transformers, and Ratings Forecast – Average growth per annum	The maximum demand (MD) data requested is weather corrected 50%POE data. This involves adjusting actuals and will therefore be an estimation.	The summer zone-substation MD actuals and ratings were obtained from the JEN Load Demand Forecast as in previous RIN's. The MD data was corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level". To determine the various ratings JEN has referred to previous regulatory submissions and historical Distribution System Planning Reports to populate these variables. Where a certain rating was not previously reported (i.e. ONAN) this was determined from network planning records.	The summer zone-substation MW and MVA MD actuals were obtained from the JEN Load Demand Forecast as in previous RIN's. The MD data was then corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level". To determine the various ratings JEN has referred to previous regulatory submissions and historical Distribution System Planning Reports to populate these variables. Where a certain rating was not previously reported (i.e. ONAN) this was determined from network planning records. Note that if a 2010 reported rating was found to be incorrect, and was corrected between 2010 and 2014, JEN has corrected the 2010 rating this in this table and for use in the Augex model. The forecast MD data in 2020 was taken using the 2014 JEN Load	JEN assumes that the application of a single system level weather correction factor to the actual simulated MD data for each substation is adequate for use in the augex model. For older transformers in poorer condition, JEN does not operate these transformers beyond its N-1 cyclic rating due to the likelihood of accelerated deterioration. Hence the N-1 2 hour emergency rating is assumed to be the same as the N-1 cyclic rating for these transformers. This is consistent with JEN asset management approach.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					Demand Forecast. To run properly in the model these MD's were corrected to remove the effect of committed augmentation projects in 2015 (i.e. new zone-substation BMS). The forecast % p.a. growth was determined using the difference between the 50% POE 2020 MD MVA loading and the 50% POE corrected actual 2014 MD MVA loading on each substation. For table 2.4.5 and to run the augex model JEN has split its zone-substations in the forecast period only into 2 separate categories. The 2 categories are the zone-substations that had negative growth (ID 4) and those that had positive growth (ID 3). This was done to capture the differences in utilisation profiles for JEN's growth and no growth regions across its network. The network ID in this table represents the forecast network ID in table 2.4.5 with the historical period being ID 2.	
TABLE 2.4.4	AUGEX MODEL INPUTS -	Estimated – maximum demand data	The maximum demand (MD) data requested is weather corrected 50%POE data. This involves adjusting actuals and	The estimated maximum demand data and cyclic ratings for each substation were derived using customer metered data linked to the appropriate distribution	JEN has used metered data to calculate the MD on its substations by summing the relevant meters. Each meter is	JEN assumes that the application of a single system level weather correction factor to the actual simulated MD data for each substation is

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
	ASSET STATUS - DISTRIBUTION SUBSTATIONS	Actual - cyclic ratings of distribution substations Forecast – Average growth per annum	will therefore be an estimation. In addition distribution substation loading data is estimated since JEN does not have meters on each substation.	substation by JEN's GIS network model. The MD data was corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level".	associated with the relevant distribution substation by JEN's network model in GIS. JEN has used a combination of its 2014 (AMI) meter data and its 2009 distribution Substation Utilisation Profiling System (SUPS) model to determine the distribution substation loading modelling for the 2010 and 2014 years. JEN has recognised that the Advanced Metering Infrastructure (AMI) data will be more accurate than its 2009 distribution Substation Utilisation Profiling System (SUPS) model. As such JEN has relied on the 2014 AMI meter data where possible to back derive the 2010 loading. This will allow consistent data to be used in the augex model. Note that since JEN had not finished its AMI meter rollout program prior to summer 2014 some estimation had to be made to first derive the 2014 distribution substation MD data using the 2009 SUPS model. The rules used to derive the 2014 actual MD data were:	adequate for use in the augex model. In the absence of actual data JEN has assumed that the methodology used to estimate its 2010 and 2014 loading and ratings data are sufficient for use in the augex model. It should be noted that a significant amount of estimation has been used to derive a full set of consistent data for both the 2010 and 2014 years. JEN has assumed in this table and in its augex model calibration that half of the forecast system growth is attributable to the current distribution substation population, with the rest being due to new load on new customer initiated substations to be installed.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					• For subs with 90% of customers with AMI meters, the MD reading from the AMI meters was used. To estimate the MD for 100% of customers the MD was escalated on a pro rata basis. • The metered data was converted from kW to kVA using a pf of 0.8. • For substations with less than 90% of customers with AMI meters use the MD from the SUPS model was used. If JEN had added a substation through its augmentation program which offloaded a substation between 2009 and 2014, the SUPS model MD was reduced by 50%. • For new substations not in SUPS the utilisation was assumed to be 25% (the load will likely only be partial for new substations). • To calculate the cyclic rating, 117% of nameplate was used for pole type substations and 100% or nameplate was used for kiosks/ground and indoor type substations. The nameplate rating was extracted from GIS. • The distribution substation total was reconciled to the 2014 system MD.	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					To ensure consistency the 2010 MD data was derived using the 2014 data for use in the augex model: • The new substations installed after 2010 were removed. • For substations that were offloaded by a substation added due to augmentation between 2010 and 2014, the 2014 AMI demand was increased by 200%. • For substations upgraded between 2010 and 2014 the SUPS model nameplate rating was used with the above assumptions applied to calculate the cyclic rating. • The distribution substation total was reconciled to the 2010 system MD. The SUPS model methodology can be found in the 2009 "Distribution Substation and LV Circuit MD and Budget Forecast Methodology" procedure. The MD data was then corrected to 50% POE using a system weather correction factor derived in previous category analysis RIN's section "5.4 MD – Network Level".	

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
					The forecast % p.a. growth was estimated as half of the system level 50% POE growth across the forecast period.	
TABLE 2.4.5	AUGEX MODEL INPUTS - NETWORK SEGMENT DATA	Estimated – Historical Variables Forecast – Forecast Variables	The historical augex model average unit cost and capacity factor variables are calculated using the estimated historical capex and capacity added as split in table 2.4.6. The utilisation threshold and standard deviation have been derived using the augex model itself.	The historical and forecast augex model average unit cost and capacity factor variables are calculated using the estimated data used to populate the capex and capacity added as split in table 2.4.6. The utilisation threshold and standard deviation have been produced from the calibration of the augex model to match JEN's capacity added.	<u>Average unit cost $/MVA</u> The historical average unit cost in $/MVA for each segment was derived by taking the network initiated capex for years 2011 -14 and dividing it by the network initiated capacity added from 2010 -14. Note use of 2011-14 capex rather than the 2010-14 capex as requested in table 2.4.6 aligns the most recent 4 years of expenditure with the 4 years of MD/capacity change as requested in tables 2.4.1-2.4.4. The historical network initiated capacity added was derived by examining the capacity change between 2010 and 2014 and determining the cause (network initiated, customer initiated, residual/un-modelled). For HV feeders JEN has only used capacity added where the trunk feeder capacity changes in line with table 2.4.2.	JEN has not used customer initiated capex, or customer initiated or residual capacity added in table 2.4.5 or to run the Augex model since they are not directly dependent on the utilisation of the asset. The AER has not defined historical and forecast years in this table. JEN has taken historical to be years 2011-14 for capex (to align with the 2010-14 MD change). It has taken forecast to be the years 2015-20 for capex (to align with the 2014-20 MD/capacity change). Given JEN's low proportion of short rural JEN has effectively been required to combine its short rural/urban population when calibrating the augex model. Subsequently the utilisation threshold parameters are the same for the short rural and urban

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					The historical distribution substation network initiated capacity added was determined by determining the average net capacity added per sub added/upgraded in 2014 and applying this to the number of subs upgraded/added from 2011-14 as per previous category analysis RIN's. The forecast average unit cost in $/MVA for each segment was derived by taking the network initiated capex for years 2015 -20 and dividing it by the network initiated capacity added from 2014 -20 as in table 2.4.6. <u>Capacity Factor</u> To calculate the capacity factor JEN has first determined the network initiated capacity added over the 2010-14 and 2014-20 periods as above. The capacity requiring augmentation was then calculated as the corresponding amount of capacity that was augmented. The capacity factor is then capacity added divided by the capacity requiring augmentation. For HV feeders JEN has only	categories in this table. Similarly as explained in 2.4.6 below the $/MVA and capacity factors used were the same. As explained in 2.4.3 above for the forecast period JEN has split its zone-substations into growth and no growth categories in the forecast period only. Subsequently under network ID 2 ("zone substations –all (historical)") the forecast has been left blank and the historical has been left blank under network ID 3 ("zone substations – Forecast growth") and 4 ("zone substations Forecast no growth"). It is assumed that JEN's methodology to calculate the variables is in line with the AER's expectations of how this should be calculated. For zone-substations the substation normal cyclic rating was used to determine the capacity added and capacity requiring augmentation.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					used capacity added and capacity requiring augmentation where the trunk feeder capacity changes in line with table 2.4.2. The distribution substation capacity factor for both historical and future was determined using the average capacity added and capacity requiring augmentation per sub added/upgraded in 2014. <u>Utilisation Threshold and Standard Deviation</u> The utilisation threshold was determined by calibration of the augex model to match the capacity added for each period. For the historical period since net growth was very low or negative an adjustment factor was first applied to the growth to enable the model to run and calibrate the utilisation threshold. Once calibrated this adjustment factor was then deducted from the utilisation threshold provided in this table. To calibrate the utilisation threshold in this table JEN has adjusted the growth to 1.5% p.a. for each segment.	The standard deviation was assumed to be the square root of the utilisation threshold for both periods in line with a normal distribution. It is assumed that the 2014 sample of distribution substation augmentations provides an adequate representation of the forecast capacity added and capacity requiring augmentation.

Base information		Data Type		Population approach		
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					For the forecast period JEN is forecasting sufficient growth (as per table 2.4.1-2.4.4) to enable the model to run and calibrate the utilisation threshold applied. As mentioned in table 2.4.3 for the forecast JEN has split its zone-substations in the forecast period into 2 separate categories. The 2 categories are the zone-substations that had negative growth and those that had positive growth. This was done to capture the differences in utilisation profiles for JEN's growth and no growth regions across its network. The standard deviation was assumed to be the square root of the utilisation threshold for both periods in line with a normal distribution.	
TABLE 2.4.6	CAPEX AND NET CAPACITY ADDED BY SEGMENT GROUP	Estimated – Historical capex Forecast – Future capex and net capacity added	The historical capex is estimated since the direct cost is based on direct expenditure data provided in previous RINs which was categorised as estimated due to the removal of embedded overheads prior to 2013. JEN has does not split its	To determine the required capex split JEN has used the capex data which was used to derive RIN category analysis sections "2.3 Augex Project Data" and "2.5 Connections" over the 2010-20 period. The historical capacity added data was derived from data provided in table 2.4.1.-	<u>NSP initiated and capacity-related augmentation - Capex</u> The NSP initiated and capacity-related augmentation historical expenditure was calculated by re-cutting data previously used to determine RIN category analysis sections "2.3 Augex Project Data" table 2.3.4. The future data used	<u>NSP initiated and capacity-related augmentation - Capex</u> It should be noted as in table 2.4.5 above, given JEN's low proportion of short rural JEN has effectively been required to combine its short rural/urban population when calibrating the utilisation

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
			expenditure into the categories requested and has had to make some assumptions.	2.4.5. The forecast capacity added data was derived from the scope of works of JEN's forecast projects.	the capex in the JEN EDPR capex forecast model. JEN has defined the below rules to re-cut the augex capex into the required categories: • Non capacity driven/related works put in unmodelled • Distribution substation and LV feeder projects were grouped • Some projects were re-categorised based on the project driver (i.e. a capacitor bank in a zone-substation where the driver was an overloaded subtransmission line). The capex was also required to split the capex into rural and short urban for HV feeders and distribution substations/LV feeder. This has been performed by splitting the capex using the % urban/short rural split of capacity added over the 2010-14 period for historical capex and the 15-20 period for future capex. The historical capex was escalated to real 2015 dollars using the relevant inflation indices. Customer initiated and capacity-	thresholds in the model. The estimated splits into short rural/urban are reported in this table as requested but were not used in calculating separate $/MVA or capacity factors. To provide the data split in this table it was assumed that the split of capacity added by short rural/urban is an adequate representation of the split of capex into the required categories. Effectively this also means that JEN has assumed the short rural/urban categories have the same $/MVA in running the augex model. It is assumed that the rules used to group expenditure are adequate. Customer initiated and capacity-related augmentation – Capex JEN has not used customer initiated capex or capacity added in table 2.4.5 or to run the Augex model since they are not directly dependent on

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					<u>related augmentation – Capex</u> The customer initiated and capacity-related augmentation historical expenditure was calculated by re-cutting category analysis RIN sections "2.5 connections" tables 2.5.1 and 2.5.2.Similarly the future data was derived utilising tables 2.5.1 and 2.5.2 of this RIN. The below rules to re-cut the connections capex into the required categories: • Subtransmission expenditure was obtained from Table 2.5.2 category "complex connection sub-transmission" • HV feeder expenditure was obtained by summing the Augmentation HV expenditure categories in table 2.5.1 • Distribution substation and LV feeder expenditure was obtained by summing the "Augmentation LV" and "distribution substation installed total spend" categories in table 2.5.1. The capex was also required to split the capex into rural and short urban for HV feeders and distribution substations/LV feeder. JEN has performed this capex	the utilisation of the asset. As such all of the expenditure could have been assigned to unmodelled as it should not be used in the augex model. Regardless JEN has attempted to split the data into the required categories. It is assumed that JEN had no zone-substation augmentation historically and is not forecasting any in its capex model in the forecast period. It was assumed that the % total network capacity split by short rural/urban is a good representation of the split of customer initiated capex into the required short rural/urban categories. <u>NSP initiated and capacity-related augmentation – Capacity Added</u> Note since JEN already provided the 2014 ratings in table 2.4.1-2.4.4 it is assumed that the requested capacity added over the 2014-15 period is only the capacity to

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					split using the % of total capacity of its HV feeders and distribution substations that are short rural and urban. The historical capex was escalated to real 2015 dollars using the relevant inflation indices. <u>NSP initiated and capacity-related augmentation – Capacity Added</u> To forecast the capacity added from 2014 to 2020 JEN has used its project list in the EDPR capex model and determined from the scope of works how much capacity is to be added to each segment. For HV feeders JEN has only reported capacity added where the trunk feeder capacity will change in line with table 2.4.2. JEN has split the short rural/urban capacity added based on the current classification of the feeder to be augmented. For distribution substations the capacity to be added was determined by determining the average net capacity added per sub added/upgraded in 2014 and applying this to the number of subs forecast to be	be added in 2015. It is assumed that the 2014 sample of distribution substation augmentations provides an adequate representation of the forecast capacity added per sub added/upgraded. For subtransmission lines no capacity was added for projects where a new zone-substations was cut in and out of an existing line. <u>Customer initiated and capacity-related augmentation – capacity added</u> JEN has not used customer initiated capex or capacity added in table 2.4.5 or to run the Augex model since they are not directly dependent on the utilisation of the asset. As such all of the capacity added could have been assigned to unmodelled or residual as it should not be used in the augex model. Regardless JEN has attempted to split the data into the required

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					upgraded/added from 2015-20 in table 2.3.3. <u>Customer initiated and capacity-related augmentation – capacity added</u> JEN has determined the capacity added for its subtransmission line projects from the scope of works for the 2 forecast customer initiated projects subtransmission line projects in its EDPR capex model. For HV feeders the capacity added has been forecast using the unit rate of total capacity added over the 2010-14 period, applied to the forecast short rural/urban capex. For distribution substations the capacity added has been forecast using the nameplate MVA added in table 2.5.1. In table 2.5.1 the MVA added was gross. This was converted to net as in table 3.5.2.1. This was then converted to cyclic rating capacity added in line with table 2.4.4 using the average nameplate to cyclic rating factor of JEN substations in 2014 (~1.07). Similar to the capex the short rural/urban split was determined based on the % of distribution substation capacity	categories. It is assumed that JEN had no zone-substation augmentation historically and is not forecasting any in its capex model in the forecast period. In addition to the assumptions in table 2.5.1 JEN assumes that the distribution substations network cyclic rating factor and current short rural/urban capacity split is representative of capacity that will be added over the 2015-20 period.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					that is currently short rural and urban. Net Capacity Added – In total for all purposes JEN has determined the net capacity added by combining the network initiated, customer initiated, and residual capacity added sections. The residual capacity added section was determined by capacity added not in either of the other two categories. These are due to projects that should not be modelled in the augex model (i.e. capacity that may be added from a replacement driven project or other non MD related reason).	

2.13 PROVISIONS

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 2.13.1	CHANGES IN TOTAL PROVISIONS incl. RPM	Actual Historical	N/A	Data for CY2009 to 2013 is from Table 3.3 in Excel tab 3. Opex within Appendix A of JEN's Response to the economic benchmarking RIN submitted for the 2013 regulatory year. The data for CY2014 is from Excel tab 3.2.3 Provisions within Appendix A of JEN's Response to the economic	For provision of doubtful debt from CY2009 to 2013, reversed amount is calculated as opening balance plus additional provisions made in the period minus closing balance. For provision for claims/compensations from CY2009 to 2012, used amount is calculated as opening balance plus additional provisions made in the period minus closing balance. Reversed amount for CY2013 is calculated as opening balance plus additional provisions made in the period minus closing balance. Based on data extracted from the relevant General Ledger from SAP, the total of monthly	None.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
				benchmarking RIN for the 2014 regulatory year.	routine accruals is disclosed under “Provisions made in the period, resulting in increases to the existing provisions”. Similarly the total of monthly routine reversals is disclosed under “Unused amounts reversed during the period”.	
TABLE 2.13.2	ALLOCATION OF MOVEMENT IN TOTAL PROVISIONS incl. RPM	Actual Historical	N/A	Data for this table is per information disclosed within Table 2.13.1.	Total Movements for the Doubtful Debts Provision is calculated as the net balance between Additional provisions made in the period, including increases to existing provisions and the Unused amounts reversed during the period. Total Movements for Claims & Compensation Provision is calculated as the net balance between Additional provisions made in the period, including increases to existing provisions and the mounts	None.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					used/reversed.	

2.14 FORECAST PRICE CHANGES

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
TABLE 2.14.1	Forecast labour and materials price changes	Actual (2011 to 2014) Forecast (2015 to 2020)	n/a	BIS Shrapnel	Linked to expert report	n/a

2.17 STEP CHANGES

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 2.17.1	FORECAST OPEX STEP CHANGES FOR STANDARD CONTROL SERVICES	The following step changes are classified as estimated historical: Customer communications Distribution substation cleaning, gardening & security (2012-2014 rectification) EDPR Electrical Safety (Management) Regulations Enhanced inspection of pole	**ESV Levy and Vegetation management—Electrical Safety (Electric Line Clearance) Regulations step changes;** For these two step changes they have been classified as estimated because the 2009 costs have been escalated to nominal costs for the relevant year using CPI Refer to the methodology (2nd methodology have been used) **All other step changes;** For all other step changes the 1st methodology has been used. This is because for these step changes it is considered that there was no base year amount (the activity	Jemena utilises SAP Works Management System to manage all work to be performed on the network. The Project Systems (PS) and Plant Maintenance (PM) modules are utilised to create SAP Projects and/or PM Orders. Individual projects and/or PM Orders are created in SAP to enable work to be scheduled and materials and labour to be allocated to the job. Therefore, where there was expenditure for the step change the source of the information for these step changes are 1) individual SAP cost collectors (WBS elements and/or PM Order) or 2) invoices. **ESV Levy:** For 2009 base year, the source of the information is an extract from SAP. For 2012-2014, the source of the	JEN did not commence implementation of the step change activities until 2012 hence the reason for nil amounts being reported in CY2011. Two approaches have been taken to report step changes. **Approach 1:** Actual costs incurred equal the value of the step change because these activities were not performed prior to 2011. **Approach 2:** The difference between actual costs incurred and CPI adjusted base year amounts for those activities that were performed prior to 2011. The CPI adjusted amount was calculated using the model	The costs booked to the cost collectors (individual projects and/or PM Orders) are the total costs associated with performing the activity and are not limited to only the step change amount.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
		top assets ESV Levy HID access card maintenance IT Opex—New data centre facilities Monitoring and compliance Non pole distribution substation routine maintenance (2012-2014) inspection Opex/Capex Balance DP testing Opex/Capex balance – ZS pot	was not previously performed) in which case the actual cost that has been recorded against the cost collector for the individual year is considered to be the full step change amount (actual cost minus zero (base year amount))	information was invoices that have been received from ESV. Step change values for CY12 were sourced from JEN's CY12 RIN submission. There were no audit requirements around the CY12 step change template at the time of submission and as such it was not independently audited. Although there is evidence of the source of the CY12 information at the time of submission this is unable to be accurately reproduced in all instances.	"Asset - Escalation Template 1.xlsx" The selection of the approach was based on preparer's expert knowledge of which items were not performed prior to 2011. **Application of Approach 1:** All line items were extracted from each SAP cost collector (WBS elements and/or PM Order) and sorted into calendar year to determine the total actual cost for each year. All line item costs were extracted using SAP transaction S_ALR_87013533. **Application of Approach 2:** **ESV Levy** The methodology that has been used to calculate the reported value for each year is the sum of the invoices received (excluding GST) less	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
		VT/CT testing Opex/Capex balance ZA transformer dry outs (Trojan) Opex/Capex balance TEV testing Public lighting switch wire removal Rectification of earths in non CMEN areas Vegetation management—Electrical Safety (Electric Line Clearance) Regulations Customer Claims			the 2009 base year (nominal$). The 2009 base year has been escalated to nominal $ value using CPI. **Vegetation management—Electrical Safety (Electric Line Clearance) Regulations Step Changes;** The methodology that has been used to calculate the reported value for each year is the actual value less the 2009 base year (nominal$). The 2009 base year has been escalated to nominal $ value using CPI. **IT Opex—New data centre facilities** The methodology that has been used to calculate the reported value for each year is the actual value less the 2009	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					base year (nominal$). The 2009 base year has been escalated to nominal $ value using CPI. Where invoices were the source of the information, GST has been excluded .	
TABLE 2.17.2	FORECAST CAPEX STEP CHANGES FOR STANDARD CONTROL SERVICES	n/a	n/a	n/a	n/a	n/a
TABLE 2.17.3	FORECAST OPEX STEP CHANGES FOR DUAL FUNCTION ASSETS	n/a	n/a	n/a	n/a	n/a

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
TABLE 2.17.4	FORECAST CAPEX STEP CHANGES FOR DUAL FUNCTION ASSETS	n/a	n/a	n/a	n/a	n/a

6. SERVICE AND QUALITY

6.1 TELEPHONE ANSWERING

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 6.1.1	TELEPHONE ANSWERING DATA	Actual	n/a	JEN outsources its call centre activities to Aegis—an external service provider. Aegis operates an Interactive Voice Response (IVR) system which is the source of actual information. The statistics are reported to JEN monthly.	Aegis sends the Monthly Faults Telephony Summary Report for JEN to the Connection Point Compliance Manager. The data validation process is outlined in the AER Faults Annual GOS Reporting work instruction JEM-W-2960.3. The Daily data is extracted from the "JEN Daily *regulatory year*" worksheet. • Total number of calls received = Calls to call centre fault line - total number = NCO • calls to payment lines and	JEN assumed that no excluded events or Major Event Day (MED) data are to be excluded from table 6.1.1 and so JEN's response includes information received on MEDs.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					automated interactive services = Self serve • calls abandoned by the customer within 30 seconds of the call being queued for response by a human operator = Abd < Threshold • Calls to fault line answered in 30 seconds = Ans < Thres Sub-total number of calls received = NCO minus Self serve minus Abd < Threshold	

6.2 RELIABILITY AND CUSTOMER SERVICE PERFORMANCE

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 6.2.1	UNPLANNED MINUTES OFF SUPPLY (SAIDI) - Historical, target and proposed reliability	Actual Historical and Forecast	n/a	Historical (2010-2014) data is extracted from JEN's Outage Management System (OMS).	Historical data: Annual RIN reporting procedure: JEN PR0503 Section 3.2 Data was extracted monthly from OMS using the Cognos reporting tool. Verification and correction of data is as per the procedures outlined in Section 3.1.1 to 3.1.4 of procedure JEN PR 0502 and stored in the CMOS (Customer Minutes off Supply) database. Annual data extraction from the CMOS database for processing annual RIN (Appendix C) Template 1a is outlined in procedure JEN 0502 Section 3.2.3.1. SAIDI associated with outages greater than 1 minute duration	Historical data correction process did not involve any assumptions. The template requests data entries for "Total value of excluded events* *see 3.3 of STPIS" — JEN has assumed Clause 3.3 of the AER's STPIS and reported information inclusive of excluded events 3.3 (a) and MED 3.3 (b) for these variables. For the three regulatory period prior to 2016: 2001-2005; 2006-2010 and 2011-2015, each regulatory period had three years with total excluded events (assumed no total excluded events in

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					was calculated using the following equations: For each of the network categories applicable to JEN – Urban, Rural short and Whole network: Total unplanned SAIDI = sum of Unplanned minutes off supply per category divided by average customer numbers of the respective category in Table 6.2.4 below. Total value of excluded events* *see 3.3 of STPIS which included excluded events Clause 3.3 (a) and MED Clause 3.3 (b) of the AER's STPIS. SAIDI (after removing excluded events Clause 3.3 of AER's STPIS) applies the same principle of calculation of total unplanned SAIDI with unplanned customer minutes off supply associated with the excluded events and MED subtracted from the total	2015), therefore Proposed total excluded events assumed to occur for 3 years within the 2016-2020 regulatory period. The allocation to 2016, 2018 and 2020 is random as MED is mostly weather related and there is no weather forecast for the next five years to support any specific allocation.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					unplanned minutes off supply before dividing by customer numbers. Target (2015) is the target determined in EDPR 2011-2015. Proposed reliability: Proposed SAIDI (2016-2020) excluding Clause 3.3 of AER's STPIS = average (2010-2014 SAIDI excluding Clause 3.3 of AER's STPIS) Proposed total value of excluded events used the average of the three recent MEDs in the 2011-2015 period as the impact reflected the existing level of resilience and preparedness of the Network in response to MED. Also the MED threshold changes every year based on just previous 5 years performance.	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					Proposed total value of excluded events = average (2011, 2013, 2014 SAIDI total value of excluded events) and applied to 2016, 2018 and 2020. Proposed Total SAIDI = sum of the above two.	
TABLE 6.2.2	UNPLANNED INTERRUPTIONS TO SUPPLY (SAIFI) - Historical, target and proposed reliability	Actual	n/a	Historical (2010-2014) data is extracted from JEN's Outage Management System (OMS).	Historical data: Annual RIN reporting procedure: JEN PR0503 Section 3.2 Data was extracted monthly from OMS using the Cognos reporting tool. Verification and correction of data is as per the procedures outlined in Section 3.1.1 to 3.1.4 of procedure JEN PR 0502 and stored in the CMOS (Customer Minutes off Supply) database. Annual data extraction from the CMOS database for processing annual RIN (Appendix C)	Historical data correction process did not involve any assumptions. The template requests data entries for "Total value of excluded events* *see 3.3 of STPIS" — JEN has assumed Clause 3.3 of the AER's STPIS and reported information inclusive of excluded events 3.3 (a) and MED 3.3 (b) for these variables. For the three regulatory

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					Template 1a is outlined in procedure JEN 0502 Section 3.2.3.1. SAIFI associated with outages greater than 1 minute duration was calculated using the following equations: For each of the network categories applicable to JEN – Urban, Rural short and Whole network: Total unplanned SAIFI = sum of Unplanned customer interruptions per category divided by average customer numbers of the respective category in Table 6.2.4 below. Total value of excluded events* *see 3.3 of STPIS which included excluded events Clause 3.3 (a) and MED Clause 3.3 (b) of the AER's STPIS. SAIFI (after removing excluded events Clause 3.3 of AER's	periods prior to 2016: 2001-2005; 2006-2010 and 2011-2015, each regulatory period had three years with total excluded events (assumed no total excluded events in 2015), therefore Proposed total excluded events assumed to occur for 3 years within the 2016-2020 regulatory period. The allocation to 2016, 2018 and 2020 is random as MED is mostly weather related and there is no weather forecast for the next five years to support any specific allocation.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					STPIS) applies the same principle of calculation of total unplanned SAIFI with unplanned customer interruptions associated with the excluded events and MED subtracted from the total unplanned customer interruptions supply before dividing by customer numbers. Target (2015) is the target determined in EDPR 2011-2015. Proposed reliability: Proposed SAIFI (2016-2020) excluding Clause 3.3 of AER's STPIS = average (2010-2014 SAIFI excluding Clause 3.3 of AER's STPIS) Proposed total value of excluded events used the average of the three recent MEDs in the 2011-2015 period as the impact reflected the existing	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					level of resilience and preparedness of the Network in response to MED. Also the MED threshold changes every year based on just previous 5 years performance. Proposed total value of excluded events = average (2011, 2013, 2014 SAIFI total value of excluded events) and applied to 2016, 2018 and 2020. Proposed Total SAIFI = sum of the above two.	
TABLE 6.2.3	UNPLANNED MOMENTARY INTERRUPTIONS TO SUPPLY (MAIFI) - Historical, target and proposed reliability	Actual	n/a	Historical (2010-2014) data is extracted from JEN's Outage Management System (OMS).	Historical data: Annual RIN reporting procedure: JEN PR0503 Section 3.2 Data was extracted monthly from OMS using the Cognos reporting tool. Verification and correction of data is as per the procedures outlined in Section 3.1.1 to 3.1.4 of procedure JEN PR 0502 and stored in the CMOS (Customer	JEN applies the principle of MAIFI consistently over the regulatory reporting years and is aligned with Victorian reporting on MAIFI. MAIFI is momentary interruption per event, for auto circuit recloser that has multiple recloses in one reclose sequence, the

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					Minutes off Supply) database. Annual data extraction from the CMOS database for processing annual RIN (Appendix C) Template 1a is outlined in procedure JEN 0502 Section 3.2.3.1. MAIFI associated with outages less than or equal to1 minute duration was calculated using the following equations: For each of the network categories applicable to JEN – Urban, Rural short and Whole network: Total MAIFI = sum of momentary customer interruptions per category divided by average customer numbers of the respective category in Table 6.2.4 below. Total value of excluded events* *see Clause 3.3 of STPIS which	momentary customer interruptions are counted as per reclose sequence but not the sum of each individual reclose within the reclose sequence. The template requests data entries for “Total value of excluded events* *see 3.3 of STPIS” — JEN has assumed Clause 3.3 of the AER's STPIS and reported information inclusive of excluded events 3.3 (a) and MED 3.3 (b) for these variables. For the three regulatory periods prior to 2016: 2001-2005; 2006-2010 and 2011-2015, each regulatory period had three years with total excluded events (assumed

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					included excluded events Clause 3.3 (a) and MED Clause 3.3 (b) of the AER's STPIS. MAIFI (after removing excluded events Clause 3.3 of AER's STPIS) applies the same principle of calculation of total MAIFI with momentary customer interruptions associated with the excluded events and MED subtracted from the total momentary customer interruptions supply before dividing by customer numbers. Target (2015) is the target determined in EDPR 2011-2015. Proposed reliability: Proposed MAIFI (2016-2020) excluding Clause 3.3 of AER's STPIS = average (2010-2014 MAIFI excluding Clause 3.3 of AER's STPIS)	no total excluded events in 2015), therefore Proposed total excluded events assumed to occur for 3 years within the 2016-2020 regulatory period. The allocation to 2016, 2018 and 2020 is random as MED is mostly weather related and there is no weather forecast for the next five years to support any specific allocation.

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					Proposed total value of excluded events used the average of the three recent MEDs in the 2011-2015 period as the impact reflected the existing level of resilience and preparedness of the Network in response to MED. Also the MED threshold changes every year based on the previous 5 years performance. Proposed total value of excluded events = average (2011, 2013, 2014 MAIFI total value of excluded events) and applied to 2016, 2018 and 2020. Proposed Total MAIFI = sum of the above two.	
TABLE 6.2.4	CUSTOMER NUMBERS	Actual	n/a	The source of Network customer numbers is JEN's SAP ISU and CIS Plus (SAS) internal systems. Urban and rural short feeder customer	The 2014 average network customers as reported in annual RIN (including unmetered supply points) were used as a base number to	Historical customer numbers: Although the total number of customers from the Geographic Information System (GIS) network model

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
		Estimated		numbers are extracted from the network model which is derived from the Geographic Information System (GIS) ACIL Allen Consulting – Jemena Electricity Networks Electricity Consumption Forecasts report	calculate the 2015-2020 forecast. The customer growth forecast provided by the Commercial Performance team (sourced from the ACIL Allen Consulting – Jemena Electricity Networks Electricity Consumption Forecasts report) was applied to the 2014 base number. The forecast assumes that unmetered supply points remain constant. The current Urban/Rural short customer ratio of 95/5% was applied to the total customer number forecast.	does not exactly match the total network customer numbers extracted from SAP ISU and CIS Plus (SAS) systems, the discrepancy is immaterial. Therefore the calculated urban and rural short customer numbers are considered as 'actual information'. Forecast customer numbers for 2015 to 2020 assumes unmetered supply points remains constant.
TABLE 6.2.5	CUSTOMER SERVICE	Actual	n/a	JEN outsources its call centre activities to Aegis—an external service provider. Aegis operates an Interactive Voice Response (IVR) system which is the	Aegis sends the Monthly Faults Telephony Summary Report for JEN Network to the Connection Point Compliance Manager	Given that this is the STPIS related item, JEN assumed that the intent of historical 2010-2014 is Total - after

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
				source of actual information. The statistics are reported to JEN monthly.	Historical 2010-2014 data refer to Table 6.1 above. Annual data = sum daily data. Number of calls received = sum(Daily Sub-total number of calls received) Number of calls answered within 30 seconds = sum(Daily Calls to the fault line answered in 30 seconds) Target (2015) is the target determined in EDPR 2011-2015. Proposed target (2016-2020) = average (2010-2014 actual performance) JEN has applied the same principle of setting the 2011-2015 targets in the 2011-2015 EDPR which is based on average actual	removing 3.3 of STPIS i.e. excluded events and MED

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					performance to propose the 2016-2020 targets. The principle of forecasting performance has not involved forecasting volume of Calls received and Calls answered within 30 second.	

6.4 HISTORICAL MAJOR EVENT DAY

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
TABLE 6.4.1	HISTORICAL DAILY SAIDI	Actual	n/a	Jemena's Customer Information System (CIS) was the repository for all outage information between 1 January 2005 and 18 June 2010. From 19 June 2010 onwards, JEN's Outage Management System (OMS) became the repository of all outage	Daily unplanned SAIDI for the MED is defined as daily unplanned customer minutes off supply excluding excluded events as defined in Clause 3.3 (a) of STPIS divided by network customer numbers.	NIL

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
				information. The source of Network customer numbers is JEN's internal SAP ISU and CIS Plus (SAS) systems	Outage data was extracted from CIS or OMS monthly. Verification and correction of data is as per the procedures outlined in Section 3.1.1 to 3.1.4 of procedure JEN PR 0502 and stored in the CMOS (Customer Minutes off Supply) database. Daily unplanned customer minutes off supply data is then extracted from the CMOS database. Customer numbers data collection and verification procedures are outlined in JEN PR 0017 to extract distribution customer numbers for the whole network as defined in the RIN definition of Distribution customers – all active NMIs including unmetered supply points; disconnected and abolished NMI are excluded. Historical daily SAIDI 2005-2010 were calculated using customer numbers as reported at the end of	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					each month. The daily SAIDI 2005-2009 data is the same as in the EDPR 2011-2015 submission; the daily SAIDI 2010 data applied the same methodology as per 2005-2009. The AER's annual RIN defined that the number of network customers should be calculated as the average number of customers at the start and at the end of the regulatory period since 2011. Daily SAIDI since 2011 is calculated using the same average customer numbers as reported in JEN's responses to the annual RIN. Daily SAIDI data input for MED calculation exclude excluded events defined in Clause 3.3 (a) of AER's	

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
					STPIS.	

7. OTHER TEMPLATES

7.4 SHARED ASSETS

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
TABLE 7.4.1	TOTAL UNREGULATED REVENUE EARNED WITH SHARED ASSETS	CY2006 – 2013 Estimated CY2014 – Actual Joint use of Poles and	No specific General Ledger was set up to capture various types of un-regulated revenue. n/a	Joint use of poles and dark fibre cables: sourced from available billing invoices Security beam: actual revenue and volume in CY2014, actual volumes in CY2006 to 2013 Specific General Ledger from SAP and invoice details Forecast is based on historical data as there is no evidence to suggest	Summation of all available billing amounts. Revenue for CY2006-2013 is back casted based on actual revenue and volume in CY2014, and prior years' actual annual volumes. Volume in 2006 equals to volume in 2007 as JEN did not record security beam volumes prior to 2007. Security beam revenue amount is directly sourced from relevant General Ledger in SAP. Sum of revenue for joint use of poles and dark fibre cables is sourced from relevant General Ledger in SAP, then subsequently split between joint use of poles and	Billed amounts properly reflect all revenues earned. Revenue for each year is mainly driven by volumes.

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
		Dark Fibres– Forecast Security Beams – Forecast	n/a	significant change in revenue. Forecast is based on historical data and the analysis of past year variances.	dark fibres based on billing details. We estimate that joint use of poles revenue is equal to the revenue from 2014. Revenue will only grow according to inflation. We estimated that the revenue from 2015 to 2020 will change by the compound annual growth rate observed in the past 5 years (2009 to 2014).	The compound annual growth from 2009 to 2014 is minus 2.1%
TABLE 7.4.2	SHARED ASSET UNREGULATED SERVICES - APPORTIONMENT METHODOLOGY	n/a	n/a	n/a		*n/a*

7.5 EBSS

Base information		Data Type		Population approach		
Table number	**Table Name**	**Actual Historical and/or Estimated Historical, Forecast**	**Reasons For estimation**	**Source**	**Methodology**	**Assumptions**
Table 7.5.1.1	Opex allowance applicable to EBSS (EBSS target)	n/a	n/a	n/a	n/a	n/a
Table 7.5.1.2	Actual and estimated opex applicable to EBSS	Actual Total Opex (Actual)	n/a n/a	JEN's annual RIN submission (**RIN A**) JEN's annual Regulatory Accounting Statements (**RAS**) submission.	JEN linked the items in table 7.5.1.2 directly to the corresponding tables in its RIN A submission. These are: CY14 Template 15 Table 1 CY11-CY13 Template 21 Table 1. The total opex is the total of the "Regulated by Price Cap" columns of the Maintenance and Activity Areas templates of the RAS. This submission did not include related party margins. [c-i-c] [c-i-c]	n/a None

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
		Self-insurance – Customer Claims (Actual)	n/a	The Data is obtained from sources as listed below: • The SAP system that JEN uses to capture its financial and some operational information. • The Claims Database that resides outside SAP is used by JEN's Customer Service Team to record the claims.	[c-i-c] Data for the current regulatory period is extracted from SAP. The SAP extract contains the Claims ID. This agrees to the values reported under the 'Claims ID' in the Claims Database as maintained by the Customer Service team. Data is also extracted from the Claims Database for the same period used in the SAP extract. The claims database extract contains the key columns such as Claims ID, Incident/Outage Date, Received Date, Closed Date and Trouble Order Number (TON). Further, each TON may have multiple Claims IDs under them. The SAP data relating to Payments is checked against TON	None

Base information		Data Type		Population approach		
Table number	Table Name	Actual Historical and/or Estimated Historical, Forecast	Reasons For estimation	Source	Methodology	Assumptions
		GSL payments (Actual)	n/a	The SAP system that JEN uses to capture its financial information.	tables in the claims database for accuracy. The number of events is obtained by adding up the number of individual TONs. Transactional listings from the GSL general ledger account.	None
Table 7.5.2						

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