Attachment A2: Supplementary Information

This document provides information requested by the Australian Energy Regulator in the Regulatory Information Notice issued in 7 March 2014 that is not provided in the Subsequent Regulatory Proposal, regulatory templates or in a separate attachment.

1 Copies of the top ten contracts

1.5	Provide for the purposes of the preparation of the regulatory proposal: (d) copies of the top ten contracts relating to the delivery of distribution services, by annual value, and any supporting information directly related to the procurement process for the services provided by these contracts (e.g. probity reports, Board minutes, tendering documents)

ActewAGL Distribution analysed expenditure in 2012/13 to identify the top 10 contracts by annual value. The current contracts identified are summarised in table 1 and supporting information provided in Appendices 1.5(a).

Table 1 Summary of ActewAGL Distribution's largest 10 contracts by annual value

Contract	*Description*	*Suppliers*	*Supporting Information*
PC05/11 - Supply & Delivery of Ground Mounted Transformers and Padmount Substations	[redacted]	[redacted]	Appendix 1.1
PC31/11 - Supply & Delivery of Cable and Conductors	[redacted]	[redacted]	Appendix 1.2
024/08 - ActewAGL Fleet Leasing Arrangements AAD, AAR and Corporate	[redacted]	[redacted]	Appendix 1.3

	[redacted]		
N701 - Trimming or Removal of Vegetation away from ActewAGL's Network Facilities	[redacted]	[redacted]	Appendix 1.4
PC125/06 - Electricity Meter Reading Services (Interval Meters)	[redacted]	[redacted]	Appendix 1.5
PC215/10 - Pole Reinforcement Works	[redacted]	[redacted]	Appendix 1.6
163/08 - Support Services for [redacted]	[redacted]	[redacted]	Appendix 1.7
218/10 - Utility Pole	[redacted]	[redacted]	Appendix 1.8

Replacement & Associated Works	[redacted]	
PC001/10 - Supply & Delivery of Direct Connected Meters Electricity	[redacted]	Appendix 1.9
102/09 - Customer Accounts - Electricity, Gas & Water Meter Reading Services	[redacted]	Appendix 1.10

5.3 Forecast Capex identification

5.3	Identify which items of ActewAGL's *forecast capex* have been: (a) derived directly from competitive tender processes; (b) based upon competitive tender processes for similar projects; (c) based upon estimates obtained from contractors or manufacturers; (d) based upon independent benchmarks; (e) based upon actual historical costs for similar projects; and (f) reflective of any amounts for risk, uncertainty or other unspecified contingency factors, and if so, how these amounts were calculated and deemed reasonable.

Electricity Networks Capex Projects	*Basis of capex forecasts*
Customer initiated	
Commercial and Industrial Developments	(e) based upon actual historical costs for similar projects
Community and Associated Developments	(e) based upon actual historical costs for similar projects
Meters	(d) based upon independent benchmarks;
New Urban Development	(e) based upon actual historical costs for similar projects
Relocations	(e) based upon actual historical costs for similar projects
Replacement	(e) based upon actual historical costs for similar projects
Rural Developments	(e) based upon actual historical costs for similar projects
Services	(d) based upon independent benchmarks;
Special Customer Requests	(e) based upon actual historical costs for similar projects
Urban Infill	(e) based upon actual historical costs for similar projects
Asset replacement	
Distribution Substation	(e) based upon actual historical costs for similar projects
Distribution Overhead	(d) based upon independent benchmarks;
Distribution Underground	(e) based upon actual historical costs for similar projects
Meters	(d) based upon independent benchmarks;
Zone Substation	(e) based upon actual historical costs for similar projects
Sub Transmission	(e) based upon actual historical costs for similar projects
Secondary Systems	(e) based upon actual historical costs for similar projects
Distribution Earthing	(e) based upon actual historical costs for similar projects
Property	(e) based upon actual historical costs for similar projects
Asset augmentation	
Zone Substations	(b) based upon competitive tender processes for similar projects;

Distribution System	(e) based upon actual historical costs for similar projects
Subtransmission	(b) based upon competitive tender processes for similar projects;
Substations	(e) based upon actual historical costs for similar projects
Secondary Systems	(e) based upon actual historical costs for similar projects
Demand Response	(d) based upon independent benchmarks;
Reliability and quality improvements	
Distribution System	(e) based upon actual historical costs for similar projects
Zone Substations	(b) based upon competitive tender processes for similar projects;
Subtransmission	(b) based upon competitive tender processes for similar projects;
Electricity network IT systems	
IT Systems	(d) based upon independent benchmarks;
Facilities	
ENF Facilities	(e) based upon actual historical costs for similar projects
Non-system assets	
Non System Assets	(e) based upon actual historical costs for similar projects
Finance Lease Assets	(e) based upon actual historical costs for similar projects

6.1 Replacement Capital Expenditure Modelling

6.1	In relation to information provided in *regulatory templates* 2.2 and 5.2 and with respect to the AER's *repex model*, provide: (a) In relation to individual asset categories set out in the regulatory templates, provide in a separate document: (i) a description of the asset category, including: (A) the assets included and any boundary issues (i.e. with other asset categories); (B) an explanation of how these matters have been accounted for in determining quantities in the age profile; (C) an explanation of the main drivers for replacement (e.g. condition, etc.); and (D) an explanation of whether the replacement unit cost provides for a complete replacement of the asset, or some other activity, including an extension of the asset's life (e.g. pole staking) and whether the costs of this extension or other activity are capitalised or not. (ii) an estimate of the proportion of assets replaced for each year of the *current regulatory control period*, due to: (A) aging of existing assets (e.g. condition, obsolesce, etc) that should be largely captured by this form of replacement modelling; (B) replacements due to other factors (and a description of those factors); (C) additional assets due to the augmentation, extension, development of the network; and (D) additional assets due to other factors (and a description of those factors).

(A)

Asset group	*Asset Category*	*Asset description, boundary issues etc*
POLES BY: **HIGHEST OPERATING VOLTAGE ; MATERIAL TYPE; STAKING (IF WOOD)**	STAKING OF A WOODEN POLE	Metal reinforcement of below ground section of a wood pole by means of a metal "stake" that is attached to the pole above ground to reinforce the pole.
	< = 1 kV; WOOD	Support structures for overhead lines, of the material specified. Voltage is nominal voltage of highest voltage circuit attached to the pole. Excludes pole tops and conductors. Includes stay poles. Excludes privately owned poles (including street lighting poles owned by others).
	> 1 kV & < = 11 kV; WOOD	
	> 11 kV & < = 22 kV; WOOD	
	> 22 kV & < = 66 kV; WOOD	
	> 66 kV & < = 132 kV; WOOD	
	> 132 kV; WOOD	
	< = 1 kV; CONCRETE	
	> 1 kV & < = 11 kV; CONCRETE	
	> 11 kV & < = 22 kV; CONCRETE	
	> 22 kV & < = 66 kV; CONCRETE	
	> 66 kV & < = 132 kV; CONCRETE	
	> 132 kV; CONCRETE	
	< = 1 kV; STEEL	
	> 1 kV & < = 11 kV; STEEL	
	> 11 kV & < = 22 kV; STEEL	

	> 22 kV & < = 66 kV; STEEL	
	> 66 kV & < = 132 kV; STEEL	
	> 132 kV; STEEL	
	Other - Fibreglass, Stobie etc	Fibreglass and stobie poles (not wood, concrete or steel) at any voltage.
POLE TOP STRUCTURES BY: **HIGHEST OPERATING VOLTAGE**	< = 1 kV	Poletop assets other than the pole (primary support structure) and conductors. Includes crossarms, poletop assemblies, insulators and other equipment. Pole caps are considered integral to the pole where fitted.
	> 1 kV & < = 11 kV	
	> 11 kV & < = 22 kV	
	> 22 kV & < = 66 kV	
	> 66 kV & < = 132 kV	
	> 132 kV	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution
OVERHEAD CONDUCTORS BY: **HIGHEST OPERATING VOLTAGE; NUMBER OF PHASES (AT HV)**	< = 1 kV	Primary current carrying conductors, including overhead earthwires. Excludes insulators and poletop hardware.
	> 1 kV & < = 11 kV	
	> 11 kV & < = 22 kV ; SWER	
	> 11 kV & < = 22 kV ; SINGLE-PHASE	
	> 11 kV & < = 22 kV ; MULTIPLE-PHASE	
	> 22 kV & < = 66 kV	
	> 66 kV & < = 132 kV	
	> 132 kV	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution.
UNDERGROUND CABLES BY: **HIGHEST OPERATING VOLTAGE**	< = 1 kV	Single and multiple phase cables for subtransmission, HV and LV lines, according to nominal operating voltage. Excludes pilot, communications and other cables.
	> 1 kV & < = 11 kV	
	> 11 kV & < = 22 kV	
	> 22 kV & < = 33 kV	
	> 33 kV & < = 66 kV	
	> 66 kV & < = 132 kV	
	> 132 kV	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution.
SERVICE LINES BY: **CONNECTION VOLTAGE; CUSTOMER TYPE; CONNECTION COMPLEXITY**	< = 11 kV ; RESIDENTIAL ; SIMPLE TYPE	Connections from the network to customers Point of Attachment. Simple (basic) connections are 16mm2 cables of <=100A connection capacity, otherwise considered complex. Subdivision assets are those classified as “new urban development” in ActewAGL Distribution’s capital accounts, including new greenfield subdivisions. Redevelopment of previously developed sites is considered “urban infill” and classified as a simple or complex residential (or C/I) connection. Services classified by nominal connection voltage.
	< = 11 kV ; COMMERCIAL & INDUSTRIAL ; SIMPLE TYPE	
	< = 11 kV ; RESIDENTIAL ; COMPLEX TYPE	
	< = 11 kV ; COMMERCIAL & INDUSTRIAL ; COMPLEX TYPE	
	< = 11 kV ; SUBDIVISION ; COMPLEX TYPE	
	> 11 kV & < = 22 kV ; COMMERCIAL & INDUSTRIAL	

	> 11 kV & < = 22 kV ; SUBDIVISION	
	> 22 kV & < = 33 kV ; COMMERCIAL & INDUSTRIAL	
	> 22 kV & < = 33 kV ; SUBDIVISION	
	> 33 kV & < = 66 kV ; COMMERCIAL & INDUSTRIAL	
	> 33 kV & < = 66 kV ; SUBDIVISION	
	> 66 kV & < = 132 kV ; COMMERCIAL & INDUSTRIAL	
	> 66 kV & < = 132 kV ; SUBDIVISION	
	> 132 kV ; COMMERCIAL & INDUSTRIAL	
	> 132 kV ; SUBDIVISION	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution.
TRANSFORMERS BY: **MOUNTING TYPE; HIGHEST OPERATING VOLTAGE ; AMPERE RATING; NUMBER OF PHASES (AT LV)**	**POLE MOUNTED ;** < = 22kV ; < = 60 kVA ; SINGLE PHASE	Distribution and zone power transformers, according to the mounting and voltage specified. Voltage is nominal voltage of HV side of transformer. Rating is nameplate rating Excludes instrument, metering, protection (VT, CT) transformers Includes only transformers, excludes other substation components (added as separate “other” category). Includes tap changers, bushings, end-boxes and other integral components.
	; < = 22kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE	
	; < = 22kV ; > 600 kVA ; SINGLE PHASE	
	; < = 22kV ; < = 60 kVA ; MULTIPLE PHASE	
	; < = 22kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE	
	; < = 22kV ; > 600 kVA ; MULTIPLE PHASE	
	; > 22 kV ; < = 60 kVA	
	; > 22 kV ; > 60 kVA AND < = 600 kVA	
	; > 22 kV ; > 600 kVA	
	; > 22 kV ; < = 60 kVA	
	; > 22 kV ; > 60 kVA AND < = 600 kVA	
	; > 22 kV ; > 600 kVA	
	KIOSK MOUNTED ; < = 22kV ; < = 60 kVA ; SINGLE PHASE	
	< = 22kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE	
	< = 22kV ; > 600 kVA ; SINGLE PHASE	

	< = 22kV ; < = 60 kVA ; MULTIPLE PHASE	
	< = 22kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE	
	< = 22kV ; > 600 kVA ; MULTIPLE PHASE	
	> 22 kV ; < = 60 kVA	
	> 22 kV ; > 60 kVA AND < = 600 kVA	
	> 22 kV ; > 600 kVA	
	> 22 kV ; < = 60 kVA	
	> 22 kV ; > 60 kVA AND < = 600 kVA	
	> 22 kV ; > 600 kVA	
	GROUND OUTDOOR / INDOOR CHAMBER MOUNTED ; < 22 kV ; < = 60 kVA ; SINGLE PHASE	
	< 22 kV ; > 60 kVA AND < = 600 kVA ; SINGLE PHASE	
	< 22 kV ; > 600 kVA ; SINGLE PHASE	
	< 22 kV ; < = 60 kVA ; MULTIPLE PHASE	
	< 22 kV ; > 60 kVA AND < = 600 kVA ; MULTIPLE PHASE	
	< 22 kV ; > 600 kVA ; MULTIPLE PHASE	
	> = 22 kV & < = 33 kV ; < = 15 MVA	
	> = 22 kV & < = 33 kV ; > 15 MVA AND < = 40 MVA	
	> = 22 kV & < = 33 kV ; > 40 MVA	
	> 33 kV & < = 66 kV ; < = 15 MVA	
	> 33 kV & < = 66 kV ; > 15 MVA AND < = 40 MVA	
	> 33 kV & < = 66 kV ; > 40 MVA	
	> 66 kV & < = 132 kV ; < = 100 MVA	
	> 66 kV & < = 132 kV ; > 100 MVA	
	> 132 kV ; < = 100 MVA	
	> 132 kV ; > 100 MVA	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution.
SWITCHGEAR	< = 11 kV ; FUSE	Circuit interrupting devices including fuses, switches

BY: **HIGHEST OPERATING VOLTAGE ; SWITCH FUNCTION**	< = 11 kV ; SWITCH	and circuit breakers, according to device type and nominal operating voltage specified. Excludes associated protection and control equipment (included in “other” category)
	< = 11 kV ; CIRCUIT BREAKER	
	> 11 kV & < = 22 kV ; SWITCH	
	> 11 kV & < = 22 kV ; CIRCUIT BREAKER	
	> 22 kV & < = 33 kV ; SWITCH	
	> 22 kV & < = 33 kV ; CIRCUIT BREAKER	
	> 33 kV & < = 66 kV ; SWITCH	
	> 33 kV & < = 66 kV ; CIRCUIT BREAKER	
	> 66 kV & < = 132 kV ; SWITCH	
	> 66 kV & < = 132 kV ; CIRCUIT BREAKER	
	> 132 kV ; SWITCH	
	> 132 kV ; CIRCUIT BREAKER	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution.
PUBLIC LIGHTING BY: **ASSET TYPE ; LIGHTING OBLIGATION**	LUMINAIRES ; MAJOR ROAD	ActewAGL Distribution does not own and operate streetlighting assets
	LUMINAIRES ; MINOR ROAD	
	BRACKETS ; MAJOR ROAD	
	BRACKETS ; MINOR ROAD	
	LAMPS ; MAJOR ROAD	
	LAMPS ; MINOR ROAD	
	POLES / COLUMNS ; MAJOR ROAD	
	POLES / COLUMNS ; MINOR ROAD	
	OTHER - PLEASE ADD A ROW IF NECESSARY AND NOMINATE THE CATEGORY	No additional categories required – nominated categories were able to accommodate all assets of this class operated by ActewAGL Distribution.
SCADA, NETWORK CONTROL AND PROTECTION SYSTEMS BY: **FUNCTION**	FIELD DEVICES	SCADA, protection and control system assets.
	LOCAL NETWORK WIRING ASSETS	
	COMMUNICATIONS NETWORK ASSETS	
	MASTER STATION ASSETS	
	SCADA Radio System Assets	Added category: Radio system assets for SCADA communications
	other protection and secondary systems	Added category: Other protection and secondary systems assets, including batteries and chargers, protection relays and systems, etc
OTHER BY: **DNSP DEFINED**	Other substations and equipment	Added category: Substation assets excluding transformers, switchgear and protection systems.

	Includes housings, LV boards, fences, doors and locks, etc.

(B)

The asset category definitions above have been applied in allocating each ActewAGL Distribution asset to one of the nominated regulatory template categories. Asset ages have been determined according to installation, manufacture or estimated dates (as described in basis of preparation).

(C)

Condition is the primary driver for planned replacements, with failure being the primary driver for unplanned replacements.

High risk assets including poles, zone and switching substation assets are subject to routine inspection and condition assessment or monitoring, along with some distribution switchgear and other assets. As equipment ages and deteriorates, its condition will be the primary driver for replacement. Other low risk assets are generally operated under "run to failure" asset maintenance strategies, and will be replaced as unplanned replacements upon failure.

In limited instances, assets are replaced based on limited functionality, lack of support or available spares, safety risks, etc.

(D)

All costs are replacement costs, except pole nailing which is separately costed.

(ii)

(A)

Most assets replaced due to effects of aging. Minor exceptions would be vehicular and storm damage.

(B)

Vehicular accidents to distribution equipment and storm damage. In limited instances known safety risks for certain equipment types may precipitate their replacement.

(C)

Over 5 years 44% of value capital works are augmentation projects.

(D)

Nil

6.1	In relation to information provided in *regulatory templates* 2.2 and 5.2 and with respect to the AER's *repex model*, provide: (b) Justification for the *replacement life* statistics provided (the mean and standard deviation), including: (i) the methodology, data sources and assumptions used to derive the statistics;

	(ii) the relationship to historical replacement lives for that asset category; and (iii) ActewAGL's views on the most appropriate probability distribution to simulate the replacement needs of that asset category, including matters such as: (A) the appropriateness of the normal distribution or another distribution (e.g. the Weibull distribution); (B) the typical age when the "wear out" phase becomes evident; (C) the "skewness" of the distribution; and (D) the process applied to verify that the parameters are a reasonable estimate of the life for the asset category.

(i)

Main data source is WASP, the maintenance management system. Methodology is to apply appropriate distribution curve derived from survival versus age curve. Frequent assumptions: life of asset can be calculated from nameplate data, or project completion date. Where there is not a sufficient population of replaced or failed assets, or unreliable age data etc, typical asset lives according to industry practice have been adopted, with the SD calculated based on the assumption that the bulk of assets will have a life within ±10% of the nominal life. That is, if 95% are replaced within ±10%, the SD will be equal to 5% of nominal life.

(ii)

Depends of replacement strategy, for distribution transformers this is run to failure, so replacement life is age of asset. For poles, condition monitoring determines the time for replacement or further treatment.

(iii)

(A)

Typically normal distribution is assumed, but detailed analysis of the nature of the distribution of actual service lives and the best fit distribution has generally not been undertaken by ActewAGL Distribution. At present, ActewAGL Distribution undertakes replacement based on condition or failure, and has not had an operational need to analyse and determine the most accurate distribution to describe asset lives.

(B)

Depends on if condition monitoring is deployed. Some assets are run to failure, so no wear out is evident. Poles and power transformers undergo condition monitoring, and provide warning of deterioration, but this does not necessarily indicate a degradation in performance. ActewAGL Distribution does not have a formal operational definition that defines the commencement of the "wear out" phase for most assets, and hence does not collect statistics that could assist in describing the onset of this phase. In practice, all assets will commence wearing out from the date of installation, and as actual condition is often difficult or prohibitively expensive to determine with accuracy, and the definition of "wear out" often subjective, ActewAGL Distribution does not generally consider this to be a useful operational metric or one that is routinely calculated or analysed.

(C)

For most assets, there are insufficient numbers, or insufficient data to determine statistical parameters of sufficient significance. For poles and distribution substations, the distribution generally has a low level skew to the right since a small number of assets, due to a combination of circumstances have a very long

life, however this does not preclude the existence of early mortality outliers. This again in not a metric that is considered operationally useful.

(D)

Estimated asset lives have been audited against industry standards by JACOBS SKM. Other parameters are subject to review by comparison of field data and theoretical models.

6.1	In relation to information provided in *regulatory templates* 2.2 and 5.2 and with respect to the AER's *repex model*, provide: (c) The derivation of replacement unit costs and asset lives, including any internal documentation or analysis or independent benchmarking, that justifies or supports its cost data. This must cover: (i) the methodology, data sources and assumptions used to derive the cost data; (ii) the possibility of double-counting costs in the estimate, and the process applied to ensure this is appropriately accounted for; (iii) the variability in the unit costs between individual asset replacements, and the main drivers of the variability; (iv) the relationship of the unit cost, and its derivation, to historical replacement costs for that asset category (this should clearly differentiate and quantify any assumed cost difference due to labour/material price changes and other factors); (v) the process applied to verify that the parameter is a reasonable estimate of the unit cost for the asset category; and (vi) identify and provide information or documentation to justify and support any responses to 6.1(c) above.

(i)

ActewAGL uses the following methodologies for deriving cost data:

- *Supplier Documentation:* Proposals, catalogues, design data and reports are used as data source where appropriate. Various potential suppliers often submit proposals for consideration, and there proposals not only include acquisition cost factors, but also life cycle cost considerations.
- *Historical Data:* Actual historical information on existing assets similar to configuration and function to the project being developed may be used when applicable.
- *Advance Planning data:* Advance planning data for the project being evaluated, inclusing market analysis, government forecasts, and technical feasibility studies.
- *Individual cost estimates:* This involves using installation cost standards, unit rates, and recurring costs in general.

Assumptions and estimates may be required for some parameters such as travel and labour times.

(ii)

The possibility of double-counting is precluded through the use of single source of planned work in the asset management application RIVA. This software application has extensive information storage on assets, their attributes and activities attributable to those assets. A treatment strategy is applied to each significant asset, which is the rolled out and costed into a complete life cycle program. The software ensures all activities are programmed and costed, and none are double counted.

(iii)

Unit costs are consistent between identical type and size assets. Installation costs may vary due to installation site peculiarities, for example, a particular cable installation project may involve more rock in a trench than previously estimated. For brownfield replacements (which forms the bulk of replacement projects) the installed cost is highly dependent on the site, ability to work safely around other existing assets, the proportion and type of assets being replaced, and whether functionality or other capabilities are being upgraded in concert with the replacement.

(iv)

Wherever appropriate, historical data is used to inform unit costs. Differences may arise due to changes in procurement costs, and in some cases, changes in installation requirements. Allowances also need to be made for changes in material labour rates. Contract costs are highly sensitive to supply demand balance, and the amount of work contractors currently have in their forward pipeline. ActewAGL Distribution seeks to retain a current knowledge of pricing in the contract market, however this is dependent on having undertaken recent projects of a similar type. Trends are difficult to track, as they are regionally specific though influenced by national conditions, and different contractors specialising in different areas (eg cables, civils, substations, etc) can have differing forward work pipelines and appetites for new work.

(v)

Cost parameters have been audited against industry standards by JACOBS SKM. Other parameters are subject to review by comparison of field data and theoretical models.

(vi)

See answers for 6.1.(b) (iii) D and 6.1.(c) (v)

7.2 Augmentation Capital Expenditure Modelling

7.2	In relation to information provided in *regulatory template* 2.4 and with respect to the AER's *augex model*, provide: (a) Separately for *sub-transmission lines*, *sub-transmission* and *zone substations*, *HV feeders* and *distribution substations*, ActewAGL must explain how it: (i) Prepared the *maximum demand* data (weather corrected at 50 per cent *probability of exceedance*; see Schedule 2 for further guidance) provided in the asset status tables (tables 2.4.1 to 2.4.4), including where relevant: (A) how this value relates to the *maximum demand* that would be used for normal planning purposes; (B) whether it is based upon a measured value, and if so, where the measurement point is and how abnormal operating conditions are allowed for; (C) whether it is based on estimated (rather than actual measured) demand, and if so, the basis of this estimation process and how it is validated; and (D) The relationship of the values provided to *raw unadjusted maximum demand*; and the relationship of the values provided to the values that could be expected from weather corrected *maximum demand* measures that reflect a 10 per cent *probability of exceedance* year. (ii) Determined the rating data provided in the asset status tables (tables 2.4.1 to 2.4.4), including where relevant: (A) the basis of the calculation of the ratings in that segment, including asset data measured and assumptions made; and (B) the relationship of these ratings with ActewAGL's approach to operating and planning the network. For example, if alternative ratings are used to determine the *augmentation* time, these should be defined and explained. (iii) Determined the growth rate data provided in the asset status tables (tables 2.4.1 to 2.4.4). This should clearly indicate how these rates have been derived from *maximum demand* forecasts or other load forecasts available to ActewAGL.

(i)

Segment	*Information*
Subtransmission lines	Demand data taken from SCADA and/or bulk supply point metering data. ActewAGL Distribution does not weather correct historic demand[1] hence values presented are *raw* not P50. This is the maximum demand value that would be used for normal planning purposes. It is based on measured MVA values (with MW estimated based on typical PF where MW are not measured), at substation circuit breakers. There is no adjustment for abnormal operating conditions. Analysis of P50 and P10 forecasts show summer P10 demands are around 5.2% higher on average than P50 (with a range of 3.6% - 7.5% depending on the temperature sensitivity of individual zone loads). Raw unadjusted maximum demands can be expected to average around P50 values over several years. Winter P10-50 demands differ by 0-1% and do not generally drive augmentation decisions.

[1] ActewAGL Distribution's demand forecast model uses temperature as one of the regression variables, hence forecast demands are P50, but weather corrected historic demands are not produced as an intermediate step in this process…

Zone substations	Demand data taken from SCADA and/or bulk supply point metering data. ActewAGL Distribution does not weather correct historic demand hence values presented are *raw* not P50. This is the maximum demand value that would be used for normal planning purposes. It is based on measured MVA values (with MW estimated based on typical PF where MW are not measured), at substation circuit breakers. There is no adjustment for abnormal operating conditions. Analysis of P50 and P10 forecasts show summer P10 demands are around 5.2% higher on average than P50 (with a range of 3.6% - 7.5% depending on the temperature sensitivity of individual zone loads). Raw unadjusted maximum demands can be expected to average around P50 values over several years. Winter P10-50 demands differ by 0-1% and do not generally drive augmentation decisions.
HV feeders	Demand data taken from SCADA data. ActewAGL Distribution does not weather correct historic demand hence values presented are *raw* not P50. This is the maximum demand value that would be used for normal planning purposes. It is based on measured MVA values (with MW estimated based on typical PF where MW are not measured), at substation circuit breakers. There is no adjustment for abnormal operating conditions. Analysis of P50 and P10 forecasts show summer P10 demands are around 5.2% higher on average than P50 (with a range of 3.6% - 7.5% depending on the temperature sensitivity of individual zone loads). Raw unadjusted maximum demands can be expected to average around P50 values over several years. Winter P10-50 demands differ by 0-1% and do not generally drive augmentation decisions.
Distribution substations	ActewAGL Distribution does not regularly measure distribution substation demand, and hence does not have actual demand data for distribution substations. For table 2.4.4 in the regulatory templates, ActewAGL Distribution has estimated average substation utilisation by dividing peak demand by installed transformer capacity. A modified normal distribution was used around this average figure to estimate the proportion of substations in each of the Regulatory Information Notice loading bands (see Basis of Preparation for more detail). Organic growth within the ActewAGL Distribution area is low, and generally substation planning is triggered by new connections rather than organic growth. Hence these values are not used as the basis for normal planning decisions. These are not based on measured values (other than system maximum demand, measured at transmission bulk supply points). There is no adjustment for abnormal operating conditions. It is based on aggregate demand, with engineering experience and judgement used to estimate the distribution of individual substation loadings. Analysis of P50 and P10 forecasts show summer P10 demands are around 5.2% higher on average than P50 (with a range of 3.6% - 7.5% depending on the temperature sensitivity of individual zone loads). Raw unadjusted maximum demands can be expected to average around P50 values over several years. Winter P10-50 demands differ by 0-1% and do not generally drive augmentation decisions.

(ii)

Ratings are taken from the ActewAGL Distribution Electrical Data Manual which contains the operational ratings for major equipment items. ActewAGL Distribution generally uses nameplate ratings for major

items such as transformers and circuit breakers. Emergency ratings have been calculated for some zone transformers based on allowable hotspot temperatures. Cables and overhead lines are rated according to data provided by manufacturers, using industry standard assumptions. These ratings are the ones used by ActewAGL Distribution to plan augmentation on the network.

(iii)

Growth rates have been taken from the ActewAGL Distribution demand forecast, with total growth over the periods specified annualised to derive the growth rate figures in the regulatory templates.

7.2	In relation to information provided in *regulatory template* 2.4 and with respect to the AER's *augex model*, provide: (b) In relation to the capex-capacity table (table 2.4.6), ActewAGL must explain: (i) the types of cost and activities covered. Clearly indicate what non-field analysis and management costs (i.e. direct overheads) are included in the capex and what proportion of *capex* these cost types represent; (ii) how it determined and allocated *actual capex* and capacity to each of the segment groups, covering: (A) the process used, including assumptions, to estimate and allocate expenditure where this has been required; and (B) the relationship of internal financial and/or project recording categories to the segment groups and process used. (iii) how it determined and allocated estimated/*forecast capex* and capacity to each of the segment groups, covering: (A) the relationship of this process to the current project and program plans; and (B) any other higher-level analysis and assumptions applied.

As described in the basis of preparation, each customer initiated and network service provider (NSP) initiated augex[2] project was categorised to show:

- initiator (customer, NSP);
- whether it was capacity related (yes/no). All customer projects assumed to be capacity related. NSP initiated projects categorised according to their nature;
- asset type / network segment; and
- the MVA added (transformer or feeder capacity added (assumed zero for feeder extensions)).

This data was then analysed to determine the total cost and MVA for each network segment for the specified time periods. Non-capacity related projects were separately added.

Costs exclude network and corporate overheads, and only include directly attributable field costs and capitalised engineering / design costs as per ActewAGL Distribution's approved CAM.

Internal financial categories were used to determine whether projects were customer or NSP initiated.

7.2	In relation to information provided in *regulatory template* 2.4 and with respect to the AER's *augex model*, provide: (c) Describe the types of projects and programs ActewAGL has allocated to the unmodelled *augmentation* categories in table 2.4.6, covering:

[2] Taken from an Oracle data extract showing all capex projects over the period 08/09 to 18/19

	(i) the proportion of unmodelled *augmentation capex* due to this project or program type; (ii) the primary drivers of this *capex*, and whether in ActewAGL's view, there is any secondary relationship to *maximum demand* and/or utilisation; and (iii) whether the outcome of such a project or program, whether intended or not, should be an increase in the capability of the *network* to supply *customer* demand at similar service levels, or the improvement in service levels for a similar *customer* demand level.

"unmodelled" augmentation projects include drivers such as reliability, earthing and SCADA improvements. The bulk of these expenses relate to earthing projects at substations.

These projects do not generally add capacity, and hence there is little or no secondary relationship to maximum demand or utilisation.

These projects can be considered to improve service levels, through improving either the safety, reliability, flexibility and operability of the network, enhancing ActewAGL Distribution's ability to provide network services to customers.

7.2	In relation to information provided in *regulatory template* 2.4 and with respect to the AER's *augex model*, provide: (d) Separately for each *network* segment that ActewAGL defined in the model segment data table (2.4.5): (i) Describe the *network* segment, including: (A) the boundary with other connecting *network* segments; and (B) the main reasoning for the individual segment (e.g. as opposed to forming a more aggregate segment). (ii) Explain the utilisation threshold statistics provided (i.e. the mean and standard deviation), including: (A) the methodology, data sources and assumptions used to derive the parameters; (B) the relationship to internal or external planning criteria that define when an *augmentation* is required; (C) the relationship to actual historical utilisation at the time that *augmentations* occurred for that asset category; (D) ActewAGL's views on the most appropriate probability distribution to simulate the *augmentation* needs of that network segment; and (E) the process applied to verify that the parameters are a reasonable estimate of utilisation limit for the *network* segment. (iii) Explain the *augmentation* unit cost and capacity factor provided, including: (A) the methodology, data sources and assumptions used to derive the parameters; (B) the relationship of the parameters to actual historical *augmentation* projects, including the capacity added through those projects and the cost of those projects; (C) the possibility of double-counting in the estimates, and processes applied to ensure that this is appropriately accounted for (e.g. where an individual project may add capacity to various segments); and (D) the process applied to verify that the parameters are a reasonable estimate for the *network* segment.

(i) Segment description	*(ii) Utilisation threshold stats*	*(iii) augex unit cost and capacity factor*
Subtransmission lines		
Lines and cables operating at voltages specified as subtransmission in the regulatory templates A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or assuming a reasonably narrow band of around ±10% around the mean.	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust initiated used where NSP initiated cost not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factors could not be calculated from recent projects. CF of 1.5 (HV feeders) assumed as typical of large, lumpy investments with limited capacity options. Engineering experience and judgement has been used to verify the parameters are reasonable.
Subtransmission substations and subtransmission switching stations		
Substations operating at voltages specified as subtransmission in the regulatory templates. A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or assuming a reasonably narrow band of around ±10% around the mean.	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust initiated used where NSP initiated cost not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factors could not be calculated from recent projects. CF of 1.5 (HV

		feeders) assumed as typical of large, lumpy investments with limited capacity options. Engineering experience and judgement has been used to verify the parameters are reasonable.
Zone substations		
Substations operating at voltages specified as zones in the regulatory templates. A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or assuming a reasonably narrow band of around ±10% around the mean.	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust initiated used where NSP initiated cost not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factors could not be calculated from recent projects. CF of 1.5 (HV feeders) assumed as typical of large, lumpy investments with limited capacity options. Engineering experience and judgement has been used to verify the parameters are reasonable.
High voltage feeders - urban		
Lines and cables operating at voltages specified as HV in the regulatory templates, and classified as urban[3] according to STPIS definition. A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or assuming a reasonably narrow	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust initiated used where NSP initiated cost

[3] Note - ActewAGL only has urban and short rural feeders

	band of around ±10% around the mean.	not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factor has been estimated based on utilisation of feeders installed in current regulatory period. Engineering experience and judgement has been used to verify the parameters are reasonable.
High voltage feeders - short rural		
Lines and cables operating at voltages specified as HV in the regulatory templates, and classified as short rural according to STPIS definition. A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or assuming a reasonably narrow band of around ±10% around the mean.	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust initiated used where NSP initiated cost not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factor based on urban feeders as no new short rural feeders installed in current regulatory period. Engineering experience and judgement has been used to verify the parameters are reasonable.
Distribution substations - urban (including downstream LV network)		
Substations defined as distribution in the regulatory templates, connected to urban feeders. A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust

	assuming a reasonably narrow band of around ±10% around the mean.	initiated used where NSP initiated cost not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factors have been estimated based on standard capacities for new ground transformers currently used by ActewAGL Distribution, and averaging the increment between these standard sizes. Engineering experience and judgement has been used to verify the parameters are reasonable.
Distribution substations - short rural (including downstream LV network)		
Substations defined as distribution in the regulatory templates, connected to short rural feeders. A single segment for this class is appropriate for a small distributor such as ActewAGL Distribution. No boundary issues.	Utilisation thresholds were estimated based on N-1 (or specified planning criteria) requirements for typical ActewAGL Distribution network configurations, and typical project lead-times. The mean represents the average or typical utilisation of individual elements at the point they require augmentation. SD was estimated based on the range of thresholds for individual asset configurations, or assuming a reasonably narrow band of around ±10% around the mean.	As described in the basis of preparation, each customer initiated and NSP initiated augex project was categorised to show: • initiator (cust, NSP) • whether capacity related. • Asset type / network segment • MVA added This data was then analysed to determine the total $ and MVA for each network segment for the specified time periods, and these figures used to derive average $/MVA. NSP initiated project costs have been used, or cust initiated used where NSP initiated cost not available. Double counting is avoided by counting each project once, and allocating cost and capacity increase to the primary segment for that project. Capacity factors have been estimated based on standard capacities for new pole transformers currently used by ActewAGL, and averaging the increment between these standard sizes. Engineering experience and judgement has been used to verify the parameters are reasonable.

10.15 Operating and maintenance expenditure

10.15	Provide compliance audits of *vegetation management* work conducted by ActewAGL during the *current regulatory control period*.

Compliance audits are provided in appendix 2.

11 Risk management and insurance

11.1	Provide information that sets out ActewAGL's governance arrangements in relation to the management of risk, including: (a) a risk appetite statement, which details the level of risk ActewAGLs board is willing to accept including the nature and level of risks and the level of loss that can be sustained; (b) a risk management strategy that describes ActewAGL's strategy for managing risk and the key elements of the risk management framework that give effect to this strategy; and (c) any other information that demonstrates ActewAGL's governance arrangements in relation to risks and their management.

At present, ActewAGL does not have a risk appetite statement. ActewAGL's governance arrangements includes an escalation process for managing risks, actions to mitigate risks to an acceptable level and reporting on a regular basis to the Audit and Risk Management Committee (ARMC). ActewAGL Distribution's risk management framework, policy and procedures are provided in appendix 11.

ActewAGL has active management of risks via the ARMC charter, reporting arrangements (key risk report, strategic risk report etc) and the Manager Risk Management role to support governance arrangements. Divisional risk advisers also support active risk management by monitoring actions, risks and controls. ActewAGL also provides all staff access to tools, templates, reference cards and other associated support material to assist in the identification of risks and their management.

11.4	Provide the following information regarding total property and total liability insurance reported in tables 2.15.2 and 2.15.3 respectively: (a) a description of the systematic drivers of insurance premiums; (b) a description of the circumstances that have led to any premium changes over the current regulatory control period; (c) a description of the method used to forecast premiums for the forthcoming regulatory control period, including estimated exposure growth and premium rate changes and any other adjustments made. Provide supporting evidence for exposure, premium rate changes, or any other proposed adjustments; and (a) an explanation of how the value of insured assets is derived for property insurance (e.g. replacement costs, insured value etc.).

Total Property Insurance premiums are based on:

(i) Value of the Insured Assets;

(ii) Premium Rate (Risk Rating);

(iii) Limit of Cover requested; and

(iv) Level of Deductibles & Exclusions.

Total Liability Insurance premiums are based on:

(i) Premium Rate (Risk Rating);

(ii) Limit of Cover requested; and

(iii) Level of Deductibles & Exclusions.

Both of these insurance policies are brokered through Marsh insurance brokers with the insurance suppliers at the renewal stage. As well as the drivers noted above, the premiums are influenced by

market forces and the capacity available in the market. Although the market forces are outside our control ActewAGL Distribution assists [redacted] with building an accurate risk profile to achieve the lowest risk rating possible. ActewAGL Distribution provides [redacted] with an extensive list of documentation including but not limited to:

- lease agreements for ActewAGL leased properties;
- key contracts including agreements between key stakeholders such as ACTEW Corporation;
- key supply contracts;
- plans & procedures including risk mitigation plans;
- annual reports; and
- asset schedules.

The intent is to show that ActewAGL Distribution has the systems, procedures and policies that mitigate and manage risk within the business to lower the risk profile of the business.

Some of the noted changes in total premiums relating to property insurance include:

- An increase to our premium rate from [redacted] in 2011/12 [redacted] in 2012/13. [redacted] advised this rate increase was driven by insurers impacted by natural disasters.
- A reduced premium rate was achieved in 2013/14 following concerted efforts to present ActewAGL Distribution to the market and display the strong asset management practices. The rate came down from [redacted] to [redacted]

The noted changes in total premiums relating to general liability insurance driven by business decisions include:

- An increase in our cover limit from [redacted] to [redacted] in 2010/11; and
- An increase in our cover limit from [redacted] to [redacted] in 2012/13 – following a Maximum Foreseeable Loss study

Outside of this, and as mentioned earlier, wider market influences will have impacted premium changes over the current regulatory period.

A base year approach was used to forecast premiums for the forthcoming regulatory control period. No adjustments were made.

Replacement cost is used as the valuation basis. Most recently quantity surveyors were contracted to update valuations of key properties and zone substations. These are provided to [redacted] each year for the renewal process.

11.5	Where insurance is shared with other entities, provide: (b) an explanation of the cost allocation approach used for each risk class; (c) cost allocations (percentage) by risk class for the *current regulatory control periods*; and (d) the cost allocation (percentage) that underlies forecast premiums for the *forthcoming regulatory control period*. If the proportion allocated to ActewAGL has changed, explain why.

The cost allocation approach identifies drivers which are applied to the respective premium in order to calculate each divisions cost associated with the insurance. The drivers for each policy are listed below:

Insurance	*Driver*
ISR (Property)	Divisional Allocation $ = Division's % of Total Assets * Premium $
Public & professional Indemnity & Statutory	Divisional Allocation $ = Division's allocation % * Premium $ The Division's allocation % is driven by; % of revenue, % of no. of claims and

Liability	% of value of claims over the last eight years. Details as shown: Divisional allocation % = (A + B) / 2 Where A = Division allocation as a % of Total Revenue B = (C+D)/2 C = % of the 8 year average number of claims relating to each division. D = % of the 8 year average claims value relating to each division.
Directors & Officers Liability	Divisional allocation $ = Division's allocation % * Premium $ The Division's allocation % is driven by; % of Directors and Officers under each division.
Motor Vehicles Insurance	Divisional allocation $ = Division's allocation % * Premium $ The Division's allocation % is driven by; % of Motor Vehicle Asset Values under each division.
Employment Practises	Divisional allocation $ = Division's allocation % * Premium $ The Division's allocation % is driven by; % of Staff Numbers under each division.
Travel	Divisional Allocation $ = Divisional Allocation % * Premium $ Divisional allocation % =(A+B+C)/3 Where A = % of Domestic Travel against Total Domestic Travel B = % of International Travel against the Total International travel C = % of employee No over Total Employee Number
Crime Distribution	Divisional Allocation $ = Divisional Allocation % * Premium $ Divisional Allocation % = Division % of FTE Over the total Number of FTE Less Corporate and Retail.
Crime retail Insurance and Shop front Insurance	100% to ActewAGL Retail

Cost allocations (percentage) by risk class

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*	*2013/14*
Property (ISR)	10.89%	10.82%	13.77%	10.87%	75.71%	75.81%
General Liability & Professional Indemnity	36.46%	30.85%	31.84%	30.41%	56.20%	59.79%

D&O Liability	2.17%	2.25%	26.32%	28.17%	61.40%	60.42%
D&O Supplementary Legal Expenses	2.17%	2.25%	26.32%	28.17%	61.40%	60.42%
Employment Practices Liability	2.17%	2.25%	13.75%	22.78%	76.42%	76.62%
Statutory Liability	2.17%	2.25%	28.78%	30.41%	56.20%	59.79%
Crime (Distribution)					99.11%	99.18%
Corporate Travel	36.46%	32.66%	37.16%	42.27%	41.27%	83.03%
Motor Vehicle		61.42%	62.50%	60.57%	98.42%	99.20%

On 1 July 2012 ACTEW resumed management, operations and maintenance of our water and sewerage assets and business. This was previously undertaken by ActewAGL Distribution. Insurance cover was also separated, leading to a lower total premium but a higher proportion allocated to ActewAGL Distribution from 2012/13.

As noted above no adjustment has been made to the base year for the forthcoming regulatory control period.

11.6	Provide a report from an appropriately qualified risk specialist verifying that ActewAGL's forecast insurance premiums are efficient.

The forecast premiums were set using a base year approach using 2012/13 as the base year.

ActewAGL Distribution engages the services of an insurance broker ([redacted]) to approach the insurance market at each renewal in order to obtain the most competitive premiums available. ActewAGL Distribution ensures [redacted] are incentivised to achieve competitive premiums through the following:

1. Key Performance Objectives written into the contract to achieve targeted premiums; and
2. Short Term Brokerage Contract ([redacted]).

We also actively manage the insurance related risks in the business and present to the insurers in order to achieve the lowest possible risk ratings, and therefore low premiums.

In 2012 ActewAGL Distribution engaged an independent third party ([redacted]) to conduct a review of our current insurance arrangements, as well as a review of the renewal terms achieved by [redacted] for the 2012/13 renewal. Their opinion was that the 2012-13 renewal program was in keeping with an organisation of ActewAGL's size and risk profile. The [redacted] report is provided in Appendix 3.

12/13/14 Alternative control services and other activities

12.4	For each *alternative control service* listed in paragraphs 13, 14 and 15, specify the charges applicable during each year of the *current regulatory control period.* Also include proposed charges for each year of the *forthcoming regulatory control period*.
12.5	For each *alternative control service* listed in paragraphs 13, 14 and 15, specify the total revenue earned by ActewAGL in each year of the *current regulatory control period and forthcoming regulatory control period*.
12.6	For metering and public lighting alternative control services, specify the number of customers in each year of the *current regulatory control period*, and forecasts for the *forthcoming regulatory control period*.
13.4	Provide all current and proposed charges for each *fee based* and *quoted alternative control service* in the current and *forthcoming regulatory control periods*.
14.2	For metering works, for each year of the *current regulatory control period* and forecasts for the *forthcoming regulatory control period,* provide a description of: (e) The charge per service; and (f) The revenue earned by each service.

The information to address the above requirements is provided in Appendix 4.

17 Provisions

17.2	If, in a given year, there is an increase in the amount of a provision, provide reasons for this increase, including: (a) the expected timing of any resulting outflows of economic benefits; (b) an explanation of the uncertainties about the amounts or timing of the outflows; (c) supporting consultant's advice, including actuarial reports; and (d) if there is no supporting consultant's advice, the process and assumptions ActewAGL used in determining the increase in the provision.

Provision: employee entitlements	
Description	Liability for annual leave and long service leave, and sick leave payable on termination under the *ActewAGL and Combined Unions Enterprise Agreement 2011*.
the expected timing of any resulting outflows of economic benefits	Outflows of economic benefits occur when an employee takes annual or long service while in service, or on termination when accumulated annual leave, long service leave and sick leave in excess of 500 hours is paid out. Outflows occur each fortnightly pay period as there are always some employees who take/receive leave payouts in any given pay period.
an explanation of the uncertainties about the amounts or timing of the outflows	Where leave is not expected to be taken within twelve months, the outflow is inflated for future salary increases and discounted using an appropriate discount rate. For long service leave, a probability factor is also applied to the leave balance for employees with less than seven years' service, as it is uncertain whether or not the employee will become eligible to take or receive a payout for long service leave. The timing of all leave payments is uncertain, however is based on historical averages.
supporting consultant's advice, including actuarial reports	N/A
if there is no supporting consultant's advice, the process and assumptions ActewAGL used in determining the increase in the provision.	<u>Key assumptions</u> Inflation – 4% (in line with current annual salary increases per *ActewAGL and Combined Unions Enterprise Agreement 2011* Discount rates – per RBA website, updated monthly LSL probability factor – ranges from 31% to 100% depending on years of service <u>Process</u> 1. Obtain leave data from payroll system 2. Review data for reasonableness, adjust where appropriate 2. Apply relevant discount rates/inflation/probability factors to determine closing liability balance

Provision: public liability	
Description	Public liability provisions include public liability and legal claims.
the expected timing of any resulting outflows of economic benefits	Increase in liabilities arise from outstanding claims.
an explanation of the uncertainties about the amounts or timing of the outflows	Timing of outstanding claims dependent on closing out claims that are over the excess.
supporting consultant's advice, including actuarial reports	N/A
if there is no supporting consultant's advice, the process and assumptions ActewAGL used in determining the increase in the provision.	A spreadsheet is regularly maintained which identifies all outstanding claims.

Provision: transmission use of system refund	
Description	Recognise a provision for (TUOS) charges to be refunded to customers through reduced pricing in the 2013-14 financial year. This has arisen due to a change in TransGrid's method of billing TUOS charges post the approval by the Australian Energy Regulator (AER) of the 2012-13 network charge.
the expected timing of any resulting outflows of economic benefits	Provision arose due to an overestimation of transmission costs which is required to be returned to the customers in the following financial year.
an explanation of the uncertainties about the amounts or timing of the outflows	No uncertainties
supporting consultant's advice, including actuarial reports	N/A
if there is no supporting consultant's advice, the process and assumptions ActewAGL used in determining the increase in the provision.	The difference between the recovery and actual costs. The provision was paid out in the following year.

Provision: workers compensation	
Description	The ACT Government and ACTEW Corporation Ltd (ACTEW) have agreed to exit ACTEW's workers' compensation arrangement with ComCare. The exit arrangements include annual payments over the period to 30 June 2022 for incidents that occurred during the period of cover, where future additional expenditure is incurred by ComCare.
the expected timing of any resulting outflows of economic benefits	Exit payments are due annually on or about 30 September for the preceding financial year up to and including 30 June 2022. These payments are payable by ACTEW, who then recover it from the ActewAGL Distribution Partnership pursuant to the secondment of staff arrangement between ACTEW and ActewAGL when the ActewAGL joint venture (comprising the ActewAGL Distribution Partnership) was formed in October 2000..
an explanation of the uncertainties about the amounts or timing of the outflows	The original provision recognised by ACTEW was calculated as: Total actual payments from ComCare to ACTEW for the years 2001/02 to 2011/12 + Total estimated future claims -Net premium received by the Territory from ACTEW It was agreed that 32.6% of this would be recoverable from the ActewAGL Distribution Partnership. The existence, amount and timing of future claims is not known.
supporting consultant's advice, including actuarial reports	N/A
if there is no supporting consultant's advice, the process and assumptions ActewAGL used in determining the increase in the provision.	An actuary was engaged by the ACT Government to estimate the total amount receivable as at 30 June 2013. This formed the basis of ACTEW's provision, which resulted in ActewAGL Distribution Partnership taking up a liability provision pursuant to AASB 137. Assumptions: Discount rate – 6.95% The provision will be adjusted each year for actual payments, changes in expectations for future claims and changes in the discount rate where appropriate.

Provision: redundancy provision	
Description	The redundancy provision is based on planned management efficiencies
the expected timing of any resulting outflows of economic benefits	Timing of the redundancy pay outs depend upon negotiation with the staff member who has accepted a redundancy.
an explanation of the uncertainties about the amounts or timing of the	No uncertainties.

outflows	
supporting consultant's advice, including actuarial reports	N/A
if there is no supporting consultant's advice, the process and assumptions ActewAGL used in determining the increase in the provision.	Calculation is based upon the terms of the enterprise bargaining agreement.

18 Forecast price changes

18.2	Provide: (a) the model(s) used to derive and apply the materials price changes, including model(s) developed by a third party; (b) in relation to labour escalators, a copy of the current Enterprise Bargaining Agreement or equivalent agreement; and (c) evidence that the forecast price changes accurately explain the change in the price of goods and services purchased by ActewAGL, including evidence that any materials price forecasting method explains the price of materials previously purchased by ActewAGL.

ActewAGL Distribution has relied on modelling of materials and labour price escalation from SKM/Jacobs, CEG and Independent Economics, using approaches and modelling previously accepted by the AER. ActewAGL Distribution has requested copies of the models used by these consultants, but have been advised they are proprietary models and represent commercially valuable IP for their organisations, and they are not prepared to release the raw models. The attached reports provide an explanation of the models and approach, inputs and outputs, as has previously been accepted by the AER.

The current Enterprise Bargaining Agreement is provided in appendix 5.

ActewAGL Distribution has experienced significant real price increases in both materials and labour costs over the current regulatory period. The basis of preparation describes the analysis on internal electricity, gas and water labour costs for ActewAGL Distribution that are presented, with technical and general labour costs derived from Australian Bureau of Statistics which we consider to be robust and representing solid evidence of price increases. ActewAGL Distribution has not had the time or resources available to analyse each individual material cost increase over this period, but believes the SKM/Jacobs material price escalators represent a reasonable, compelling and accurate method of describing these inputs. For the current regulatory period SKM/Jacobs has back-cast materials prices using the same approach, model and weightings used for its forward looking forecasts, but using actual commodity and exchange rates, which we consider to provide a high degree of certainty and robust approach to modelling historic price movements.

SKM's escalators take account of exchange rate and raw material price changes which represent an estimated 70%+ of most materials and equipment used by ActewAGL Distribution, and have been calibrated and previously benchmarked against surveys of actual price changes for Australian utilities. ActewAGL Distribution notes the materials escalators show both decreases and increases in prices for various materials.

18.4	If an agreement provided in response to paragraph 18.2(b) is due to expire during the *Forthcoming regulatory control period*, explain the progress and outcomes of any negotiations to date to review and replace the current agreement.

The 2011 ActewAGL and Combined Unions Enterprise Agreement will expire on 1 July 2014 or until it is replaced by another Agreement. Progress to date is detailed below.

On 14 March 2014 the first negotiation meeting took place with ActewAGL and the seven unions who will participate in the negotiations. Administrative items were finalised including the meeting schedule and negotiation meeting rules. Agreement was reach on the best approach to drafting of the new agreement. It was agreed that the first task is to split the current single Agreement into two agreements for ActewAGL and ACTEW.

The second negotiation meeting occurred on 28 March 2014. Parties worked through the (now expired) Enterprise Agreement clause by clause to determine which clauses, currently not contained should be included in the new draft Enterprise Agreements.

The administrative part of the negotiations were completed at the third negotiation meeting on 17 April 2014.

The forth negotiation meeting was held on 2 May 2014. ActewAGL presented a list of proposed changes to the existing clauses of the Enterprise Agreement, largely due to clauses which are now out of date or irrelevant due to legislative changes. The changes were discussed with the unions who either accepted or rejected the changes. Some proposals required further drafting.

19 Related Party Transactions

19.1	Identify and describe all other entities which: (a) are a *related party* to ActewAGL and contribute to the provision of distribution services; or (b) have the capacity to determine the outcome of decisions about ActewAGL's financial and operating policies.
19.2	Provide a diagram of the organisational structure depicting the relationships between all the entities identified in the response to paragraph 19.1.
19.3	Identify: (a) all arrangements or contracts between ActewAGL and any of the other entities identified in the response to paragraph 19.1 which relate directly or indirectly to the provision of *distribution services*; and the service or services the subject of each arrangement or contract.
19.4	For each service identified in the response to paragraph 19.1: (a) provide: (i) a description of the process used to procure the service; and (b) supporting documentation including, but not limited to, requests for tender, tender submissions, internal committee papers evaluating the tenders, contracts between ActewAGL and the relevant provider; (c) explain: (i) why that service is the subject of an arrangement or contract (i.e. why it is outsourced) instead of being undertaken by ActewAGL itself; (ii) whether the services procured were provided under a standalone contract or provided as part of a broader operational agreement (or similar); (iii) whether the services were procured on a genuinely competitive basis and if not, why; and whether the service (or any component thereof) was further outsourced to another provider.

ActewAGL Distribution is owned equally by ACTEW Corporation and SPI (Australia) Assets Pty Ltd via subsidiary companies. SGSP (Australia) Assets Pty Ltd, formerly SPI (Australia) Assets Pty Ltd, also own Zinfra. Both ACTEW Corporation and Zinfra contributed to ActewAGL Distribution's provision of electricity network distribution services during the 2009-14 regulatory period in an arm's length manner and on commercial terms.

ACTEW Corporation

ActewAGL Distribution purchased land from ACTEW Corporation to construct the East Lake Zone Substation. An independent valuation report for the land was produced which provided a value range on a per square meter basis. The land was subsequently purchased by ActewAGL Distribution from ACTEW Corporate for an amount within this range.

ActewAGL Distribution was required, under the *Environment Protection and Biodiversity Conservation Act 1999,* to rebuild an old damaged fence to protect the compensatory habitat site which was part of the Southern Supply to ACT project stage 1. Similarly, ACTEW Corporation was also required to install a fence in a nearby site for another project. ACTEW Corporation arranged the installation of the fence for

ActewAGL Distribution. The cost to ActewAGL Distribution was calculated using the length of the fence required for ActewAGL Distribution's segment and the supplier quoted price.

Zinfra

The majority of major capital projects undertaken by ActewAGL Distribution during the 2009-14 regulatory period have been delivered under an alliance contracting arrangement with Zinfra (formerly Jemena Asset Management Pty Ltd) to provide additional capacity and capability.

Major projects undertaken include:

- East Lake Zone Substation Stage 1;
- Civic Zone Substation TX3 + switchboard; and
- The Southern Supply to ACT project Stage 1.

The Alliance Agreement commenced in 2009 and contains commercial principles in relation to the cost effective delivery of capital works projects; the open, honest and timely sharing of cost related information by both parties; the implementation of appropriate incentives to promote the efficient and effective delivery of the capital works projects; and the creation of a relationship which reflects the risks and rewards accepted by both parties.

The Alliance Agreement provides ActewAGL Distribution the discretion to appoint an external reviewer to assess the technical validity of Zinfra's proposal, the proposed implementation methodology and whether the target cost estimates are in accordance with current market prices. This is an important step in ActewAGL Distribution's major capital works delivery framework, as it verifies that the proposal represents value for money to ActewAGL Distribution, and hence its customers. It also demonstrates the arms-length nature of the contractual arrangement between ActewAGL Distribution and Zinfra.

ActewAGL Distribution has had total cost estimates independently reviewed for all capital works projects delivered under the Alliance Agreement during the 2009-14 regulatory period, and is committed to undertaking this value for money check in respect of any future proposals by Zinfra to undertake major capital works projects for ActewAGL Distribution.

Where ActewAGL Distribution is not satisfied (on the basis of the external party advice) that the total cost estimate represents value for money, then ActewAGL Distribution may seek proposals from other parties through a competitive tender process. This process is conducted in accordance with ActewAGL Distribution's corporate policies *for Procurement, Contracting and Contract Management Policy* and *Procurement and Contracting Procedure*.[4]

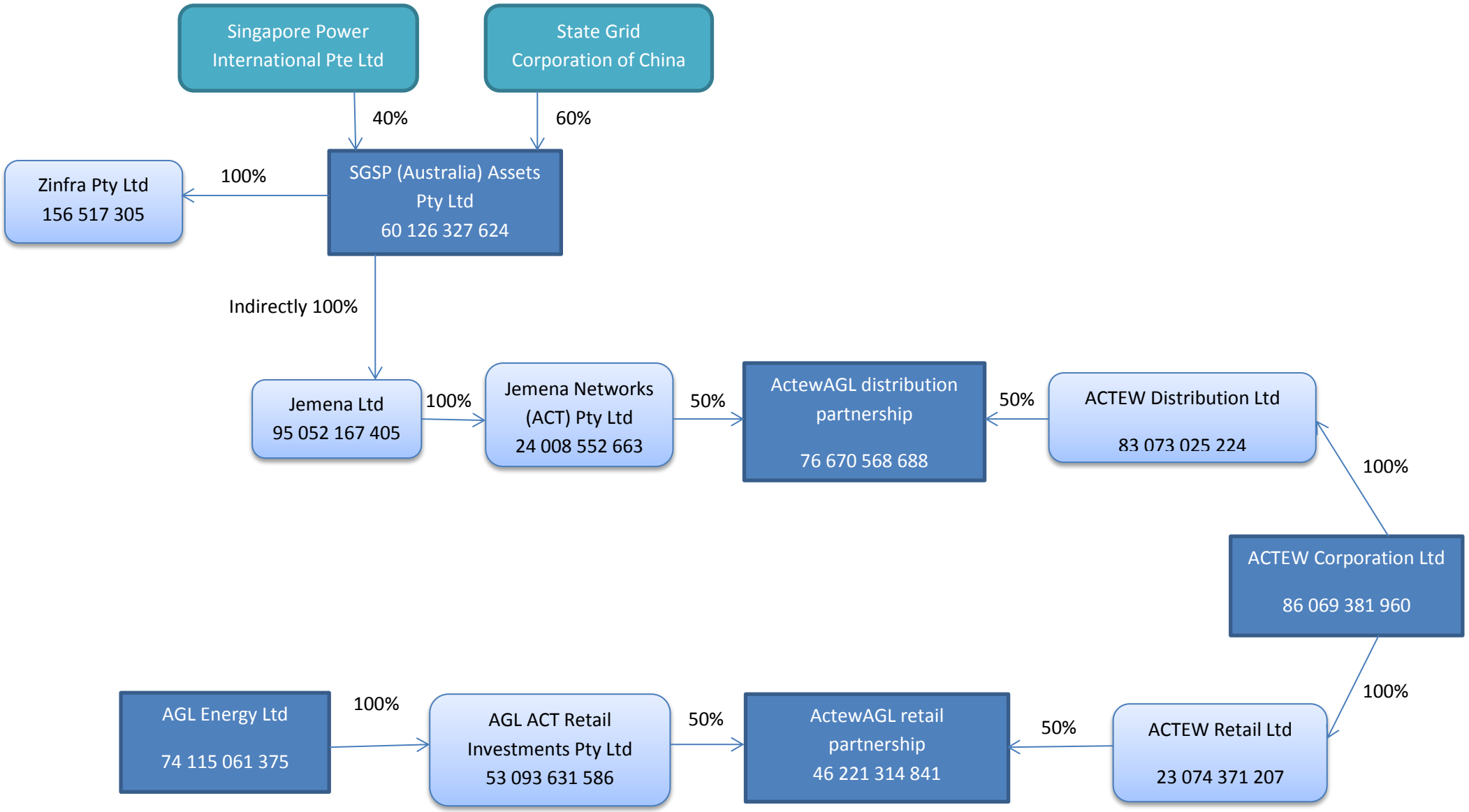
ActewAGL Distribution's consent is required for any subcontracting of the project by Zinfra to another party. Zinfra must ensure that the terms of any subcontract are standard and reflect arm's length terms.

Appendix 7 provides supporting documentation for the related party transaction (construction of the East Lake zone substation (Stage 1)) between ActewAGL Distribution and Zinfra. Included is the agreement for Capital Works Projects (the Alliance Agreement) and independent verification of the cost estimates. Further documentation in support of the delivery of other major projects undertaken for ActewAGL Distribution by Zinfra during the 2009-14 regulatory period can be provided on request.

[4] Corporate policy 8.4, p 1

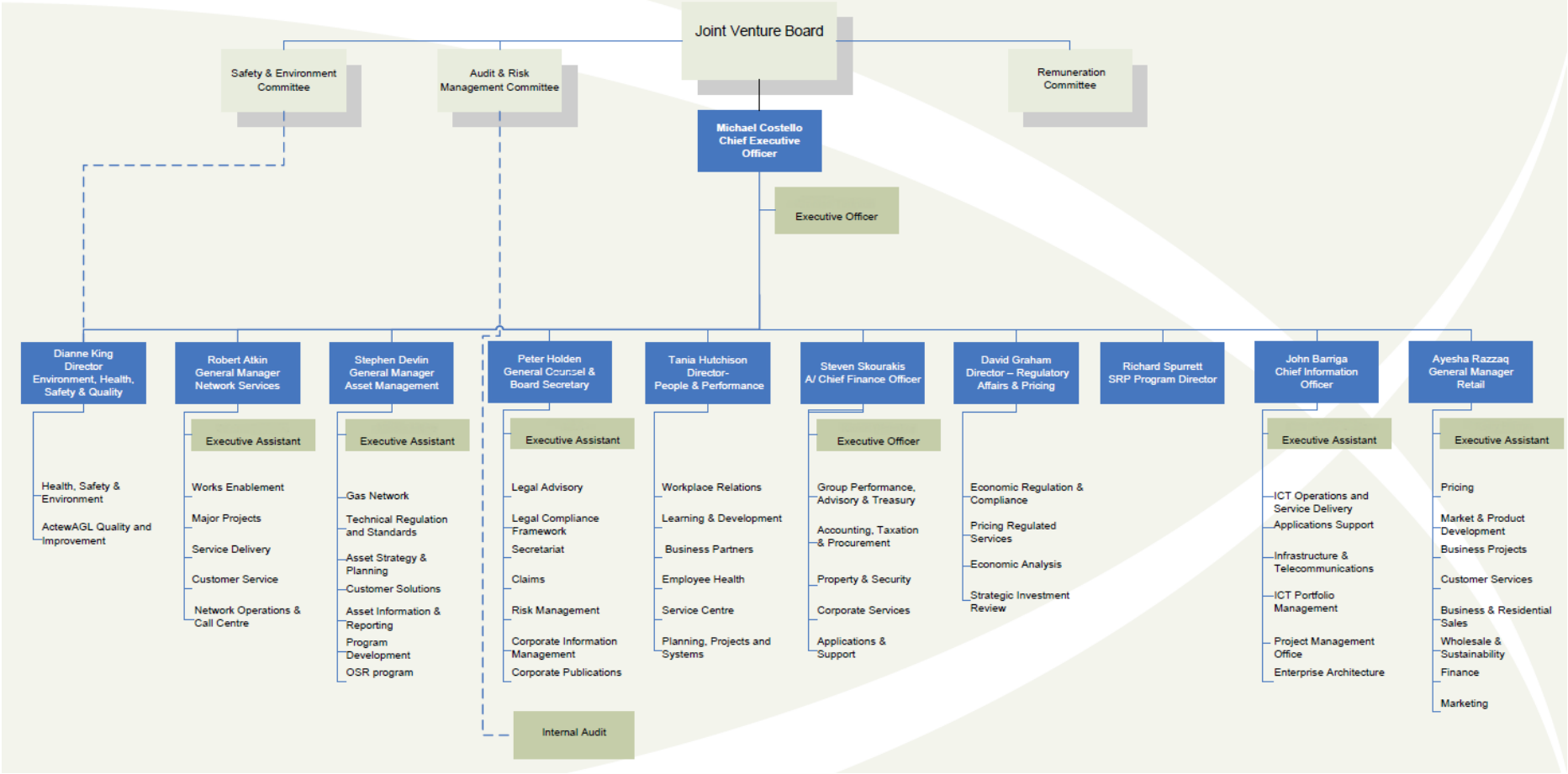
30 Corporate structure

30.1	Provide charts that set out: (a) the group corporate structure of which ActewAGL is a part; and (b) the organisational structure of ActewAGL


Singapore Power International Pte Ltd
State Grid Corporation of China
40%
60%
Zinfra Pty Ltd 156 517 305
100%
SGSP (Australia) Assets Pty Ltd 60 126 327 624
Indirectly 100%
Jemena Ltd 95 052 167 405
100%
Jemena Networks (ACT) Pty Ltd 24 008 552 663
50%
ActewAGL distribution partnership 76 670 568 688
50%
ACTEW Distribution Ltd 83 073 025 224
100%
ACTEW Corporation Ltd 86 069 381 960
100%
AGL Energy Ltd 74 115 061 375
100%
AGL ACT Retail Investments Pty Ltd 53 093 631 586
50%
ActewAGL retail partnership 46 221 314 841
50%
ACTEW Retail Ltd 23 074 371 207

ActewAGL Structure

24 March 2014



31 Forecast map of distribution system

31.1	Provide a forecast map of ActewAGL's *distribution system* for the *forthcoming regulatory control period*. This map, together with any appropriate accompanying notes, should also indicate the location of new major network assets proposed to be constructed over the *forthcoming regulatory control period*.

A forecast map of the distribution system is provided in appendix 8.

List of Appendices

- Appendix 1.1 Contracts and supporting documentation - Confidential
- Appendix 1.2 Contracts and supporting documentation - Confidential
- Appendix 1.3 Contracts and supporting documentation - Confidential
- Appendix 1.4 Contracts and supporting documentation - Confidential
- Appendix 1.5 Contracts and supporting documentation - Confidential
- Appendix 1.6 Contracts and supporting documentation - Confidential
- Appendix 1.7 Contracts and supporting documentation - Confidential
- Appendix 1.8 Contracts and supporting documentation - Confidential
- Appendix 1.9 Contracts and supporting documentation - Confidential
- Appendix 1.10 Contracts and supporting documentation - Confidential
- Appendix 2 Compliance audits of vegetation management work (confidential and non-confidential versions)
- Appendix 3 Risk Matrix
- Appendix 4 Insurance premium report - Confidential
- Appendix 5 Alternative control charges, unit rates and revenues
- Appendix 6 Current Enterprise Bargaining Agreement
- Appendix 7 Related party contract information - Confidential
- Appendix 8 Forecast map of the distribution system