Jemena Electricity Networks (Vic) Ltd

Response to the Annual Regulatory Information Notice for the 2016 Regulatory Year

Public

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GLOSSARY

ACS	Alternative Control Services
AER	Australian Energy Regulator
CAM	Cost Allocation Method
DMIA	Demand Management Innovation Allowance
DMIS	Demand Management Incentive Scheme
DR	Demand Response
ESC	Essential Services Commission of Victoria
JEN	Jemena Electricity Networks (Vic) Ltd
MAIFI	Momentary Average Interruption Frequency Index
MED	Major Event Day
NEL	National Electricity (Victoria) Law
RIN	Regulatory Information Notice
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCS	Standard Control Services
STPIS	Service Target Performance Incentive Scheme

INTRODUCTION

SUBMISSION PURPOSE

This submission is the Jemena Electricity Networks (Vic) Ltd (**JEN**) response to the Regulatory Information Notice (**RIN**) that the Australian Energy Regulator (**AER**) issued to JEN on 3 February 2016 under Division 4 of Part 3 of the National Electricity (Victoria) Law (**NEL**). This response covers the 2016 regulatory year ending on 31 December 2016.

This RIN response:

- provides the information required in the Financial Information Templates and the Non-Financial Information Templates at Attachment 1-1A (confidential version) and Attachment 1-1B (public version)
- provides a reconciliation that explains adjustments between the Audited Statutory Accounts and the Financial Information Templates at Attachment 1-2
- provides a Basis of Preparation for all information provided in the Financial Information Templates and the Non-Financial Information Templates at Attachment 1-3
- provides JEN's Intangible Assets Policy in response to paragraph 1.1(f) of Schedule 1 of the RIN at Attachment 1-4
- provides a copy of the audit report for financial information at Attachment 1-5
- provides a copy of the review report for non-financial information at Attachment 1-6
- provides a copy of the signed statutory declaration by JEN's Managing Director at Attachment 1-7
- provides a copy of a letter from KPMG in relation to its audit and review reports (Attachment 1-8B), and a transmittal letter relating to this letter (Attachment 1-8A).

SUBMISSION STRUCTURE

This document provides JEN's responses to the information requested under Schedule 1 of the RIN for the Relevant Regulatory Year, and is structured as follows:

- Section 1 – Information templates
- Section 2 – Compliance
- Section 3 – Cost allocation to the distribution business
- Section 4 – Cost allocation to service segments
- Section 5 – Capitalisation policy
- Section 6 – Demand Management Innovation Allowance
- Section 7 – Tax standard asset lives
- Section 8 – Charts
- Section 9 – Audit and review reports

- Section 10 – Confidential information
- Section 11 – List of attachments

SUBMISSION VALUES AND TERMINOLOGY

This submission employs the following standards:

- unless otherwise indicated, all numbers are expressed in nominal AUD$2016
- the Relevant Regulatory Year is the 2016 calendar year (**CY**) ending on 31 December 2016 and the first year of the 2016-20 Distribution Determination

1. INFORMATION TEMPLATES

1.1 INFORMATION PROVIDED

Paragraph 1.1 of Schedule 1 of the RIN requires JEN to provide certain information as set out below:

1.1 (a) and (b) – Financial Information Templates and Non-Financial Information Templates

Paragraphs 1.1 (a) and (b) require JEN to provide:

- The information required in the Financial Information Templates in the Microsoft Excel workbook attached at Appendix B of the RIN
- The information required in the Non-Financial Information Templates in the Microsoft Excel workbook attached at Appendix B of the RIN.

This information is provided as Attachment 1-1A (confidential version).

1.1 (c) – Reconciliations

Paragraph 1.1 (c) requires JEN to provide a Microsoft Excel Workbook or other information that reconciles and explains adjustments between the Audited Statutory Accounts and the Financial Information Templates, including a list which specifies the amount and nature of each adjustment made to derive the Financial Information Templates.

This information is provided as Attachment 1-2.

1.1 (d) – Basis of Preparation

Paragraph 1.1 (d) requires JEN to provide the Basis of Preparation for all information provided in the Financial Information Templates and the Non-Financial Information Templates.

This information is provided as Attachment 1-3.

1.1 (e) – Regulatory Accounting Principles and Policies

Paragraph 1.1 (e) requires JEN to provide the Regulatory Accounting Principles and Policies for the Relevant Regulatory Year.

JEN has previously provided the AER with its Regulatory Accounting Principles and Policies.[1] JEN advises that there has been no change to the substance of JEN's Regulatory Accounting Principles and Policies. In accordance with paragraph 1.4 of Schedule 1, JEN has not provided these principles and policies in this submission.

1.1 (f) – Capitalisation Policy

Paragraph 1.1 (f) requires JEN to provide the Capitalisation Policy for the Relevant Regulatory Year.

[1] Provided as Attachment 1-5 to JEN's response to the Annual Regulatory Information Notice for the 2015 Regulatory Year.

JEN has previously provided the AER with its Capitalisation Policy.[2] JEN advises that there has been no change to the substance of JEN's Capitalisation Policy. In accordance with paragraph 1.4 of Schedule 1, JEN has not provided this policy in this submission.

JEN provides its Intangible Assets Policy at Attachment 1-4 as a part of this submission.

1.1 (g) – Cost Allocation Method

Paragraph 1.1 (g) requires JEN to provide a statement of policy for determining the allocation of overheads in accordance with the approved Cost Allocation Method (**CAM**) for the Relevant Regulatory Year.

JEN has previously provided the AER with its CAM.[3]

JEN's policy is to allocate overheads to distribution services in accordance with the AER approved CAM. JEN's CAM and approach to allocating shared costs (Enterprise Support Functions and residual Asset Management) did not change during the Relevant Regulatory Year.

1.2 MATERIAL CHANGES TO REGULATORY ACCOUNTING PRINCIPLES AND POLICIES

Paragraph 1.2 of Schedule 1 requires JEN to identify all material changes between the Regulatory Accounting Principles and Policies provided in response to 1.1 (e) for the Relevant Regulatory Year and the previous regulatory year.

JEN advises that the substance of JEN's Regulatory Accounting Principles and Policies has not changed.

1.3 MATERIAL CHANGES TO COST ALLOCATION METHOD

Paragraph 1.3 of Schedule 1 requires JEN to identify all material changes between the statements of the policy for determining the allocation of overheads in accordance with the approved CAM, for the Relevant Regulatory Year and the previous regulatory year.

JEN advises that there have been no changes to its policy since the previous regulatory year.

1.4 POLICIES PREVIOUSLY PROVIDED

JEN has previously provided the AER with the policies sought in paragraphs 1.1 (e), (f) and (g) and has not identified any material changes in response to paragraphs 1.2, 1.3 or 5.1 of Schedule 1. JEN has therefore not provided these policies again, however has provided an additional policy (the Intangible Assets Policy) in response to paragraph 1.1 (f).

[2] Provided as Attachment 1-6 to JEN's response to the Annual Regulatory Information Notice for the 2015 Regulatory Year.

[3] Provided as Attachment 1-7 to JEN's response to the Annual Regulatory Information Notice for the 2015 Regulatory Year.

1.5 DIFFERENCES BETWEEN REPORTED FINANCIAL INFORMATION AND AMOUNTS PROVIDED IN JEN'S 2016-20 DISTRIBUTION DETERMINATION

Paragraphs 1.5 (a) and 1.5 (b) of Schedule 1 to the RIN requires JEN to identify each difference (where the difference is equal to or greater than ±10 per cent) between amounts reported in the Financial Information Templates and amounts provided for in the 2016-20 Distribution Determination for the following:

a) Total actual operating expenditure and total forecast operating expenditure

b) Total actual capital expenditure and total forecast capital expenditure.

These are discussed in the sections below.

1.5 (a) – Operating Expenditure

Table 1–1 compares JEN's actual opex (for Standard Control Services (**SCS**)) and the amount provided for in the 2016-20 Distribution Determination. Actual costs are inclusive of the related party payments.

Table 1–1: Opex variance

Forecast ($m)	Actual ($m)	Variance ($m)	Variance (%)
90.75	81.97	-8.78	-9.68%

JEN's actual opex was $8.78M lower than the allowance in JEN's 2016-20 Distribution Determination. There is therefore no opex variance equal to or greater than ± 10 per cent.

1.5 (b) – Capital Expenditure

Table 1–2 compares JEN's actual capital expenditure and the amount provided for in the 2016-20 Distribution Determination.

Table 1–2: Capex variance

Forecast ($m)	Actual ($m)	Variance ($m)	Variance (%)
168.36	121.06	-47.29	-28%

(1) Amounts shown include capital contributions.

JEN's actual capex was $47.3M lower than the allowance in JEN's 2016-20 Distribution Determination. The major contributors to this variance are set out in section 1.6.

1.6 REASONS FOR DIFFERENCES IDENTIFIED IN PARAGRAPH 1.5

Paragraph 1.6 of Schedule 1 requires JEN to explain the reasons for each difference identified in response to paragraph 1.5.

JEN's response to paragraph 1.5 identified a variance greater than ±10 per cent for capital expenditure. The major contributors to this variance are explained below.

Replacement expenditure (-$13.4M variance)

The major areas contributing to the variance in replacement expenditure are listed below.

- Broadmeadows zone substation aged relay and switchgear replacement (-$4M) – The works planned for 2016 to build a new control building and replace the aged relays and switchgear at Broadmeadows zone substation were delayed to 2017 due to unforeseen design issues
- Condition based distribution system asset replacement (-$7.6M) – JEN replaces its distribution assets such as cross-arms, transformers and underground cables according to actual asset condition. In 2016, the volume of distribution assets that required replacement due to their condition was lower than forecast (-$3.3M). Also, a condition assessment of SCADA and associated network control and protection assets identified that the planned replacement works could be deferred for 1-2 years whilst still managing the network risk to acceptable levels (-$4.3M); and
- Supply quality and proactive replacement (-$1.8M) – JEN undertakes distribution and circuit relief works for the purpose of maintaining customers' current safety and quality of supply. JEN has commenced the programs for the planned rectification of services, pole top fire mitigation, removal of LV mains in HBRA area, transformer platform rectification and line clearance works in 2016 and these will continue throughout the regulatory period. For some of these programs, greater amounts of work will be undertaken in the later years of the current regulatory period.

Non-network – IT & general (-$30.7M variance)

The key areas contributing to the variance in non-network expenditure are due to the delayed start of:

- A number of Information and Communications projects associated with Power of Choice rule changes to 2017 (-$21.7M); and
- The redevelopment of Broadmeadows depot until 2017 and some of the planned motor vehicle purchases (-$9M).

Expenditure on the Power of Choice and Broadmeadows redevelopment have been deferred to 2017.

1.7 DIFFERENCES BETWEEN TARGETS AND ACTUAL PERFORMANCES FOR MEASURES SPECIFIED IN THE STPIS

Paragraph 1.7 of Schedule 1 to the RIN requires JEN to identify each material difference (where the difference is equal to or greater than ±10 per cent) between the target performance measure specified in the Service Target Performance Incentive Scheme (**STPIS**) and actual performance reported in the response to paragraph 1.1(b) of Schedule 1 to the RIN.

The material variances are set out below.

1.7.1 STPIS RELIABILITY

The performance measures used in assessing STPIS reliability are as follows:

- Urban unplanned average sustained interruptions (System Average Interruption Frequency Index) (**SAIFI**)
- Urban unplanned average minutes off supply (System Average Interruption Duration Index) (**SAIDI**)
- Urban unplanned average momentary interruptions (**MAIFI**)
- Rural unplanned SAIFI
- Rural unplanned SAIDI

- Rural unplanned MAIFI.

The comparison between JEN's actual and target STPIS reliability measures is set out in Table 1–3.

Table 1–3: STPIS reliability

Performance Measure		2016 Actual	2016 Target	Variance
Urban (after removing excluded events and Major Event Day (**MED**))	Unplanned SAIDI	41.553	55.401	-25%
	Unplanned SAIFI	0.826	0.954	-13%
	Unplanned MAIFI	0.936	0.756	4%
Rural (after removing excluded events and MED)	Unplanned SAIDI	119.963	91.955	30%
	Unplanned SAIFI	1.827	1.238	24%
	Unplanned MAIFI	1.135	1.654	-31%

The performance measures used in assessing STPIS Customer Service is Call Centre performance (Telephone answering).

The comparison between JEN's actual and target STPIS customer service measures is set out in Table 1–4.

Table 1–4: STPIS customer service

Performance Measure	2016 Actual	2016 Target	Variance
Telephone answering	69.164%	64.235%	+8%

The STPIS Customer Service performance measure outcome in Table 1–4 shows no material difference comparing to target.

1.8 REASONS FOR DIFFERENCES IDENTIFIED IN PARAGRAPH 1.7

Paragraph 1.8 of Schedule 1 to the RIN requires JEN to explain the reasons for each difference identified in the response to paragraph 1.7.

Five of the six STPIS performance measures in Table 1–3 show a variance of greater than 10 per cent. Three of these variances—Urban Unplanned SAIDI, Urban Unplanned SAIFI and Rural Unplanned MAIFI—related to better than target levels of performance. The two main factors contributing to the favourable performance are:

- JEN's more stringent vegetation management practices arising from legislative changes to the Electricity Safety (Electric Line Clearance) Regulations in 2010 and JEN's effective condition based asset replacement, network augmentation and maintenance of current network performance standards
- Milder temperatures experienced in the 2015/16 summer.

The main factor contributing to the unfavourable Rural Unplanned SAIDI and Rural Unplanned SAIFI performance was due to the failure, on 3 separate occasions in December 2016, of a section of underground cable on the SBY11 feeder. The cable has been isolated and the replacement of this section of cable is planned for 2017.

2. COMPLIANCE

This section sets out JEN's response to section 2 of Schedule 1 of the RIN.

2.1 SERVICE CLASSIFICATION

Paragraph 2.1 of Schedule 1 requires JEN to explain the processes and procedures used by JEN to ensure that the distribution services have been classified as determined in the 2016-20 Distribution Determination.

Changes in service classification are monitored by JEN's regulatory team as part of its business as usual activities. Leading up to price review determinations—when service classifications are reviewed—JEN's regulatory team consult directly with the AER on its approach to service classification.

JEN's regulatory and asset management teams have reviewed and updated the activity codes for all JEN's services/activities within JEN's SAP system to reflect changes to service classification resulting from the 2016-20 Distribution Determination within JEN's SAP system. This approach ensures that the services JEN provide are correctly classified throughout the regulatory control period.

2.2 NEGOTIATED DISTRIBUTION SERVICE CRITERIA

Paragraph 2.2 of Schedule 1 requires JEN to explain the procedures and processes used by JEN to ensure that the negotiated service criteria, as set out in the 2016-20 Distribution Determination, have been applied.

Similar to the approach described in section 2.1, compliance with the negotiated service criteria set out in the 2016-20 Distribution Determination is monitored by JEN's regulatory and asset management teams as part of their business as usual activities.

JEN's asset management teams periodically review the activity codes for all JEN's services/activities within JEN's SAP system to ensure that its service classifications—including negotiated services—are mapped to the correct activity codes within the SAP system. This approach ensures that the negotiated services JEN provide/s (new public lighting services, alteration and relocation of DNSP public lighting assets and construction of reserve feeders) are correctly classified throughout the regulatory control period and comply with the negotiated service criteria set out in the 2016-20 Distribution Determination.

2.3 NEGATIVE CHANGE EVENTS

Paragraph 2.3 of Schedule 1 requires JEN to explain the process JEN has in place to identify negative change events under clause 6.6.1(f) of the NER and the materiality threshold applied to these events.

Legislative and regulatory changes as well as changes to technical and services standards are monitored by various groups within JEN (including the regulatory, legal and asset management teams) as a part of their business as usual responsibilities. Where a positive or negative change event occurs which may have a material cost impact on JEN, the regulation and legal teams assess whether a pass through event has occurred and (if necessary) prepare the required cost pass through notice.

2.4 RING-FENCING

Paragraph 2.4 of Schedule 1 requires JEN to describe the processes it has in place to monitor compliance with the Essential Services Commission of Victoria (**ESC**), *Electricity Industry Guideline No. 17: Electricity Ring-fencing Issue 1*, October 2004 (or any Ringfencing Guideline the AER may develop under clause 6.17.2 of the NER). Paragraph 2.4 of Schedule 1 also requires JEN to list all instances of non-compliance with these ring-fencing guidelines.

ESC Electricity Industry Guideline No. 17: Electricity Ring-fencing Issue 1

Under clause 22.1(d) of JEN's Electricity Distribution Licence, JEN is required to comply with the ECS's *Electricity Industry Guideline No. 17: Electricity Ring-fencing Issue 1*.

Jemena (including JEN) maintains a well-established Compliance Management System, including an enterprise risk management system known as the Jemena Compliance and Risk System used to monitor compliance with various obligations. JEN requires staff to undertake training regarding ring-fencing obligations which is designed to ensure staff are aware of and comply with the requirements under the Guideline as applicable to JEN.

Furthermore, JEN is not a retailer, ensuring compliance by JEN with all requirements under the Guideline relating to operational separation between distribution and retail businesses and branding, marketing and customer communications.

Consistent with clause 22.3 of JEN's Electricity Distribution Licence, JEN has not reported any instances of non-compliance with the ESC's Guideline during the Relevant Regulatory Year.

AER Electricity Ring-Fencing Guideline 2016

During the Relevant Regulatory Year, the AER made its *Electricity Ring-Fencing Guideline 2016* under clause 6.17.2 of the NER, which commenced on 1 December 2016.

Under clause 7.1(a) of the AER's Guideline, JEN is required to comply with obligations under clauses 3 and 4 of the Guideline in respect of services it was providing on 1 December 2016 (**existing services**) as soon as reasonably practicable, having regard to the likely costs of having to fully comply with those obligations any sooner, and in any event, to fully comply with those obligations by 1 January 2018.

The requirement under this clause for compliance 'as soon as reasonably practicable' recognises that, in respect of existing services, a distribution network service provider will require time to implement measures in order to achieve compliance with those obligations.

In accordance with the Guideline's transitional arrangements, JEN plans to be compliant with all obligations by 1 January 2018. JEN is undertaking a project to identify the steps necessary to comply with all obligations, including monitoring, under the Guideline as soon as reasonably practicable, while having regards to the costs of doing so any sooner.

3. COST ALLOCATION TO THE DISTRIBUTION BUSINESS

This section sets out JEN's response to section 3 of Schedule 1 to the RIN for the 2016 Regulatory Year.

JEN has applied its AER approved CAM in all relevant circumstances. The AER approved JEN's revised CAM on 19 December 2014. JEN has previously provided this document to the AER.[4].

3.1 EXPENDITURE OR REVENUE ITEMS DIRECTLY ATTRIBUTABLE TO THE DISTRIBUTION BUSINESS

Paragraph 3.1 of Schedule 1 to the RIN requires JEN to identify each item of expenditure and revenue in Worksheet 8.1 of the Financial Information Templates that is directly attributable to the Distribution Business.

The items directly attributable to JEN have been identified and are listed in Table 3–1.

3.2 ITEMS NOT DIRECTLY ATTRIBUTABLE

Paragraphs 3.2 (a) and 3.2 (b) of Schedule 1 to the RIN require JEN to identify each item in Worksheet 8.1 of the Financial Information Templates that is allocated to JEN:

a) not on a directly attributable basis but on a causation basis, or

b) not allocated on a directly attributable basis and cannot be allocated on a causation basis.

The items allocated to JEN have been identified and are listed in Table 3–1. Each of these items has been allocated on a causation basis and thus there are no items allocated in the category identified in paragraph 3.2 (b) of Schedule 1 to the RIN.

Table 3–1: Directly attributable and allocated on a causation basis to the Distribution Business

Item	Directly Attributable ($) [Paragraph 3.1]	Allocated ($) [Paragraph 3.2(a)]
8.1.1.1 - REVENUE		
Distribution revenue	256,085,799	-
Cross boundary revenue	9,156,671	-
Jurisdictional scheme amounts	10,227,812	-
TUOS revenue	61,346,497	-
Pass through revenue (F-factor)	(680,000)	-
Other Revenue	60,972,671	-
8.1.1.2 - EXPENDITURE		
TUOS expenditure	63,527,983	-

[4] Provided as Attachment 1-7 to JEN's response to the Annual Regulatory Information Notice for the 2015 Regulatory Year.

Item	Directly Attributable ($) [Paragraph 3.1]	Allocated ($) [Paragraph 3.2(a)]
Cross boundary expenditure	3,407,071	-
Depreciation	72,443,384	-
Jurisdictional scheme amounts	9,671,883	-
Maintenance expenditure	21,575,623	-
Operating expenditure excluding maintenance expenditure	75,839,782	2,652,468

3.3 INFORMATION ON ITEMS IDENTIFIED IN RESPONSE TO 3.2 (A)

Paragraphs 3.3 (a) and 3.3 (c) of Schedule 1 to the RIN require JEN to state, for each item identified in response to paragraph 3.2 (a), the amount of the item that has been allocated and the numeric amount of the allocators used. Section 3.3 (b) requires JEN to explain the method of allocation and reasons for choosing that method.

Table 3–2 sets out:

a) the amounts of these items

b) the method of allocation and reason for basis

c) the allocator percentages.

Table 3–2: Shared cost allocation

Cost Item [Section 3.2(a)]	Amount ($) [Paragraph 3.3 (a)]	Method of allocation and reason for basis [Paragraph 3.3 (b)]	Allocator (%) [Paragraph 3.3 (c)]
Information Technology (IT) Provision and management of IT infrastructure and services. Costs include residual labour costs and non-labour costs.	[redacted]	Method: time writing data based driver. Reason: IT costs support the delivery of Jemena's capital and operating programs, including those of JEN. Costs are attributed to information technology activities based on time writing and goods receipting. Residual IT costs are allocated using time writing data. The time writing data reflects the time recorded by staff to JEN.	[redacted]

Cost Item [Section 3.2(a)]	Amount ($) [Paragraph 3.3 (a)]	Method of allocation and reason for basis [Paragraph 3.3 (b)]	Allocator (%) [Paragraph 3.3 (c)]
Customer and Markets (C&M) Management of Commercial activities, Corporate affairs, Regulation management, Business planning. Costs include residual labour costs and non-labour costs.	[redacted]	Method: time writing data based driver. Reason: C&M costs support Jemena's commercial, corporate affairs, regulation management and business planning obligations, including those of JEN. Costs are attributed to corporate activities based on time writing and goods receipting. Residual C&M costs are allocated using time writing data. The time writing data reflects the time recorded by staff to JEN.	[redacted]
Other Enterprise Support (Corporate) Functions Provision of various services to JEN by Corporate functions. These include Corporate governance, Financial management, Legal, People, safety and environment management, Risk and insurance, and Internal audit services. Costs include residual labour costs and non-labour costs.	[redacted]	Method: time writing data based driver. Reason: Other enterprise support functions costs support Jemena's corporate management and related services, including those of JEN. Costs are attributed to corporate activities based on time writing and goods receipting. Residual other enterprise support functions costs are allocated using time writing data. The time writing data reflects the time recorded by staff to JEN.	[redacted]

3.4 INFORMATION ON ITEMS IDENTIFIED IN RESPONSE TO 3.2 (B)

As set out above, the causation basis of each cost item is shared, causal and operating in nature, so there are therefore no items for JEN which are identified in response to paragraph 3.2 (b). Paragraphs 3.4 (a) to (c) of Schedule 1 are therefore not applicable to JEN.

4. COST ALLOCATION TO SERVICE SEGMENTS

This section sets out JEN's response to section 4 of Schedule 1 to the RIN for the Relevant Regulatory Year.

JEN has applied its AER approved CAM in all relevant circumstances. A copy of this CAM has previously been provided to the AER[5]. Section 4.1 parts (a) and (c) of Schedule 1 to the RIN requires JEN to identify each item in the Financial Information Templates that is:

- Directly attributable to JEN's service segments;
- Allocated to JEN's service segments that is on a causation basis; and
- Cannot be allocated on a causation basis to a service segment.

Paragraph 4.2 (a) of Schedule 1 requires JEN to state, for each item identified in response to paragraph 4.1(a), the quantum of the item that is directly attributable.

Paragraphs 4.3 (a) and (c) of Schedule 1 requires JEN to state, for each item identified in response to paragraph 4.1 (b), the quantum of the item that has been allocated and the numeric quantum of the allocators used.

Section 4.3 (b) of Schedule 1 requires JEN to explain the allocation method and reasons for choosing that method in relation to items identified in 4.1 (b).

The items allocated to JEN on causation basis and JEN's responses to 4.3 are listed in Table 4–1.

Paragraph 4.4 of Schedule 1 requires JEN to state that each item in response to paragraph 4.1 (c) has not been allocated on a directly attributable basis and cannot be allocated on a causation basis from the distribution business to a service segment. This requirement is not applicable as there are no instances in JEN's response where operating, maintenance and capex costs were not allocated to an activity area in part on a directly attributable basis or on a causation basis (or both) to a service segment. All costs were allocated in a way that is consistent with JEN's approved CAM.

[5] Provided as Attachment 1-7 to JEN's response to the Annual Regulatory Information Notice for the 2015 Regulatory Year.

Table 4–1: Cost allocation to service segments

Cost Item [Section 4.1]	Total Amount ($)	Direct ($) [Section 4.2(a)]	Allocated ($) [Section 4.3(a)]	Method of allocation and reason for Basis [Section 4.3(b)]	Allocator % [Section 4.3(c)]
Maintenance – SCS Routine	[redacted]	[redacted]	[redacted]	JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
Maintenance – SCS Condition Based	[redacted]	[redacted]	[redacted]	JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
Maintenance – SCS Vegetation Control	[redacted]	[redacted]	[redacted]	JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
Maintenance – SCS Emergency	[redacted]	[redacted]	[redacted]	JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
Maintenance – SCS Inspection	[redacted]	[redacted]	[redacted]	JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]

Cost Item [Section 4.1]	Total Amount ($)	Direct ($) [Section 4.2(a)]	Allocated ($) [Section 4.3(a)]	Method of allocation and reason for Basis [Section 4.3(b)]	Allocator % [Section 4.3(c)]
Maintenance – SCS SCADA/Network Control	[redacted]			Directly charged.	[redacted]
Maintenance – SCS Other Maintenance	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
Maintenance – ACS Public Lighting	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
SCS - Network Operating Costs (excluding GSL payments)	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
SCS - Billing & revenue collection	[redacted]			Directly charged.	[redacted]
SCS - Advertising, marketing & promotions	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]

Cost Item [Section 4.1]	Total Amount ($)	Direct ($) [Section 4.2(a)]	Allocated ($) [Section 4.3(a)]	Method of allocation and reason for Basis [Section 4.3(b)]	Allocator % [Section 4.3(c)]
SCS - Customer service	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
SCS - Regulatory	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual corporate costs.	[redacted]
SCS - Information technology (IT)	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual corporate costs.	[redacted]
ACS - Information technology (IT)	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual corporate costs.	[redacted]
ACS - Public Lighting - Information technology (IT)	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual corporate costs.	[redacted]
GSL Payments	[redacted]			Directly charged.	[redacted]

Cost Item [Section 4.1]	Total Amount ($)	Direct ($) [Section 4.2(a)]	Allocated ($) [Section 4.3(a)]	Method of allocation and reason for Basis [Section 4.3(b)]	Allocator % [Section 4.3(c)]
SCS - Other Operating	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
ACS - Metering	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
ACS - Other Operating	[redacted]			JEN allocates overheads to these expense activities based on its internal policies and in accordance with the AER approved CAM. The overheads include an allocation of residual asset management, service delivery and corporate costs.	[redacted]
CAPEX – SCS – Replacement Expenditure	[redacted]			Directly charged.	[redacted]
CAPEX – SCS – Connections	[redacted]			Directly charged.	[redacted]
CAPEX – SCS – Augmentation Expenditure	[redacted]			Directly charged.	[redacted]
CAPEX – SCS – Non-Network	[redacted]			Directly charged.	[redacted]

Cost Item [Section 4.1]	Total Amount ($)	Direct ($) [Section 4.2(a)]	Allocated ($) [Section 4.3(a)]	Method of allocation and reason for Basis [Section 4.3(b)]	Allocator % [Section 4.3(c)]
CAPEX – SCS - Capitalised Network Overheads	[redacted]			Directly charged.	[redacted]
CAPEX – SCS - Capitalised Corporate Overheads	[redacted]			Directly charged.	[redacted]
CAPEX – ACS – Public Lighting - Energy Efficient	[redacted]			Directly charged.	[redacted]
CAPEX – ACS – Public Lighting - Non-Energy Efficient	[redacted]			Directly charged.	[redacted]
CAPEX – ACS – Metering Services	[redacted]			Directly charged.	[redacted]

5. CAPITALISATION POLICY

5.1 MATERIAL CHANGES TO CAPITALISATION POLICY

JEN advises that there has been no change to the substance of JEN's Capitalisation Policy. As such, sections 5.1 and 5.2 of Schedule 1 are not applicable to JEN.

6. DEMAND MANAGEMENT INNOVATION ALLOWANCE

In this section, JEN responds to section 6 of Schedule 1 to the RIN for the 2016 Relevant Regulatory Year, which relates to the Demand Management Innovation Allowance (**DMIA**).

6.1 IDENTIFICATION OF DEMAND MANAGEMENT PROJECTS OR PROGRAMS

Paragraph 6.1 of Schedule 1 to the RIN requires JEN to identify each demand management project or program for which JEN seeks approval.

JEN seeks approval for four projects for the 2016 Regulatory Year, which are outlined below.

1. **Demand Response Trial Project on 22kV Feeder BD-13 (Phase 1)**

   In 2015 JEN undertook a desktop study into controlling the demand of commercial and industrial customers on one of our 22kV feeders (BD-13) as a Demand Response initiative. The project continued into the 2016 Regulatory Year and included engaging commercial and industrial customers on the constrained feeder with a view to signing up enough customers to proceed to field trial in Phase 2. There was, however, not enough customer interest so the project did not proceed to field trial. Phase 1 was completed in 2016.

2. **Demand Management Constraint Analysis Tool**

   Jemena initiated the development of a Demand Management Constraint Analysis Tool (**CAT**) in 2015. The software tool allows network planning engineers to undertake a consistent and objective cost benefit analysis of multiple network and non-network options. Development of the tool, which comes with advanced modelling features, continued into the 2016 Regulatory Year and was completed in January 2016.

3. **Grid Battery Energy Storage System Feasibility and Concept Design Study**

   In Regulatory Year 2015 JEN undertook a feasibility study into deploying a Grid Battery Energy Storage System (**GESS**) as a peak shaving technology and assessed its capability in economically addressing capacity constraints in a selected area of JEN's network. The project which included model development and desktop analysis continued into the 2016 Regulatory Year and was completed in January 2016.

4. **Commercial and Industrial Solar PV and Battery Storage / Residential Demand Response**

   In the 2016 Regulatory Year Jemena has worked on the development of project scopes for the deployment of distributed solar photovoltaic (**PV**) and battery storage solutions at commercial and industrial customer premises, and residential demand response. The project scopes are expected to be finalised followed by a business case development in the 2017 Regulatory Year.

6.2 DETAILED INFORMATION – DEMAND RESPONSE TRIAL PROJECT ON 22KV FEEDER BD-13 (PHASE 1)

Paragraph 6.2 of Schedule 1 to the RIN requires JEN to provide detailed information for each demand management project or program identified in response to paragraph 6.1 of Schedule 1 to the RIN.

6.2.1 COMPLIANCE

Paragraph 6.2(a)(i) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative complies with the DMIA criteria set out in section 3.1.3 of the Demand Management Incentive Scheme (**DMIS**).

Jemena undertook a desktop study of controlling the demand of large commercial/industrial customers on one of our 22kV feeders, BD-13, as a demand response (**DR**) initiative in 2015 to develop our understanding of the DR technology, benefits, costs, pricing/commercial arrangements and operational structures of target customers. The project continued into the 2016 Regulatory Year and included engaging a demand response technology provider in seeking and signing up enough commercial/industrial customers for an actual demand response trial in 2016 as Phase 2 of the project. There was, however, not enough customer interest so the project did not proceed to field trial.

JEN considers that works to engage and sign up commercial/industrial customers for an actual demand response trial in the 2016 Regulatory Year complies with DMIA criteria, set out in section 3.1.3 of the DMIS, in the following ways:

- Section 3.1.3-1 – The project is aimed at developing Jemena's capabilities to reduce peak demand through customer controlled demand response projects, rather than increasing supply capacity through network augmentation.
- Section 3.1.3-2 – The project is a peak demand management initiative which aims to address specific network constraints by reducing demand on the network at the location and time of the constraint.
- Section 3.1.3-3 – The project deliverables are to prepare Jemena for various elements of customer controlled demand response programs as an effective and efficient demand management solution.
- Section 3.1.3-4 – The project is a non-tariff based project and the costs are not recovered under any other incentive scheme.
- Section 3.1.3-5 – The project cost has not been recovered under other schemes. See section 6.2.8 of JEN's response for more details.
- Section 3.1.3-6 – The nature of expenditure is operating expenditure.

6.2.2 NATURE AND SCOPE

Paragraph 6.2(a)(ii) of Schedule 1 to the RIN requires JEN to explain the nature and scope of JEN's initiative.

The scope of work for the Demand Response Trial on 22kV feeder BD-13 (Phase 1) in Regulatory Year 2016 includes the following key deliverables:

- Recruiting enough customers for a demand response field trial in 2016.

The project failed to recruit enough customer loads to manage the risk of unserved energy on feeder BD-13 and therefore did not proceed to field implementation stage. JEN, however, has derived significant learnings from the project particularly in the customer engagement and acquisition process. These learnings will be applied in future customer demand response initiatives.

6.2.3 AIMS AND EXPECTATIONS

Paragraph 6.2(a)(iii) of Schedule 1 to the RIN requires JEN to explain the aims and expectations of JEN's initiative.

The aims and expectations of the Demand Response Field Trial - Phase 1 project are to:

- Understand the requirements of a potential DR initiative as a viable demand management solution;
- Investigate DR with the objective of deferring network augmentation works or mitigating network outage risk;
- Develop Jemena's capabilities in the area so as to facilitate the evaluation and implementation of DR solutions, and
- Recruit customers for Phase 2 of the project in 2016 and 2017, aimed at a field trial of the technology with large commercial/industrial customers on feeder BD-13.

6.2.4 SELECTION PROCESS

Paragraph 6.2(a)(iv) of Schedule 1 to the RIN requires JEN to explain the process by which JEN's project was selected, including its business case and consideration of any alternatives.

JEN can leverage DR to transfer network risk to customers both before and during outages reducing the overall costs of network operation. Likewise, utilizing DR for asset deferral can help Jemena achieve the best possible economic outcome for its customers, while maintaining the same level of network reliability. Regardless of the asset used to undertake DR (customer side generation, curtailment or storage) effective risk transfer can be achieved through DR. The cost effectiveness of risk transfer is driven by the ability of the available customer base, DR technologies, and business processes with a fast enough reaction time to mitigate the impact of network outages. While desktop studies of DR opportunities can be carried out, additional learnings can be derived by undertaking activities involving customer engagement and recruitment.

In 2015 Jemena undertook a desktop study of controlling the demand of large commercial/industrial customers on one of our capacity constraint 22kV feeders, BD-13. Following from the desktop study, Jemena proceeded to engage and recruit customers for a DR field trial. By undertaking this project, Jemena intended to field trial DR on feeder BD-13 for 2016 and 2017 and refine its approach and strategy on demand management.

6.2.5 IMPLEMENTATION

Paragraph 6.2(a)(v) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative was implemented.

The works associated with the Demand Response Trial Project on 22kV feeder BD-13 (Phase 1) that were completed in 2016 have been delivered as follows:

- Engaging with customers and seeking their willingness and acceptance in participating in a potential DR initiative.

The project failed to recruit enough customer loads to manage the risk of unserved energy on feeder BD-13 and therefore did not proceed to field implementation stage.

6.2.6 IMPLEMENTATION COSTS

Paragraph 6.2(a)(vi) of Schedule 1 to the RIN requires JEN to explain the implementation costs of JEN's project.

The actual expenditure for the Demand Response Trial Project on 22kV feeder BD-13 (Phase 1) incurred in the 2016 Regulatory Year was $14,021, as set out in Template 7.11 (DMIS – DMIA) (Attachment 1-1 of JEN's response).

6.2.7 BENEFITS

Paragraph 6.2(a)(vii) of Schedule 1 to the RIN requires JEN to explain any identifiable benefits that have arisen from JEN's project, including any off peak or peak demand reduction.

Since the Demand Response Trial on 22kV feeder BD-13 (Phase 1) failed to recruit enough customer loads for actual demand response trial, there have been no quantifiable benefits in terms of reduction in peak demand. JEN has derived significant learnings from the project particularly in the customer engagement and acquisition process. These learnings have been documented and will be applied in future customer demand response initiatives.

6.2.8 ASSOCIATED COSTS

Paragraph 6.2(b) of Schedule 1 to the RIN requires JEN to state whether the costs associated with JEN's initiative have been recovered under other schemes.

The associated costs for the development of the Demand Response Trial Project on 22kV feeder BD-13 (Phase 1) have not been:

- recovered under any other jurisdictional incentive scheme,
- recovered under any other Commonwealth or State Government scheme, and
- included in the forecast capital or operating expenditure approved in the 2016-20 Distribution Determination or recovered under any other incentive scheme in that determination.

6.2.9 TOTAL AMOUNT OF DMIA SPENT AND HOW THIS AMOUNT WAS CALCULATED

Paragraph 6.2(c) of Schedule 1 to the RIN requires JEN to state the total amount of the DMIA spent in the Relevant Regulatory Year and how it was calculated.

The actual spent on Phase 1 of the Demand Response Trial Project on 22kV feeder BD-13 in Regulatory Year 2016 was $14,021.

The project spent (materials, internal labour and external labour) is collected and tracked in JEN's accounting system.

6.3 DETAILED INFORMATION – DEMAND MANAGEMENT CONSTRAINT ANALYSIS TOOL

Paragraph 6.2 of Schedule 1 to the RIN requires JEN to provide detailed information for each demand management project or program identified in response to paragraph 6.1 of Schedule 1 to the RIN.

6.3.1 COMPLIANCE

Paragraph 6.2(a)(i) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative complies with the DMIA criteria set out in section 3.1.3 of the DMIS.

JEN initiated the development of a Demand Management Constraint Analysis Tool (**CAT**) in association with a demand response technology provider in 2015. The software tool allows network planning engineers compare costs and benefits of multiple network and non-network options and undertake a consistent cost benefit analysis of options. The project continued into the 2016 Regulatory Year and was completed in January 2016.

JEN considers that the development of a Demand Management CAT in the 2016 Regulatory Year complies with DMIA criteria, set out in section 3.1.3 of the DMIS, in the following ways:

- Section 3.1.3-1 – The tool allows network planning engineers apply a consistent approach in analysing and comparing multiple network and non-network options.
- Section 3.1.3-2 – The project is a broad based Demand Management cost-benefit analysis initiative, and is not aimed at a specific location on the network.
- Section 3.1.3-3 – The project deliverable is a software tool which can be used to develop and enhance Jemena's capability in comparing and analysing multiple network and non-network options. In return to the upfront capital contribution and co-development effort, Jemena can subscribe to the use of the software tool at a discounted price for two years after the completion of the development. JEN is not aware of any currently commercially available software package that allows the user to apply probabilistic planning methodology to assess the economic benefits of multiple non-network and network augmentation options.
- Section 3.1.3-4 – The project is a non-tariff based project and the costs are not recovered under any other incentive scheme.
- Section 3.1.3-5 – The project cost has not been recovered under other schemes. See section 6.3.8 of JEN's response for more details.
- Section 3.1.3-6 – The nature of expenditure is operating expenditure.

6.3.2 NATURE AND SCOPE

Paragraph 6.2(a)(ii) of Schedule 1 to the RIN requires JEN to explain the nature and scope of JEN's initiative.

The nature of the project is to contribute to the development of a software tool that allows network planning engineers apply a consistent approach in analysing and comparing multiple network and non-network options.

The scope of works for the project includes developing a software tool with the following capabilities:

- Advanced modelling of network options, including capability to assess benefits under various network operating scenarios, including network transfer and switching scenarios.
- Advanced modelling of non-network options, including capability to assess benefits under various Demand Management asset types, various Demand Management portfolios and various network operating scenarios, including network transfer and switching scenarios.
- View year-on-year tabulated cost benefit for the duration of the forecasts.
- View the optimal deferral length in a chart format.
- Export the results of analysis to other documents, e.g., Business Cases.

JEN engaged a Demand Response technology provider as a consultant to develop the tool and provide the deliverables in the project scope.

6.3.3 AIMS AND EXPECTATIONS

Paragraph 6.2(a)(iii) of Schedule 1 to the RIN requires JEN to explain the aims and expectations of JEN's initiative.

The aims and expectations of the project are to:

- Develop a software tool that allows costs and benefits of multiple network and non-network options be considered.
- Develop a framework and methodology for a consistent and objective cost benefit analysis of multiple network and non-network options.

6.3.4 SELECTION PROCESS

Paragraph 6.2(a)(iv) of Schedule 1 to the RIN requires JEN to explain the process by which JEN's project was selected, including its business case and consideration of any alternatives.

To support the demand management objectives of the business and allow demand management options to be considered on the same basis as traditional network options, JEN needs to develop and adopt a more accurate cost benefit analysis tool for both network and non-network options with advanced network and demand management scenario modelling capability.

JEN therefore decided to undertake this project in order to meet this identified need.

6.3.5 IMPLEMENTATION

Paragraph 6.2(a)(v) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative was implemented.

JEN surveyed the market and did not find a commercially available software package that allows the user to apply probabilistic planning methodology to assess the economic benefits of multiple non-network and network augmentation options. JEN decided to team up with a demand response technology provider to develop the tool. This collaborative approach allows JEN's knowledge on grid side issues and network considerations be combined with the consultant's expertise of Demand Response technology.

The works associated with the Demand Management CAT were carried out over Regulatory Years 2015 and 2016 and have been delivered as follows:

- Develop a Demand Management CAT trial version with the following capabilities:
  - Input of constraint load shapes;
  - Input of load growth forecasts;
  - Calculation of benefits (Energy at Risk and Expected Unserved Energy);
  - Model network augmentation options (including Capacity benefits calculator);
  - Model DSM solution options (including Capacity benefits calculator);
  - Cost/Benefit analysis of options and comparison.
- Develop a Demand Management CAT production version with advanced modelling capabilities:
  - Advanced modelling of network augmentation options, including network transfer and switching benefits calculation;
  - Advanced modelling of Demand Management solution options, including advanced Demand Management asset types, advanced Demand Management portfolios and advanced network transfer and switching benefits calculation;
  - Auto-optimisation of Demand Management solution scale and deferral period;
  - Effectiveness factors for sub-transmission and transmission constraints;

- Parent-child network modelling allowing the benefits of a Demand Management solution to be assessed in the broader contexts of the feeder, zone substation and sub-transmission network.

The project was completed in January 2016.

6.3.6 IMPLEMENTATION COSTS

Paragraph 6.2(a)(vi) of Schedule 1 to the RIN requires JEN to explain the implementation costs of JEN's project.

The actual expenditure for the Demand Management CAT project incurred in the 2016 Regulatory Year was $29,814, as set out in Template 7.11 (DMIS – DMIA) (Attachment 1-1 of JEN's response). This represented the final payment (50%) of the contract engagement over two Regulatory Years 2015 and 2016.

6.3.7 BENEFITS

Paragraph 6.2(a)(vii) of Schedule 1 to the RIN requires JEN to explain any identifiable benefits that have arisen from JEN's project, including any off peak or peak demand reduction.

There have been no quantifiable benefits associated with this project in Regulatory Year 2016.

6.3.8 ASSOCIATED COSTS

Paragraph 6.2(b) of Schedule 1 to the RIN requires JEN to state whether the costs associated with JEN's initiative have been recovered under other schemes.

The associated costs for the development of Demand Management CAT have not been:

- recovered under any other jurisdictional incentive scheme,
- recovered under any other Commonwealth or State Government scheme, and
- included in the forecast capital or operating expenditure approved in the 2016-20 Distribution Determination or recovered under any other incentive scheme in that determination.

6.3.9 TOTAL AMOUNT OF DMIA SPENT AND HOW THIS AMOUNT WAS CALCULATED

Paragraph 6.2(c) of Schedule 1 to the RIN requires JEN to explain the total amount of the DMIA spent in the Relevant Regulatory Year and how it was calculated.

The actual amount spent on Demand Management CAT in Regulatory Year 2016 was $29,814.

The project spent (materials, internal labour and external labour) is collected and tracked in JEN's accounting system.

6.4 DETAILED INFORMATION – GRID BATTERY ENERGY STORAGE SYSTEM – FEASIBILITY AND CONCEPT DESIGN STUDY

Paragraph 6.2 of Schedule 1 to the RIN requires JEN to provide detailed information for each demand management project or program identified in response to paragraph 6.1 of Schedule 1 to the RIN.

6.4.1 COMPLIANCE

Paragraph 6.2(a)(i) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative complies with the DMIA criteria set out in section 3.1.3 of the DMIS.

JEN initiated a Grid Energy Storage System (**GESS**) feasibility and design study in 2015 to develop our understanding of utility scale energy storage technology in mitigating peak demand network constraints and its impact on the distribution network and the quality of electricity supply. The project continued into the 2016 Regulatory Year and was completed in January 2016.

JEN considers that the feasibility study into the deployment of GESS as a peak shaving technology in the 2016 Regulatory Year complies with DMIA criteria, set out in section 3.1.3 of the DMIS, in the following ways:

- Section 3.1.3-1 – The project is aimed at developing Jemena's capabilities to reduce peak demand in constrained parts of the network, rather than increasing supply capacity through network augmentation.
- Section 3.1.3-2 – The project is a peak demand management initiative which aims to address specific network constraints by reducing demand on the network at the location and time of the constraint.
- Section 3.1.3-3 – The project deliverables are to develop Jemena's capability in deploying GESS as an effective, economic and efficient peak demand management solution. The primary objectives of the GESS feasibility and design study was to develop load data analysis and battery control simulation tools which enable Jemena to do high level design and assessment of GESSs as part of BAU planning processes
- Section 3.1.3-4 – The project is a non-tariff based project and the costs are not recovered under any other incentive scheme.
- Section 3.1.3-5 – The project cost has not been recovered under other schemes. See section 6.4.8 of JEN's response for more details.
- Section 3.1.3-6 – The nature of expenditure is operating expenditure.

6.4.2 NATURE AND SCOPE

Paragraph 6.2(a)(ii) of Schedule 1 to the RIN requires JEN to explain the nature and scope of JEN's initiative.

The nature of the project is to develop our understanding of utility scale energy storage technology in mitigating peak demand network constraints, its impact on the distribution network and the quality of electricity supply, with particular focus on the application to the suburban distribution network of Jemena.

The scope of works for the GESS Feasibility and Concept Design Study includes the following key deliverables:

- Develop a concept design for a multi-feeder GESS for an area of the network constrained by sub-transmission, zone substation and distribution feeders.
- Determine an optimum size of a multi-feeder GESS. This is achieved by analysing historical load and daily load curves and developing a number of load and daily load curve forecast as the basis for determining an optimum size for batteries.
- Design and simulate a distributed energy management system for the multi-feeder GESS.
- Analyse and assess the impact of the GESS on the network.
- Estimate cost of implementing the multi-feeder GESS.
- Assess the economic benefits of the GESS, including potential deferment or avoidance of large capital expenditure.

- Develop a framework for the planning assessment of GESS as a peak demand management tool.

JEN engaged a consultant to provide the deliverables in the project scope.

6.4.3 AIMS AND EXPECTATIONS

Paragraph 6.2(a)(iii) of Schedule 1 to the RIN requires JEN to explain the aims and expectations of JEN's initiative.

The aims and expectations of the GESS Feasibility and Concept Design Study are to:

- Understand the benefits, costs and operating modes of the GESS as a viable peak demand management solution;
- Investigate GESS technology for possible future implementation within the JEN's network with the objective of deferring network augmentation works or mitigating network outage risk. While a number of grid storage pilot or demonstration projects have been initiated by electricity distribution companies, the majority of these are targeted at "edge-of-grid" applications where battery economics are comparable to network augmentation costs. This is not the case for JEN's predominantly suburban electricity network;
- Develop JEN's capabilities in the area so as to facilitate the evaluation and implementation of GESS solutions from various technology providers.
- Lay the foundation for a GESS field trial project.

6.4.4 SELECTION PROCESS

Paragraph 6.2(a)(iv) of Schedule 1 to the RIN requires JEN to explain the process by which JEN's project was selected, including its business case and consideration of any alternatives.

Advances in GESS technologies represent an opportunity for Jemena to manage network risks associated with capacity constraints in ways that have not previously been possible. By undertaking this project, Jemena intends to develop and refine its approach and strategy on cost effective peak demand management solutions.

GESS has the potential for economic management of network risks associated with capacity constraint. Jemena can leverage GESS to manage network risk both before and during outages and potentially reduce the overall costs of network operation. Utilising GESS for asset deferral can help Jemena achieve the best possible economic outcome for its customers, while maintaining the same level of network reliability.

JEN therefore decided to undertake this project to gain a better understanding of the benefits, costs and operating modes of GESS as a viable peak demand management solution in order to realise these benefits.

6.4.5 IMPLEMENTATION

Paragraph 6.2(a)(v) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative was implemented.

JEN has taken a collaborative approach with its consultant on this project, where JEN's knowledge of grid side issues and network considerations is combined with the consultant's expertise in energy storage design and solutions.

The works associated with the GESS Feasibility and Concept Design Study were carried out over two Regulatory Years 2015 and 2016 and have been delivered as follows:

- Selection of a part of JEN network constrained by sub-transmission, zone substation and distribution feeder capacity and development of network models for energy flow analysis.

- Development of concept designs for multi-feeder GESS.
- Design, development and simulation of two distributed control systems.
  - A Parallel Distributed Control System for GESS (battery and inverter)
  - A Parallel Distributed Control System for the upstream network.
- Development of models including key parameters and GESS operating modes relevant for successful implementation of a trial project.
- Complete an economic assessment of the GESS option and compare with traditional network solutions
- Preparation of a report documenting the project findings

The project was completed in January 2016.

6.4.6 IMPLEMENTATION COSTS

Paragraph 6.2(a)(vi) of Schedule 1 to the RIN requires JEN to explain the implementation costs of JEN's project.

The actual expenditure for the GESS Feasibility and Concept Design Study incurred in the 2016 Regulatory Year was $22,300, as set out in Template 7.11 (DMIS – DMIA) (Attachment 1-1 of JEN's response). This represented the final payment (45%) of the contract engagement over two Regulatory Years 2015 and 2016.

6.4.7 BENEFITS

Paragraph 6.2(a)(vii) of Schedule 1 to the RIN requires JEN to explain any identifiable benefits that have arisen from JEN's project, including any off peak or peak demand reduction.

As the GESS Feasibility and Concept Design Study was limited to desktop modelling, analysis and simulation, there have been no quantifiable benefits in terms of reduction in peak demand. However, the learnings from the study will be directly applicable when Jemena begins a trial deployment of a GESS in a constrained part of JEN's network.

6.4.8 ASSOCIATED COSTS

Paragraph 6.2(b) of Schedule 1 to the RIN requires JEN to state whether the costs associated with JEN's initiative have been recovered under other schemes.

The associated costs for the development of the GESS Feasibility and Concept Design Study have not been:

- recovered under any other jurisdictional incentive scheme,
- recovered under any other Commonwealth or State Government scheme, and
- included in the forecast capital or operating expenditure approved in the 2016-20 Distribution Determination or recovered under any other incentive scheme in that determination.

6.4.9 TOTAL AMOUNT OF DMIA SPENT AND HOW THIS AMOUNT WAS CALCULATED

Paragraph 6.2(c) of Schedule 1 to the RIN requires JEN to explain the total amount of the DMIA spent in the Relevant Regulatory Year and how it was calculated.

The actual spent on GESS Feasibility and Concept Design Study in Regulatory Year 2016 was $22,300.

The project spend (materials, internal labour and external labour) is collected and tracked in JEN's accounting system.

6.5 DETAILED INFORMATION – COMMERCIAL AND INDUSTRIAL SOLAR PV AND BATTERY STORAGE / RESIDENTIAL DEMAND RESPONSE

This project has two components: (a) commercial & industrial solar PV and battery storage, and (b) residential demand response.

6.5.1 DETAILED INFORMATION – COMMERCIAL & INDUSTRIAL SOLAR PV AND BATTERY STORAGE

Paragraph 6.2 of Schedule 1 to the RIN requires JEN to provide detailed information for each demand management project or program identified in response to paragraph 6.1 of Schedule 1 to the RIN.

6.5.1.1 Compliance

Paragraph 6.2(a)(i) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative complies with the DMIA criteria set out in section 3.1.3 of the DMIS.

The Grid Battery Energy Storage System Feasibility and Concept Design Study (a previous demand management project) concluded that other battery storage benefits (e.g. energy arbitrage), in addition to capital expenditure deferral, would need to be included to economically justify the battery solution over a network augmentation solution. In the 2016 Regulatory Year Jemena has worked on the development of a project scope for the deployment of distributed solar photovoltaic (**PV**) and battery storage solutions at commercial and industrial customer premises. The scope is expected to be finalised followed by development of a business case in the 2017 Regulatory Year.

JEN considers that the development of a project scope for the deployment of distributed solar PV and battery storage solutions at commercial and industrial customer premises in the 2016 Regulatory Year complies with DMIA criteria, set out in section 3.1.3 of the DMIS, in the following ways:

- Section 3.1.3-1 – The project is aimed at developing Jemena's capabilities to reduce peak demand in constrained parts of the network, rather than increasing supply capacity through network augmentation.
- Section 3.1.3-2 – The project is a peak demand management initiative which aims to address specific network constraints by reducing demand on the network at the location and time of the constraint.
- Section 3.1.3-3 – The project deliverables are to develop Jemena's capability in facilitating distributed solar PV and battery storage deployment at commercial and industrial customer premises as an effective, economic and efficient peak demand management solution.
- Section 3.1.3-4 – The project is a non-tariff based project and the costs are not recovered under any other incentive scheme.
- Section 3.1.3-5 – The project cost has not been recovered under other schemes. See section 6.5.1.7 of JEN's response for more details.
- Section 3.1.3-6 – The nature of expenditure is operating expenditure.

6.5.1.2 Nature and scope

Paragraph 6.2(a)(ii) of Schedule 1 to the RIN requires JEN to explain the nature and scope of JEN's initiative.

The nature of the project is to develop and demonstrate that a distributed fleet of solar PV and battery storage systems with coordinated control can provide benefits to feeder, upstream zone substation and sub-transmission constraints, while allowing customers to derive other benefits from the same assets.

The scope of works for the Commercial and Industrial Solar PV and Battery Storage project includes the following key deliverables:

- Develop a project scope for the deployment of distributed solar PV and battery storage solutions at commercial and industrial customer premises for an area of the network constrained by sub-transmission, zone substation and distribution feeders. The scope is expected to be finalised followed by a business case development in the 2017 Regulatory Year.

JEN engaged a consultant to provide the deliverables in the project scope.

6.5.1.3 Aims and expectations

Paragraph 6.2(a)(iii) of Schedule 1 to the RIN requires JEN to explain the aims and expectations of JEN's initiative.

The aims and expectations of the GESS Feasibility and Concept Design Study are to:

- Understand the benefits, costs and operating modes of the distributed solar PV and battery storage systems as a viable peak demand management solution;
- Investigate the distributed solar PV and battery storage technology for possible future implementation within the Jemena electricity network with the objective of deferring network augmentation works or mitigating network outage risk.
- Develop Jemena's capabilities in the area so as to facilitate the deployment of distributed solar PV and battery storage solutions for network peak demand management.
- Develop the business process to facilitate customer acquisition by third party.

6.5.1.4 Selection process

Paragraph 6.2(a)(iv) of Schedule 1 to the RIN requires JEN to explain the process by which JEN's project was selected, including its business case and consideration of any alternatives.

Advances in coordinated control of distributed solar PV and battery storage technologies represent an opportunity for Jemena to manage network risks associated with capacity constraints in network. By undertaking this project, Jemena intends to develop and refine its approach and strategy on cost effective peak demand management solutions.

The coordinated control of distributed solar PV and battery storage has the potential for economic management of network risks associated with capacity constraint. Jemena can leverage the distributed solar PV and battery storage technology to manage network risk and potentially reduce the overall costs of network operation.

JEN therefore decided to undertake this project to gain a better understanding of the benefits, costs and operating modes of distributed solar PV as a viable peak demand management solution in order to realise these benefits.

6.5.1.5 Implementation

Paragraph 6.2(a)(v) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative was implemented.

Jemena has taken a collaborative approach with the Consultant on this project, where Jemena's knowledge on grid side issues and network considerations is combined with the Consultant's expertise on the development of the project scope for distributed solar PV and battery storage solution.

The works associated with the Commercial and Industrial Solar PV and Battery Storage that were carried in Regulatory Year 2016 have been delivered as follows:

- Selection of target commercial and industrial customers on parts of JEN network forecast to be constrained.
- Development of communication plan to engage target commercial and industrial customers and seek their interest in participating in a trial project.
- Development of a project scope to deploy distributed solar PV and battery storage technology as an alternative to increasing network capacity through network augmentation. The project scope is expected to be finalised followed by a business case development in the 2017 Regulatory Year.

6.5.1.6 Benefits

Paragraph 6.2(a)(vii) of Schedule 1 to the RIN requires JEN to explain any identifiable benefits that have arisen from JEN's project, including any off peak or peak demand reduction.

As the Commercial and Industrial Solar PV and Battery Storage was limited to target customer identification and part development of the project scope, there have been no quantifiable benefits in terms of reduction in peak demand in the 2016 Regulatory Year.

6.5.1.7 Associated costs

Paragraph 6.2(b) of Schedule 1 to the RIN requires JEN to state whether the costs associated with JEN's initiative have been recovered under other schemes.

The associated costs for Commercial and Industrial Solar PV and Battery Storage in the 2016 Regulatory Year have not been:

- recovered under any other jurisdictional incentive scheme,
- recovered under any other Commonwealth or State Government scheme, and
- included in the forecast capital or operating expenditure approved in the 2016-20 Distribution Determination or recovered under any other incentive scheme in that determination.

6.5.2 DETAILED INFORMATION – RESIDENTIAL DEMAND RESPONSE PROJECT

Paragraph 6.2 of Schedule 1 to the RIN requires JEN to provide detailed information for each demand management project or program identified in response to paragraph 6.1 of Schedule 1 to the RIN.

6.5.2.1 Compliance

Paragraph 6.2(a)(i) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative complies with the DMIA criteria set out in section 3.1.3 of the DMIS.

JEN has identified that it needs to develop its DR capability for its residential customer base as the residential customers are responsible for driving up the peak demand of the JEN network on hot summer days.

JEN considers that the development of a demand response capability for residential customers complies with DMIA criteria, set out in section 3.1.3 of the DMIS, in the following ways:

- Section 3.1.3-1 – The project is aimed at developing Jemena's capabilities to reduce peak demand in constrained parts of the network, rather than increasing supply capacity through network augmentation.
- Section 3.1.3-2 – The project is a peak demand management initiative which aims to address specific network constraints by reducing demand on the network at the location and time of the constraint.
- Section 3.1.3-3 – The project deliverables are to develop Jemena's capability in Residential Demand Response as an effective, economic and efficient peak demand management solution.
- Section 3.1.3-4 – The project is a non-tariff based project and the costs are not recovered under any other incentive scheme.
- Section 3.1.3-5 – The project cost has not been recovered under other schemes. See section 6.5.2.7 of JEN's response for more details.
- Section 3.1.3-6 – The nature of expenditure is operating expenditure.

6.5.2.2 Nature and scope

Paragraph 7.2(a)(ii) of Schedule 1 to the RIN requires JEN to explain the nature and scope of JEN's initiative.

The nature of the project is to develop and demonstrate that a Residential Demand Response solution can provide substantial benefits to address feeder constraints and upstream zone substation and sub-transmission constraints.

The scope of works for Residential Demand Response includes the following key deliverables:

- Develop a project scope for implementing a voluntary (opt-in) Residential Demand Response program.

JEN engaged a consultant to provide the deliverables in the project scope.

6.5.2.3 Aims and expectations

Paragraph 6.2(a)(iii) of Schedule 1 to the RIN requires JEN to explain the aims and expectations of JEN's initiative.

The aims and expectations of the Residential Demand Response are to:

- Understand the benefits, costs and operating modes of Residential Demand Response as a viable peak demand management solution;
- Determine the effectiveness and reliability of Residential Demand Response in reducing peak demand on JEN network.
- Develop JEN's capability in Residential Demand Response.

6.5.2.4 Selection process

Paragraph 6.2(a)(iv) of Schedule 1 to the RIN requires JEN to explain the process by which JEN's project was selected, including its business case and consideration of any alternatives.

Residential Demand Response offers an opportunity for Jemena to manage network risks associated with capacity constraints in network. By undertaking this project, Jemena intends to develop and refine its approach and strategy on cost effective peak demand management solutions.

Residential Demand Response has the potential for economic management of network risks associated with capacity constraint. Jemena can leverage the Residential Demand Response to manage network risk and potentially reduce the overall costs of network operation.

JEN therefore decided to undertake this project to gain a better understanding of the benefits, costs and operating modes of Residential Demand Response as a viable peak demand management solution in order to realise these benefits.

6.5.2.5 Implementation

Paragraph 6.2(a)(v) of Schedule 1 to the RIN requires JEN to explain how JEN's initiative was implemented.

Jemena has taken a collaborative approach with the Consultant on this project in the 2016 Regulatory Year, where Jemena's knowledge on grid side issues and network considerations is combined with the Consultant's expertise on the development of the project scope for a Residential Demand Response program.

The works associated with the Residential Demand Response that were carried in Regulatory Year 2016 have been delivered as follows:

- Development of a project scope for a voluntary (opt-in) Residential Demand Response initiative.

The project scope forms the basis for a business case to be developed in 2017.

6.5.2.6 Benefits

Paragraph 6.2(a)(vii) of Schedule 1 to the RIN requires JEN to explain any identifiable benefits that have arisen from JEN's project, including any off peak or peak demand reduction.

As the Residential Demand Response solution was limited to project scope development there have been no quantifiable benefits in terms of reduction in peak demand.

6.5.2.7 Associated costs

Paragraph 6.2(b) of Schedule 1 to the RIN requires JEN to state whether the costs associated with JEN's initiative have been recovered under other schemes.

The associated costs for Residential Demand Response in the 2016 Regulatory Year have not been:

- recovered under any other jurisdictional incentive scheme,
- recovered under any other Commonwealth or State Government scheme, and
- included in the forecast capital or operating expenditure approved in the 2016-20 Distribution Determination or recovered under any other incentive scheme in that determination.

6.5.3 IMPLEMENTATION COSTS

Paragraph 6.2(a)(vi) of Schedule 1 to the RIN requires JEN to explain the implementation costs of JEN's project.

The actual expenditure for (a) the Commercial and Industrial Solar PV and Battery Storage, and (b) the Residential Demand Response solution incurred in the 2016 Regulatory Year was $44,469, as set out in RIN Template 7.11 DMIS-DMIA (Attachment 1-1 of JEN's response).

6.5.4 TOTAL AMOUNT OF DMIA SPENT AND HOW THIS AMOUNT WAS CALCULATED

Paragraph 6.2(c) of Schedule 1 to the RIN requires JEN to explain the total amount of the DMIA spent in the Relevant Regulatory Year and how it was calculated.

The actual amount spent on (a) the Commercial and Industrial Solar PV and Battery Storage, and (b) the Residential Demand Response solution in Regulatory Year 2016 was $44,469.

The project spend (materials, internal labour and external labour) is collected and tracked in JEN's accounting system.

6.6 DEVELOPMENTS IN RELATION TO PROJECTS OR PROGRAMS COMPLETED IN PREVIOUS YEARS OF THE REGULATORY CONTROL PERIOD

Paragraph 6.3 of Schedule 1 to the RIN requires JEN to provide an overview of developments in relation to projects or programs completed in previous years of the regulatory control period, and of any results to date.

As the Relevant Regulatory Year is the first year of JEN's regulatory control period, JEN has not completed any projects of programs in previous years of the regulatory control period.

7. TAX STANDARD ASSET LIVES

7.1 TAX STANDARD ASSET LIVES APPLIED TO ASSET CLASSES

Paragraph 7.1 of Schedule 1 requires JEN to identify all tax standard asset lives applied to asset classes that differ from those contained in the AER approved PTRM for JEN's current regulatory control period.

Table 7–1 sets out tax standard asset lives for Standard Control Services that JEN has applied.

Table 7–1: Summary of tax standard lives (Standard Control Services)

Asset class	AER approved tax standard lives (years)[1]	Current tax standard lives (years)[2]	Difference (years)
Subtransmission	43.0	43.0	0.0
Distribution system assets	45.2	45.2	0.0
Metering	N/A	N/A	N/A
Public Lighting	N/A	N/A	N/A
SCADA/Network control	10.0	10.0	0.0
Non network – IT	4.4	4.4	0.0
Non network – other	17.4	17.4	0.0
Land	N/A	N/A	N/A

(1) AER - Final decision Jemena - Post tax revenue model (incl depreciation tracking) - May 2016

(2) Applied inputs within the current regulatory period RAB Roll Forward Model.

7.2 REASONS FOR DIFFERENCE IN ASSET LIVES APPLIED WITHIN AER APPROVED PTRM

As set out in Table 7–1, JEN's current tax asset life inputs do not differ from the AER-approved values.

8. CHARTS

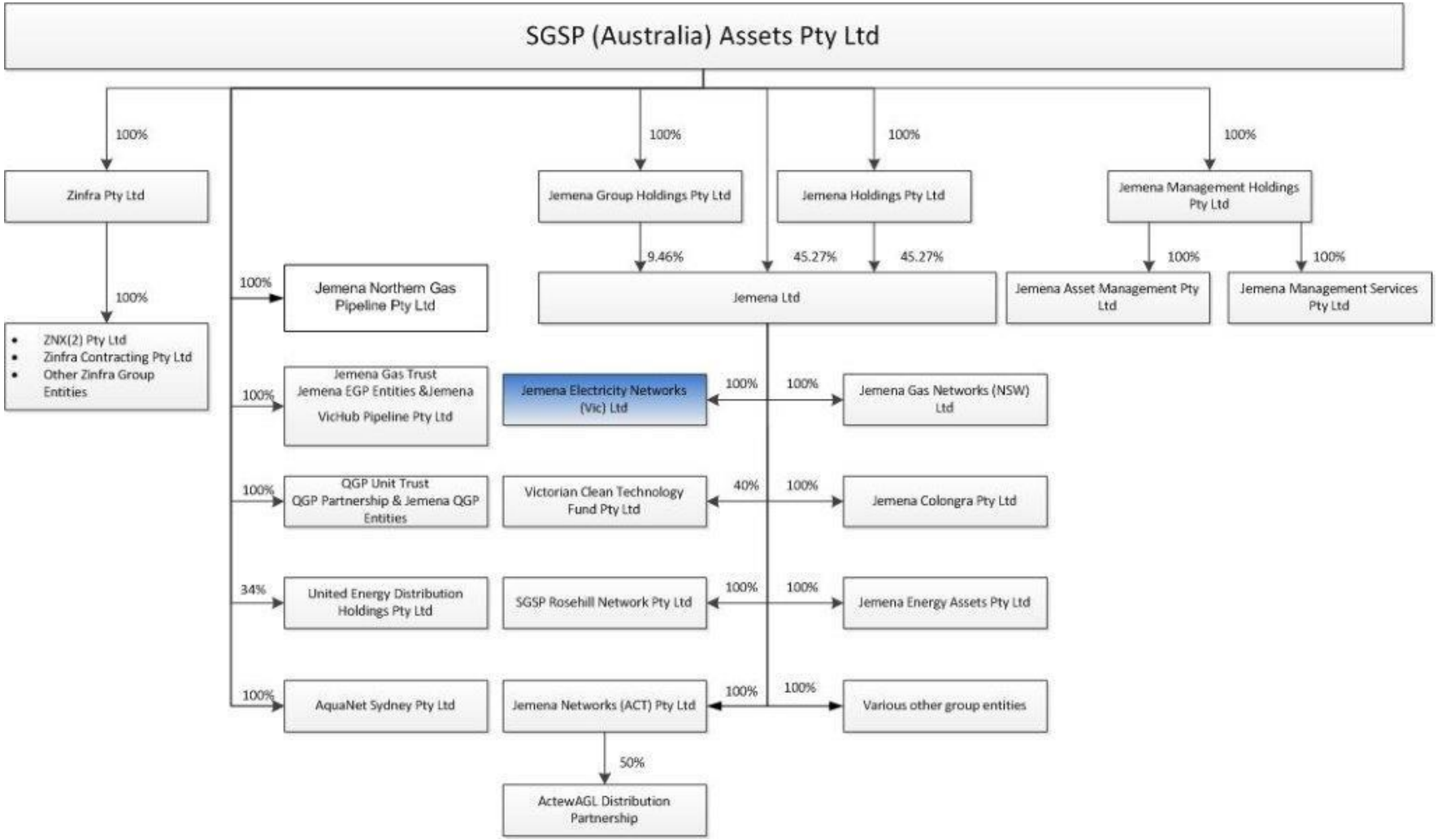
Section 8 of Schedule 1 requires JEN to provide various charts.

8.1(a) The group corporate structure of which JEN is a part

Paragraph 8.1(a) requires JEN to provide a chart which sets out the group corporate structure of which JEN is a part. This is provided as Figure 8–1.

As shown in the chart, JEN is a 100 per cent owned subsidiary of Jemena Ltd. Jemena Ltd is a wholly owned indirect subsidiary of SGSP (Australia) Assets Pty Ltd, which is in turn 60 per cent owned by State Grid International Development Australia Investment Company Limited and 40 per cent owned by Singapore Power International Pte Ltd.

Figure 8–1: Group corporate structure of which JEN is a part

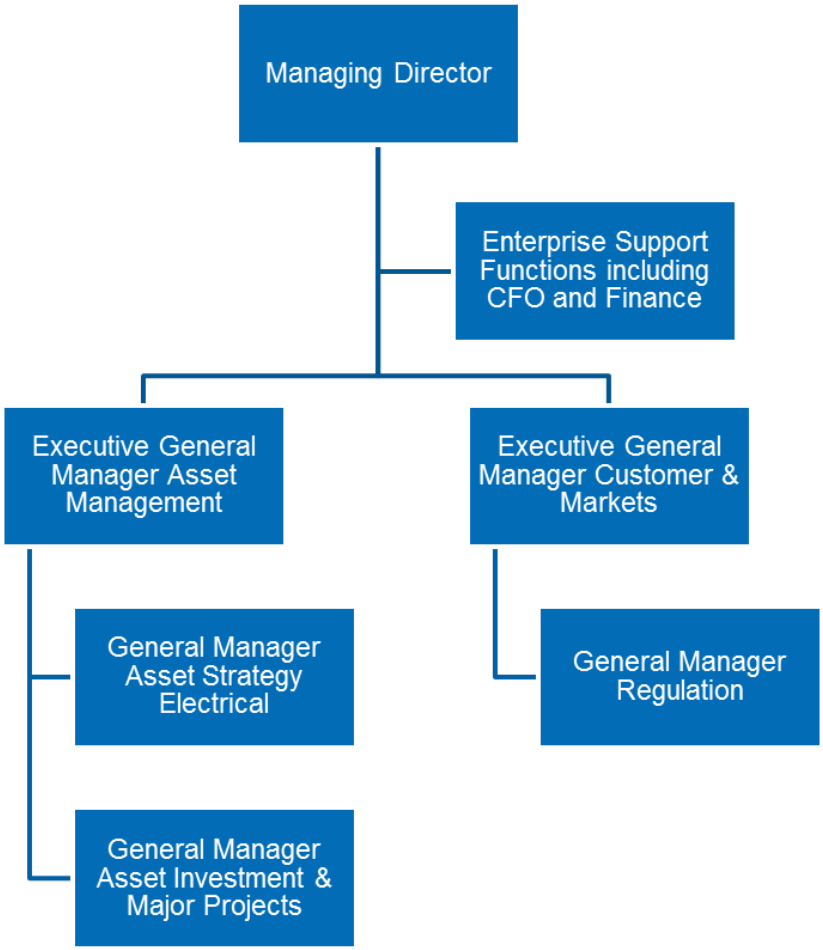


8.1(b) The organisational structure of JEN

Paragraph 8.1(b) of Schedule 1 requires JEN to provide a chart which sets out the organisational structure of JEN.

While JEN owns the electricity network assets, enterprise support services such as legal, finance and human resources are provided to JEN by Jemena Asset Management Pty Ltd. Jemena Asset Management Pty Ltd's operational structure in relation to JEN is set out in Figure 8–2.

Figure 8–2: Jemena Asset Management Pty Ltd's operational structure in relation to JEN



9. AUDIT AND REVIEW REPORTS

Paragraph 9.1 of Schedule 1 requires JEN to provide:

a) An Audit Report (for Financial Information) in accordance with the requirements set out at Appendix D of the RIN; and

b) A Review Report (for Non-Financial Information) in accordance with the requirements set out at Appendix D of the RIN.

An Audit Report from JEN's auditors in accordance with the requirements is provided as Attachment 1-5, and a Review Report from JEN's auditors in accordance with the requirements is provided as Attachment 1-6.

10. CONFIDENTIAL INFORMATION

10.1 COMPLIANCE WITH AER CONFIDENTIALITY GUIDELINE

This section sets out specific parts of JEN's RIN response that JEN claims to be commercial-in-confidence and the basis of the claim. In preparing these claims, JEN has complied with the requirements of the AER's confidentiality guideline as if it extended and applied to responses to the RIN.

JEN has provided reasons detailing how and why disclosure of the information would cause detriment to the business. JEN understands that this confidential information being available to the AER to perform its functions under the rules provides a public benefit, and has assessed that, in all identified cases, JEN's confidentiality reasons, together with the benefits already realised through the AER's confidential use of this data, are not outweighed by any additional public benefit to disclosure of the information.

JEN's confidentiality claims are set out in the table attached to the covering letter of this submission.

JEN has provided, in addition to a confidential version of any information, a version of the information that may be published by the AER.

10.2 CONSENT TO DISCLOSE NON-CONFIDENTIAL INFORMATION

JEN consents to the AER publically disclosing (including on the AER website) all information provided in accordance with the RIN, except the confidential version of information subject of a confidentiality claim under paragraph 10.1 of Schedule 1 of the RIN.

11. ATTACHMENTS

Attachments to JEN's response to the RIN are shown in the table below.

Attachment number	Title	Confidential?
1-1A	Information templates – confidential version	Yes
1-1B	Information templates – public version	No
1-2	Reconciliation between statutory and regulatory accounts	No
1-3	Basis of Preparation	No
1-4	SGSPAA Intangible Assets Policy	Yes
1-5	KPMG Audit Report	Yes
1-6	KPMG Review Report	Yes
1-7	Statutory Declaration	Yes
1-8A	Transmittal letter regarding Letter on KPMG audit and review reports in connection with Regulatory Information Notices	Yes
1-8B	Letter on KPMG audit and review reports in connection with Regulatory Information Notices	Yes