

# Appendix 6.1 Vegetation and private electrical infrastructure – operating expenditure step change 2019-24

January 2018



## Executive Summary

This Step Change Paper is prepared to demonstrate the requirement for a step change in operating expenditure (opex) to support significant changes to Evoenergy's technical regulatory obligations relating to the management of vegetation and inspection of private electrical infrastructure. These changes relate to the amendment of the *Utilities (Technical Regulation) Act 2014* (the Act) via the *Utilities (Technical Regulation) Amendment Bill 2017* (the Amendment Bill), which was passed by the ACT Legislative Assembly on 8<sup>th</sup> November. A Ministerial Notice is expected to be issued in early 2018 for the Amendment Bill to commence on 1 July 2018.

These legislative changes will see a significant increase in Evoenergy's opex in the order of \$3.74 million per year. Of this, the opex relating to vegetation management will be \$3.7 million per year, increasing the total from approximately \$2.4 million to approximately \$6.1 million per annum. Evoenergy has utilised a sound methodology to forecast expected additional costs which is demonstrated within this paper and detailed within the appendices.

The Amendment Bill will apply from 1<sup>st</sup> July 2018 and as such, the additional opex will be incurred from this date onwards.

This paper highlights the key changes, drivers for change, and the impact to opex for Evoenergy. It is considered the step changes proposed are prudent and efficient and are necessary to meet the opex objectives in the NER (Rule 6.5.6 (a)), namely to comply with all applicable regulatory obligations or requirements associated with the provision of standard control services. If these changes in costs are not included, Evoenergy's current operating costs will not reasonably reflect the operating expenditure criteria as per 6.5.6 (c) of the NER.

The additional responsibilities borne by Evoenergy as a result of the Amendment Bill pertain to two specific clauses within the legislation. These describe;

1. The transfer of vegetation management responsibility from Transport Canberra and City Services (TCCS) (Clause 41D (1) (a)) which relates to unleased Territory; and
2. Inspections of privately owned electrical infrastructure outside the network boundary (Clause 41I).

Details of each clause and their impacts are described in this report.

The table below provides a summary of the forecasted additional opex that will be incurred by Evoenergy as a direct result of the Amendment Bill over the regulatory period.

**Table 1.** Step change forecast 2018-24

2019/20 – 23/24 Regulatory Period (\$2018/19, millions, excluding real labour cost escalation)	
<b>TOTAL STEP CHANGE</b>	\$18.69
Vegetation Management	\$18.34
Private Electrical Infrastructure	\$0.18

This Step Change paper describes Evoenergy’s existing approach to clearing vegetation and inspecting private electrical infrastructure, including actions currently offered to rural landholders.

It seeks to highlight the changes in approach, management and execution of vegetation clearance programs required to meet the changes in vegetation management obligations and demonstrates the need for increased funding as a result of these increased operational activities.

Evoenergy benchmarks well when compared to other utilities In terms of vegetation management, and is well placed to deliver service to the Canberra community with thorough due diligence carried out on its internal systems and procurement processes. Regular reviews of tenderers and tendering processes ensure value for money, and clearance costs are regularly reviewed for competitiveness. As a result, the intended pass on of additional cost to the consumer is at a minimum rate, and comparable when measured against other utilities.

Discussed within this step change paper are the following;

- Legislative Obligations
- Background
- Financial Information including
- Forecasting methodology
- Forecasting expenditure
- Projected Expenditure, and
- Consumer Benefits

To support the facilitation of additional services to the Canberra community, Evoenergy seeks to pass on additional costs incurred via an increase in consumer tariffs of \$9-10 pa for an average household using 7,000kWh pa and \$56 pa for an average LV TOU Commercial customer using 30,00kWh pa. The increase will enable Evoenergy to fund the additional resourcing required to meet the mandatory obligations as described in the Amendment Bill, and is supported by the ACT government as evidenced by its explanatory statement to the amendment.

The proposed opex equates to an average cost per vegetation span of \$217 (Table 2).

**Table 2.** Cost per span (\$2018/19)

<b>Total annual opex</b>	\$3,667,431
<b>Number of spans</b>	16,918
<b>Cost per span</b>	\$217

This compares favourably with other Distribution Network Service Provider (DNSP) average costs per span which vary from \$300 to \$500 per span demonstrating that the proposed program is prudent and efficient expenditure.

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## Expenditure step change justification

<b>Step change name</b>	<b>Vegetation and private electrical infrastructure – operating expenditure step change 2019-24</b>
<b>Expenditure category</b>	Vegetation Management Pole Inspection
<b>Distribution or transmission</b>	Distribution
<b>opex /CAPEX</b>	Operating expenditure
<b>Owner</b>	Leylann Hinch, Branch Manager Asset and Network Performance
<b>Regulatory period total spend</b>	\$18.7 million (\$2018/19, excluding labour cost escalation)

# 1. Overview

## 1.1 Introduction

This step change paper is submitted to seek approval of additional funding through the pass through of costs to consumers. This is to support the increase in operating expenditure (opex) for vegetation management and inspection of private electrical infrastructure as a result of the Amendment Bill.

Detailed description of the key drivers, background and forecasting methodology are discussed within this paper to support the submission, and are supported by the appendices as follows;

- A. Appendix A and Appendix B provides the basis of cost forecasting,
- B. Appendix C provides a cross reference to the step change requirements from the AER's Regulatory Information Notice (RIN); and
- C. Appendix D includes the Amendment Bill.

## 1.2 Step Change Drivers

### 1.2.1 Key Clauses

The two drivers for increased opex arising directly from clauses in the Amendment Bill are as follows:

1. Transfer of vegetation management responsibility from Transport Canberra and City Services (TCCS)

Clause 41D (1) (a) of the Amendment Bill legislates additional responsibility for Evoenergy to clear vegetation near an aerial line on unleased territory land. This was previously the responsibility of TCCS. Examples of these areas include streetscapes, parks, nature strips and nature reserves.

2. Inspections outside the network boundary

Clause 41I of the Amendment Bill requires Evoenergy to inspect electrical infrastructure (Section 1.2.2) outside the network boundary on leased rural land every 3 years at minimum. Evoenergy is required to issue any notification for corrective action as required to be undertaken by land holders. Should no action be taken within the specified timeframe, Evoenergy is obligated to undertake to work required and seek compensation as appropriate.

### 1.2.2 Definition of Electrical Infrastructure

Under the *Utilities (Technical Regulation) Act 2014*, **infrastructure** means the following:

- (a) in relation to an electricity network—
    - (i) powerlines and cables; and
    - (ii) substations and equipment for monitoring, distributing, converting, transforming or controlling electricity; and
    - (iii) a structure supporting overhead powerlines and cables;
- and

- (iv) wires, ducts or pipes for wires or equipment; and
- (v) communication equipment for the management of the network; and
- (vi) any other thing ancillary to any other part of the Infrastructure.

This is the scope of infrastructure Evoenergy has considered in its cost forecasts for compliance to Clause 411.

### **1.2.3 Passing on costs**

Evoenergy seeks to pass on the additional costs associated with the increased requirements arising from the changes to regulatory obligations to customers to enable it to meet mandatory legislative requirements.

The explanatory statement for the Amendment Bill supports the pass through of additional costs to customers as follows:

*“The cost of implementing the amendments will be placed on the responsible utility, and it is likely that this will be passed through to customers. This is considered necessary and appropriate to reduce the bushfire risk to the Territory and a reasonable cost for achieving this benefit. Having a legislative basis for tree cutting responsibilities across non-urban, rural and urban sectors will afford the utility economies of scale and reduced costs of operation” (ACT Parliamentary Council, 2017)*

## **1.3 Legislative Obligations**

The Amendment Bill will see Evoenergy’s regulatory obligations change across two areas as described in Section 1.2 above.

Under present ACT legislation, Evoenergy is obliged to comply with *Utilities Act (2000)*, *Utilities Technical Regulation Act 2014* and key supporting regulations and codes. The *Utility Networks (Public Safety) Regulation 2001*, Part 3 details the specific obligations for vegetation management.

Amendments to the Act aim to deliver key actions under the Strategic Bushfire Management Plan 2014-2019 (SBMP), which seek to mitigate the risk of overhead electricity infrastructure causing fires. For this purpose, the Amendment Bill reassigns responsibility to Evoenergy (the responsible utility) for vegetation management surrounding power poles and related infrastructure in urban and non-urban areas.

The requirement for compliance with the Act is mandatory and failure to do so would see Evoenergy in breach of its licencing conditions and be subject to penalties. Under the amended Act, the penalties that apply to the responsible utility (Evoenergy) are indicated in Table 3. The Amendment Bill is anticipated to come into effect from 1<sup>st</sup> July 2018.

**Table 3.** Penalties under the Amendment Bill

Section	Description	Maximum Penalty	Notes
16 cl (2)	Evoenergy will commit an offence if it fails to comply with a requirement of the technical code.	30 penalty units	
41D cl (4)	Evoenergy allows any part of the tree or other vegetation on the land to be too close to the aerial line (as per defined minimum distances)	10 penalty units	cl (4) does not apply if the utility has a reasonable excuse
41G cl 2	Evoenergy fails to adequately maintain the electrical infrastructure	10 penalty units	cl (2) does not apply if the utility has a reasonable excuse

### 1.3.1 Transfer of Vegetation Management Responsibility from TCCS

The ACT government has deemed the transfer of responsibility from TCCS appropriate for the long-term benefit of the Canberra community where TCCS previously had insufficient resources to administer the task.

Evoenergy supports the transfer of responsibility for clearance management and is able to provide adequate resources for the additional work. The integration of this additional vegetation management into Evoenergy's existing structured programs is anticipated to provide a more reliable and safe bushfire mitigation strategy for the ACT, with improved network reliability and public safety. Additionally, there is the potential for long-term cost saving in the provision of services, through efficiencies in management strategies.

The acceptance of the transfer of responsibility is however reliant on the ability for Evoenergy to recover costs through the increase of tariffs to consumers, to address and accommodate the increase in responsibility.

The scope of transfer of responsibility pertains to network facilities on unleased territory land. Table 4 demonstrates the scope of additional responsibility to be assumed by Evoenergy under the new legislation.

**Table 4.** Scope of TCCS transfer

Number of vegetation spans	16,918
Circuit distance High Voltage (m)	467,677
Circuit distance Low Voltage (m)	608,416

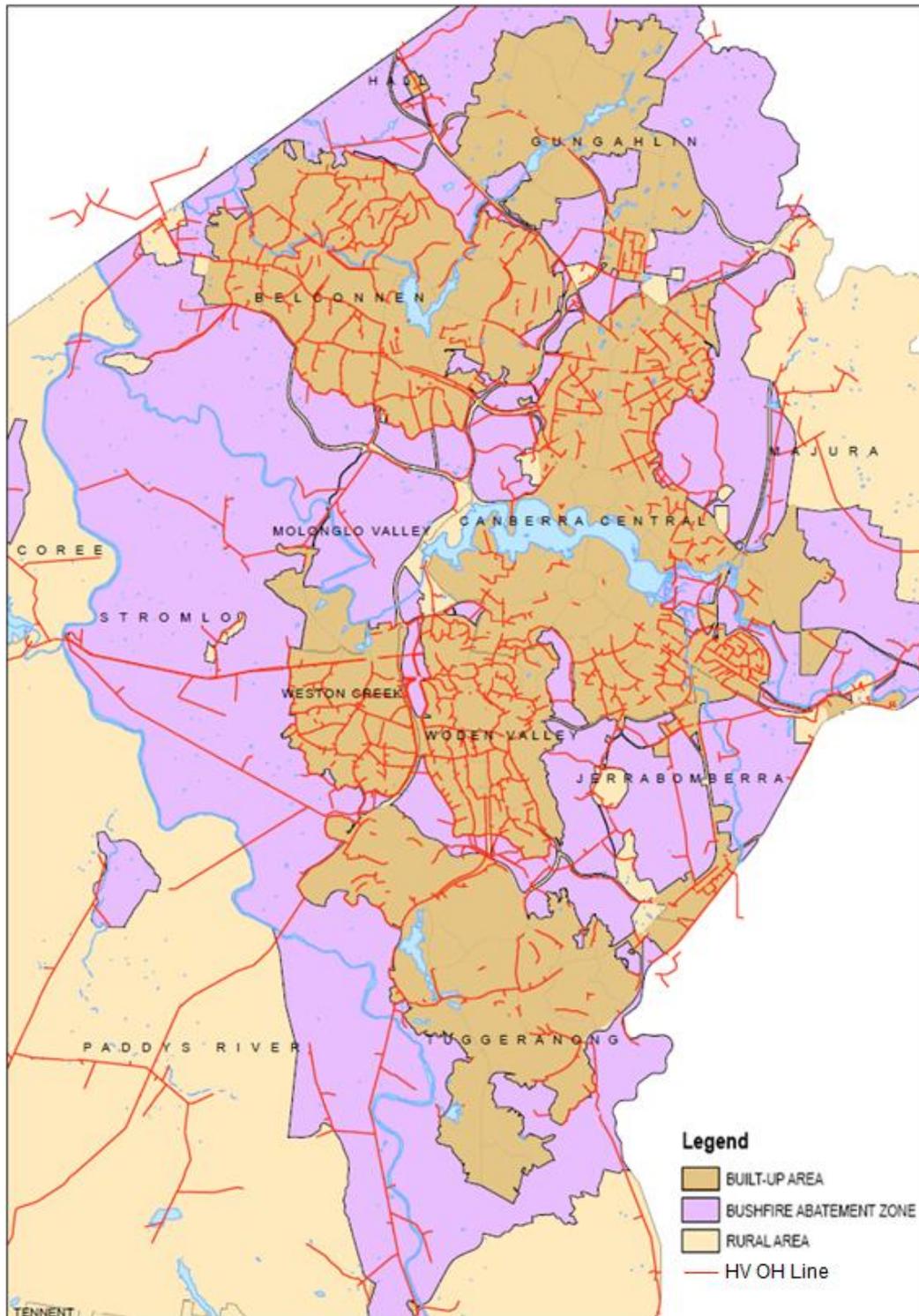
The transfer will involve the management of vegetation in the following areas:

- Designated urban area (or built-up areas)
- Bushfire risk urban areas including Canberra's urban green belts (which are currently managed under the existing ACT Strategic Bushfire Management Plan 2014-2019)
- Parkland and Nature Reserves that fall under the definition of 'urban fringe' as areas considered to be of high bushfire risk (eg. Mount Majura, Redhill).



**Figure 1.** Typical urban reserve HV line terrain.

Figure 1 clearly shows the extent of the increase in management with the map showing the areas Evoenergy now is currently responsible for (Bushfire Abatement Zone and Rural Area) and the new area of management (the Built-up Area). Figure 1 also details the HV OH lines that will needed to be managed.



**Figure 2.** ACT network with defined urban (built up) areas that will be new responsibility.

*Note: Evoenergy currently responsible for Bushfire Abatement Zone and Rural Area. New area of responsibility is the Built-Up Area.*

### **1.3.2 Inspections Outside the Network Boundary**

Since 2008, the ACT Government, ACT rural landowners and Evoenergy have discussed the legal treatment of privately owned electrical infrastructure without resolution. As no agreement had previously been reached as to the management and treatment of this private electrical infrastructure, Evoenergy had undertaken to apply management strategies to assist owners and aid bushfire mitigation.

Under the new legislation (Clause 411), the management and program of inspection of private electrical infrastructure will be formalised. Evoenergy will assume responsibility for the inspection and management of 221 private poles and associated lines across approximately 70 landholdings and be responsible for:

- Identification of maintenance and safety issues,
- Issue of notification for corrective action to be undertaken by the asset owners,
- Undertaking corrective action if not completed by the asset owner within 14 days of the notification.

The Amendment Bill adds further responsibility to Evoenergy by way of mandating the inspection program timeframes with three years being the legislated minimum inspection frequency. Additional inspections may occur within three years at the discretion of Evoenergy in response to climate conditions, growth patterns and cycles.

The regulation of timeframes for inspections, coupled with increased responsibility for inspections will result in an associated increase in opex.

## 2. Background

Evoenergy owns and operates nearly 2,400 kilometres of overhead electricity lines; over 2,900 kilometres of underground cables; almost 4,900 kilometres of natural gas pipelines; and serves over 190,000 customers in the ACT.

This infrastructure continues to support the ACT's growing population, and covers urban, semi-rural and rural properties across the Territory.

The nature of this infrastructure carries inherent fire risk, and the asset management procedures and policies consider the maintenance of this infrastructure of the utmost importance in protecting our community and providing continuity of service.

The ACT Strategic Bushfire Management Plan 2014-2019 (ACT Bushfire Plan) was updated in 2017 following the catastrophic Victorian bushfires, several of which were sparked by felled power lines or poles, faults in or aged lines. The updated ACT Bushfire Plan incorporated recommendations following the Royal Commission into the Victorian fires, and changes required as a result of the Coronial Inquest into the 2003 ACT fires, which are to date, considered the most damaging in ACT history.

Evoenergy's existing asset management plan includes strategies for inspection and maintenance of its network, including power poles, conductors, hardware and vegetation management. This is specifically pertains to high bushfire risk areas.

A Bushfire Readiness Program, prepared in accordance with the Bushfire Management Strategy, is completed prior to the Declared Bushfire Season (1 October) each year. Ongoing discussions with the relevant key stakeholders see active involvement in ongoing discussions for continually reviewed and improved preventative strategies that align with the ACT Bushfire Plan.

### 2.1 Vegetation Clearance Management

#### 2.1.1 History of the Division of Responsibility

Evoenergy manages all vegetation near electricity infrastructure in rural areas under past agreement with the Commonwealth and ACT governments. This includes 1,900 km of overhead high voltage (HV) and low voltage (LV) power lines within the defined rural and Bushfire Abatement Zones (BAZ) (Figure 1). BAZ areas are defined by the ACT emergency services Commissioner annually and are subject to the ACT Bushfire strategy.

Lessees of Territory land are responsible for the management of vegetation near electricity infrastructure, principally in backyards. Approximately 15% of Evoenergy's network is LV lines that run through the rear of residential blocks. Landowners are responsible for maintaining the obligatory clearances from these lines; however, Evoenergy as the utility provider is responsible for ensuring compliance with these clearances.

TCCS has previously been responsible for the management of vegetation near electricity infrastructure for unleased Territory land in the defined urban areas. These areas include the streetscapes, public land, urban parks and nature reserves within the ACT. Due to the planned nature of Canberra these are often high profile areas. This responsibility for unleased Territory transfers to Evoenergy under the new legislation.

### **2.1.2 Management Practices**

The following sections define the historic vegetation management practices associated with each of these responsibilities and the proposed changes due to legislative amendments.

#### **CURRENT PROGRAM**

Evoenergy currently undertakes an annual management program which seeks to inspect and analyse vegetation zones and record measurements of vegetation in detail around infrastructure assets.

Within areas that are currently the responsibility of Evoenergy, the inspection program divides the areas as follows;

- Rural area is divided into 4 sectors which are inspected annually; and
- Urban area is divided into 3 sectors which are inspected on a rotating annual basis.

The program is undertaken in a systematic and methodical approach, utilising current technologies to assist with inspections as described below;

- A full rural and relevant urban sector aerial inspection cycle is undertaken in the first calendar quarter (January to March). The inspections are conducted using the helicopter patrols equipped with Light Detection and Ranging (LIDAR) technology. The LIDAR identifies all vegetation, including down to leaf level, within proximity of the powerlines.
- Results are analysed to identify any vegetation within the prescribed clearance distances. This is then recorded as defects and plotted against their geographic location in relation to the network.
- A clearance program is subsequently implemented based on the recorded defects.

For areas that are currently within TCCS controlled areas, Evoenergy still maintains a self-driven management process. Similar to rural and urban areas, vegetation defects are identified during the LIDAR inspection cycle. The results of these inspections are then passed on to TCCS for corrective action to vegetation as required.

#### **FUTURE PROGRAM**

The legislation transfers responsibility to Evoenergy to rectify all recorded defects in the urban areas that were previously addressed by TCCS.

The new obligation is expected to commence on 1 July 2018, pending a Ministerial Notice, with a three year cutting program that will include the final year of the current 2014/15-18/19 regulatory period plus the first two years on the next regulatory period, ie. 2018/19 to 2020/21. The second cutting cycle will encompass the final three years of next regulatory period, ie. 2021/22 to 2023/24.

To date, these cutting areas have been under-resourced and not fully compliant with the regulatory clearance obligations, and therefore, it is anticipated that corrective action may include pruning of trees and other vegetation in areas that have previously been either overlooked or under pruned. This presents a number of issues for consideration as the new areas are managed in future cycles;

- Extreme Cutting Requirement

For areas that may require 'extreme' cutting in the first cycle following the adoption of additional responsibility, clearance requirements are anticipated to be considered 'non-typical'. In addition to standard vegetation management/maintenance procedures, this may include the complete removal of some vegetation or hard pruning to significant trees. Where required, specialist arborists may be consulted.

- Understanding of Growth Cycles

Growth cycles can be specific to vegetation typology, and as such in areas of new responsibility, it is possible that there will be no historical data to draw upon for comparison. As such, there may be a requirement for more frequent inspections during the initial cutting cycle to establish an understanding of vegetation growth where there may not be a similar area for comparison.

- Community Concern and Perception

In areas where 'hard' cutting is necessary to meet legislative requirements there will be community concern and negative perception around what may be seen as the 'butchering' of vegetation. There are a number of "sensitive" areas and nature reserves that have dedicated special interest groups (such as Friends of Mt Majura and Friends of Mt Ainslie) that monitor activities in these areas. In these instances, Evoenergy may address these concerns by reducing the extent of cutting but increasing the frequency to maintain vegetation within the legislative guidelines. While this will increase the cost of this element, the benefit to the community and perception of the management of vegetation is of key concern and is considered by Evoenergy as necessary to maintain an appropriate standard of care for the Canberra community. An increase in community engagement and communication will be needed in these areas and in general overall.

- Compliance within Cutting Cycles

In the regulatory period, there will be two cutting cycles. As the new areas of responsibility are subject to the above mentioned considerations, it is expected that full compliance with the Amendment Bill will not be achieved and a normalised cutting cycle established until after the second cycle. Therefore, it is anticipated that the opex will be consistent through to the end of the 19/20-23/24 regulatory period. There will be additional costs associated with the preparation work and establishment of new inspection regimes and management programs required following the passing of the Bill.

## **2.2 Private Electrical Infrastructure**

There are 221 private poles and associated lines on rural leased lands within the ACT. With the adoption of the Amendment Bill Clause 411, the regime for the inspection and maintenance of private electrical infrastructure is formalised as follows;

- Evoenergy will undertake inspections on a 3 yearly basis, in line with Evoenergy's rural inspection cycle, and issue to owners a rectification notice for corrective action where required;
- Landowners are required to complete any required remedial action within 14 days of the notification;
- If remedial action is not complete within 14 days, Evoenergy is authorised to complete all maintenance work required at the owners expense.

## 3. Financial Information

This section details the historical and projected future vegetation management and private electrical infrastructure expenditure.

### 3.1 Forecasting methodology

Evoenergy has adopted two approaches to forecast the expenditure associated with the new vegetation management obligations. For the vegetation pruning, the costs were based on extrapolating recent expenditure incurred by Evoenergy for 19 HV feeders to determine the cost for 147 feeders. This was considered a prudent approach as benchmarking shows that the cost per span resulting from the calculation is notably lower than other DNSPs (see Section 4.2 for details).

Future resource requirement associated with the additional obligations for both Clause 41D (1) (a) and Clause 41I was forecasted based on existing Evoenergy resource structure and systems. Each stage of the existing vegetation management process and rural pole inspection program was evaluated to determine the additional effort required based on current expenditure. These incremental extensions of current activities formed the basis of the forecasted expenditure outlined in the sections below. By leveraging current systems and structures, no establishment costs will be required and therefore have not been included in our forecast.

This constitutes the 'step' change in operating expenditure arising from the legislative change. This is articulated for each change in costs in Appendix A.

### 3.2 Forecast expenditure

A summary of the step change forecast for the 2018/19 to 2023/24 is provided in Table 5. The proposed step change is required for Evoenergy to continue to comply with regulatory obligations pertaining to vegetation management and private electrical infrastructure, and maintain the safety, quality, reliability and security of standard control services as required to achieve the operating expenditure objectives under clause 6.5.6(a) of the NER. These costs will be incurred as a result of changes to Evoenergy's regulatory obligations. Evoenergy have assessed current internal capacity and determined that, due to the order of magnitude increase in requirements to meet the new obligations, Evoenergy is unable to absorb these additional costs.

Activities associated with these changes are not provided for within the base operating expenditure, nor are they due to any changes in real prices, output growth, or productivity.

Escalation factors have not been applied to the costs provided in this document unless otherwise stated. Detailed cost breakdown is provided in Appendix A and Appendix B.

**Table 5.** Detailed step change cost distribution (\$2018/19, excluding labour cost escalation)

Element	Per annum	2019-24 RCP total
<b>Vegetation Management</b>		
1 Annual Program of Work		
2 Analyse and Update Systems		
3 Work Planning		
4 Outage and Switching		
5 Customer Notifications and Enquiries		
6 Tree Clearing		
7 Reactive Work		
8 Storms/Major Event Clean Up		
9 Tendering and Contract Management		
10 Public safety announcements, Media Campaigns and Community engagement		
Sub-total	\$3,667,431	\$18,337,156
<b>Private Electrical Infrastructure</b>		
1 Inspection		
2 Preparation and Monitoring Program of Work		
Sub-total	\$35,000	\$175,000
<b>Total</b>	<b>\$3,702,431</b>	<b>\$18,512,156</b>

### 3.3 Basis of Cost Forecasts

#### 3.3.1 New obligations for Vegetation Management and Inspection of Private Electrical Infrastructure

Evoenergy proposes the recurrent opex step changes categorised in Table 5.

The vegetation management category relates to all expenditure associated with normal tree cutting, undergrowth control and waste disposal connected to line clearing, including the coordination and supervision of vegetation control work, as required under ACT law.

The majority of costs are generated by actual tree cutting activities, which are completed under contract by external providers.

Due to ACT Government resource and funding constraints, Evoenergy was contracted by the ACT Government during 2016/17 and 2017/18 to perform vegetation management in three stages on 19 HV feeders in the urban area that were at the time, the responsibility of TCCS. In order to calculate the total future costs, costs incurred in this instance have been collated and converted to a \$/km, \$/defect and \$/span basis for extrapolation to the remainder of the urban network.

The ACT network has an asset ratio of 55% underground to 45% overhead powerlines. Although there is a system total of 236 HV feeders, it has been identified that there are only 147 urban HV feeders that require vegetation management. The costs incurred for these have been prorated from the 19 feeders to 147 feeders to determine an anticipated annual expenditure based on a three year cutting cycle. Detailed descriptions of the other expenditure items are provided in Appendix A.

The new obligation imposes a material increase in Evoenergy's vegetation management which in turn requires an increase in the labour and system resourcing for critical parts of the work process. This subsequently incurs additional cost which is outlined in Table 5 and detailed further in Appendix A.

The estimated costs for inspecting electrical infrastructure outside the network boundary on leased rural land are detailed in Table 5. The new obligation of 3-yearly inspections will involve an increase in operating expenditure for the inspections, running the program of works and rectification management. Detailed descriptions of the expenditure items are provided in Appendix B.

### **3.3.2 Community Engagement and Awareness**

The new areas of responsibility that fall into the category of 'Unleased Territory' include areas of Canberra that are actively serviced by community engagement groups such as Friends of Mount Majura. These volunteer organisations have a keen interest in the upkeep and maintenance of flora and fauna and undertake to manage certain aspects of maintenance within their community groups. These activities are not limited to;

- Patrolling and weeding areas of species considered to be invasive;
- Maintaining signage for nature walks, and maps of designated pathways;
- Identification and monitoring of endangered species such as insects;
- Planting areas requiring re-growth with species appropriate to the area.

These community groups will maintain an active interest in the vegetation clearance management undertaken by Evoenergy and accordingly, the utility will seek to regularly engage with these groups to maintain a positive community relationship. This may include the application of appropriate signage to provide notification of vegetation clearance and justification for community awareness.

This community engagement is taken into consideration in the extrapolation of forecasted costs.

### 3.3.3 Community Communication and Management

The management of communication includes the processing of calls to the community lines from consumers. This includes both enquires and complaints relating to any issue regarding the network and infrastructure. It is anticipated that the increase in vegetation clearance regimes and extent will see an increased number of calls, which in turn require an increase in resources to address community concerns. This is also considered in the calculation of forecasted costs.

### 3.4 Historical Expenditure

The Evoenergy historical vegetation management expenditure is detailed in Table 6. The principal activities have been the rural and BAZ clearing for bushfire management, contained in the rural section, and control and inspection in the urban areas.

**Table 6.** Historical vegetation management cost distribution (\$2017/18)

Vegetation Management	2014/15	2015/16	2016/17
Tree trimming	\$1,226,669	\$963,872	\$1,016,592
Inspections	\$1,219,221	\$1,213,218	\$1,356,313
<b>TOTAL</b>	<b>\$2,445,890</b>	<b>\$2,177,090</b>	<b>\$2,372,904</b>

Note: The tree trimming detailed in Table 6 are separate from the TCCS responsibilities.

The activities covered are the costs associated with inspecting backyard low voltage reticulation and the management of these defects with landowners and all activities associated with managing the vegetation management program in the rural and BAZ areas.

## 4. Projected Expenditure

### 4.1 Prudent and Efficient Management

Evoenergy will integrate the new responsibilities into its existing systems and programs, thereby gaining economic efficiencies through prudent and thorough management processes including;

- Utilising existing contractors for clearance and tree cutting
- Maintaining regular tender cycles for external contractors to ensure best value for money
- Maintaining regular assessment regimes so that clearance and cutting efficiencies can be maximised during the three year clearance/growth cycle.

A comparison with the previous TCCS expenditure is impractical for the following reasons;

- TCCS have not supplied their historical expenditure
- The ACT Government confirm the TCCS cutting program was inadequately resourced and funded, non-compliant and there is no capacity within the ACT Government to be able to administer a future compliant program in the future.

### 4.2 Benchmarking

The current Evoenergy cost per maintenance span to conduct its vegetation maintenance program in the rural areas and manage the backyard compliance is \$377.25 per span. As a result, Evoenergy's existing vegetation management program opex compares well with other comparable DNSPs, ie. Jemena - \$493.50.

The proposed opex equates to an average cost per vegetation span of \$217, refer to Table 7.

**Table 7.** Cost per span (\$2018/19)

Total annual opex	\$3,667,431
Number of spans	16,918
Cost per span	\$217

Note: The span lengths can vary from 50 to 200+ metres in the urban area.

Benchmarking using the Category Analysis RIN data for comparable DNSP is shown in Table 8. This table shows that the newly adopted former TCCS scope will have a cost per span of \$217. Realistic benchmarking comparisons can only be conducted against DNSPs with similar customer densities and operating conditions. Accordingly, for Evoenergy, which has a dense urban area with a rural fringe, this limits valid comparisons to Citipower, Endeavour Energy or Jemena. It should be noted that some DNSP's in the National Electricity Market have vegetation work undertaken by local councils, effectively minimising the cost incurred by the utility and making comparisons unrealistic.

**Table 8.** Comparison of DNSP vegetation expenditure \$/vegetation span

Cost/span	\$/span
Evoenergy – rural & backyards (current practice)	\$ 377.25
Evoenergy – new urban (new legislative requirement)	<b>\$ 217.00</b>
Citipower	\$ 377.71
Jemena	\$ 493.50
Powercor	\$ 326.25
Endeavour Energy	\$ 318.67

In summary, the projected costs for the new urban program are lower than comparable efficient DNSPs and would be considered efficient expenditure from a benchmarking perspective.

### 4.3 Consumer Cost Impacts

The annual customer bill impact for an average customer is calculated shown below.

The potential tariff impact for an average ActewAGL customer is projected as follows.

- An average residential customer’s network bill is expected to increase by approx \$10<sup>1</sup> per annum, which represents a 1.7% increase (based on consumption of 7,000kWh pa).
- An average commercial customer’s network bill is expected to increase by approx. \$56 pa. (based on consumption of 30,000kWh pa).

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<sup>1</sup> In 2018/19 dollars.

## 5. Consumer Benefits

Evoenergy see a number of benefits to consumers and the Canberra community through the changes to this legislation. The provision of a reliable and safe electricity network is the first and foremost priority, with the mitigation and prevention of bushfires caused by electrical assets of the utmost importance. Evoenergy considers that the long-term benefits that will be seen as a result of the Amendment Bill will outweigh the increase in cost to the consumer.

### 5.1 Public Safety

In the intervening years since the *Utility Networks (Public Safety) 2001 Regulation* was brought into effect, the Canberra community has developed a heightened awareness of fire risk in general, including the risk from vegetation including trees and large shrubs coming into contact with electricity lines and of the presence of electrical power lines within private property. This was brought into sharp focus after the catastrophic January 2003 Canberra bushfires and the 2009 fires in NSW and Victoria.

#### 5.1.1 Urban Area

The transfer of responsibility from TCCS to Evoenergy will allow improved vegetation management practices to be included within the standard bushfire management planning and avoid risk of defects against the legislated requirements. These practices are not limited to the following considerations;

- Ongoing and regular assessment and upkeep of assets for general public safety
- Pruning of at-risk trees to avoid risk of falling limbs that may cause damage to assets or create risk of fire or electrocution
- Reducing the risk and consequence of bushfires in the Evoenergy's areas of operation (urban and non-urban areas).

#### 5.1.2 Rural area – Private Poles

The small number of privately owned power poles in the ACT on rural leased properties still poses a significant bushfire risk. There is a legal precedent where a DNSP is being sued for damages due to the failure of private assets causing major fire damage (Perth Hills/Parkerville Fire Jan 2014).

The small number of private poles makes many of the policy responses employed in other jurisdictions uneconomical in the ACT. The Amendment Bill will therefore formalise an obligation where asset, safety and vegetation inspections are undertaken by Evoenergy as the responsible utility. The Bill explanatory statement indicates and supports the intent for Evoenergy to recover the costs from the community through its distribution tariffs as part of the bushfire mitigation activity.

### 5.2 Network Reliability

It is expected that the improved maintenance regime as a result of the transfer of responsibility from TCCS will progressively increase the reliability of the electrical network throughout the ACT. In 2016, the Utilities Technical Regulator (UTR) raised concerns within the ACT Government over vegetation defects and encroachments within

the ACT urban area causing safety and reliability issues. This led to an internal ACT Government review which has subsequently led to the Amendment Bill.

It is estimated that ACT government managed vegetation in the urban area accounts for 850,000 customer minutes off supply, affecting more than 15,000 customers each year.. With the responsibility for vegetation managed wholly by Evoenergy it is anticipated that by completion of the second cutting cycle this should reduce and with a corresponding reduction in emergency maintenance expenditure and total opex.

## 6. Future Options

The additional vegetation clearance responsibility adds costs to Evoenergy's overall costs of maintaining the electricity network and provides a greater commercial imperative to explore alternative options to cyclical vegetation clearance in the urban area in appropriate situations. This is consistent with Evoenergy's asset management practice of lowest overall lifecycle costing analysis. Possible strategies that could be pursued to reduce future costs could be:

- Approach to the tree owner (ACT Government) and request permission to fell tree and replant with a species more appropriate (ie. with a lower growth habit). TCCS has previously partially mapped all street trees and has had periodic programs of tree replacement that could be co-ordinated with landowners.
- Give consideration to reconductoring options, such as the replacement of open wire conductors with aerial bundled cables (ABC) which are insulated and require smaller clearance distances.
- Give consideration to the placing spans of overhead wires underground to remove the need for future tree clearing and overhead line maintenance.
- Give consideration to the complete relocation of lines where feasible.

# Appendices



## 1. Annual Program of Work preparation

Evoenergy has completed an assessment of the area affected by the regulatory change which will require a new annual program of work. We have estimated a total activity cost of ██████ per annum (\$2018) based on:

- a total of 265 hours required to perform six different tasks, the greatest being the monitoring of the program's execution at 12 days/year (88 hours)
- use of a generic staff hourly rate to undertake the program work preparation.

**Table 10.** Annual Program of Works change costs

Program of work	Annual hours		
Review 'asset' strategy	6	Days/year	44.10
Determine works to be performed in the next 12 month period	6	Days/year	44.10
Resource Determination	2	Days/year	14.70
Prepare Budgets	4	Days/year	29.40
Prepare Program Documentation (Brief, Business Case, Financial Approvals, etc)	6	Days/year	44.10
Monitor PoW execution	12	Days/year	88.20

## 2. Analyse and Update Systems

To be compliant with regulatory changes in an efficient manner, Evoenergy is required to:

- analyse the additional encroachment data they will be responsible for,
- manage and update its asset information systems.
- Each of these tasks is estimated to require 3 days/month, or 265 hours
- Using generic hourly rates, the total for this additional activity cost is ██████ per annum.

**Table 11.** Annual costs associated with program analysis and system updating

Analyse and update systems	Annual hours		
Collate and analyse data	3	Days/month	264.60
Manage and update data in AIS	3	Days/month	264.60

## 3. Work Planning

We have adopted a volume and unit-rate driven forecasting method. Under the changes:

- Evoenergy will be responsible for an additional 147 OH feeders which will managed over a 3 year cycle, equating to 49 per year.
- A 12 month work planning package for maintaining these feeders will require preparing work packages for contractors, creating work orders in Cityworks and liaising with Parks and Conservation for nature reserve entry.
- Each of these tasks are estimated to take 1 day/feeder, totalling 360 hours per year, at [REDACTED] per hour.
- Using a generic hourly rate for works delivery, the total activity cost increase is [REDACTED] per annum.

**Table 12.** Annual costs associated with program work planning

Work planning		Annual hours	
No. of OH feeders	147	49	Per year
Prepare work package for contractors	1	Day / feeder	360.15
Creating work orders in Cityworks	1	Day / feeder	360.15
Nature reserve entry / liaison with parks & Conservation	1	Day / feeder	360.15

#### 4. Outage and Switching

Outage and switching costs form a significant component of this step change. The total activity cost for the handling of outages and switching associated with the transfer of responsibility is [REDACTED] per annum, based on the following assumptions:

- Evoenergy’s scope of responsibility includes an additional length of network as follows:

**Table 13.** Estimated circuit distances (metres) that will be new responsibility

Circuit distance High Voltage (m)	467,677
Circuit distance Low Voltage (m)	608,416

- Based on historic clearing in 2016/17, we have estimated there will be an average of 1 outage per 490m.
- Assuming a 3 year cycle, this will result in 732 outages per year.
- This level of outage will require 1 FTE to co-ordinate, costing [REDACTED] per annum.
- The greatest cost relates to outage scoping and work request preparation at [REDACTED] per annum.
- Further costs relate to HV and LV switching plan preparation and switcher isolation and restoration.

**Table 14.** Annual costs associated with program switching and isolation

Outage and switching		
Length of OH HV network	467,677 m	
Length of OH LV network	608,416 m	
No. of outages per feeder length	180 / 88,206 (based on ATS clearing in 2016/17)	
Average of 1 outage per	490.03 m	
No. of HV outages per year	318 (assuming 3-year cycle)	
No. of LV outages per year	414 (assuming 3-year cycle)	
	Time	Annual hours
Schedule work and outages	1 FTE	1,380.00
Outage scoping and WR preparation	2 Hours / Outage	1,463.97
HV switching plan preparation	2 Hours / Outage	636.25
LV switching plan preparation	1 Hours / Outage	413.86
Switcher isolation and restoration HV	4 Hours / Outage	1,272.50
Switcher isolation and restoration LV	2 Hours / Outage	827.72

## 5. Customer Notifications and Enquiries

The inherent nature of vegetation clearance sees complaints and enquiries by consumers and community members where there may be a lack of understanding as to the requirement and mandatory obligations associated with bushfire mitigation, public safety and electricity reliability. It is anticipated the number of these calls associated with clearance as a result of the change in legislation will increase. These calls would primarily be:

- Affected customers enquiring/complaining about vegetation being pruned 'too hard' or 'harder than previously'
- Enquiries/complaints regarding areas that perhaps have not seen previous treatment under management by TCCS.

It is also anticipated that there would be a need to manage calls from community members complaining about the 'butchering' of trees. As a result of community pressure, there may be a requirement to minimise the extent of pruning however increase the frequency to both manage vegetation within the legislative guidelines without incurring penalties for encroachments, and meet community expectations.

Due to the rise in planned LV outage numbers, there will be a significant rise in activity relating to the notification of these outages. The flow-on effect will be an increase in call volumes enquiring about the pruning, possible complaints about the process and the handling of these complaints (as described above). The basis of the cost estimate is as follows:

- Preparing customer notifications require 0.25 days/outage.
- The expected increase in the number of calls is 3,518. This is derived from:
  - Anticipated 414 LV outages per year (based on ATS clearing in 2016/17 and a 3 year cycle)
  - There were 5,886 calls to the Call Centre per 34,315 customers notified of planned outages in 2016. The ratio is ~17 calls per 100 customers notified.
  - An average of 50 customers are affected per outage.
- Complaint numbers every month is ~15% of the number of calls to the Enquiries line.
- Based on these estimates it is anticipated there will be a total annual cost of [REDACTED] associated with:
  - Preparation of customer notifications
  - Call centre staff time
  - Handling customer complaints (for example, trees being cut too hard, tribunal attendance).

**Table 15.** Annual costs associated with program customer notifications and enquiries

Customer notifications and enquiries	Time	Annual hours
Preparing customer notifications	0.25 Day / Outage	760.47
Average number of customers affected per outage	50	
Expected number of calls per customer notified	0.17	
Expected increase in number of calls	3,518	
Average duration per call (incl. callbacks)	4 minutes	
Call Centre staff time	14,071 Minutes	234.52
Handling customer complaints e.g. cutting too hard, tribunal attendance, etc	15% of calls	1,055.34

## 6. Tree Clearing

Tree clearing is the greatest cost component of this step change. Evoenergy has estimated that the cost associated with the clearing of trees in the new area of responsibility will equate to [REDACTED] annually. Evoenergy's assumptions are as follows:

- We have used historical data from the urban clearing under contract to TCCS in 2015/16 and 2016/17 to derive the average distance per defect, the average defects resolved per cut, and the average cost per cut.

- Based on this data, we have estimated there will be 31,962 defects to clear per year (includes LV and HV defects).
- Using a 2 year indexation to transfer costs from the FY16/17 to FY18/19, it is estimated a contractor will cost [REDACTED] per year to undertake the work.

We have included a 10 percent contingency allowance [REDACTED] per year) to manage protected trees, heritage areas and undertake hazard tree removal. These conditions involve more frequent cutting, generally on an annual basis rather than a 3 year cycle. There are large areas of parkland and nominated nature reserves (eg. Mount Majura and Redhill) which are subject to scrutiny by the ACT Conservator of Flora and Fauna as well as local community action groups. These areas will require sensitive cutting policies and considerations that will increase costs.

- There is also a requirement under the legislation to conduct an inspection pre and post cut. To comply will require 0.5 FTE at 690 hours annually (total cost [REDACTED]).

**Table 16.** Annual costs associated with program tree clearing costs

Tree clearing			
Average distance per defect	11.22		
Average defects resolved per cut	2.92		
Average cost per cut	[REDACTED]		
Expected HV defects (across the whole network)	41,673		
Expected LV defects (across the whole network)	54,214		
Defects to clear per year	31,962 (assuming 3-year cycle)		
Indexation from FY16/17 to FY18/19			
Cost by defect count * cost per cut	[REDACTED]	4.04%	[REDACTED]
Cost by span length * cost per m	[REDACTED]	4.04%	[REDACTED]
Allowance for special reqs e.g. Heritage. Protected Trees, more frequent cutting		10%	[REDACTED]
Compliance	0.5 FTE		690.00

## 7. Reactive Work

Reactive clearing relates to work undertaken to respond to emergency situations, that require immediate remediation to restore supply but often incur additional tree trimming costs to meet the clearance requirements after making the line safe plus there is extra

costs in clearing the site to a safe condition following the reactive tree cutting. Evoenergy has estimated an increase in costs of [REDACTED] per annum associated with this activity, considering:

- An estimate of reactive clearing works at 150 emergency responses events per annum (based on average of past 3 years records and TCCS records)
- The use of historical data (average cost per cut) and an indexation to estimate the cost of reactive cutting to meet the clearance requirements after making it safe.
- An average of 4 hours of site clearing following reactive tree cutting at a generic hourly rate.

**Table 17.** Annual costs associated with increased costs associated with reactive work

Reactive work		
Number of reactive clearing work annually (non-private) – 189 from FY14/15 to FY16/17+87 in TCCS CRM	150	
Cost of reactive work to make safe (no change)		
Additional trimming to meet clearance after making safe	[REDACTED] (annual cost per response)	[REDACTED] (total \$ annual response)
Site clearing after reactive tree cutting	4 hours per event	

## 8. Storms/Major Event clean up

Storm or major event clean ups will be required across the new area of responsibility. These costs are presently incurred by TCCS in responding to storms and major events. Costs are based on:

- Allowance for extra crews (32 hours per event) and allowance for overtimes (32 hours per event) – total cost in labour at [REDACTED] per annum.
- There is estimated to be 4 storms/major events per year.
- This equates to 4 events at [REDACTED] per annum - total cost for clean up at [REDACTED] per annum.

**Table 18.** Annual costs associated with increased costs associated with storms and major events clean up

Storms / Major Event Clean Up	
Number of storms / Major event days per year	4
Annual Allowance for extra crews per event	32
Annual Allowance for overtimes per event	32

## 9. Tendering and Contract Management

Tendering and contract management will expand with the transfer of responsibility. Tasks include preparing specifications, supplier sessions, submission review, co-ordination and Request for Tender (RFT) and on-going contract management. Costs have been based on:

- A contract duration of 3 years.
- The number of annual hours required to perform the tasks at generic hourly rates.

The total increase in costs associated with this activity is ██████ per annum.

**Table 19.** Annual costs associated with increased tendering and contract administration costs

Tendering and Contract Management	Annual hours	
Preparing specifications	10 days	24.50
Supplier sessions	1 day	2.45
Submission review	10 days	24.50
Coordination & RFP (Contracts & Procurement Team)		111.67
Contract duration	3 years	
Ongoing contract management	2 hrs / month	24.00

## 10. Public Safety Announcements, Media Campaigns and Community Engagement

As the Amendment Bill will see a significant increase in the extent of vegetation clearance, it is anticipated that this will generate an increased amount of community concerns and enquires. Increased public campaigning is deemed necessary to maintain a positive perception within the community in adopting these changes.

The estimated annual cost to employ a contractor to undertake the additional public safety announcements, media campaigns and community engagement associated with the legislative changes is ██████. This estimated cost is extrapolated from historical data.

**Table 20.** Annual costs associated with increased Public Safety Announcements, Media Campaigns and Community Engagement

Public Safety Announcements, Media Campaigns and Community Engagement	
Estimated annual cost	██████

## Appendix B – Basis of Cost Forecast for Private Electrical Infrastructure

The annual step change costs for the regulatory period associated with the inspection requirements for private electrical infrastructure is provided in Table 11.

**Table 21.** Annual step change costs from 2018/19 to 2023/24 – Private Electrical Infrastructure (real \$2018/19)

Element	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2019-24 RCP total
Inspection	\$18,500	\$18,500	\$18,500	\$18,500	\$18,500	\$18,500	\$92,500
Preparation and Monitoring Program of Work	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$16,500	\$82,500
<b>Total</b>	<b>\$35,000</b>	<b>\$35,000</b>	<b>\$35,000</b>	<b>\$35,000</b>	<b>\$35,000</b>	<b>\$35,000</b>	<b>\$175,000</b>

The requirement for Evoenergy to undertake 3-yearly inspections of private electrical infrastructure will result in costs associated with inspection, and the preparation and monitoring of the program of work.

Costs have been based on:

- An average inspection cost of \$250 per inspection based on the average historical system cost
- Additional work associated with programming the new inspections into the inspection cycle.
- The expected additional costs to manage any rectification actions.

**Table 22.** Base assumptions in calculating Private Electrical Infrastructure costs

Private Electrical Infrastructure	Hourly rate (\$)		
Inspection	221 Poles	\$250 per inspection	3 year cycle
Program of Works	\$123.42	6 days/year	44.1 hours
Rectification Management	\$123.42	12 days/year	88.2 hours

The total increase in operating expenditure associated with this activity is \$175,000 per annum (Table 11).

## Appendix C – Cross reference to step change requirements of RIN

RIN ref	Step change requirement	Reference
11.1	Provide the amount of total forecast <i>opex</i> attributable to <i>opex step changes</i> in table 2.16.1 for <i>standard control services opex</i> .	Table 1, Table 4
11.2	Provide an explanation of why <i>Evoenergy</i> considers <ol style="list-style-type: none"> <li>a. the efficient costs of the step change are not provided by other components of <i>Evoenergy</i>'s total forecast <i>opex</i> such as base <i>opex</i>, output growth changes, real price changes or productivity change;</li> <li>b. the total forecast <i>opex</i> will not allow <i>Evoenergy</i> to achieve the objectives in clause 6.5.6(a) of the NER unless the step change is included; and</li> <li>c. the total forecast <i>opex</i> will not reasonably reflect the criteria in clause 6.5.6(c) of the NER unless the step change is included.</li> </ol>	Section 3.2; Section 4.0  Exec Summary; Section 3.2; Section 4.0; Section 5.0 Exec Summary; Section 4.0
11.3	For all <i>step changes</i> in forecast expenditure provide <ol style="list-style-type: none"> <li>a. In Workbook 1 – regulatory determination, regulatory template 2.17 the quantum of the step changes :               <ol style="list-style-type: none"> <li>i. forecasts for each year of the forthcoming regulatory control period; and</li> <li>ii. expected to be incurred, in the current regulatory control period;</li> </ol> </li> <li>b. a description of the step change.</li> </ol>	Appendix A          Section 3; Appendix A
11.4	For each <i>step change</i> listed in response to paragraph 11.3, provide an explanation of: <ol style="list-style-type: none"> <li>a. when the change occurred, or is expected to occur;</li> <li>b. what the driver of the step change is;</li> <li>c. how the driver has changed or will change (for example, revised legislation may lead to a change in a regulatory obligation or requirement); and</li> <li>d. whether the step change is recurrent in nature</li> </ol>	Section 1.1 Section 1.2 Section 1.2; Section 1.3; Section 3.3; Section 3.4 Section 3.0
11.5	For each <i>step change</i> listed in response to paragraph 11.3, provide justification for when, and how, the <i>step change</i> affected, or is expected to affect: <ol style="list-style-type: none"> <li>a. the relevant <i>opex category</i>;</li> <li>b. the relevant <i>capex category</i>;</li> <li>c. total <i>opex</i>; and</li> <li>d. total <i>capex</i>;</li> </ol>	Section 2.0; Section 3.0; Appendix A N/A Table 4 N/A
11.6	For each step change listed in response to paragraph 11.3, provide the process undertaken by <i>Evoenergy</i> to identify and quantify the <i>step change</i> ; provide cost benefit analysis that demonstrates <i>Evoenergy</i> proposes to address the <i>step change</i> in a prudent and efficient manner, including: <ol style="list-style-type: none"> <li>a. the timing of the <i>step change</i>; and</li> <li>b. if <i>Evoenergy</i> considered a 'do nothing' option, evidence of how <i>Evoenergy</i> assessed the risks of this option compared with other options;</li> </ol>	Section 4.0; Appendix A N/A
11.7	For each <i>step change</i> listed in response to paragraph 11.3, where the <i>step change</i> is due to a change in a <i>regulatory obligation or requirement</i> provide: <ol style="list-style-type: none"> <li>a. relevant variations or exemptions granted to <i>Evoenergy</i> during the <i>previous regulatory control period</i> or the <i>current regulatory control period</i>;</li> </ol>	N/A

RIN ref	Step change requirement	Reference
	<ul style="list-style-type: none"> <li>b. any relevant compliance audits Evoenergy conducted during the previous regulatory control period or the current regulatory control period.</li> </ul>	N/A
11.8	<p>For each <i>step change</i> listed in response to paragraph 11.7, provide, with reference to specific clauses of the relevant legislative instrument(s), the:</p> <ul style="list-style-type: none"> <li>a. previous regulatory obligation or requirement; and</li> <li>b. how the changed regulatory obligation or requirement is driving the step change.</li> </ul>	Section 1.3, Section 2.0; Section 3.4 Section 1.2; Section 1.3

## **Appendix D – Utilities (Technical Regulation) Amendment Act 2017**



Australian Capital Territory

# Utilities (Technical Regulation) Amendment Act 2017

A2017-34

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Australian Capital Territory

# Utilities (Technical Regulation) Amendment Act 2017

**A2017-34**

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An Act to amend the *Utilities (Technical Regulation) Act 2014*, and for other purposes

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The Legislative Assembly for the Australian Capital Territory enacts as follows:

**1 Name of Act**

This Act is the *Utilities (Technical Regulation) Amendment Act 2017*.

**2 Commencement**

- (1) This Act commences on a day fixed by the Minister by written notice.

*Note 1* The naming and commencement provisions automatically commence on the notification day (see Legislation Act, s 75 (1)).

*Note 2* A single day or time may be fixed, or different days or times may be fixed, for the commencement of different provisions (see Legislation Act, s 77 (1)).

- (2) If this Act has not commenced within 12 months beginning on its notification day, it automatically commences on the first day after that period.
- (3) The Legislation Act, section 79 (Automatic commencement of postponed law) does not apply to this Act.

**3 Legislation amended**

This Act amends the *Utilities (Technical Regulation) Act 2014*.

*Note* This Act also amends the *Tree Protection Act 2005* (see sch 1).

**4 Draft technical codes—consultation**  
**New section 13 (2) (aa)**

*insert*

- (aa) if the draft technical code is for protecting the environment—the conservator of flora and fauna; and

**5      Offence—fail to comply with technical code**  
**New section 16 (2) and (3)**

*insert*

- (2) A regulated utility commits an offence if—
- (a) a technical code applies to the regulated utility; and
  - (b) the regulated utility fails to comply with a requirement of the technical code.

Maximum penalty: 30 penalty units.

- (3) An offence against subsection (2) is a strict liability offence.

**6      Section 30**

*substitute*

**30      Meaning of *interference*—pt 5**

- (1) In this part:

*interference*, with a regulated utility network or network facility—

- (a) includes an action that—
  - (i) interferes with, or is likely to interfere with, the safe or efficient operation of the network, the facility or the environment; or
  - (ii) inhibits or obstructs, or is likely to inhibit or obstruct, lawful access to the network or facility; but
- (b) does not include the encroachment of vegetation within the minimum distance from an aerial line, worked out under section 41D, on unleased territory land, rural leased land or national land.

*Note*      Under s 41D, a responsible utility for an electrical network is responsible for the clearance of vegetation near an aerial line on unleased territory land, rural leased land or national land.

(2) In this section:

*aerial line*—see section 41C.

*rural leased land*—see section 41A.

**7 New part 5A**

*insert*

**Part 5A Vegetation and electrical  
infrastructure management**

**Division 5A.1 General**

**41A Definitions—pt 5A**

In this part:

*occupier*, of premises, includes—

- (a) a person whom a responsible utility believes on reasonable grounds to be an occupier of the premises; and
- (b) a person apparently in charge of the premises.

*owner*, in relation to land—

- (a) means a person who leases or subleases the land; and
- (b) includes an occupier of premises on the land.

*responsible utility* means the responsible utility for an electricity network.

*rural lease*—see the *Planning and Development Act 2007*, section 234.

*rural leased land* means land in relation to which a rural lease is granted.

**41B National land**

Functions of the kind exercisable by a responsible utility under this part are exercisable in relation to national land only by agreement with the Commonwealth.

**Division 5A.2 Vegetation management**

**41C Definitions—div 5A.2**

In this division:

*aerial cable* means any insulated or covered conductor or assembly of cores (with or without protective covering) that is above ground or water, suspended in the open air between 2 or more supports and forms part of an electricity network.

*aerial conductor* means any bare conductor that is above ground or water, suspended in the open air between 2 or more supports and forms part of an electricity network.

*aerial line* means an aerial cable, aerial conductor or aerial service line.

*aerial service line* means the final span or section of a low voltage aerial conductor of an upstream network that is connected to a point of supply.

*conductor* means a finished circular stranded assembly consisting of 3 or more metallic wires laid up together that has the specific function of carrying electrical current.

*covered conductor* means a conductor around which is applied a specified thickness of insulating material.

*insulated*, for a thing, means the thing is surrounded by a nonconducting substance that provides resistance to—

- (a) the passage of current; or
- (b) disruptive discharges through or over the surface of the thing at the operating voltage; or
- (c) the injurious leakage of current.

*U*, for an aerial line, means its nominal voltage.

**41D Clearance from aerial lines—vegetation**

- (1) A responsible utility is responsible for the clearance of vegetation near an aerial line on the following (the *land*):
  - (a) unleased territory land;
  - (b) rural leased land;
  - (c) national land.

**Examples—par (a)**

park, nature strip, nature reserve, national park

**Example—par (b)**

farm

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (2) A responsible utility may—
  - (a) enter and occupy the land; and

- (b) undertake any activity or work on the land that is reasonably necessary for the clearance of vegetation near an aerial line, including—
- (i) the felling or lopping of trees; or
  - (ii) the trimming of roots of trees or other plants; or
  - (iii) the clearing or removal of vegetation.

*Note* A responsible utility must give notice to the owner of the land before entering or occupying the land (see s 41L).

- (3) However, the responsible utility may only undertake an activity or work under subsection (2) (b) in accordance with a technical code (if any) that applies to the activity or work.

*Note* A responsible utility commits an offence if a technical code applies to the utility, and the utility fails to comply with a requirement of the code (see s 16 (2)).

- (4) A responsible utility commits an offence if the responsible utility—
- (a) is responsible for the clearance of vegetation near an aerial line on the land; and
  - (b) allows any part of a tree or other vegetation on the land to be too close to the aerial line.

Maximum penalty: 10 penalty units.

- (5) An offence against subsection (4) is a strict liability offence.
- (6) Subsection (4) does not apply if the responsible utility has a reasonable excuse.
- (7) A part of a tree or other vegetation on the land is too close to an aerial line if at any time it is within the minimum distance from any part of the line worked out in accordance with table 41D.

- (8) This section has effect in relation to a tree that is a registered tree under the *Tree Protection Act 2005* subject to that Act, part 3 (Protection of trees).

*Note* Under the *Tree Protection Act 2005*, pt 3 it is an offence to damage a registered tree (or do prohibited groundwork in the tree's protection zone) unless the damage or groundwork is allowed under that Act. Application may be made to the conservator for approval of tree damaging activity or prohibited groundwork (including in urgent circumstances).

Table 41D

column 1	column 2	column 3	column 4	column 5
direction in which minimum distance must be observed	minimum distance from insulated aerial cable or insulated aerial service line, where- $U \leq 1 \text{ kV}$	minimum distance from aerial conductor or covered aerial cable, where- $U \leq 1 \text{ kV}$	minimum distance from aerial conductor or aerial cable, where- $1 \text{ kV} < U \leq 33 \text{ kV}$	minimum distance from aerial conductor or aerial cable, where- $33 \text{ kV} < U \leq 132 \text{ kV}$
any direction	1.0m	1.5m	2.0m	3.0m

#### 41E Measuring clearances from aerial lines

For this Act, the minimum distance from any part of an aerial line is to be measured from the nearest point to which the line sags or swings.

### Division 5A.3 Electrical infrastructure management

#### 41F Definitions—div 5A.3

In this division:

*electrical infrastructure*, means—

- (a) powerlines and cables; and
- (b) substations and equipment for monitoring, distributing, converting, transforming or controlling electricity; and

- (c) a structure supporting overhead powerlines and cables; and
- (d) wires, ducts or pipes for wires or equipment; and
- (e) communication equipment for the management of an electricity network; and
- (f) anything else ancillary to paragraphs (a) to (e).

*network boundary* means a boundary between an electricity network and customers' premises worked out under section 53.

**41G Maintenance of electrical infrastructure within network boundary**

- (1) A responsible utility is responsible for maintaining electrical infrastructure within the network boundary.
- (2) A responsible utility commits an offence if the responsible utility—
  - (a) is responsible for maintaining electrical infrastructure within the network boundary; and
  - (b) fails to adequately maintain the electrical infrastructure.

Maximum penalty: 10 penalty units.

- (3) Subsection (2) does not apply if the responsible utility has a reasonable excuse.

**41H Maintenance of electrical infrastructure within network boundary—powers**

- (1) For section 41G, a responsible utility may maintain electrical infrastructure and, for that purpose, do anything reasonably necessary, including—
  - (a) entering and occupying land; and

- (b) undertaking any work on the land for maintaining electrical infrastructure.

*Note* A responsible utility must give notice to the owner of land before entering or occupying the land (see s 41L).

- (2) However, the responsible utility may only undertake work under subsection (1) (b) in accordance with a technical code (if any) that applies to the work.

*Note* A responsible utility commits an offence if a technical code applies to the utility, and the utility fails to comply with a requirement of the code (see s 16 (2)).

- (3) For subsection (1) (b), the maintenance of electrical infrastructure includes the following:

- (a) the alteration, removal, repair or replacement of any part of the electrical infrastructure;
- (b) inspecting or otherwise ensuring the proper functioning of the electrical infrastructure from time to time;
- (c) constructing, installing or placing any plant, machinery, equipment or goods;
- (d) interrupting the provision of utility services by the responsible utility;
- (e) demolishing, destroying or removing any electrical infrastructure installed or used by the responsible utility in relation to the provision of a utility service.

- (4) This section has effect in relation to a tree that is a registered tree under the *Tree Protection Act 2005* subject to that Act, part 3 (Protection of trees).

*Note* Under the *Tree Protection Act 2005*, pt 3 it is an offence to damage a registered tree (or do prohibited groundwork in the tree's protection zone) unless the damage or groundwork is allowed under that Act. Application may be made to the conservator for approval of tree damaging activity or prohibited groundwork (including in urgent circumstances).

#### **411 Inspection of electrical infrastructure outside network boundary**

- (1) This section applies in relation to electrical infrastructure—
- (a) on rural leased land (the *land*); and
  - (b) outside the network boundary.
- (2) A responsible utility—
- (a) must inspect the electrical infrastructure at least every 3 years to check if it is maintained adequately and in a safe state; and
  - (b) may enter the land to carry out the inspection.

*Note* A responsible utility must give notice to the owner of the land before entering the land (see s 41L).

- (3) If, on inspection of the electrical infrastructure, the responsible utility is satisfied on reasonable grounds that the electrical infrastructure is not being maintained adequately and is in an unsafe state, the responsible utility may give the owner written notice to take whatever action is necessary to repair and restore the electrical infrastructure to a safe state.
- (4) The notice must—
- (a) state the repairs needed to restore the electrical infrastructure to a safe state; and

- (b) require the owner to take stated action to repair and restore the electrical infrastructure within a stated period; and
- (c) contain a statement about the effect of subsection (6); and
- (d) contain a statement about the effect of section 41M (Management operations outside network boundary—dispute); and

*Note* The owner may make a submission to the responsible utility and apply to the ACAT for a determination under s 41M.

- (5) The stated period must be a reasonable period (not less than 14 days) starting on the date the notice is given to the owner.
- (6) If the owner does not comply with the notice—
  - (a) the responsible utility may do whatever is necessary to repair and restore the electrical infrastructure to a safe state; and
  - (b) the reasonable expenses incurred by the responsible utility are a debt due to the responsible utility by the owner.

*Note* A responsible utility must give notice to the owner of the land before repairing and restoring the electrical infrastructure to a safe state (see s 41L).

- (7) In urgent circumstances, the responsible utility may do whatever is necessary to repair and restore the electrical infrastructure to a safe state—
  - (a) without giving notice to the owner under subsection (3); and
  - (b) at the utility's expense.
- (8) The responsible utility must, as soon as practicable after taking action under subsection (7), give written notice to the owner and the technical regulator about—
  - (a) the action taken to repair and restore the electrical infrastructure to a safe state; and
  - (b) the urgent circumstances that required the action.

- (9) This section has effect in relation to a tree that is a registered tree under the *Tree Protection Act 2005* subject to that Act, part 3 (Protection of trees).

*Note* Under the *Tree Protection Act 2005*, pt 3 it is an offence to damage a registered tree (or do prohibited groundwork in the tree's protection zone) unless the damage or groundwork is allowed under that Act. Application may be made to the conservator for approval of tree damaging activity or prohibited groundwork (including in urgent circumstances).

- (10) In this section:

*urgent circumstances* means circumstances in which it is necessary to protect—

- (a) the integrity of a regulated utility network or network facility; or
- (b) the health or safety of people; or
- (c) public or private property; or
- (d) the environment.

## **Division 5A.4          Performance of management operations**

### **41J          Definitions—div 5A.4**

In this division:

*management operations* means an activity or work undertaken by a responsible utility—

- (a) to clear vegetation near an aerial line under division 5A.2 (Vegetation management); or
- (b) to maintain electrical infrastructure within the network boundary under division 5A.3 (Electrical infrastructure management); or

- (c) to inspect electrical infrastructure outside the network boundary under division 5A.3; or
- (d) to repair and restore electrical infrastructure outside the network boundary to a safe state under section 41I (6) if the owner does not comply with a notice under section 41I (3).

*private land* means land other than public land.

*public land* means national or unleased territory land.

**41K      Damage etc to be minimised**

In carrying out management operations, a responsible utility must take all reasonable steps to ensure that it causes as little inconvenience, detriment and damage as practicable.

**41L      Notice to owner**

- (1) This section applies to management operations on private land.
- (2) Before a responsible utility starts the management operations, it must give the owner written notice of the proposed operations.

*Note* For how documents may be given, see the Legislation Act, pt 19.5.

- (3) The notice must—
  - (a) be given a reasonable period (not less than 7 days) before the management operations start; and
  - (b) so far as practicable, state the following:
    - (i) for vegetation clearance near an aerial line—the trees and vegetation affected and the activity proposed;
    - (ii) for maintenance of electrical infrastructure—the electrical infrastructure requiring maintenance and the activity proposed;
    - (iii) for the inspection of electrical infrastructure—the electrical infrastructure to be inspected;

- (iv) for the repair and restoration of electrical infrastructure under section 41I (6)—
  - (A) that the utility intends to repair and restore the electrical infrastructure to a safe state; and
  - (B) that the reasonable expenses incurred by the responsible utility are a debt due to the responsible utility by the owner; and
  - (C) the effect of section 41M (Management operations outside network boundary—dispute); and

*Note* The owner may make a submission to the responsible utility and apply to the ACAT for a determination under s 41M.

- (v) the period during which the activity is expected to be carried out.
- (4) The owner may waive its right to all or part of the minimum period of notice under subsection (3) (a).
  - (5) Subsection (2) does not apply if the management operations are to be carried out in urgent circumstances in which it is necessary to protect—
    - (a) the integrity of a network or network facility; or
    - (b) the health or safety of people; or
    - (c) public or private property; or
    - (d) the environment.

**41M Management operations outside network boundary—dispute**

- (1) This section applies if—
  - (a) a responsible utility gives notice to an owner to repair and restore electrical infrastructure under section 41I (4); or

- (b) the responsible utility gives notice to the owner under section 41L (3) (b) (iv) that—
- (i) the utility intends to repair and restore the electrical infrastructure to a safe state; and
  - (ii) the reasonable expenses incurred by the responsible utility are a debt due to the responsible utility by the owner.
- (2) The owner may—
- (a) make a submission to the responsible utility about the repairs; or
  - (b) propose a different period for the repairs to be carried out.
- (3) If the responsible utility and the owner cannot agree on the repairs, or the period for the repairs to be carried out, either the utility or the owner may apply to the ACAT for a determination of the repairs or the period.

**8 Dictionary, note 2**

*insert*

- conservator of flora and fauna
- national land
- territory land

**9 Dictionary, new definitions**

*insert*

***aerial cable***, for division 5A.2 (Vegetation management)—see section 41C.

***aerial conductor***, for division 5A.2 (Vegetation management)—see section 41C.

***aerial line***, for division 5A.2 (Vegetation management)—see section 41C.

*aerial service line*, for division 5A.2 (Vegetation management)—see section 41C.

*conductor*, for division 5A.2 (Vegetation management)—see section 41C.

*covered conductor*, for division 5A.2 (Vegetation management)—see section 41C.

*electrical infrastructure*, for division 5A.3 (Electrical infrastructure management)—see section 41F.

*insulated*, for a thing, for division 5A.2 (Vegetation management)—see section 41C.

*management operations*, for division 5A.4 (Performance of management operations)—see section 41J.

*network boundary*, for division 5A.3 (Electrical infrastructure management)—see section 41F.

## **10 Dictionary, definitions of occupier and owner**

### *substitute*

*occupier*, of premises—

- (a) for part 5A (Vegetation and electrical infrastructure management)—see section 41A; and
- (b) for part 9 (Enforcement)—see section 76.

*owner*—

- (a) for part 5A (Vegetation and electrical infrastructure management)—see section 41A; and
- (b) in relation to a dam or proposed dam, for part 8 (Dams safety)—see section 57.

**11 Dictionary, new definitions**

*insert*

*private land*, for division 5A.4 (Performance of management operations)—see section 41J.

*public land*, for division 5A.4 (Performance of management operations)—see section 41J.

**12 Dictionary, definition of *responsible utility***

*substitute*

*responsible utility*—

(a) for this Act generally—for a regulated utility network or network facility, means a regulated utility that provides utility services using the regulated utility network or network facility; and

(b) for part 5A (Vegetation and electrical infrastructure management)—see section 41A.

**13 Dictionary, new definitions**

*insert*

*rural lease*, for part 5A (Vegetation and electrical infrastructure management)—see the *Planning and Development Act 2007*, section 234.

*rural leased land*, for part 5A (Vegetation and electrical infrastructure management)—see section 41A.

*U*, for an aerial line, for division 5A.2 (Vegetation management)—see section 41C.

## Schedule 1      Tree Protection Act 2005— Consequential amendments

(see s 3)

### [1.1]      Section 19 (1) (d) (iii)

*substitute*

- (iii) any of the following under the *Utilities (Technical Regulation) Act 2014*:
- a network protection notice given under section 32;
  - section 41D (Clearance from aerial lines—vegetation);
  - section 41H (Maintenance of electrical infrastructure within network boundary—powers);
  - section 41I (Inspection of electrical infrastructure outside network boundary); or

### [1.2]      New section 19 (1) (ea)

*insert*

- (ea) anything done in relation to a registered tree under any of the following provisions of the *Utilities (Technical Regulation) Act 2014* for protecting life or property if it is not practicable because of the urgency of the situation to obtain an approval under section 29:
- (i) section 41D (Clearance from aerial lines—vegetation);
  - (ii) section 41H (Maintenance of electrical infrastructure within network boundary—powers);
  - (iii) section 41I (Inspection of electrical infrastructure outside network boundary); or

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## Endnotes

**1 Presentation speech**

Presentation speech made in the Legislative Assembly on 21 September 2017.

**2 Notification**

Notified under the Legislation Act on 8 November 2017.

**3 Republications of amended laws**

For the latest republication of amended laws, see [www.legislation.act.gov.au](http://www.legislation.act.gov.au).

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I certify that the above is a true copy of the Utilities (Technical Regulation) Amendment Bill 2017, which was passed by the Legislative Assembly on 24 October 2017.

Acting Clerk of the Legislative Assembly

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