

Operational Expenditure (OPEX) Plan

Vegetation Management

2019-24

Supporting Document 11.3.5

Opex Plan - Vegetation Management

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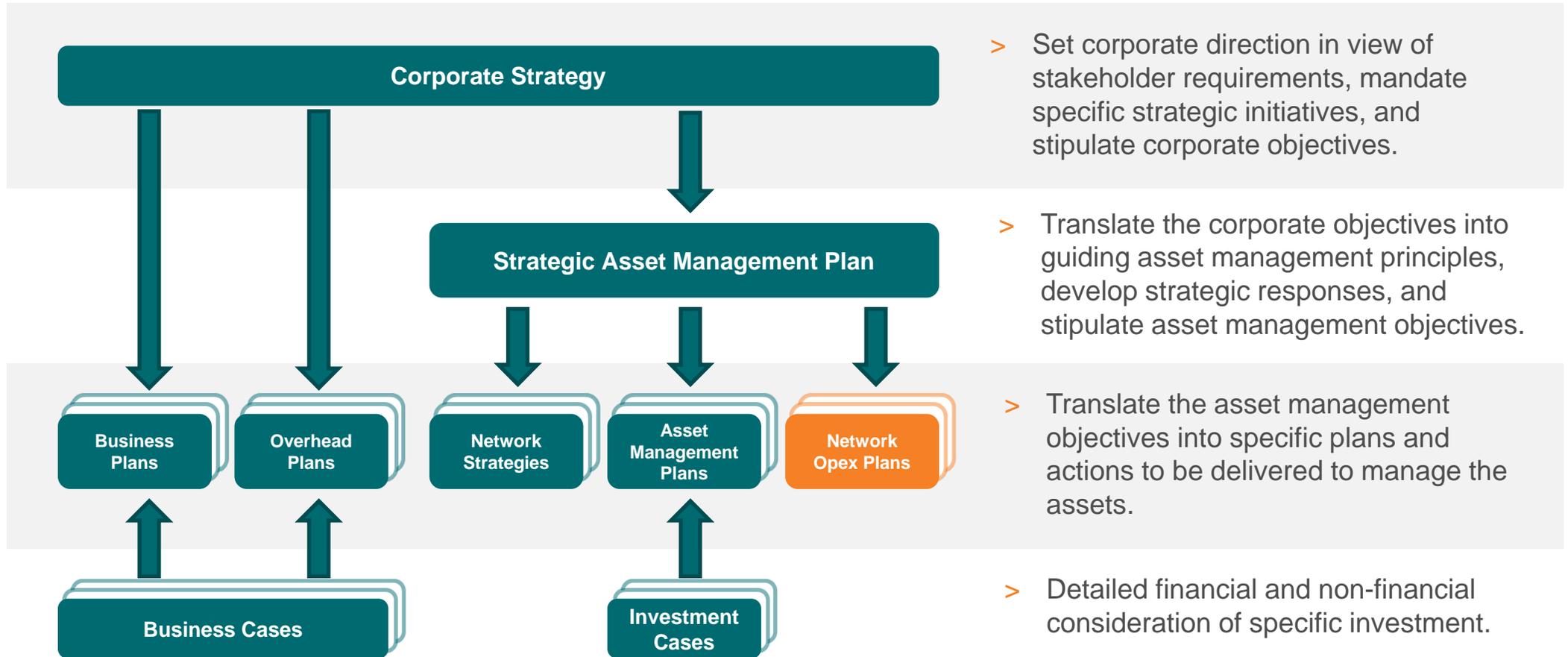
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Document hierarchy and purpose



Executive Summary

Vegetation Management is required to ensure vegetation is kept clear of the network manage risks associated with bushfires, reliability and public safety.

Treatment of vegetation is carried out to meet a clearance standard. A mix of internal and external resources are used to carry out the key stages of

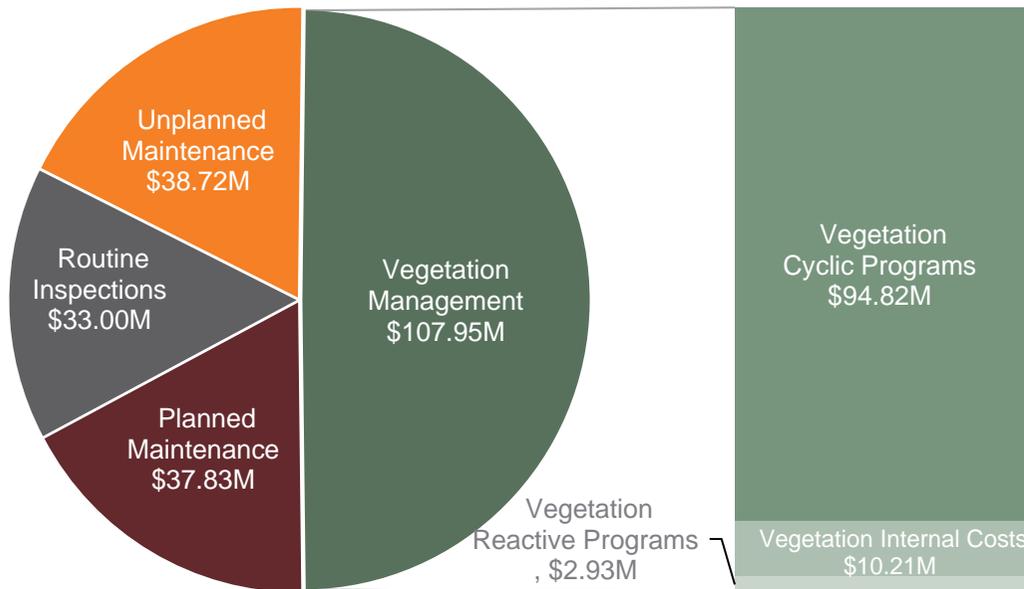
- > **Inspections** - carried out to identify intrusions into the vegetation envelope;
- > **Treatment** - which includes tree removal, trimming vegetation and chemical treatment
- > **Auditing** - carried out to assess compliance to standards

The use of remote sensing technology is emerging as a key enabler to achieving efficiency gains.

	REGULATORY PERIOD (\$FY19)	
	2014-19	2019-24
Average Spend	\$95.84M	\$107.95M

ALL DIRECT OPEX (\$FY19)
Average \$217.5M per year

THIS PLAN COVERS
49.8% (\$107.95M per year)



VEGETATION MANAGEMENT INCLUDES:

- > **Cyclic Vegetation Treatment**
Cyclic vegetation programs consist of trimming, removing, applying chemical treatment and clearing ground vegetation at a frequency that balances cost with risk.
- > **Internal costs**
Internal contract management and customer interaction/consultation
- > **Reactive Programs**
These programs higher risk vegetation intrusions that are detected as part of LIDAR data capture and pre-bushfire programs.

How does vegetation management affect customers?

Overview

- > Vegetation impacts our customers through the impact it has on bushfire risk, reliability of supply and the management of environmental risks – including the consideration of aesthetics. As our highest operating expense, the way we manage vegetation has a more direct impact in the prices customers pay. Our customer engagement process specifically focused on vegetation management and this feedback has shaped our proposed approach to managing vegetation.
- > Essential Energy treats the vegetation clearance envelope as an ‘asset’ and measures the health of this asset on a regular basis. A major transition is under way to re-establish the clearance envelope which will require a lower level of expenditure in the 2019-24 regulatory period compared to the 2014-19 regulatory period.

Examples of How Our Proposed Vegetation Management Programme Impacts Our Customers

- > **Bushfire Risk Management**
 - **How?** Fires can be initiated by vegetation either through direct contact or by causing physical damage to the network. The safety of our customers is our first consideration and our proposed vegetation management programme is aimed at managing vegetation to the required standard and in a way that delivers optimal value to our customers.
- > **Reliability of Supply**
 - **How?** When vegetation comes into contact with the network, it can cause intermittent or sustained faults which cause a power outage. To minimise the impact that vegetation has on the reliability of the network, Essential Energy is continuing to re-establish the clearance envelope in accordance with industry standards. As a direct consequence of our engagement with customers, Essential energy is proposing to maintain the reliability of the network with vegetation management programmes that support that aim.
- > **Management of the Environment**
 - **How?** The way we manage vegetation is very visible to our customers and our approach to balancing cost with aesthetics has been fully informed by our customer consultation process. This has specifically impacted our proposed approach to strategic tree removals and replanting.

Engaging With Customers Through Deliberative Forums

- > **What Did We Do?** - In preparing its Regulatory Proposal, Essential Energy carried out a series of 'deliberative forums' with customers to seek their views on a range of matters. Vegetation management received a specific focus in this customer consultation process. Our customer representatives were asked a number of questions that targeted specific areas where costs – and therefore electricity accounts - could be reduced by changing work practices.
- > **What Were Customers Asked?** - The specific topics covered included more frequent trimming of vegetation to impact the amount of vegetation trimming, passing costs onto local councils or private landowners for incorrectly planted trees and safely stacking vegetation in some rural areas rather than processing it on site into wood chips.
- > **What did Customers Say?** - Whilst there was some agreement that trimming cycles should occur less often that trees are trimmed further but less frequently, there was stronger support for removing existing vegetation and replacing it with more appropriate shrubs and trees. Passing costs onto Local Councils or private landowners where the wrong tree was planted after the power line was constructed was supported to some degree. There were mixed views on safely stacking vegetation in some rural areas rather than processing it on site this issue given the impact on customers bills of doing so.
- > **What Are We Going to Do About It?** - We have taken on board the support from customers for selective removal and re-planting of trees to minimise costs in the future. We will also explore changes in work practices and where appropriate will consult further with customers to refine strategies that will assist in reducing customers electricity accounts.

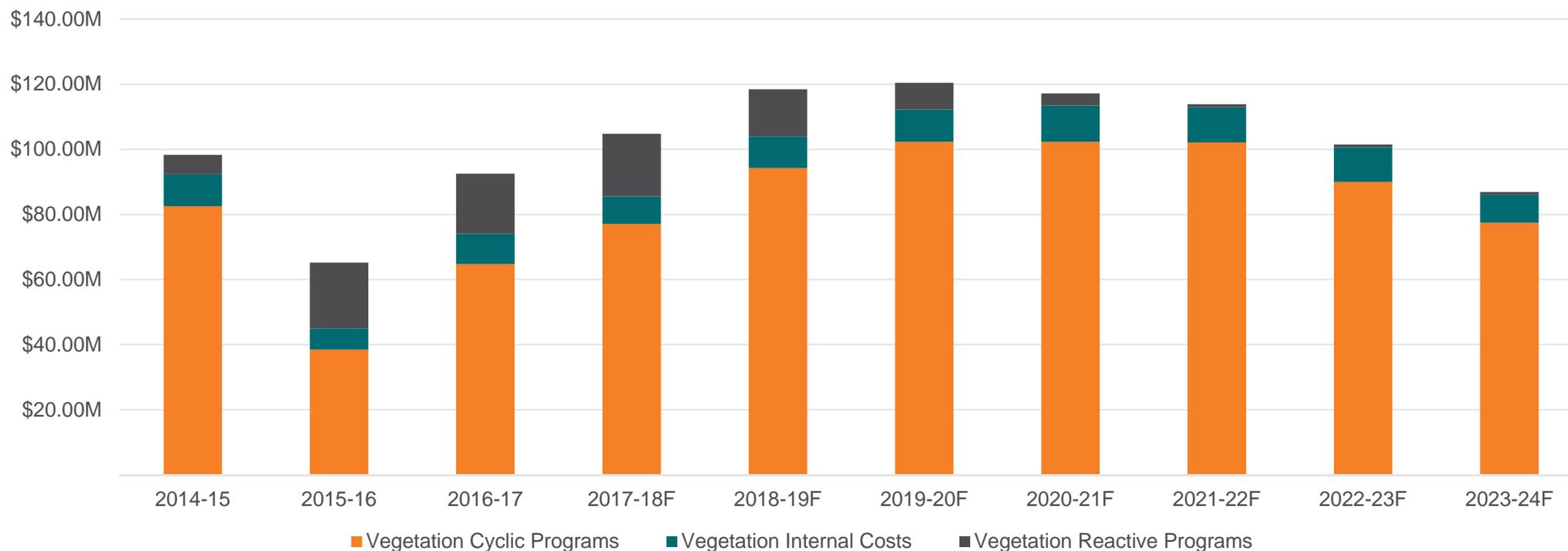
Vegetation Management program details

- > Vegetation management programs maintain the health of the vegetation clearance ‘envelope’ and assist in the management of reliability, quality of supply and bushfire risk.

	Cyclic Vegetation Management Programs	Reactive Vegetation Management Programs	Internal costs
Activity	Routine cyclic ground-based inspection of vegetation and power line corridors.	Non-routine treatment of vegetation based on the detection of intrusions from LIDAR and pre-summer bushfire patrols..	Internal resources are utilized to manage vegetation management contracts, resolve contractor performance issues, carry out audits of completed vegetation work and interact with customers. Internal costs also includes the management of vegetation using internal resources in the Far West of NSW. In line with feedback received from customers, a dedicated program will be implemented to selectively remove and re-plant vegetation. This will deliver savings to customers through the minimization of future expenditure related to this vegetation.
Objective	To detect the presence of vegetation intrusions that are within or will grow to be within the standard clearances as defined by ISSC3. Identification and treatment of hazard trees.	To remove vegetation intrusions that pose a higher reliability and bushfire risk.	
Frequency	Varies between yearly for some urban areas to 5 yearly in the Far West area of NSW.	As required depending on the intrusions detected from LIDAR and pre-summer bushfire programs.	
Efficiency Gains	Essential Energy is currently progressing toward a lower costs base vegetation management program. This will be achieved through compliance with NSW vegetation standards (ISSC3) and the implementation of cyclic vegetation programs in all areas.	As cyclic programs are implemented across NSW, reactive programs will decrease, resulting in a lower cost, planned approach to vegetation management. Vegetation growth determined through remote sensing technology will inform the optimal cycle frequency.	

Vegetation Management Expenditure Profile

		Cyclic Programs	Internal Costs	Reactive Programs	TOTAL Veg Management
% Direct OPEX Spend		43.6%	4.7%	1.3%	49.6%
% Vegetation Management Spend		87.8%	9.5%	2.7%	100%
Average spend per year	(2019-24) (2014-19)	\$94.82M \$71.42	\$10.21M \$8.74	\$2.93M \$15.67	\$107.95M \$95.84M
Average hours per year	(2019-24) (2014-19)	102,474 85,319	11,033 10,630	3,161 19,442	116,669 115,391



Supporting documents

OPEX Plan Documents

Document	Relevance to this document
OPEX Model - Direct Standard Control	Forecasting model based on historical performance and planned changes to opex activities.
OPEX Plan – Routine Inspections	Details the drivers behind the direct operational expenditure for each expenditure category.
OPEX Plan – Planned Maintenance	
OPEX Plan – Unplanned Maintenance	
OPEX Plan – Vegetation Management	
OPEX Plan – Indirect Expenditure	Outlines the drivers behind indirect expenditure
OPEX Approach	Summary of OPEX forecasting methodology and planned efficiency initiatives.

Strategy Documents

Document	Relevance to this document
Strategic Asset Management Plan	Defines the general asset management principles and objectives which drive our network strategies.
CEOP8010 – Asset Inspection and Routine Maintenance	Provides an overview of each routine inspection program (except Zone Substation programs).
CEOP8011 – Technical Maintenance Plan Substations	Overview of Zone Substation maintenance programs.
Vegetation Management Strategy	Outlines long term strategy for vegetation management including 2019-24 Regulatory Period.

Supporting documents

Key Legislative and Procedural Documents

Document	Relevance to this document
National Electricity Rules	Directs the development of operating expenditure forecasts and compliance with relevant obligations
CEOP4304.11 – Legislative & Obligations Register	List of legislative requirements and operational procedures.
National Electricity (New South Wales) Act 1997 (NSW)	An Act to make provision for the operation of a national electricity market, to consequentially amend certain other Acts; and for other purposes. Applies the National Electricity Law and National Electricity Rules.
Electricity Supply Act 1995 (NSW)	(a) to promote the efficient and environmentally responsible production and use of electricity and to deliver a safe and reliable supply of electricity, and (b) to confer on network operators such powers as are necessary to enable them to construct, operate, repair and maintain their electricity works, and (d) to promote and encourage the safety of persons and property in relation to the generation, transmission, distribution and use of electricity, and (e) to ensure that any significant disruption to the supply of electricity in an emergency is managed effectively.
National Energy Retail Law (Adoption) Act 2012 (NSW)	An Act to establish a national energy customer framework for the regulation of the retail supply of energy to customers; to make provision for the relationship between the distributors of energy and the consumers of energy; and for other purposes.
Work Health and Safety Act 2011 (NSW)	An Act to secure the health, safety and welfare of persons at work; to repeal the Occupational Health and Safety Act 2000 ; and for other purposes.
Essential Services Act 1988 (NSW)	An Act to protect the community from disruption to essential services; and for related purposes.

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