

THE ELECTRICAL POWER SUPPLY INDUSTRY: YOUR SOLUTION TO VEGETATION CONTROL

VEGETATION MANAGEMENT



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1. Summary

Vegetation Management (VM), a Department of Technology Services International (TSI) part of Eskom Enterprises, which is a holding company of Eskom, the fifth biggest power utility in the World. As part of Eskom's drive to commercialize, all vegetation management had been contracted to VM as a partner to fulfill Eskom's quality of supply with special reference to Eskom ROW's (Right Of Way).

Many different Acts govern South Africa. The Act's, which impact onto the Electrical Supply Industry mostly, refer to Environmental clauses. The OSHA Act, Act 85 of 1993 refers to safety, health and environment with specific references to safety clearances between vegetation communities and powerlines. Further, Act's refer to issues when working in the Environment such as the pesticide Act, Act 36 of 1947 as well as Provincial Legislation concerning the control and or eradication of vegetation such as trees, etc. on ROW's and electrical properties.

Vegetation Managements head office is at Megawatt Park, Sandton with Regional offices in Mphumalanga, KZN, Northern Province, Western Cape, Northern Cape, Freestate and Gauteng. We are also ISO 9001 and 14000 accredited. We have team capacity up to 150, specializing in the following services:

- Bush and tree encroachment on powerline servitudes (NEC contract and project management).
- Plant invader control on powerline servitudes and other properties.
- Reed and bulrush control on powerline servitudes.
- Grass cutting/chemical mowing/species switch on powerline servitudes.
- Grass/ tree control around wooden pole powerlines.
- Substation HV yard weed control.
- Security fences weed control, grass maintenance including chemical mowing and species switch.
- Creating fire breaks using herbicides.
- Herbicide recommendations on any property.
- Herbicide maintenance plans for all properties (powerline servitudes, HV yards, security fences, etc.).
- Management/supervision of herbicide contracts.

- Negotiating herbicide contracts for all properties (powerline servitudes, HV yards, security fences, etc.).
- Herbicide analysis in any matrix.
- Herbicide research.
- General advice and consultation on herbicides and pesticides.
- Horticultural landscape maintenance and office gardens.
- Gate and fencing installation and maintenance at substations, access roads and other secure areas.
- Powerline audits and maintenance.

2. Introduction

When maintaining vegetation, what impacts onto the quality of electrical supply? Therefore, the following questions must be answered:

- Which environmental issues are at stake?
- Which Acts control weed science work?
- Who implements the work and why?
- What type of work should be implemented?

Question 1: Which environmental issues are at stake?

- There are two areas of concern:
- 1 = Properties
- 2 = ROW's (Rights of Way = wayleaves and servitudes)
- Why do we maintain our ROW's. Is it to provide quality of supply to our customers or to adhere to the safety regulations in the OSHA Act?

Question 2: Electrical Supply Industry: Which Acts impact onto this Industry?

- Pesticide Act 36 of 1947
- Health and Safety Act: OSHA Act 85 of 1993
- Host of other Acts which impact on Environmental issues such as Provincial Legislation.

Question 3: Weed Science Areas, which impact onto Quality of Supply

- Powerline way leave/ servitude maintenance
- Substation maintenance
- Fire Management
- Wetland or March (reed and bulrush) management
- Grass maintenance
- Other weeded areas

3. Quality of Supply Impacts

To maintain quality of supply to customers many different vegetated areas cause impacts. To minimize or reduce these impacts, the different areas must be identified and accordingly maintained. The impact areas are as follows:

Impact 1: Bush/ Tree control or maintenance

- Directs impact on powerline maintenance of vegetation
- Densifier/ encroachment control
- Invader control

Impact 2: Substation Maintenance

- HV-yard weed maintenance
- Security fence vegetation maintenance

- Fire break introduction and maintenance
- Other grassed or weeded areas vegetation maintenance

Impact 3: Fire Management

- Introduction of fire breaks and maintenance of existing fire breaks
- Wooden pole fire protection (maintaining vegetation around wooden pole power lines to stop fire impacts onto the pole)

Impact 4: Grass Management

Grass can be maintained using 3 different technologies, such as:

- Mechanical mowing
- Chemical mowing
- Species switch or vegetation composition change

Impact 5: Wetland (marsh) Management

- Wetland management is done by controlling the two climax species, common reed and bulrush

Impact 6: Other weeded areas

Other weeded areas, which need vegetation management, consist of:

- Cable and drum stations
- Road shoulders/verges
- Waterways
- Crash barriers
- Pole yards
- Around structures
- Any other area which need vegetation management
- Horticultural Services (Gardens, etc)

4. Conclusion

Vegetation on property owned by or under the control of electrical utilities must be managed in an environmentally responsible and cost effective manner. Various methods can be employed to achieve this, ranging from the use of registered herbicides to mechanical means. As some of these herbicides and their application hold inherent liabilities and risks, electrical utilities must commit themselves to the Pesticide Act, Act 36 of 1947.

Different electrical utilities inside AMEU will therefore be using many different industrial registered herbicides to control vegetation communities inside ROW's, between security fences and in HV yards. Vegetation is managed to discourage tall and invasive species dominance, as well as densifier plants from establishing along ROW's. The correct use of herbicides in these areas reduces fire hazards and eliminates flashovers due to tree interference on the powerlines. Herbicide application has proven to be more cost effective and less time consuming than conventional options such as vegetation removal by heavy machinery.