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30 November 2007

The Technical Regulator
Energy Division
DTEI
PO Box 83
Walkerville SA
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Attention Mr Robert Faunt.

Re : Regulatory Review- Electricity (Principles of Vegetation Clearance) Regulations 1996.

Dear Robert,

Thankyou for the opportunity to respond to your call for submissions in relation to the above.

TREENET (Tree and Roadway Experimental and Educational Network) is the National Research and Education organisation for urban trees. It is a not for profit organisation based at the University of Adelaide's Waite Arboretum. We are advised by a National Board of over 50 voting members who have been selected for their expertise in relevant fields. Some of these members are involved in the vegetation clearance industry, including providing training in the pruning of trees for ETSA.

Many Local Government organisations in South Australia are Institutional Members of TREENET, and have encouraged us to participate in this review.

TREENET is also arguably the authority on species selection for street trees throughout Australia and in particular South Australia. As mentioned in our submission we would be very interested in providing assistance in a total redraft of schedules 2 and 3 of the regulations, but as this is a very big undertaking we have not attempted in this submission to be prescriptive regarding the deletions and inclusions envisaged.

Finally the DTEI is a principal sponsor of TREENET and we are very pleased to be able to respond to your invitation to submit these suggestions in appreciation of your ongoing support.

Yours faithfully

David Lawry
Director

SUBMISSION

Electricity (Principles of Vegetation Clearance) Regulations 1996

TREENET Incorporated

25 November 2007

Submission prepared by TREENET Incorporated to assist the review of the Regulations by through holistic consideration of the interrelationships between overhead powerlines, economics, and urban vegetation. This submission is based on economic and other considerations supported by research conducted over the last decade. It considers costs, benefits and risks to the electricity entity, the owners and managers of the vegetation, and to the community. TREENET's submission stems from a desire of a majority of councils to further develop the working relationship with ETSA Utilities, through improved communication mechanisms and better mutual understanding of asset management responsibilities.

TREENET's Interest in Vegetation Clearance Issues

TREENET's Advisory Board includes over fifty highly respected professionals and academics with experience both locally and throughout the region in the fields of international economics, arboriculture, civil engineering, horticulture, environmental law and politics. The fact that this diverse group is linked through a common professional interest in urban trees is a reflection of the complexity of the economics of interrelationships of trees and other urban infrastructure. Understanding these interrelationships is fundamental to balancing interests and to achieving effective compromises which facilitate simultaneous optimal management of multiple community and private assets.

TREENET's Contribution to Understanding the Economics of Urban Vegetation

Assessing the net value of vegetation clearance, to both the electricity entity and to the community, requires an appreciation of the values of both assets before and after vegetation clearance, both in the short term and into the long term. Costs and benefits with respect to electricity infrastructure are reasonably well understood. Economic costs and benefits with respect to urban vegetation are now more clearly understood than they were when the existing regulations were drafted. Over the last decade TREENET has facilitated research and communication which has greatly improved knowledge and understanding of the values of urban vegetation.

It is not the purpose of this submission to detail these values. I refer you for an introduction to the topic to the following papers which were presented at recent symposia; they are available online at TREENET's Website www.treenet.com.au. See:

- Killicoat, P., Puzio, E., and Prof. Randy Stringer (School of Economics and Centre for International Economic Studies, University of Adelaide) 2002. *The Economic Value of Trees in Urban Areas: Estimating the Benefits of Adelaide's Street Trees*. In Proceedings of the 3rd TREENET National Street Tree Symposium: September 2002
- Tarran, Dr. Jane. 2006. *Trees, Urban Ecology and Community Health*. In Proceedings of the 7th TREENET National Street Tree Symposium: September 2006
- Stringer, Prof. R., 2007. *The Benefits of Adelaide's Street Trees Revisited*. In Proceedings of the 8th TREENET National Street Tree Symposium: September 2007
- Moore, Dr. G. M. 2007. *Tree Management for Carbon, Energy and Drought Efficiency*. In Proceedings of the 8th TREENET National Street Tree Symposium: September 2007.

These authors detail how the existence of urban trees provides a range of direct economic benefits to the community. These benefits will undoubtedly increase in value as the effects of climate change become more apparent. Impacts on urban vegetation, such as clearance by power suppliers or root damage through transport infrastructure development or maintenance, compromise these benefits and result in increased community cost. TREENET's view is that community cost can be minimized without compromising safety through more appropriate management of vegetation clearance around powerlines.

TREENET's Purpose in making this Submission

The objectives of this submission are to help to resolve some of the issues which are regularly raised by the community and our membership regarding vegetation clearance around powerlines. It is anticipated that the amended regulations will:

- Provide improved communication standards. A statement of intent to clear vegetation being conveniently provided in a timely manner with accurate details of the location and extent of pruning would make it possible for council arborists and residents to pre-check the proposed works and to discuss any issues prior to the works being undertaken. Using the Internet to provide this information would seem a sensible and cost effective approach. A transition time would be required for ETSA Utilities to develop suitable processes.
- Provide procedural equity and fairness. When questioned regarding widespread instances of over-pruning, officers of ETSA Utilities have informed some of TREENET's members that no process is prescribed within the Act or Regulations by which a complaint or dispute regarding clearance of vegetation on public land, where no vegetation clearance scheme has been agreed, can be heard. ETSA Utilities officers have also advised several of TREENET's members that they are uninterested in pursuing vegetation clearance scheme agreements.
- Reduce cases of over-pruning while ensuring required clearances are maintained. Applying arboricultural principles to guide pruning will minimise long-term costs to the electricity entity, will minimise the development of tree decay related risk which typically results from over-pruning, and will minimise the impact of vegetation clearance on the economic and community benefits provided by the trees.

- Achieve improve pruning practices and techniques employed in vegetation clearance. Adoption of Australian Standard 4373-2007 Pruning of Amenity Trees will greatly assist tree maintenance, reduce long term impacts of vegetation clearance and, after an initial period, is likely to reduce ongoing costs of vegetation clearance.
- Improve the flexibility of the regulations. As examples, by linking the bushfire risk areas to local government authority development plans they will be updated in line with the legislative requirements of the Development Act 1993 – thus avoiding duplication and minimizing the need to undertake “bushfire risk” pruning as areas develop. Adoption of the Australian pruning standard will ensure that practices keep pace with accepted industry practices regardless of any other arrangements between the parties.
- Improve the range of vegetation planting options available to councils and to the public. Current regulations restrict the replanting of indigenous vegetation in bushfire risk areas even though countless examples of mature indigenous trees e.g. Grey box (*Eucalyptus microcarpa*) in the Mitcham Hills can be observed growing within the “prescribed distances” but well beyond the clearance zones and requiring minimal or typically no maintenance pruning year after year. Ageing of these trees reduces ETSA’s costs but diminishes this conservation and community resource. Maintaining this resource through replacement, with formative pruning of trees as they develop to restrict growth beyond clearance zones, will maintain the existing resource without increasing or diminishing risk or ETSA’s maintenance requirements.

Method of Presentation

This submission uses extracts from the paper distributed by the Office of the Technical Regulator titled “Regulatory Review – Electricity (Principles of Vegetation Clearance) Regulations 1996, Discussion Paper” to guide it’s content. Extracts from the paper are copied below in black print. Interspersed within this, TREENET’s views and suggestions are described in blue print. Summarising the views expressed in blue is a recommendation of how the regulation could be amended to achieve the outcomes TREENET sees as desirable (included in boxed text.)

The following is a brief summary of the Principal Regulations, and questions related to them, on which comment is invited.

3- Interpretation

Summary of the Regulations

Regulation 3 – definition of various terms used in the Regulations.

Some amendment is desirable with regard to 3. Interpretation. Some suggestions which follow will have implications with regard to interpretation.

Buffer zone

It is suggested later that the concept of a “buffer zone” as applied in non-bushfire risk area should be discontinued in non-bushfire risk areas, as “buffer zones” currently do not apply to powerlines on public land in non-bushfire risk areas and clearances remain manageable. Applying the concept of buffer zones on private land but not public land causes some confusion, as risks and required clearances are independent of property ownership. Adopting this suggestion would require that the definition of “buffer zone” be amended. Suggestions for amendments to Regulation 3 are detailed below.

Amend the interpretation of “buffer zone” to read:

buffer zone, in relation to an overhead powerline in the bushfire risk area, means the space around the powerline that adjoins the clearance zone around that powerline, as shown in diagrams in Schedule 1. Pruning required to prevent predicted regrowth into the clearance zone before the next scheduled clearance (based on the expected growth rate and habit of the species under local environmental and climatic conditions) must not exceed the buffer zone.

Centreline:

In the case of underground powerlines, the markers placed to identify centerlines have been known to be inaccurately positioned; this has been confirmed by cable location service providers and in some cases through excavation. This definition could be modified to include the location of “centerlines” by competent cable location personnel using approved methods and equipment.

Amend the interpretation of “centreline” as follows:

Following “as indicated by markers placed by an electricity entity on the ground above the powerline” add: “or as determined and marked on the ground by an accredited underground service locator”.

Clearance Zone:

Confusion arises regarding this term, as it sometimes appears to be applied by electricity entities to mean the resulting distance between the conductor and the vegetation which is created by pruning, the electricity entity in effect creating their own “clearance zones” when pruning. The opportunity should be taken to clarify this; suggestions are discussed later in consideration of the diagrams of Schedule 1.

Bushfire risk areas and non-bushfire risk areas:

Amend the interpretation of “bushfire risk area” to read:

Bushfire risk area means any area defined in a municipal authority’s development plan as a bushfire risk area, or if the relevant municipal authority does not specify bushfire risk areas in its development plan then the part of the State shown in the maps in Schedule 3 as the bushfire risk area excluding areas shown in those maps as non-bushfire risk areas.

Amend the interpretation of “non-bushfire risk area” as follows:

non-bushfire risk area means the areas of the State not defined as bushfire risk areas in municipal authority development plans, or if the relevant municipal authority does not specify non-bushfire risk areas in its development plan then a part of the State not within the bushfire risk area as shown in the maps in Schedule 3.

Regulation 3A – defines the “prescribed area” (certain “non-bushfire risk areas”) for the purposes of Part 5 of the Act and the Regulations. Three new revised maps have been proposed by ETSA Utilities.

Given current rates of development across the state these maps can become outdated reasonably quickly, and review processes can be delayed. As the maps relate specifically to bushfire risk, the defined areas are likely to correspond with development requirements with regard to bushfire risk and administered by local authority planning offices.

Planning SA are currently undertaking a Plan Amendment Report process regarding bushfire-related mapping, planning and building requirements; the “**Bushfire Management PAR - Part 3.**” This process may/is likely to develop new requirements and terminologies with regard to documentation of and planning for fire risk. If/when implemented, the resulting maps of fire risk areas contained in local authority development plans would most likely be reliable indicators of fire risk.

The correlation between the existing regulatory requirements and the emerging planning documentation should be investigated, as it may be more appropriate for this information to be stored with and maintained by the relevant fire and development authorities rather than contained within the Electricity (Principles of Vegetation Clearance) Regulations.

Should a suitable correlation exist and the PAR be adopted, then Regulation 3A should refer to local authority development plans to identify bushfire risk areas and define these as “Prescribed Areas” for the purposes of the Act and Regulations. Amending the regulations now to allow for a transition to these new Plan Amendment Reports would remove the need for any future reconsideration of this matter with respect to these regulations.

Amend regulation 3A to read:

For the purposes of Part 5 of the Act and these regulations, each non-bushfire risk area (or portion of a non-bushfire risk area) that is identified in the relevant municipal authority’s development plan, or if the relevant municipal authority does not specify non-bushfire risk areas in its development plan then the areas shown on the map in Schedule 2A headed Portion of Greater Metropolitan Area of Adelaide showing Index to Prescribed Areas Map Sheets (and in more detail on the following 7 maps indexed on that map) is a prescribed area.

Regulation 4 – prescribes the voltage for the definition of “private powerline” in section 4 of the Act.

For the purpose of prescribing a voltage limit on private powerlines the regulation is appropriate. However: the distinction between private and public powerlines is itself questionable. Risk of injury or interruption to supply is unlikely to vary in relation to the ownership of the infrastructure (it is also likely that private infrastructure may be maintained in a better condition than ETSA’s infrastructure!)

ETSA’s submission with respect to the review of regulations (dated 23 July 2007) details the low level of risk associated with powerlines in the non-bushfire risk area, but makes no distinction between public and private lines. The distinction requires clearances around private powerlines in the non-bushfire risk area which match the clearances of public lines in bushfire risk areas. This distinction is unnecessary. A single clearance regime should apply across the entire non-bushfire risk area. This is discussed further below, in relation to Schedule 1.

Regulation 5(1) specifies that the principles of vegetation clearance set out in regulation 5 are prescribed for the purposes of Part 5 of the Act and govern the duty of an electricity entity or council to clear vegetation from around powerlines.

No change required or suggested

Regulation 5(2) specifies that inspection and clearance of vegetation must take place at intervals of no longer than 3 years.

This cycle is too long. The period for regular pruning cycles should ideally be twelve months. As the regulations specify a time period not exceeding three years, this period has become the “default” frequency for pruning by ETSA, based solely on consideration of cost. Extensive research demonstrates that repeated pruning cycles at intervals of three years will compromise tree health and safety; in many species it leads to root deterioration and decay which increases tree stress and compromises structural stability, see Shigo, A. L., (1989) *Tree Pruning, A*

Worldwide Photo Guide. Shigo and Trees, Associates. Pg 107. That is, the current regulations enable and promote tree damaging activity which increases the risk total tree failure.

In addition, “formative pruning” could be used to develop an appropriate canopy structure and shape to minimize encroachment into the clearance zone. Doing so would reduce reactive sprout growth, minimize harm to the tree, and within a short time would minimize regular pruning requirements and costs. Formative pruning should be undertaken on an annual basis, see Shigo, A. L. 1991. *Modern Arboriculture*. Shigo and Trees, Associates. Pg 116.

Regulation 5 does not currently guide ETSA to consider horticultural, arboricultural or broader community interests when complying with the duty to clear vegetation, but the Act requires the Technical Regulator to consider these issues in determining a dispute in relation to Vegetation Clearance Schemes. Regulation 5 could be improved by including the requirements detailed in the Act and by reinforcing these requirements by substituting “should” with “must” as suggested below:

Amend 5(2) to read:

Inspection and clearance of vegetation must take place at intervals of not longer than one year.

Regulation 5(3) specifies that vegetation must be cleared from within the clearance zone (defined in regulation 3) and beyond that zone so that no part of the vegetation is likely to bend into that zone in winds that might reasonably be expected in that area, and no growth or re-growth is likely to intrude into that zone before the next scheduled inspection and clearance.

There are some apparent omissions from general principles of vegetation clearance which might be added to regulation 5:

Regulation 5 should include the requirement that pruning to achieve vegetation clearance around conductors is consistent with the relevant Australian Standard AS4373-2007 Pruning of Amenity Trees.

Regulation 5 should include a provision requiring timely notification of intention to undertake vegetation clearance works on public land. Section 57 of the Act requires that written notification be given 30 days prior to entry onto land for vegetation clearance purposes, but no specific provision exists requiring an electricity entity to notify a council regarding works on public land. Perhaps the ideal means for notification would include the posting of ETSA’s “scoping notes” on a website made freely accessible and searchable to councils and the public.

Following 5(3)(b), add four new regulations as follows:

1. In clearing vegetation in accordance with 5(3) and 5(4), an electricity entity must comply with the pruning standards detailed in the current Australian Standard for Pruning of Amenity Trees: AS4373-2007, Pruning of Amenity Trees.

2. The factors that should be taken into consideration in determining the extent of pruning necessary to establish and maintain clearances include the following:
 - (a) the nature of the vegetation, including its expected rate of growth;
 - (b) the impact that the clearance work would be likely to have on the amenity of the area;
 - (c) the historical or biological significance (if any) of the vegetation;
 - (d) the long term effect that the clearance work would be likely to have on the health and appearance of the vegetation;
 - (e) the controls of the planting and nurturing of vegetation applicable in the area;
 - (f) the need to prevent damage to the powerlines and interruption to the supply of electricity and to safeguard the public against electric shock and damage to property;
 - (g) the extent and frequency of past vegetation clearance in the area;
 - (h) whether requirements with respect to vegetation clearance and the planting and nurturing of vegetation have been complied with in the area and, if not, the reasons for the non-compliance.
 - (i) the existence and terms of other vegetation clearance schemes;
 - (j) any proposal to alter, remove or underground powerlines in the area;
 - (k) the costs of the proposals (including insurance premiums) to the council and to the electricity entity and the financial resources of the council and entity;
 - (l) the limits on the financial and other resources of the electricity entity that may be devoted to the scheme and the schemes for the areas of other councils;
 - (m) any arrangement between the electricity entity and the council conferring on the council a specified role in relation to vegetation clearance.
3. If vegetation is to be cleared from around powerlines on public land, the electricity entity will provide the agency responsible for management of that land with written notification of intent to clear vegetation not less than thirty days prior to beginning the work.
4. The electricity entity's instructions for pruning which detail the nature and extent of pruning with respect to public and private trees will be made publicly available on the entity's website. Information will be searchable by criteria including council area, suburb, street, and by property address. Searches by property address will include all notes referring to public trees growing within thirty metres of the private property address.

Regulation 5(4) provides that an electricity entity must not clear vegetation beyond the “buffer zone (if any)” and must not clear vegetation “more than is reasonably necessary” for the purposes set out in regulation 5 and “for the purposes of enhancing the appearance and ensuring the stability and health of any remaining vegetation”.

Should “or council” be added after “electricity entity” to ensure that a council (in a prescribed area with the duty under a vegetation clearance scheme agreed or determined under the Act) is similarly prohibited from excessive clearing? Or should councils (with the duty) be free to clear more extensively than the electricity entities are allowed?

Clearance and buffer zones are appropriate terms to detail pruning limits, though they appear to have been misinterpreted in the past by ETSA. This misinterpretation is possibly based on ETSA's limited understanding of horticulture and arboriculture or due to bias resulting from

their aim to minimize costs. It appears that ETSA Utilities clears vegetation to the maximum limit of the buffer zone in many cases when pruning to this extent is not necessary to ensure that the clearance zone is not breached within the scheduled pruning frequency. It is thought that ETSA's sole focus in doing this is cost minimization, which would explain the historical extent of clearance. Suggestions regarding these terms and regulations are discussed below in relation to the schedules.

For consistency with 5(3), 5(4) could be amended to read "*Vegetation must not be cleared beyond the buffer zone ...*" which would by implication include councils (as the heading of reg. 5 states "*electricity entity or council*").

Amend 5(4) to read:

Vegetation must not be cleared-

- (a) beyond the buffer zone (if any) around the powerline
- (b) more than is reasonably necessary ...

Regulation 5(4)(b) appears to create an ambiguity as to whether the need to clear vegetation so that it does not re-grow into the clearance zone, or the purpose of enhancing the appearance and ensuring the stability and health of any remaining vegetation, predominates in the event of an inconsistency.

Should Regulation 5(4)(b) be more explicit as to which purpose prevails in the event of an inconsistency? Does the wording of regulation 9(3) warrant consideration?

The current wording and working of this regulation could be retained but its application could be improved through review of regulation 5(5).

Under the current regulation if pruning to maintain tree health or amenity requires that a buffer zone be exceeded, this may follow if requested by the tree's owner. This maintains for councils the security of the maximum limit imposed by buffer zones but allows for correction of any "exceptions" when exceeding the limit would improve the result. To ensure that this result is achievable, regulation 5(5) could explicitly require that the electricity entity will prune vegetation beyond the 'clearance or buffer zone' if doing so will benefit the amenity of the tree and if it is requested by the Council.

Amend 5(4) to read:

Vegetation must not be cleared-

- (c) beyond the buffer zone (if any) around the powerline
- (d) more than is reasonably necessary ...

Regulation 5(5) allows an electricity entity to clear beyond the limits at the request of the occupier of the land on which the vegetation is situated. Regulation 5(6) makes it clear that this

does not permit more extensive clearance where that would be contrary to another law if carried out by the occupier.

Should “or council” be added after “electricity entity” so as to similarly permit a council (in the prescribed area with the duty under a vegetation clearance scheme, agreed or determined under the Act), to clear more extensively at the request of the occupier of the land where the vegetation is situated? Or should councils (with the duty) not be free to clear more extensively at the request of an occupier than an electricity entity may?

For consistency with 5(3) and 5(4), regulation 5(5) could be amended to read “*However, vegetation will be cleared beyond those limits, if required to maintain tree health, structure or amenity, if requested by the tree’s owner.*” Removing the specific reference to the “electricity entity” would imply that the regulation applies to both ETSA and Council, by virtue of the title of the regulation.

Amend 5(5) to read:

Vegetation will be cleared beyond those limits (5(4)(b)) if required to maintain tree health, structure or amenity if requested in writing by the tree’s owner. The cost of the additional pruning will be met by the electricity entity

Regulation 6 provides for agreements between an occupier of private land and an electricity entity, under which vegetation may be inspected and cleared more frequently than at 3 yearly intervals. Note that the Act does not provide for the transfer of the electricity entity’s duty to keep naturally occurring vegetation clear of private powerlines under the entity’s control; nor does the Act provide for the transfer of the duty of the occupier of private land to keep non-naturally occurring vegetation clear of “private powerlines”.

Agreements under regulation 6 may provide for the occupier to inspect and clear “on behalf of the entity” or may provide for the occupier to pay the electricity entity for more frequent inspections and clearance either under the entity’s duty or the occupier’s. Such agreements are necessarily to be enforced as contracts and the requirement that the agreement must be in writing and executed (signed) by both the entity and the occupier appears worthwhile as it will avoid arguments (where, for example, damage has occurred) about whether the person with the duty can sue the other party in order to meet the liability incurred by the party with the duty.

Should there be an explicit obligation requiring the electricity entity to keep a register of such agreements in order to encourage compliance, both by the electricity entity (where applicable) and by the occupier? Or is such contract management more appropriately left to the self interest of the parties?

It does appear appropriate that a register be established to document such agreements, with copies to be held by the Office of the Technical Regulator to assist with audits of compliance etc..

If suggested changes to reduce the maximum interval of pruning (regulation 5(2)) are adopted, and this applies to vegetation on private property, then the number of agreements under

regulation 6 is likely to be minimal. If this is so, then the most stringent contract management requirements are unlikely to be burdensome.

Regulation 7 provides for vegetation clearance schemes to be agreed between councils and an electricity entity in respect of non-bushfire risk areas that are not within a “prescribed area”. To a very large extent the “factors that should be taken into consideration” in formulating such a scheme mirror the factors that are specified in section 55E of the Act with respect to vegetation clearance schemes when determined by the Technical Regulator within a “prescribed area.” These schemes may not however transfer the duty to a council (and hence there is no possible relief from the obligation to comply with the planting of only permitted species of vegetation).

Given that the factors to be considered are substantially the same as those specified in the Act with respect to the determination of prescribed area vegetation clearance schemes, should these factors remain in the Regulations with respect to schemes to have application outside prescribed areas?

Given current rates of development across the state and nation the importance of urban trees in regional areas is increasing, and as regional towns and cities increase in size they contain larger non-bushfire risk areas. Regulation 7 should therefore be retained.

Although the “factors that should be taken into consideration” are detailed in section 55E of the Act, they should be retained in the regulations. (see also discussion under regulation 5(2) above). This suggestion is made as the requirements under section 55E apply specifically to the resolution of disputes and not to the formulation of a clearance scheme (section 55A) or general principles of pruning (regulation 5).

As discussed under regulation 3A, bushfire risk areas may be best defined in local government authority development plans, following completion of the “**Bushfire Management PAR - Part 3.**”

If amendments to regulation 3A and interpretation (bushfire and non-bushfire risk areas) recommended here are adopted, regulation 7 would become redundant as each local government authority with non-bushfire risk areas would contain prescribed areas for which it could enter into agreements to negotiate vegetation clearance schemes.

Regulation 8 provides the procedure for objections. It comes into operation on 1 September 2007. See the explanation in Appendix 2. From 1 September 2007 the Act as amended will provide for a minimum of 30 days’ written notice of intended entry for clearance purposes, rather than for 60 days. The Regulations also provide that the Technical Regulator, rather than the Minister, is the person empowered to determine objections. The Regulation makes the objection process more efficient, does away with the former two stage procedure of first deciding whether or not to consider the objection and secondly, if it is to be considered, determining the objection. The Technical Regulator will now consider all objections but may “dismiss” an objection for reasons similar to those that previously enabled the Minister to refuse to consider an objection.

The role of the Technical Regulator in determining objections under regulation 8 is appropriate.

Regulation 8 should be expanded to include processes relating to objections regarding vegetation clearance on public land. Provisions should include:

- a process for objection with regard to notification of intention to clear vegetation on public land (see also discussion re regulation 5 – omissions within general principles), by a member of the public or by the agency responsible for managing the vegetation.
- process regarding objections to proposed extent of pruning on public land, including opportunity for review of proposed clearance extent by a suitable independent horticultural/arboricultural authority
- process by which vegetation clearance works on public land may be stopped due to non-compliance with standards or other requirements, including enabling an audit by the Technical Regulator and/or a suitable independent horticultural/arboricultural authority.
- Process to be used by the Technical Regulator in determining a suitable independent horticultural authority to provide relevant horticultural/arboricultural authority.

Most of the above could be achieved by amending 8(1) to read:

- (1) An occupier or owner of private land or an authority responsible for the management of public land may, in reference to an intention to clear vegetation on public or private land, lodge ...

Regarding the appointment of a suitable independent authority to provide relevant horticultural/arboricultural advice, a further sub-regulation could be added as follows:

8(9) Where the objection raised involves matters based on horticultural expertise or opinion, the Technical Regulator will in agreement with the parties appoint a suitable independent authority to provide horticultural advice relevant to determining the objection.

Regulation 9 describes the duty of the occupier of private land to keep vegetation (other than naturally occurring vegetation) clear of any private overhead powerline on the land. In this case an inspection and clearance cycle is not prescribed. Regulation 9(3) requires that such an occupier must not clear more than reasonably necessary to maintain the clearance described in regulation 9(1) or, in any event, beyond the buffer zone around the powerline if the occupier is not otherwise lawfully allowed to clear vegetation⁶.

Any comment? Should an inspection and clearance cycle be prescribed?

No suggestions, no change necessary.

Regulation 10 provides that Schedule 2 sets out requirements for planting and nurturing vegetation near powerlines. Section 55(3) of the Act provides the enforcement mechanism by providing that the electricity entity or council that has the duty may remove offending vegetation

and recover the cost of doing so as a debt from the person by whom the vegetation was planted or nurtured.

Should there be alterations or additions to, or deletions from, Schedule 2?

Taxonomy has been reviewed extensively since the lists were drafted. A taxonomic review of the species listed is necessary to update the lists. The appropriate authority to undertake the taxonomic review would DEH's State Biodiversity Centre at the Adelaide Botanic Gardens.

Some of the species included have become environmental pests in recent decades. The lists should be reviewed by a relevant authority to determine potential pest species; which should then be removed from the lists.

The lists fail to appreciate the biodiversity conservation values and requirements of urban and roadside vegetation. Indigenous vegetation was rarely considered at the time when the list was drafted. South Australia has over 7,000 indigenous plant species, most of which could be included into the existing lists of plants with expected mature heights of less than 3m and between 3 and 6m. A suitable authority should be appointed to determine the appropriate listing for South Australia's indigenous species; they should then be incorporated into the lists. Given the number of species this is likely to be a lengthy process.

Alternatively, a covering statement could be added to the lists to exempt indigenous vegetation where the majority of existing mature examples at the planting site demonstrate suitable mature heights of less than two metres, between two and three metres, or between three and six metres.

Regulation 11 provides limited power for the Technical Regulator to grant limited exemptions. From 1 September 2007 it will be an expiable offence for a person granted such an exemption not to comply with its terms, providing an additional mechanism for enforcing compliance with the terms of an exemption. The limited nature of this power to grant exemption appears consistent with the policy position expressed in section 55A(3) of the Act (which applies whether the terms of a vegetation clearance scheme are agreed between the parties or whether its terms are determined by the Technical Regulator).

Is the Technical Regulator's power of exemption appropriate?

Though the powers appear appropriate, the few exemptions granted in recent years are unworkable in any practical sense or through the conditions attached result in potential cost shifting from the private sector (ETSA) to local government (see discussion below regarding prescribed distances). If indigenous species are included in the lists then applications for exemptions are likely to be few.

Schedule 1 sets out in diagrams and tables the clearance and buffer zones around overhead powerlines.

Part A specifies the clearance zones applicable around overhead powerlines on "**public land**", as defined in regulation 3, in the **non-bushfire risk areas**. The diagrams define the extent of the clearance zone and indicate the amount of required trimming to allow for a 3 year re-growth

period. In particular, they indicate the permissible height of mature trees that would not require trimming.

These clearances detailed in Part A are adequate with respect to insulated conductors (diagrams A and B). No change is recommended. There is no detail within the schedule relating to extent of pruning required for regrowth within defined pruning periods. If the pruning period is reduced as recommended previously in this submission then the required pruning distances to allow for movement and/or regrowth (regulation 5(3)) could be minimized.

The clearances shown in Part A diagram C apply to the 11kV lines in metropolitan area, which ETSA in its submission has implied present a low risk. This being the case, the clearances listed in Schedule 1 Table 1 for 11kV lines are excessive for non-bushfire risk areas and should be reduced, particularly if annual inspection and clearance is adopted. Suitable vertical and horizontal clearances for 11kV, metropolitan/non-bushfire risk area lines on spans of 0-50 metres might be 0.5m, for spans of 50-100m clearances might be 1m.

The 100mm clearance requirement around low voltage bare conductors in non-bushfire risk areas is appropriate. This clearance should not be increased as further pruning is allowed to ensure regrowth and movement of foliage due does not become problematic.

Amend Part A by altering the title to read as follows:

Part A – Clearance zone around overhead powerlines on public and private land in a non-bushfire risk area.

Then delete Part B.

Part B specifies the clearance and buffer zones around powerlines on **private land** in the **non-bushfire risk areas**. The diagrams define the extent of the clearance and buffer zones. In the case of “private powerlines” on private land, the trimming of non-naturally occurring vegetation is the land owner’s responsibility: such trees may grow into the buffer zone and a 3 year cycle does not apply. The land owner may trim the trees as frequently as desired, so long as no part of the tree enters, or in wind. will bend into, the clearance zone.

Application of buffer zones on private land but not on public land in non-bushfire risk areas unnecessarily complicates clearance issues. Risk related to static infrastructure does not vary in relation to changing ownership. ETSA’s submission details the low-risk nature of powerlines in non-bushfire risk areas, so Part A could apply equally well to clearances on public and private land. Part B is unnecessary and should be deleted and Part A should be modified to read “Part A – Clearance zone around overhead powerlines on public and private land in a non-bushfire risk area”.

Part C specifies the clearance and buffer zones around powerlines in the **bushfire risk areas**. The amendments (see clauses 6(15)-(28) of Variation Regulations) clarify and correct the former diagrams and notes in Part C.

If increased frequency of pruning (annual or 18 month cycles) is required through regulatory change, then reduced buffer zones should be considered in regard to lower voltages (11,000V or less) in bushfire risk areas.

In Table 1, separate the bottom row of the table into two rows, one row being for clearances with respect to 7.6kV and 11kV conductors in non-bushfire risk areas and one row being for clearances with respect to 7.6kV and 11kV conductors in bushfire risk areas, as follows:

	All spans	0-50m		Over 50-100m		Over 100-150m		Over 150-200m		Over 200m	
	P	V	H	V	H	V	H	V	H	V	H
Low voltage(240, 415, 480v) in bushfire risk areas only	0.5	1.0	1.5	2.5	1.5	3.5	-	-	-	-	-
7.6kV and 11kV in non-bushfire risk areas	0.5	0.5	0.5	0.75	1.5	1.5	2.0	-	-	-	-
7.6kV and 11kV in bushfire risk areas	0.5	1.5	1.5	2.0	2.5	2.5	3.5	2.5	4.5	2.5	6.0

In Part C, reduce the buffer zone distances in diagram B from 2.0m to 1.0m (in view of reduced pruning frequency from 3 years to 1 year).

Schedule 2 sets out requirements with respect to the planting or nurturing of vegetation near public powerlines, including what are, for the purposes of the Schedule, “exempt vegetation” and “prescribed distances” with respect to various voltage powerlines. Schedule 2 includes two tables listing vegetation species that may be planted in proximity to certain public powerlines.

TREENET believes the current lists of species in Tables 2 and 3 of Schedule 2 require comprehensive and significant review. Such a review would require broad consultation with the various industry groups and other stakeholders. TREENET is prepared to place its resources and existing capacity to undertake such a review at your disposal.

With regard to the Tables,

- Taxonomy has developed considerably since they were prepared. A review of taxonomy is required and species names should be updated as required.
- The Tables do not include sufficient indigenous plants. Most of South Australia’s 7,000 indigenous species could translate directly into “exempt vegetation” (mature height of less than 2m), into Table 2 (trees with mature height of less than 3m), or Table 3 (trees with a mature height between 3 and 6 metres). An independent body should be engaged to define and categorise the expected mature heights of indigenous species so that they

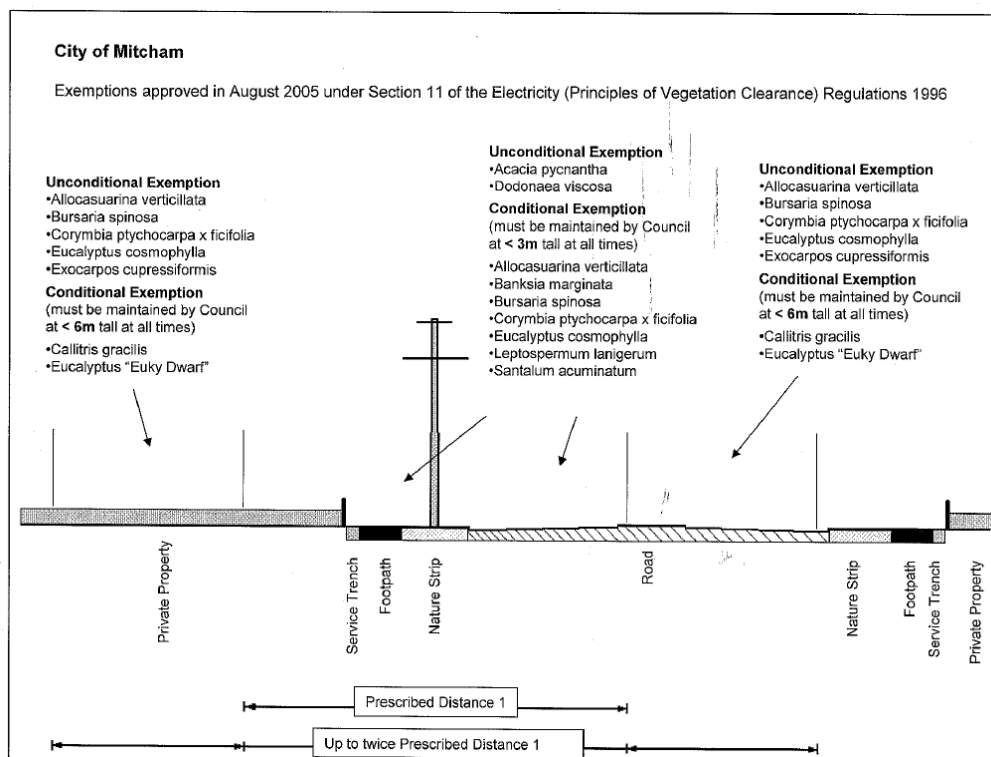
can be included into the existing lists. Alternatively, a covering statement concerning the demonstrated suitability of local species of appropriate heights might be considered. Indigenous species with structural characteristics which lend them to training around powerlines, such as the Grey box (*Eucalyptus microcarpa*) of the western Mt Lofty Ranges, should be listed for planting to enable councils to maintain the character and amenity of their areas, otherwise the regulations over time will favour a private business entity (ETSA) at the expense of the community who value their environment.

- Some of the species in the Tables are of concern with regard to environmental invasiveness and weed potential. A suitable authority should be consulted to review the Tables with regard to weed potential.
- Councils have through experience identified many species which under their local conditions appear to mature at suitable heights, these species should be listed.

With regard to prescribed distances

The prescribed distances listed in Schedule 2 also require review as they are heavily biased in favor of the electricity entity (to minimize costs into the long term) and do not give enough weighting to the community value of trees.

Prescribed distances have been used in the past to effectively negate the opportunity provided by exemptions under regulation 11. One example of an exemption granted to the City of Mitcham is summarized in the image below. The conditions of the exemption restricted most of the planting to more than one but less than two times the prescribed distance, which effectively restricted planting by council to private front gardens and bitumen road surfaces, or burdened Council with maintaining the vegetation at less than 3m in height (effectively requiring a 3m clearance zone around the conductors). Clearly this is unworkable. This represents cost shifting from private business to local government.



Many native and indigenous tree species have structures and growth habits which lend themselves to being trained around powerlines and which, once established, require little ongoing clearance pruning. Planting of these species should be permitted within prescribed distances.

Excluding the planting of such species within the prescribed areas prevents the community from enjoying the financial and other benefits which such vegetation could provide. Similarly, these restrictions preclude the replacement of indigenous vegetation which is ageing and being removed. Countless examples of mature tall trees growing within prescribed distances of powerlines but which never or no longer encroach into clearance zones demonstrate that current restrictions on planting are counterproductive when broader community issues are considered. Restricting vegetation within these prescribed distances, for the benefit of a private company and at the expense of the community, is undesirable.

Amend 3 under exempt vegetation to read as follows:

(a) vegetation (such as any indigenous plants, small plants that produce flowers or vegetables, groundcovers, cereal crops or small bushes or shrubs) with an expected mature height of less than two metres;

Amend 3 under prescribed distance as follows:

Before (a) add

“in the case of a powerline with fully insulated conductors, and powerlines constructed to operate at low voltage (480V or less), the prescribed distance is 2.0 metres.”

Amend Table 2 to read as follows:

Table 2- Vegetation with an expected mature height of 3 metres or less that may be planted in proximity to certain public powerlines

Any indigenous plant of a species of which the majority of mature examples growing in the local area are observed to have achieved a mature height of between two and three metres, and :

<insert list>

Amend Table 3 to read as follows:

Table 3- Vegetation with an expected mature height of more than 3 metres but not more than 6 metres, and trees which can be formatively pruned around powerlines, that may be planted in proximity to certain public powerlines

1. Any indigenous plant of a species of which the majority of mature examples growing in the local area are observed to have achieved a mature height of more than 3 metres but not more than 6 metres, or

2. Any indigenous plant of a species of which the majority of mature examples growing in the local area and in close proximity to powerlines have demonstrated that they can be formatively pruned around the lines and so maintained outside of clearance zones with minimal or no pruning.

<insert list>

Schedule 2A comprises maps showing “prescribed areas” for the purpose of “vegetation clearance schemes” under Division 2 of Part 5 of the Act.

Is there a need for any changes?

The maps as contained in the regulations are unable to keep pace with the rate of development across the state. Prescribed areas should be redefined in accordance with bushfire risk areas as detailed in local government development plans.

Schedule 3 comprises maps showing bushfire risk areas, including in the metropolitan area and in 131 regional and township areas. Three new revised maps have been proposed by ETSA Utilities.

Is there a need for any further changes?

The maps as contained in the regulations are unable to keep pace with the rate of development across the state. Prescribed areas should be redefined in accordance with bushfire risk areas as detailed in local government development plans.