10.2 Vegetation Management and Weed Control in Substations

Purpose
This instruction outlines the minimum safe working requirements for all Horizon Power Workers undertaking:

- Vegetation management work near live and/or de-energised conductors in and around transmission substations.
- Weed control in transmission substations.

Note: This instruction must be read in conjunction with FI 4.3 Substation Clearances, in this manual.
If doing any vegetation management work (not weed control), this instruction must also be read in conjunction with Section 10 Vegetation, in the Horizonpower Instruction Manual.

Scope
This instruction applies to all Horizon Power Workers, including Workers operating, and including Workers operating, servicing, and/or maintaining (MPS) Micro Power Systems electrical equipment (inclusive of all generating methodologies) that are required to undertake weed control in Horizon Power Transmission Sub Stations.

Safety
Before commencement of work, a risk assessment must be carried out using the Risk Analysis Procedure (OSH-3.6-1-02), to identify and document the hazards and risks associated with the task and ensure appropriate control measures are implemented.

It is important that, appropriate control measures must be identified, documented and implemented in order to control hazards to As Low as Reasonable Practicable (ALARP).

The risk assessment must consider the site conditions, personnel safety, materials, mobile plant, permits, tools and equipment.

Clothing and personal protective equipment (PPE) appropriate to the task and location must be worn. For vegetation management work in transmission substations, the minimum PPE is level 1, see FI 2.6 Worksite Clothing / Personal Protective Equipment Requirements.

Depending on the situation, ensure that you consider the use of temporary barriers and signs, see FI 2.15 Temporary Barriers and Signs and/or Warning Signs

Comply with all general safety requirements of FI 10.2 Vegetation Management and Weed Control in Substations.

If the task requires the use of an elevated work platform (EWP), all requirements must be applied, see FI 2.7 Safety Requirements When Working from a EWP.
**Safety observer**
A safety observer must be appointed when carrying out vegetation management inside the compound of the transmission substations.

For details on safety observers, including their training requirements, see:

   FI 2.27 Safety Observer Role
   Code of Practice for Personnel Electrical Safety for Vegetation Control Work near Live Power lines (July 2012)

**Training**
The minimum requirements to do these tasks are listed below.

**Weed control**
Successfully complete Substation Entry Level 1 (re-assessed two-yearly). For more on this, see FI 4.1 Substation Entry Requirements

Possess a Horizon Power Authorisation Card issued by Horizon Power. For more on this, see FI 1.3 Construction Site Access Minimum Requirements

**Vegetation management**
In addition to meeting the requirements for being able to carry out weed control, anyone doing vegetation management work inside of the substation compound must either:

- Meet the specific training requirements for a High Voltage vegetation management worker as stated in the Code of Practice for Personnel Electrical Safety for Vegetation Control Work near Live Power lines (July 2012)
- Be a Cert. III (or equivalent) qualified line worker

**Instruction**
All cut vegetation must be removed from site

**Inside the Substation**
Vegetation management in substations differs from vegetation management near overhead power lines. Substation clearances must be adhered to when working in substations. For more on this, see the following tables in FI 4.3 Substation Clearances

- Table 1: Safety Clearances for U<sub>m</sub> less than 245 kV
- Table 2: Safety Clearances for U<sub>m</sub> greater than 245 kV.

Never breach the section (S) safety clearance when inside a substation unless covered under a permit. The applicable permits are described in Table 1 - Substation Clearances and Permits, below.
Table 1 – Substation Clearances and Permits

<table>
<thead>
<tr>
<th>Clearance</th>
<th>Permit Required</th>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than work safety clearances vertical and horizontal (V or H)</td>
<td>Electrical Access Permit (EAP)</td>
<td>Apparatus must be isolated and earthed</td>
</tr>
<tr>
<td>Between V or H and S</td>
<td>Vicinity Authority (VA)</td>
<td>-</td>
</tr>
<tr>
<td>Greater than S</td>
<td>No permit required</td>
<td>-</td>
</tr>
</tbody>
</table>

**Weed control**

Use Glyphosate weed killer to retard growth.

**Vegetation management**

Cut down all vegetation.

**Outside the Substation**

*Note:* When vegetation is cut outside of the substation fence, all safety and minimum approach distance requirements of Section 10 Vegetation Management Work, in the Horizonpower Instruction Manual must be adhered to.

**Vegetation Management**

A minimum three metre gap must be maintained between vegetation and the substation boundary (e.g. fence).

The vegetation must be cut back to a distance so that it cannot be climbed and used to access the substation.

Lower tree branches must be pruned at least two metres off the ground to stop surface fires spreading to trees.

**References**

- Occupational Safety & Heath Act 1984
- Occupational Safety & Health Regulations 1996
- Field Instruction 2.6 Worksite Clothing / Personal Protective Equipment Requirements
- Field Instruction 2.15 Temporary Barriers and Signs and / or Warning Signs
- Field Instruction 2.23 Job Hazard and Risk Management (JRA)
- Field Instruction 2.27 Safety Observer Role
- Field Instruction 4.1 Substation Entry Requirements
- Field Instruction 4.3 Substations Clearances
- Code of Practice for Personnel Electrical Safety for Vegetation Control Work near Live Power lines (July 2012)