



PART B-09: INSPECTION AND SUPPLEMENTARY TREATMENT OF WOODEN POLES

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## 1. SCOPE

This document provides a guide for the inspection and supplementary treatment of wooden poles.

## 2. GENERAL REQUIREMENTS

### 2.1 Responsibilities

The relevant Responsible Person appointed in terms of the Labour Act should be responsible for ensuring that the correct inspection techniques and pole repairs as a result of the inspections are undertaken.

The Maintenance Manager/ Maintenance Engineer should be responsible to ensure that the areas under him keep records of the inspection after completion of the inspection.

### 2.2 Inspection

#### 2.2.1 *Planned inspection program*

The purpose of a planned inspection program is:

- a) To identify unserviceable poles in the system,
- b) To identify poles where fungal and termite attack has occurred.
- c) A cycle whereby remedial treatment is internally applied (or externally if required) to the pole to extend the life of the pole.
- d) To identify poles that can be stubbed.
- e) To identify poles that must be replaced with new poles.

#### 2.2.2 *Excavation at a pole*

The soil should be removed around all poles to a depth of 250mm to enable an inspection and assessment to be made on the physical state of the pole below the ground.

Remove the soil that is stuck to the pole by cleaning the exposed area with a wire brush, taking care not to remove any existing external degradation that still has to be assessed.

#### 2.2.3 *Above ground visual inspection*

Inspect the pole above the ground line and record the following information for each pole inspected:

- a) The pole manufacturers name, or code;
- b) The year the pole was manufactured;

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- c) The specie of the pole, e.g. (E55, E75 or P55; E for Eucalyptus , and P for Pine ; 55Mpa Ultimate Stress)
- d) Whether the pole was kiln or air dried (where indicated)
- e) The length of the pole if indicated on the pole tag;
- f) Any lightning damage
- g) Infestation or activity from termite mud deposits on the pole or within splits or cracks on the pole.
- h) Cracks on the pole;
- i) Any poles leaning how many degrees
- j) Any decay visible above or below the ground level;
- k) Any pole twisting (slight, medium or great); this is the degree the pole top has twisted in relation to the line of conductors (slight = up to 10°, medium = 10° to 20°, great = 20 ° to 50°);
- l) The compaction of the soil around the pole.
- m) Damage to stays or stay wires.
- n) Mechanical damage to the pole in any way.
- o) Woodpecker damage on the pole.

**2.2.4 External inspection of ground-line region**

This is a critical area and it should be thoroughly inspected in accordance with the following:

- a) A check scraper should be used to probe for external decay pockets and/or shell rot.
- b) All the soil and/or decayed wood on or in the cracks or voids should be scraped off
- c) During this process carefully examine the surrounding soil and pole surface for evidence of any termite activity. Termites or termite tunnels/galleries can exist either in the soil or along the pole surface. Often termites will be visible, but will quickly disperse when exposed to sunlight.
- d) Any external decay should be measured by the depth of the decay determined by probing any decay pockets.

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- e) Information regarding external decay or termites should be recorded.

**2.2.5 Inspection of wooden poles**

- a) A qualified inspector should inspect all poles even if they appear to be in a good condition.
- b) The first inspection of a line should be done not later than 10 years after the line was first commissioned. The line should then be re-inspected every 10 years thereafter. In certain areas it may be necessary to inspect the poles on a more frequent cycle due to severe fungal attack or termite infestation in the area; this will be determined by the regions concerned.
- c) All poles in a line should be inspected; an internal chemical should be applied to all serviceable poles.
- d) An approved external chemical should be applied to the pole below the ground line when shell rot is present if not deemed to be rejected.
- e) The inspection and test procedures detailed in 2.2, 2.3 or 2.4 and 2.6 should be used to determine the extent of degradation and whether a pole is sound, serviceable or unsound.
- f) Poles should be assessed as being sound, serviceable or unsound in accordance with 2.6.
- g) A pole that is assessed as being sound, serviceable or unsound (rejected) should be marked in accordance with 2.8.
- h) The results of each inspection should be recorded in a line pole inspection report, or whatever other requirement is needed for the region. An inspection report should also be written for each line inspected and presented to the region after the completion of the allocated work.

**2.2.6 Inspection of poles with cable**

All poles with cables attached should be excavated according to 2.2.3. For poles 10m and longer the excavation depth is to be 250mm.

Extreme care should be taken when excavating around the pole to ensure the cable is not damaged. The pole should be classified as per 2.6.

The contractor is to take full responsibility for any damage to any cable above or below the ground at inspected poles.

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**Notes:**

- 1) *Although the cable entry into the soil might be at one place, the cable might coil below the soil at varying depths and positions.*
- 2) *Extreme care should be exercised at H pole structures where cables come down one pole as the cable might pass the other pole of the H pole structure.*

### **2.3 Inspection procedure of wooden poles**

- a) Drill two 12mm diameter inspection holes. One hole drilled at the ground line and one at 200mm below the ground line. Drill the holes diagonally opposite to each other as per **Annex B1**. The holes should be drilled at 45° to the horizontal. Drilling should be directed towards the centre of the pole to at least half the diameter of the pole.
- b) For poles classified as class 3 which will be stubbed, an additional inspection hole is to be drilled 300mm above the ground line. The hole should be drilled at 45° to the horizontal. Drilling should be directed towards the centre of the pole to at least half the diameter of the pole. (see **Annex B2**)
- c) Carefully monitor the conditions during drilling and examine the characteristics of wood shavings for evidence of decay or termites. Signs of decay include a change in resistance to drilling or the colour of shavings, a lack of fibre texture or a mushroom type smell associated with the shavings. Shavings could also contain either live termites or mud from their workings.
- d) Using the shell thickness indicator probe the hole for signs of decay and termites. Record the findings.
- e) Where applicable measure the thickness of the remaining wood (outer shell) and record the measurement.
- f) Poles with external decay, excavate to below the shell rot and inspect, drill one inspection hole at the position where the deepest damage occurs and proceed according to 2.3.a, record the findings.

### **2.4 Inspection of poles on the second 10 year cycle**

The existing treatment holes are to be opened and two new approved chemical rods are to be inserted into each hole and the holes plugged with a removable plastic plug. No additional treatment holes should be drilled.

The existing inspection holes are to be re-opened and inspected, insert one approved chemical rod into each of the inspection holes and plug with a removable plastic plug.

The inspection label for this inspection as per section 2.8 should be placed next to the existing inspection label.

## 2.5 Wooden pole classification

### 2.5.1 Classification

After inspection classify the poles using the following criteria.

#### 2.5.1.1 Class 1 (Sound poles)

Class 1 poles are classified as poles where insect damage or decay of any sort; internal or external degradation of any form are not apparent. Cracks in the air/ground-line area should not exceed 15mm in width.

#### 2.5.1.2 Class 2 Pole

Class 3 poles are classified as poles that have areas of biological degradation or have physical damage of such a nature that the pole can still be considered serviceable. Damage should be measured in accordance with the following criteria:

- a) Internal decay of the wood shell thickness should be greater than 70mm around the pole,
- b) External decay not exceeding 5mm in depth and affecting less than half the circumference of the pole.
- c) Mechanical, fire or lightning damage not exceeding 10mm in depth;
- d) Individual cracks that are more than 15mm but do not exceed 20mm in width.

#### 2.5.1.3 Class 3 Pole

Stubbing of a pole should be done when the ground line area of the pole has been destroyed to the point where it is no longer safe, but the upper portion can still support existing or expected maximum loads.

All class 3 poles to either be stubbed or replaced, once the stubbing contractor is complete the pole should be classified as a class 2 pole and be marked such by the stubbing contractor.

Use the following criteria to identify poles that have air/ground line deterioration to such an extent that the pole cannot be considered functional without stubbing:

- a) Poles where the wood shell thickness should be greater than 40mm but less than 70mm,
- b) Poles with external decay not exceeding 10mm in depth provided that there is a wood shell of at least 40mm at the point of external decay.
- c) Poles with mechanical or fire damage in the air/ground-line area penetrating not more than 10mm provided that there is a wood shell of at least 40mm at the point of damage.



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- d) Poles with cracks at the air ground-line which exceed 15mm but less than 20mm in width.

**NOTES:**

- 1) All class 3 poles that are not stubbed are to be classified as a class 4 pole
- 2) Poles with any termite activity to be classified as a class 4 pole and replaced.

**NOTE: Class 3 Poles to be stubbed**

*For poles that will be stubbed, drill an additional inspection hole with a 300mm diameter; above the ground-line at 45° to the horizontal. Probe the hole. If no sign of termite activity or wood rot is found 300mm above the ground line then mark the pole as per 2.8.2 to be stubbed. Once stubbing is complete the pole should be classified as a class 2 pole in the case where there is decay or termite activity (dead or alive) at the point of inspection, the pole is to be classified as a class 4 and replaced and marked as per 2.8.3.*

**2.5.1.4 Class 4 pole**

Use the following criteria to identify poles that are to be classified as class 4.

- a) Poles with excessive cracks (cracks wider than 25mm in the air / ground line area), Poles with individual cracks wider than 35mm should not be stubbed.
- b) Poles where termites are active.
- c) Poles where the wood shell thickness is less than 40mm around the pole.
- d) Poles where there is any internal decay as determined by the inspection hole drilled at 300mm above the natural ground line. (**Note:** *drilling an additional inspection hole clause 2.3 b)*

**Note:** *A class 4 pole may be stubbed with an appropriate approved stubbing system for class 4 poles (as approved by and ECB chosen institution) provided that clause b above are not present and provided that there is a minimum shell thickness of 40mm 300mm above the ground line.*

**2.6 Required action resulting from pole classification**

All poles on completion of the inspection should be compacted in 150mm layers no matter what class the pole is or whether the pole will be replaced or stubbed.

**2.6.1 Required action for poles 10m and longer (see clause 2.3)**

**2.6.1.1 Class 1 Pole**

- a) The two inspection holes drilled are to have **one chemical rod** inserted into each inspection hole (chemical approved in terms of **Annex C**) on completion of the inspection, pushed down to the bottom of the hole, plug the hole with a removable plastic plug. (See clause 2.3. for inspection holes).

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- b) Drill three treatment holes evenly spaced around the circumference of the pole. These treatment holes are to be drilled at 50mm above the ground-line at 20° to a vertical. They are to be drilled to a depth of 250mm into the pole. Insert two chemical rods (approved in terms of **Annex C**) into each hole and push them down to the bottom. Plug the hole with a removable plastic plug.

**2.6.1.2 Class 2 Pole**

- a) The two inspection holes drilled are to have **one chemical rod** inserted into each hole (chemical approved in terms of **Annex C**) on completion of the inspection and pushed down to the bottom of the hole, plug the hole with a removable plastic plug. (see clause 2.3. for inspection holes);
- b) Drill three treatment holes evenly spaced around the circumference of the pole. These treatment holes are to be drilled at 50mm above the ground-line at 20° to a vertical. They are to be drilled to a depth of 250mm into the pole. Insert two chemical rods (approved in terms of **Annex C**) into each hole and push them down to the bottom. Plug the hole with a removable plastic plug.
- c) Poles with external decay below ground-line (not deemed to be rejected) should be remedially treated externally with an approved chemical (see **Annex C**) from the air/ground-line to 250mm below the ground line. The quantity and method of chemical applied should be in accordance with the manufacturer's specification and as tested in research as per **Annex C**. The chemical applied needs to have an impervious plastic shield around the chemical to prevent the chemical permeating into the surrounding soil.

**2.6.1.3 Class 3 Pole**

- a) The two inspection holes drilled are to have one chemical rod inserted into each inspection hole (chemical approved in terms of **Annex C**) on completion of the inspection and pushed down to the bottom of the hole. The inspection hole is to be plugged with a removable plastic plug (see clause 2.3 for inspection holes);
- b) Poles that will be stubbed should have three chemical treatment holes evenly spaced around the circumference of the pole 300mm above the ground-line. These are to be drilled at 20° to the vertical to a depth of 250mm into the pole. Insert two chemical rods (approved in terms of **Annex C**) into each hole and push them down to the bottom. Plug the hole with a removable plastic plug;
- c) Poles with external decay below ground-line should be remedially treated externally with an approved chemical (see **Annex C**) from the ground-line to 250mm below the ground-line. The quantity and method of chemical applied should be in accordance with the manufacturer's specification and as tested in research as per **Annex C**. Once the chemical is applied to the pole externally, an impervious shield needs to be wrapped around the chemical to ensure that the chemical will not penetrate the surrounding soil;

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A class 4 pole may be stubbed with an appropriate approved stubbing system for class 4 poles provided clause 4.6.1.4 is met besides that the shell thickness which may be 25mm.

- d) Poles that will be stubbed should have one inspection hole drilled at 300mm above the ground-line at 45° to the horizontal to determine if there is any rot or termite activity. This inspection holes is to have one chemical rod inserted into each inspection hole (chemical approved in terms of **Annex C**) on completion of the inspection and pushed down to the bottom of the hole.

Then the hole is closed with a removable plastic plug. (See clause 2.3 for inspection holes). If there is any decay or termite activity (dead or alive) at this level the pole should be classified as a class 4 pole and be replaced; and

- e) Poles that will not be stubbed as a result of the licensee's policy should be classified as a class 4 pole and replaced.

NOTES:

1. *If Stubbing is done, it is to be done within 9 months of the report sheets being received.*
2. *Licensees that choose to replace wooden poles rather than stub them should do the process within 9 months of receiving the report sheets.*
3. *All stubbed class three poles should be re-inspected within a 10 year cycle.*
4. *For H pole structures, any single pole deemed a class 3 should make the structure a class 3 until the class 3 pole is stubbed or replaced.*

**2.6.1.4 Class 4 poles to be stubbed**

Poles that will be stubbed with a class 4 type stub should have one inspection hole drilled at 400mm above the ground-line at 45° to the horizontal to determine if there is any rot or termite activity. This inspection holes are to have one chemical rod inserted into each inspection hole (chemical approved in terms of **Annex C**) on completion of the inspection and pushed down to the bottom of the hole, then close the hole with a removable plastic plug. (See clause 2.3 for inspection holes). If there is any decay or termite activity (dead or alive) at this level the pole should be replaced.

Class 4 Poles that will be stubbed with a class 4 type stub should have three chemical treatment holes evenly spaced around the circumference of the pole 300mm above the ground-line (as per **Annex C**). These are to be drilled at 20° to the vertical to a depth of 250mm into the pole. Insert two chemical rods (approved in terms of **Annex C**) into each hole and push them down to the bottom. Plug the hole with a removable plastic plug.

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**2.6.1.5 Class 4 poles to be stubbed are to be stubbed within six months of being identified. Class 3 and 4 poles**

All class 3 and 4 poles are to be replaced within nine months of being inspected.

## **2.7 Marking after inspection**

Each pole should be legibly and indelibly marked at a position 1.8m above the ground-line, vertically in line with the pole number, in one of the following ways: All markings and tags should remain on the pole and not be removed.

### **2.7.1 Class 1 and 2 poles (Serviceable Poles)**

A round aluminium or galvanised steel tag should be used. The tag should be between 25mm and 30mm in diameter. The tag should have a hole in the middle of the tag to facilitate attachment. The tag should be attached with a 15mm galvanized nail.

The tag should bear the following information:

- a) **“Treated Int./ Approved Chemical”** (e.g. **“Treated Int /PS”**) (Meaning Treated internally with approved rods)
- b) The trade name or trade mark of the contractor that did the inspection; eg. **“XYZ inspectors”**
- c) the month and year in which the inspection took place e.g. 02/2010 ; and
- d) The class of pole for example “class 2” or “Class 1”

### **2.7.2 Class 3 poles**

A square aluminium or galvanised steel tag should be used whether the pole will be replaced. The tag should have sides between 25 and 30mm. The tag should have a hole in the middle of the tag to facilitate attachment. The tag should be attached with a 15mm galvanized nail. The tag should bear the following information:

- a) The words **“Treated”**
- b) The trade name or trade mark of the contractor that did the inspection; e.g. **“XYZ inspectors”**
- c) The month and year in which the inspection took place e.g. 02/2010; and
- d) The class of pole **“class 3”**.

### **2.7.3 Poles to be replaced**

One white line, 50mm wide, should be painted horizontally around the pole, with an oil-based or acrylic paint. The line should be +/- 1.9m above the ground-line. This is to indicate that the pole

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must be replaced. (The white line not to be painted over the pole label or pole number but just above)

**2.7.4 Poles to be stubbed**

One white line, 50mm wide, should be painted horizontally around the pole, with an oil-based or acrylic paint. The line should be +/- 1.9m above the ground-line. This is to indicate that the pole must be replaced. (The white line not to be painted over the pole label or pole number but just above)

**2.7.4.1 Class 3 pole to be stubbed**

A square aluminium or galvanised steel tag should be used whether the pole will be stubbed. The tag should have sides between 25 and 30mm. The tag should have a hole in the middle of the tag to facilitate attachment. The tag should be attached with a 15mm galvanized nail. All original markings and tags should remain on the pole. This tag is over and above the initial inspection tag in 4.8.2. The stubbing tag should bear the following information:

- a) The words “**Reject** ” or “**Stubbed**”
- b) The trade name or trade mark of the contractor that did the inspection; e.g. “**XYZ inspectors**”
- c) The month and year in which the inspection took place e.g. 02/2010; and
- d) The class of pole “**class 3**”.

**2.7.5 Class 4 poles**

A square aluminium or galvanised steel tag should be applied to each pole whether the pole will be replaced or stubbed. The aluminium tag should have side of between 25 to 30mm. The tag should have a hole in the middle of the tag to facilitate attachment. The tag should be attached with a 15mm galvanized nail. All original markings and tags should remain on the pole. The tag should bear the following information:

Two white lines, 50mm wide, should be painted horizontally around the pole, with an oil-based or acrylic paint. The line should be +/- 1.9 m above the ground-line. This is to indicate that the pole must be replaced or stubbed. (The white lines not to be painted over the pole label or pole number but just above)

- a) The word “**Reject** “ or “**Stubbed**” (depending on regions requirement)
- b) Trade name or trade mark of the contractor that did the inspection; e.g. “**XYZ inspectors**”
- c) The year and month in which the inspection took place e.g. 02/2010
- d) The class of pole “**class 4**”.

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**2.7.5.1 Class 4 Poles to be replaced.**

All class 4 poles to be replaced within 6 months of the inspection.

**2.7.5.2 Class 4 Poles to be stubbed.**

A square aluminium or galvanised steel tag should be applied to each pole after stubbing (this is over and above the initial inspection tag as per 2.8.3. The aluminium tag should have side of between 25 to 30mm.

The tag should have a hole in the middle of the tag to facilitate attachment. The tag should be attached with a 15mm galvanized nail. This stubbing tag is over and above the initial inspection tag in 2.8.3. All original markings and tags should remain on the pole. The tag should bear the following information:

- a) The word “**Stubbed**”
- b) Trade name or trade mark of the contractor that did the inspection; e.g. “**XYZ inspectors**”
- c) The year and month in which the inspection took place e.g. 02/2010
- d) The class of pole “class 2”.

Class 4 Poles to be stubbed should be stubbed with an approved class 4 stub system, the pole is to be treated as per 2.7.1.5 and marked as per 2.8.3. These poles should be marked as a class 2 pole once stubbed with the appropriate label by the stubbing contractor on completion of the stubbing, the original label to remain on the pole.

**2.7.6 Poles Treated with External Treatment.**

Poles treated for shell rot with external treatment should also be marked with an additional label. The aluminium or galvanized steel tag should be round and be between 25 and 30 mm in diameter. The tag should have a hole in the middle of the tag to facilitate attachment. The tag should be attached with a 15mm galvanized nail; it should be attached horizontal to the other inspection label being 50mm from it. All original markings and tags should remain on the pole. The tag should bear the following information:

- a) The words “**Treated Ext / Chemical applied**”(e.g. “Treated ext / Rem”) (meaning treated externally with approved chemical)
- b) The trade name or trade mark of the contractor that did the inspection; e.g. “**XYZ inspectors**”
- c) The month and year in which the chemical was applied e.g. 02/2010; and
- d) The class of pole e.g. “class 3”.

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## 2.8 Restoration of the inspection area

After the inspection and remedial treatment is completed the area around each pole should be restored, using the following procedure:

- a) Backfilling should be done by replacing the excavated material in 150mm layers and compacting the soil by ramming the soil with a stamper, taking care that cables are not damaged. The minimum weight of the stamper should be 10kg. Vegetation matter should not be included in the backfilling.
- b) The area surrounding the pole should be left in a clean and orderly state and all debris should be removed from the site.

## 2.9 Recording

Full details of every inspected pole in the utility line should be recorded on line pole inspection report forms.

A copy of the reports concerned and a summary sheet of the line should be given to the person concerned as indicated in the contract. The contractor should keep a copy of the records for a period of 12 years.

## 2.10 Stubbing of class 3 poles

### 2.10.1 Single and H pole structures

All stub systems should be planted as per suppliers specification and be perpendicular to the line of conductors in the case for suspension (intermediate) structures and for terminal structures. For strain structures the stubs should be planted in line with the bisector stay of the structure.

A class 3 pole that is to be stubbed should be stubbed within **nine months** after the inspection date.

## 2.11 Inspection and treatment of Strut Wooden poles

Drill one 12mm inspection hole at 20° to the vertical at ground-line and probe for deterioration. Reject poles with less than 60mm shell thickness. Insert one chemical rod into the inspection hole and plug with a removable plastic plug. Paint one white paint line 50mm wide at 1.8m above the ground line on all rejected poles

Drill two treatment holes either side of the pole. These treatment holes are to be drilled at 20° to a length of the pole. They are to be drilled to a depth of 250mm into the pole. Insert two chemical rods (approved in terms of **Annex C**) into each hole and push them down to the bottom. Plug the hole with a removable plastic plug.

**Annex A- Agreements between the client and the contractor**

(Normative)

The following should be agreed upon, in writing, between the client and the contractor carrying out the inspections and supplemental treatment:

1. Unless otherwise agreed, the stubbing and or replacement of unsound poles should be the responsibility of the client.
2. Whether class 3 poles will be stubbed or classified as class 4 poles and replaced.
3. The contractor to submit his quality policy and plan, including an internal auditing procedure.
4. Where the inspection sheets and summary reports are to be handed in.
5. On completion of a line inspection, the contractor to supply a copy of the inspection sheets in electronic format and a summary report of the line inspection. These reports should be handed in to the relevant persons one week after the completion of a section of the line or sections of the line as defined by the numerical pole numbering. .
6. Whether class 4 poles to be replaced or stubbed.



## **Annex B1**

## **Annex B2**

## **Annex C**

(Informative)

### **Supplemental treatment chemicals**

Only chemicals that have been tested and researched by an independent research body should be considered. The length of the researched should be in proportion to the inspection cycle in this document of 10 years, so that a fair assumption can be extrapolated from the research results ensuring the chemical will last the duration of the 10 year cycle.

The institute chosen by stakeholders to give approval/authorization for the usage of the chemical should give final approval before they may be used for supplemental pole treatment.

## **Annex D**

(Normative)

### **Recording of Pole Inspections**

Results from the visual inspection and testing procedures should be recorded in a Line Pole Inspection Report Form.

The following minimum information should be included in the Line Pole Inspection Report:

- a) the information on the manufacturer's tag e.g. trade mark of treater and month and year of treatment;
- b) the address and location of the pole (utility line number or name);
- c) the pole number;
- d) the terrain and vegetation where the pole is set;
- e) the specie of the pole (pine or eucalyptus);
- f) the date of inspection and remedial treatment;
- g) forms of degradation and damage found;
- h) the classification of the pole as assessed, e.g. class 1,2,3 or 4;
- i) the treatment carried out on the pole (if classified as treatable); and
- j) the identification of the inspector.

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**Annex E**

(Informative)

**Key to abbreviations used on line reports**

<b>CL</b>	<b><u>TERRAIN &amp; SOIL</u></b>	<b>A</b>	<b><u>VEGETATION</u></b>	<b>BI</b>	<b><u>CROSS-ARMS</u></b>
<b>M</b>	Clay	<b>F</b>	Agriculture	<b>HC</b>	Broken isolator
<b>N</b>	Marsh	<b>G</b>	Forestry	<b>LC</b>	Hot connection
<b>RO</b>	Normal	<b>I</b>	Grassland	<b>LD</b>	Large crack
<b>S</b>	Rocky	<b>R</b>	Irrigation	<b>LN</b>	Lightning damage
<b>SA</b>	Steep	<b>T</b>	Rural	<b>LS</b>	Lost nut
<b>V</b>	Sandy	<b>U</b>	Thorn veldt	<b>LU</b>	Loose stay bracket
<b>WL</b>	Valley		Urban	<b>SD</b>	Loose U-bolt/clamp
<b>PD</b>	Wetland			<b>TW</b>	Suspect decay
	Poor drainage			<b>WPC</b>	Cross-arm squareness
		<b>BEW</b>	<b><u>POLE ACCESSORIES</u></b>	<b>BN</b>	Woodpecker damage
		<b>BSW</b>	Broke earth wire	<b>CAD</b>	Birds nest
		<b>CA</b>	Broken stay wire	<b>CAS</b>	Cross-arm decay
		<b>EW</b>	Cable		Cross-arm split
<b>ID</b>	<b><u>POLE ATTRIBUTES</u></b>	<b>LI</b>	Earth wire		
<b>IND</b>	Internal decay	<b>LS</b>	Links		
<b>HH</b>	Incipient decay	<b>MB</b>	Isolator		
<b>C</b>	Hollow heart	<b>SA</b>	Meter box		<b><u>OTHER</u></b>
<b>EC</b>	Cracks	<b>SB</b>	Surge arrestor	<b>CON</b>	Pole in concrete
<b>MD</b>	Excessive cracks	<b>SP</b>	Stub	<b>CP</b>	Concrete
<b>TI</b>	Mechanical damage	<b>SW</b>	Stay-pole	<b>ROC</b>	Pole in rocks
<b>ACT</b>	Termites	<b>TR</b>	Stay-wire	<b>STE</b>	Steel pole
<b>PL</b>	Active termites		Transformer		
<b>IN</b>	Pole leaning				
<b>SR</b>	Insect damage				
<b>PT</b>	Shell rot				
<b>LD</b>	Pole twist				
<b>WP</b>	Lightning damage	<b>E</b>	<b><u>SPECIES</u></b>	<b>D</b>	<b><u>STRUCTURE TYPE</u></b>
<b>FD</b>	Woodpecker damage	<b>P</b>	Eucalyptus	<b>H</b>	Delta
<b>VE</b>	Fire damage		Pine	<b>HP</b>	Horizontal
<b>PTD</b>	Vegetation encroachment			<b>S</b>	H-pole
<b>PTS</b>	pole top decay			<b>SS</b>	Staggered
<b>DL</b>	Pole top spilt	<b>C1</b>	<b><u>ASSESSMENT CLASS</u></b>	<b>ST</b>	Suspension structure
<b>UP</b>	De-lamination	<b>C2</b>	Class 1	<b>V</b>	Strain structure
<b>OP</b>	Under planted pole	<b>C3</b>	Class 2	<b>W</b>	Vertical
<b>PC</b>	Over planted pole	<b>C3S</b>	Class 3		Wish-bone
	Pole cut off	<b>C4</b>	Class 3 (stubbed)		
			Class 4		

**PART B-09: INSPECTION AND SUPPLEMENTARY TREATMENT OF WOODEN POLES**

**Annex F**

(Informative)

**Detail wood inspection**

These remarks could be used with the standard line report from using the symbols as shown.

The status of the pole could be recorded as follows:














R = Reject

T = Treated

SB = Reinforce (Stubbing)

Conventional symbols

*Note: Cross section seen from top of pole.*

Pole cross section	Remarks
1 	Shell rot up to 10 mm
2 	Shell rot more than 10 mm
3 	Rotten sector
4 	Rotten sector
5 	Rotten sector
6 	Rotten sector
7 	Rotten sector
8 	Internal decay less 40mm
9 	Internal decay more than 70mm
10 	Insect attack
11 	Severe checks – mention extent in pole report
12 	Woodpecker attack
13 	Pole leaning (add degrees)

