TRANSPOWER

QUALITY ALERT!

20 October 2017
Maximo REF No. n/a

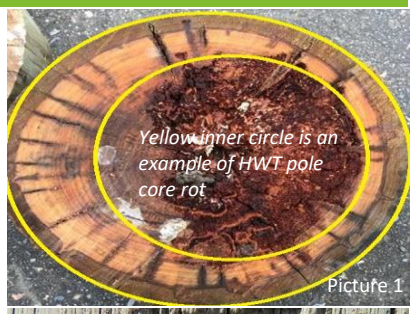
Core Rot in Hardwood Transmission Poles

ISSUE IDENTIFIED:

All Hardwood treated (HWT) poles are susceptible to **core rot**, an example of core rot is shown in *Picture 1*. These poles tend to have straight longitudinal grain and a smooth surface. **Radial cracks** can occur and may extend to the centre of the pole allowing **moisture ingress** to the **untreated centre**. Core rot can therefore occur at any point along the pole length, but typically **starts below ground** and works upwards throughout a 3-4m length of the pole.

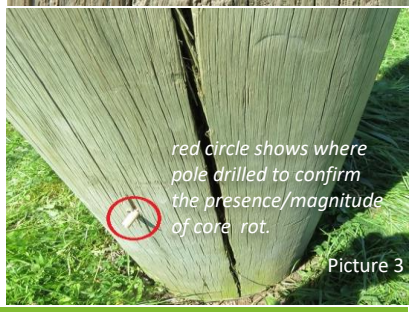
The type of hardwood species may be identified by the species code on the pole identification disc, see Picture 2. Typical HWT poles on the network are "BB" Blackbutt; "RI" Red Ironbark; "NI" Narrow-leaved Red Ironbark and "SG" Spotted Gum. Generally BB poles have been found to have the greatest magnitude of core rot on our HWT poles to date.

Extra care is therefore required during **Condition Assessment** (CA), particularly where radial cracks are identified, as whilst from an **outward appearance** poles can appear to be in **good** condition, **core rot** may have **developed**. For this reason **hammer testing** of all HWT poles should be conducted along the pole length with **special attention** paid to locations **where cracking** is observed. The sound reflections of the hammer blows can be a **good indicator** of the presence of core rot thereby prompting additional investigation. **Good CA practices** on Pi-Pole 70 EDG-KAW A line were successfully applied. The pole diameters were right 300mm and left 308mm at the test bore points. After initial CA measures **identified concerns** these poles were then drilled (Picture 3) to confirm presence and magnitude of **core rot**, approximately **100mm** found in the right pole and **120mm** in left.



Picture 1

Picture 2



Picture 3

CONTIBUTING FACTORS:

- Chromated Copper Arsenate (CCA) treatment protects outer layer sapwood only, not the core heartwood

ACTIONS TAKEN TO PREVENT REOCCURENCE:

- Discuss this Alert with appropriate staff
- Ensure CA staff are fully aware of this issue and ensure it forms part of their CA process
- These poles, when changed out, will be cut in cross section to display the level of core rot
- These cross sections will be sent to Omaka and be used for training purposes

LEARNINGS FROM THIS

- **Extra care is required when carrying out CA on HWT poles, in regards to identifying core rot**
- **An engineering review will be undertaken to provide guidance in regards to CA coding and actions to be taken**
- **Service Specifications/SMP will be updated as required following the Engineering review**

Quality Assurance

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