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Peter Mattner
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Submission- Private Power lines and Poles in Western Australia

Dear Mr Mattner,

The Forest Industries Federation WA (FIFWA) is the association for the timber industry in Western Australia. FIFWA is representative of almost all the major companies and businesses that operate in the WA timber industry, including commercial plantation growers, harvest and haul operators, timber treaters and processors in both the native and plantation sectors of the industry.

We take this opportunity to comment on the Paper '*Private Power Lines and Poles in Western Australia*' as released by the Office of Energy Safety in May 2015 (the Paper).

Whilst we make this submission it is a concern to FIFWA that the Paper has been released for public consultation 10 months after the original campaign and off the back of a policy position to mandate steel poles over wooden poles on private property. The bias of this policy position is in our view reflected throughout the Paper, and has led to a series of conclusions and proposed actions which are premature to the discussion.

There are a number of sections in the Paper which contain information FIFWA disputes as being entirely accurate or do not give full consideration to all aspects of the matter. Therefore the corresponding questions do not accurately reflect the full scope of the situation to be considered. For this reason the FIFWA submission will address the industry's concerns with the content of the Paper in the first instance and address some additional points not considered in the scope of the Paper.

FIFWA is principally concerned with the proposed action to mandate the use of pole type on private property in any situation, but particularly by geographical area. The basis for doing so in our view unjustified. Wooden poles are a comparable product to steel poles, in some circumstances wooden poles are a superior and preferred option by consumers and contractors. Removing consumer choice for private purchase is a serious step for the state government to take, particularly when failure of a steel pole can result in the pole becoming live, increasing the risk for electrocution.

FIFWA maintains private property owners should have the right of choice when it comes to selecting power poles. The state government should not be seeking to mandate steel poles on private property.

If required we are more than willing to provide additional information or answer any questions the Office of Energy Safety may have in respect to the industry submission by contacting FIFWA on 089472 3055.

Sincerely,

Melissa Haslam
Executive Director

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Introduction

In July 2014 the State government through the Office of Energy Safety (OES) undertook a campaign to inform property owners of their responsibilities for private poles and overhead lines. The campaign informed thousands of home owners that wooden poles would no longer be allowed on private property and that regulations would be amended to require this.

The reasons set out in the Paper for mandating steel poles over wooden poles included (pp 3);

- relative ease of condition monitoring and maintenance (by customers and/or contractors) and therefore a reduced risk of unpredicted structural failure and consequential fire;
- no susceptibility to combustion initiated by wind-borne bushfire embers;
- ability to withstand the effects of intense fires; and
- a longer service life, depending on soil conditions and other environmental factors.

FIFWA disagrees with all of these reasons. Internal corrosion of steel poles can make condition monitoring extremely difficult, wooden poles treated with fire retardant are not susceptible to combustion by wind borne embers, no poles are able to withstand the temperatures of intense bushfires and treated poles have a comparable serviceable life to steel poles and in fact outperform steel poles in some soil types. All of these points will be covered in greater detail in the body of this submission.

Of concern is that the consultation paper 'Private Power Lines and Poles in Western Australia' (the Paper) has been released for public consultation some 10 months after the original campaign and off the back of a policy position to mandate steel poles over wooden poles on private property.

Industry Image

The original campaign informed thousands of homeowners and potential customers that wooden poles were no longer allowed on private property. The reason for the policy, only the perceived superior performance of steel poles over wooden poles. Worse is that this message has continued to be promoted by the OES for the past 10 months and continued throughout the public consultation period on the Paper. The campaign has irrefutably caused damage to the private wooden poles market and to the image of the timber industry broadly. Timber has been tainted an inferior product by this campaign and the continuous promotion of the policy, particularly on the OES website during the public consultation period on the Paper may well negatively influence the opinion of submitters.

Government liability

Wooden power poles are assessed to the Australian Standard AS 3818 and are a suitable and valid product and in some instances wooden poles can be a far superior option to other poles on the market. Consumers purchasing poles for use on private property should have a choice of pole for their property enabling them to select a product best suited to their own circumstances.

The Paper acknowledges one of the advantages of wooden poles as being; an '*insulating material and therefore there is no electric shock risk*' (pp. 8). The fact that timber is naturally insulating is a key consideration for private customers and energy providers when considering pole type for their networks, particularly given steel is a highly conductive material. There are number of factors that could cause a steel pole to become live including structural failure and hardware failure (insulators, transformers and crossarms). A live pole presents a real threat of electrocution to humans and to

livestock that may come into contact with the pole. The potential for electrocution is a real risk with steel poles which needs to be given careful consideration.

Removing consumer choice by mandating the use of one product over another (steel over wooden poles), inherently increases government liability if that product fails.

Cost

The purpose of the Paper is defined as being;

> '*This paper sets out the safest practical options and limiting factors in the use of both steel poles and wood poles for private power lines in different areas of the State.*
>
> *The paper is intended to serve as a basis for consultation with all stakeholders to develop the most cost effective option(s) for private power lines and poles across the State'* pp.2

It is unacceptable to FIFWA that the purpose of the Paper is to develop '*the most cost effective options'.* The free market is the mechanism to determine the competitiveness of products. The cost of products should in no way be a consideration for government when setting policy and drafting legislation and regulation.

Fire

The Paper states that a main reason for mandating steel poles was for their ability to withstand intense fires. This is a factually incorrect statement as no pole (timber, cement or steel) will be able to withstand intense bushfires that can reach temperatures of 1200 degrees C. It is a commonly known fact that a steel pole will lose half its strength at around 500 degrees C, possibly causing structural failure of the pole. It is incorrect for the OES to say that timber cannot withstand an intense fire without structural failure while supporting a product that will also fail under the same circumstances.

All poles whether they be timber, concrete or steel can be protected against non-intense fires such as scrub and grass fires. Western Power timber poles are supplied by Koppers Wood Products and can be treated with the fire retardant coating Nukote Firestop that has been given an 'excellent' rating by the Energy Networks Association approved Pole Fire Test (Western Fire Centre. 2010). This treatment ensures timber poles are as suitable as steel poles in fire risk areas.

An additional consideration not covered in the Paper is that during a lower intensity fire steel poles have their flaws. Fire can damage the galvanised layer on the steel pole leaving the pole exposed to rapid corrosion, especially in low lying areas (Scanpole. 2015). Without their galvanised layer these poles may need to be replaced after a fire. More worrying is that damage to galvanising may not be visible to a homeowner and steel poles may be kept in service that should be replaced.

The Paper includes fire risk mapping (pp 4) that details the areas of high fire risk in the South-West. The Paper later uses this map to justify (pp 12) the proposed action to mandate steel poles only in 'zone 1'. However the use of this map does not consider:

1. No pole type will withstand an intense fire
2. Wooden poles can be protected against low to moderate fires

3. Within Zone 1 there will be areas of low fire risk (housing estates etc)

Therefore it is incorrect to include zones based on fire mapping.

Installation

FIFWA disagrees in principle with the use of a cost benefit analysis as a basis for mandating a certain material. However, we still believe some critical points have been missed in the Paper.

The statement "the total installed cost of a coated steel pole and a wooden pole is reasonably comparable" (pp 7) fails to take into consideration;

1. Increasing the concrete level
2. Manually moulding the concrete during pouring
3. Mounding the top of the concrete to 100mm above ground level

These installation specifications will require time and extra expertise for contractors leading to a higher installed cost for steel poles. The concrete base is added to a steel pole to try to protect it from corrosion from acidic, saline and moist soils, considerations that are not factors for installation of wooden poles.

Similarly from an installation perspective, making modifications to steel poles on site is a far more difficult process than with wooden poles. Drilling, nailing and adding hardware to wooden poles is much simpler due to the nature of the pole. Steel will require separate tools and devices and more time to modify than wood.

Corrosion/Service Life Cycle

Prior to any comments regarding service life of any type of pole, it should be noted that early failures could occur in all types of poles, a point that is missing from the Paper.

The Paper states "more recently, CCA treated pine poles have become established as an accepted product and are widely used by electrical utilities, including Western Power" (pp 8). Western Power not only use CCA treated poles as an accepted product, they prefer wooden poles over steel poles. The following excerpt is taken directly from Western Power regarding their distribution network in June 2015.

> *"Western Power predominantly uses wood poles, rather than metal or concrete, as they have proven to be the most cost-effective option over the expected life of a pole. Pine poles meet technical requirements in terms of mechanical strength and height to accommodate electrical safety requirements. Being non-conductive, they are safer for both employees and the public. Most new poles come from local Radiata Pine plantations (a renewable resource) and are treated with fire retardant paint that helps reduce their combustibility."* (Western Power 2015)

The Paper states that wood poles are well suited to highly saline areas, areas where steel poles would not be suitable (pp 8). Wooden poles should not be excluded from zone 1 as they provide a good alternative for steel in the low lying areas that are highly corrosive to steel (pp8). It is worth noting that even detailed soil mapping may not be accurate enough to predict soil conditions as they can change rapidly over a short distance. This increases the probability that steel poles will be

installed in areas that are unsuitable causing a rapid deterioration – an issue that wooden poles do not have as they are suitable for all soil types.

The section on wooden poles also fails to mention the environmental benefits (outside of "local, renewable timber resource") of the life cycle of a wooden pole over steel poles. A study conducted by AquAeTer, Inc (2012 pp 2) to ISO 14044 standard has shown there are significant environmental advantages throughout the life cycle of a wooden pole compared to a steel or concrete pole such as:

- Wooden poles require less energy, fossil fuels and water to create.
- Over their life cycle treated wooden poles have a lower impact on anthropogenic greenhouse gas, total greenhouse gas, acid rain, ecotoxicity and eutrophication causing emissions.
- Treated wooden poles will lower atmospheric greenhouse gasses where manufacturing steel poles will increase them.

A factor the OES has failed to consider is that although a steel pole can add extra galvanising such as suggested in the Paper, this will not account for the corrosion that occurs on the interior of the pole. Studies have shown corrosion of steel poles will occur within the pole, out of sight and below the ground level.

There is no data to support the perception that steel poles will have a longer service life than alternative pole types.

Other distribution networks

Western Power in WA is one network operator that prefers wooden power poles to other materials. However, throughout Australia and in fact the world in areas where fire is a concern, wood is the preferred utility pole of choice.

Under the section "what others do" the OES has specifically mentioned Queensland distributors as adding a coating of galvanising to their steel street light poles. While this is true, it ignores the fact that Queensland distributors (Energex, Ergon and Essential Energy) allow wooden poles to be used for their private pole networks, under regulation from the Electrical Safety Office of Queensland (Electrical Safety Office 2015).

The NSW Government (2012) and The Victorian Government (United Energy 2011) both allow wooden poles to be used for private property poles at the customer's discretion.

Western Australia should not be mandating heavier restrictions on customer choice of poles than the rest of the country.

Proposed Actions

The proposed action to mandate steel poles by geographical location is an unsuitable and unjustified approach to dealing with private poles.

The proposed actions should be changed to allow all poles in all geographical locations giving the consumer a choice of all pole types in Western Australia. Additionally, wooden poles should be encouraged in areas with saline soils.

Conclusion

The actions proposed in the Paper are alarming to FIFWA as they are based primarily on cost and perceived performance of steel and wooden poles. FIFWA disagrees with mandating steel poles over wooden poles based on:

- A wooden pole can be treated to the same level of fire protection as a steel pole and will withstand wind borne embers.
- A wooden pole is suitable for highly saline soils where a steel pole can corrode.
- Wooden poles can be more easily monitored for its condition by a number of methods. A steel pole encased in concrete cannot be easily monitored. A steel pole can also corrode on the interior, an area that is not as easily inspected.
- Wooden poles as now supplied in WA have a proven service life over a wide environment. Steel poles have only expert opinion, not a statement of fact about service life and we therefore believe that they cannot be compared.
- A wooden pole poses significantly less threat of electrocution
- The economics of different poles is not within the mandate of the state government to legislate

The OES campaign to mandate steel poles has undoubtedly caused damage to the private wooden poles market. Consumers purchasing private utility poles should have the choice of pole that enables them to select the best product for their property.

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