

Guildford Terminal to Southern Terminal Route Forums

Combined Notes

Background

Western Power has held three workshops facilitated by Aha! Consulting.

- On February 9 2010, a workshop was held for all interested parties along the existing transmission line route. This session was attended by approximately 25 people.
- On October 29 2009, Western Power hosted a workshop for easement titleholders and residents from the Shire of Kalamunda. This session was attended by approximately 32 people.
- On October 6 2009, a session was held for titleholders of easements from the Shire of Kalamunda. This session was attended by approximately 110 people, of which approximately 60 stayed to the end.

These sessions formed part of a series of 'community outreach' sessions for the community along the entire length of the route.

There was a marked difference in the response from people who attended the February 9 workshop, than the earlier workshops. While people who attended were also titleholders with easements, the questions and concerns focused more on getting the terms of the 'review phase' right, than the concerns that dominated the first two workshops.

There was a high level of concern about the project in the first two workshops. Thus concern appeared to stem from two sources:

- Concerns more directly focused on the proposed project (effect on property values, health concern, loss of amenity were the most dominant themes).
- A general mistrust of Western Powers intention and how it has engaged in the past (Western Powers assurances that the project is in the 'early stages' were not accepted by many in the audience).

Further to these two sources of concern there appears to be an information gap for people selling or buying land with an easement on it. Other than the terms on the title, there is no way for people to determine if their easement has any 'projected' use. This caused significant concern to some people who had only recently purchase property. While they were made aware of the easement, they felt there was no where they could have gone to identify 'projected use' or to understand the relationship between easement size and potential use (ie: 80 meter easements are for twin towers).



The following notes represent the facilitator's compilation of questions asked in all three forums. These notes are not in any particular order and are not a formal transcript of events.

Session Summary

Summary of 6 October

Although the options were not discussed in any detail at either evening, the preference from the forum was for an additional route to be explored, specifically along Roe Hwy. Although the following statement was not formally discussed, debated or endorsed there was tacit support for the sentiment that:

"It is no longer appropriate to put this proposal in the existing easement due to the massive urban development and expansion near to and abutting the easement. The group requests Western Power erect the line along the central reservation of Roe Highway and thereby passing densely populated areas".

There was an attrition of people during the evening, many leaving after providing their view. Of the people remaining till the end (approx 60), 27 indicated that they would like to be more involved in the discussion about the various options under consideration by Western Power. These names have been provided to Western Power. The other people indicated a preference for contact every 2-3 months through a range of formats. (See tables below)

Summary of 29 October

Less people attended this workshop (approximately 32) and as the majority of people had already attended the previous session, there were only a few questions that were not covered in the first session.

Summary of 9 February 2010

Approximately 25 people attended this session. As this session was able to demonstrate 10 different lines of enquiry (developed through the previous sessions), the focus of people's questions was on clarification of these lines of enquiry.

EG:

- **What are the comparative costs / impacts of underground power over the life of the asset**
 - Underground cable is more expensive than overhead line conductor due to the extra materials surrounding the copper cable core. The extra materials are the XLPE insulation, metallic sheath and protective layers. The stringent raw material purity requirement and manufacturing process of the cable i.e. the copper itself, also increases the total cost.



In addition, the installation cost which involves excavation, special backfilling and directional drilling contributes to the high cost of underground cable.

- **What impact could self-generation of power have in the need for changes to these powerlines? Is the money better spent in this area?**
 - An increase in self-generation throughout the South West Interconnected System has the potential to delay the need for a these reinforcements works. The purpose of the Guildford Terminal to Southern Terminal 330 kV transmission line project is to cater for load (power demand) growth within the metropolitan area. If the rate of load growth were to decline due to more widespread self-generation, the requirement for a new line may be deferred.
- **What is world's best practise in high voltage transmission lines? What new technology exists that might negate the need for these type of powerlines?**
 - The best practice available is reducing the need for transmission lines through the use of demand side management (reduced consumption and local generation of electricity).
- **What is the comparative benefit/drawback of the 'poles'?**
 - Tubular poles have a smaller footprint (the base of the tower occupies less area) however they have similar maintenance requirements.
- **How long will this solution last? If the existing towers are getting close to their useful life of 40 years, is there a chance to replace/underground the entire line?**
 - The 40 year design life of the structures refers to their maintenance requirements over this duration. Over the 40 year period, minimal maintenance work is expected to be required on the structures. After this 40 year period some maintenance works may be required depending on the state of the structures. The existing Guildford Terminal to Southern Terminal 330 kV transmission line towers are in good condition however it may be identified, after consideration of economic, social and environmental factors, that it is more prudent to replace the towers.
- **How will the communities view on the options presented be taken into consideration?**
 - See question 22 of existing notes
- **Who pays for these upgrades?**
 - Yes, Western Power has a capital expenditure budget which is funded by the State's Department of Treasury and Finance.

An additional option was floated for inclusion in the investigation that focused on the relocation of the line, to the existing line near champion lakes (over Victoria dam).

The line referred to here is the Kwinana – Northern Terminal / Muja – Northern Terminal double circuit 330 kV transmission line. This line and the Guildford Terminal to Southern Terminal 330 kV transmission line are only in close proximity to each other for a distance of 6 kilometres therefore constructing the proposed Guildford Terminal to Southern Terminal 330 kV transmission line alongside the double circuit line would significantly increase its length.



The easement registered over this line is 60 metres in width which is only sufficient to accommodate one set of double circuit structures. As buildings and structures have been built to the edge of this easement, it would not be feasible to increase the width of this easement.



Project Overview

Due to the increasing demand on the States power supply the need has been identified to secure additional power along the South West Interconnected System. More specifically, between the Guildford Terminal in Hazelmere and the Southern Terminal in Bibra Lake.

The project is currently in the scoping phase. A final proposal is to go before the Economic Regulatory Authority (ERA) by 2012 with the view to have the identified solution in place by 2017.

Part of the current activities involves various survey works to assess the viability and feasibility of a range of options. Among other considerations the technical assessment is based on the need for any option to deliver for increasing demand and reliability, whilst balancing social, economic and environmental factors.

All of these options will need to be presented to the ERA and will need to demonstrate maximum benefit is being derived from the preferred option along the life of the asset.

One option involves the utilisation of the current line route (established approximately 35 years ago). For the majority of the route a second line can be fixed to the existing dual circuit tower structures, however, two sections of this route are close to Perth and Jandakot Airports. In these areas shorter towers (Delta Towers) have been installed due to height restrictions put in place by the Civil Aviation Safety Authority (CASA). These smaller towers are not able to support a second line. In the instance of the Kalamunda area, this area spans a distance of approximate 15 km where alternative structure options need to be explored.

The current options identified include:

- Selection of a new line route
- Running the power underground in sections
- Rebuild the existing tower (pending CASA approval) to allow for twin line (taller) towers
- Building a second tower alongside the existing tower
- Increasing the size of the conductors

Other options also under consideration that might delay the need for the additional line involved energy use efficiency and power generation options such as:

- Demand side management (solar panels and wind farms)
- Reduction in energy use



Questions and Answers

Brendan Lee, Marc Brunet-Watson, Jim Butler, Clare Game and Rita Sully from Western Power were on hand to answer questions posed by the participants. The questions are not presented in any particular order and have been clustered where topics overlap.

Question relating titleholder and impact on landowners

1) Will there be compulsory acquisition of land? Will there be any remuneration/compensation?

Western Power doesn't need to undertake compulsory acquisition of land as it already has the rights to use the land under the terms of the current title.

If the second tower option is selected, titleholders would be compensated for the area of land occupied by the new tower base, based on the formula currently set down by the Land Administrations act and the Energy Operators Powers act.

The original land owners were financially compensated for the establishment of the easement corridor (approx 35 years ago).

2) Why didn't I know about the easement and what will it do to property values?

The purpose of both forums is to provide residents with this information, three years before any option is decided and approximately 10 years before any solution is implemented.

There is a legal requirement for real estate agents to disclose any encumbrances on the titles of land that they sell. While this is a relatively new law, there may be a course of action if land owners feel their agents did not disclose the term of the easement on their title.

It was noted that there is an information gap between the specifications on the easement and the public's ability to ascertain the 'potential use' of this easement when buying and selling land.

3) Who was invited to each session and why?

The first session was part of a series of sessions that have included and will include non-title holders. The selection of participants for the first meeting was based on an electronic title search of owners with an easement within the Shire of Kalamunda and as such would not have picked up residents 'near' the easement (110 people were sent invitations by post).

The first session was based on a desire to answer questions that specifically relate to titleholders. The second session included the titleholders from the first session and a further 140 residents who are not titleholders of an easement but who own land near the easement.



4) Will any of the options effect land/development that is not within the easement?

While there is a need to assess what development may have occurred within the easement, the options under consideration are able to be implemented within the boundaries of the easement.

Is any compensation to be paid to non-titleholders?

There is no provision to compensate people whose land is not used for the placement of pylons.

Question on background to the project

5) What happened to the SEC promise (1985) to use a route down Roe Hwy

This route could be considered as one of the options. Western Power staff in attendance had no direct knowledge of the past promise to use Roe Hwy and would need to verify this.

6) Why did Western Power sell the land in the first place, when they had 100% ownership of the land?

Legislation for public works in the 1970s (when the line was constructed) did not allow for the electricity corporation to resume land for the purpose of an easement. An easement was registered on the properties of landowners along the line route that were willing for this to occur. Property owners that were unwilling to have an easement registered on their land were given the option of selling their properties to the electricity corporation. During the mid 1980s during a government review of all land-holdings, SECWA rationalised their land holdings with all land surplus to requirements sold. Easements were registered on SECWA owned properties along this line route after which these properties were sold.

Question on social and physical impacts

7) What are the health risks to residents?

All lines are built to the required health standards.

The majority of the debate and research into the health effects of transmission lines revolves around the Electromagnetic Energy Emission. These emissions 'wrap' themselves around the line. The extent of the emission will depend on the current and transmission load.



Given the differential between the height of overhead lines and the depth of underground lines, it is possible that underground lines pose a higher risk of exposure to these emissions.

As there is research both dismissing and supporting the case for potential health impacts, residents were advised to seek out independent advice from the *Australian Radiation Protection and Nuclear Safety Agency*.

One member of the audience suggested individual residents could hire equipment to measure the levels of emission on their property.

Option Selection

8) Is this a done deal? Do you already have a preferred option in mind?

There is not fixed solution. Western Power is required to explore all the options and is keen to involve the community in this discussion.

Although there is no fixed solution at this point, some of the obvious pro's and con's of the different options were discussed e.g. relative cost to other options, design constraints (reliability, capacity), health impact (closer to the source) of running power underground.

The option to use additional delta towers (at this early stage of assessment) appears to meet all the requirements, but further assessment it required.

9) What are the criteria for evaluating the best options?

Western Power must seek approvals from a number of agencies prior to implementation of any option.

These include (but are not limited to):

Internal decision makers for assessment of technical merit and ability to deliver reliability and supply.

Environmental Protection Authority and Department for Environment and Conservation for environmental approvals.

Economic Regulatory Authority to demonstrate the selected option delivers maximum benefit along the life of the asset, which includes Social, Economic and Environmental consideration.

10) Is there a different route (ie: Roe hwy) and what would enable this route to be used?

Use of Roe Hwy is an option which will be considered however Main Roads WA have indicated that use of access roads are to be used as a last resort.

11) Is there any precedence for putting this type of transmission line underground?



There is one example in Kwinana but this is several hundred metres in distance. The issue with underground lines is the limited capacity of electricity they are capable of transmitting and the resulting reduction in transmission load.

12) Will you consider transposing the line to reduce the EMF levels?

Yes this will be considered during the design phase.

13) What are the spans between towers?

This will depend on the options selected and the results of the aerial survey. Spans can vary between 250 – 450 meters depending on the tower type and the topography of the ground beneath the span.

14) What is the timeframe for getting information from the civil aviation authority about height restrictions?

The information is now available and will need to be considered in conjunction with the aerial profile survey as height restrictions incorporate ground heights. We are currently going through the tender process for the aerial survey.

15) Can existing conductors be ungraded to attain the required supply?

Conductors will help with improved capacity however they do not address the reliability component of the required supply.

16) What is the serviceable life of the delta towers?

Towers are typically built for the 40-50 year life span.

Question on Substations?

17) Where does the proposed substation (Brookes Terminal) fit into the plan?

There is no current plan to establish a terminal in this area. The need for a terminal will depend on future consumption and demand patterns.

18) Can the substation at the airport (Munday substation) be utilised instead?

The Munday station is a customer funded station so is not in consideration in this process.

19) Can the substation development be completed to stop the need for the power line?



The substation would improve local supply, but is not suitable for the bulk delivery/transport of power across distance.

20) What happens to substation land that is not used?

Land is purchased by Western Power to follow development and urban growth and meet local demand into the future. The use of these parcels of land is determined by the speed on growth and demand needs of any given area. Land not used at this stage is likely to be kept in reserve for future use.

Environmental impacts

21) What is the effect on Wildlife and plant life?

The current route does pass through a range of areas that contain bushland, Bush Forever sites and other areas that will require a large amount of survey work to be completed to demonstrate to the EPA, Shire and DEC that any environmental impacts are sustainable.

Community engagement

22) What role will the community have in the decision making? Will the community member get to the various costing and rationale?

This is start of the engagement process and the broader scoping of the project. As more information becomes available there is an intention to communicate with the community about the decision making process.

The community is able to access more information about the project through:

The Western Power website www.westernpower.com.au

Specific link to the Guildford to Southern Terminal page
http://www.westernpower.com.au/mainContent/projects/currentProjects/guildford_southern_terminal_transmission_line.html

The Western Power blogsite www.youhavethepower.com.au

Ben Schneider (Project Coordinator)

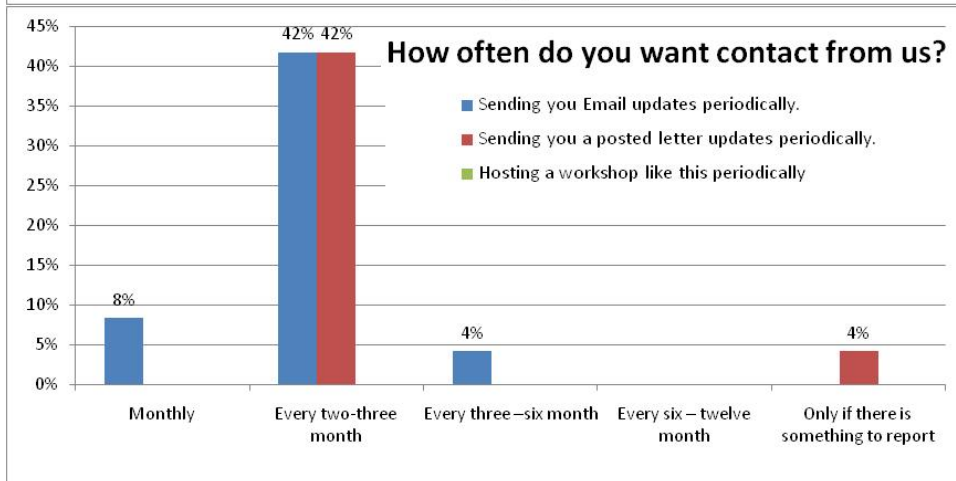
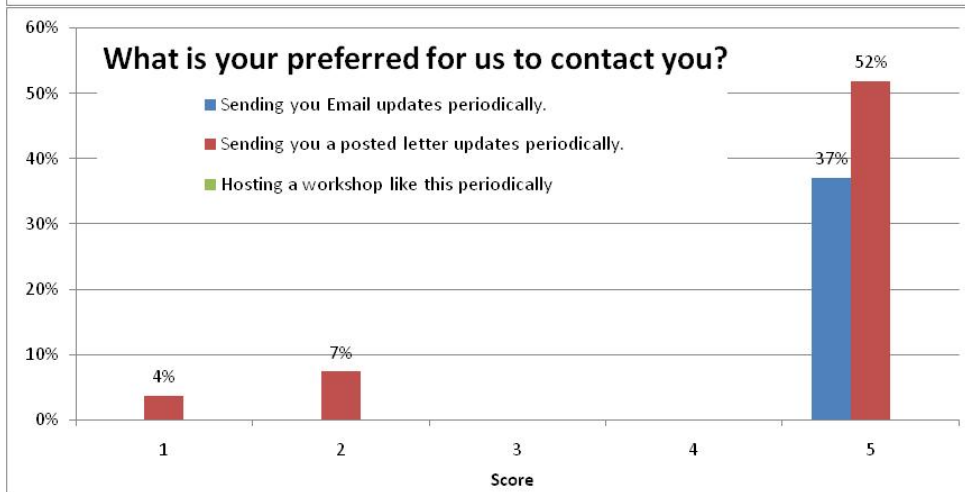
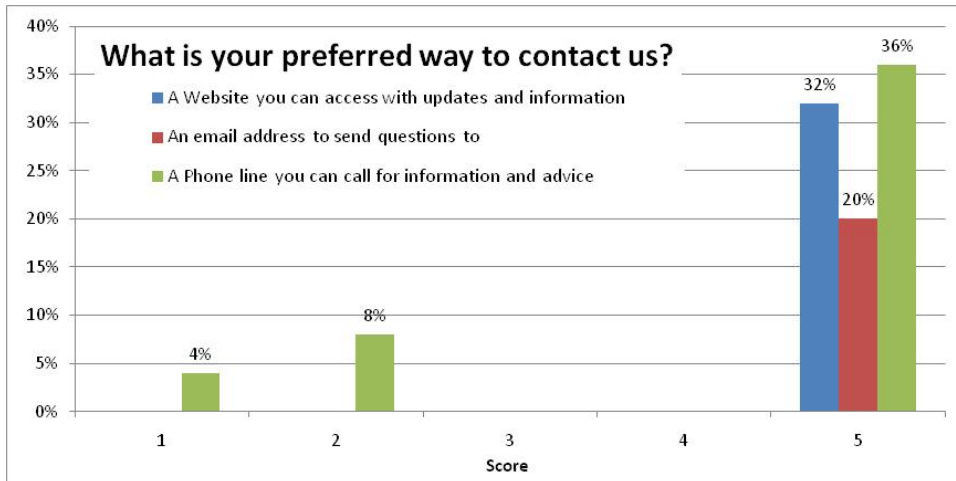
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From October 6th Session



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