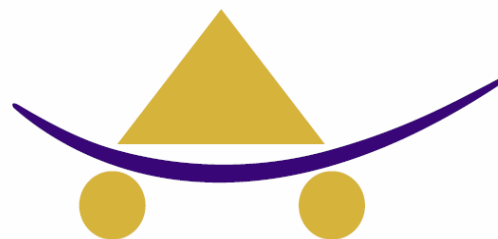




Powering Perth's Communities Forum

28th April 2010



Aha! Consulting

When will you have your next Aha! moment?

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1. Introduction

On 28 April 2010, Western Power held a community forum for people interested in the Powering Perth's Communities (PPC) project. This forum was facilitated by Joel Levin from Aha! Consulting with the following purpose;

- a) To provide an update on Phase I and II of the project
- b) To respond to questions raised at the Community forum on 11 February 2010

17 people attended the forum held in Forrestfield. The point was raised that given the focal point for concern for this project is Kalamunda, Gooseberry Hills and surround it may have been more appropriate to hold a forum in one of these locations. It was noted that Western Power's venue choice was based on availability of a suitably sized (making allowance for the number of people invited +600).

The following notes represent the facilitator and scribes compilation of the topics and themes discussed throughout the session. These notes are not in any particular order and are not a formal transcript of the evening.

1.1. Facilitator Notes

The forum ranged from moderately productive to unproductive at times. While the communities' questions were answered many could not be definitively answered due to the uncertainty inherent in planning infrastructure projects of this nature. This uncertainty caused some frustration among community members. ,

There was mistrust in the information shared however this appeared to be driven by past experience and frustration at the uncertainty of the future rather than a reflection of the presenters at this particular forum.

1.2. Actions and next steps

- The Community wanted better and wider communication of the fact that the project has been deferred. Specifically placing an article or advertorial in the local newspapers, stating that this related to the Powering Perth Communities (PCC) and its more widely known pseudonym 'Hackett's Gully site selection process'.
- While this project was on 'hold' the community members present were keen for Western Power to work with the SETS group as a liaison point for updates and discussion. The group did not discuss under which circumstance an item might be brought to a larger group.
- There was still a clear desire to more fully understand this project in the context of the broader "strategic plan" for power delivery in the state. This was about understanding elements such the demand forecasts and the resulting projections for generation needs.

Options being considered as viable for generation and the role Western Power is playing locally, nationally and internationally to lead sustainable power use.

2. Discussion Notes

The following questions were raised at the February forum and were the focus for discussion at this session. While the conversation on the evening was free flowing, most questions (and others) were covered in the responses below.

Questions

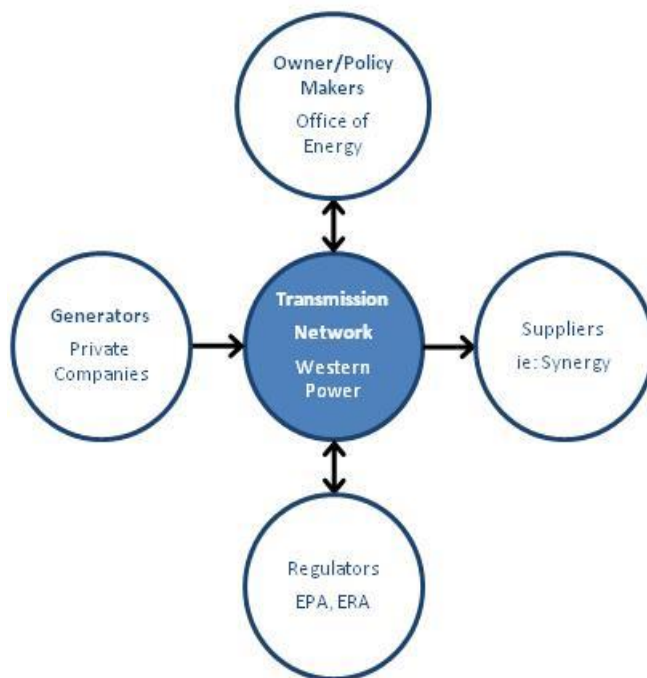
- Is Western Power looking for alternative generation sources in the North region?
- What are the alternative sources of power that Western Power can connect into?
- How many ways can Perth’s power be augmented? Both by 2017 and long term?
- Will the peak power needs of the community be met by an additional substation/switchyard?
- Once a switchyard goes in, what will it turn into? How many reticulation lines will come out of the station in the future?
- Why is Western Power drawing the peak power from Collie? The length of line and the effect on the output must be considered.
- Have the efficiency of the proposed line alignment and the environmental value of the land really been considered?
- How can a 330 kV transmission line be contained in a 40m easement rather than the usual 60m easement? What technologies will be used to make this happen?
- How are all the environmental principles/policies being met?

Context

There was significant frustration at the meeting with the perceive lack of coordination and alignment between the various organisations within the power sector. This led to some clarification provided on the various roles within the sector.

There are 5 distinct roles in the power sector

- **Generators:** private companies that can chose their method of generation and can apply to have their power connected to the ‘grid’ (South West Interconnected System). The decision to ‘generate’ power, the location of these generators and the form of generation lies with each private company.
- **Transmission:** Western Power (a government owned company) is responsible for the safe and reliable distribution and transmission of electricity in the South West of Western Australia. It connects homes and businesses, and maintains and expands the electricity network.
- **Retailers:** Companies (ie: Synergy) that sell power to commercial and residential consumers.
- **Owners/funders/Policy makers:** Office of Energy is the State Government agency responsible for the States’ overall power strategy. The federal government counterpart is the Department of Resources, Energy and Tourism. Department of Treasure ultimately need to fund any investment in transmission infrastructure proposed by Western Power.



- **Regulators:** These are the agencies responsible for the oversight and regulation of the environmental and economic impacts. Ie: Environmental Protection Authority (EPA) and Economic Regulatory Authority (ERA).

- Is Western Power looking for alternative generation sources in the North region?
- What are the alternative sources of power that Western Power can connect in to?
- How many ways can Perth’s power be augmented? Both by 2017 and long term?

In response to these questions Western Power clarified its “transmission role” and that the modes of generation are determined by other companies, both private and government owned (ie: outside of the control of Western Power). The viability of alternative power generation tended to be a commercial decision made by these companies. Western Power did not prevent any generator from applying to connect to the grid with any form power generation as long as the power offered delivered reliability, consistency and sufficient capacity to warrant the connection costs for large scale generation. The cost of connection and securing a client to buy the power becomes part of the generators business assessment.

The location of power generation is decided by the private companies who generate power. There have been generation stations planned for the North but these have not yet come to fruition. It was noted that the rapid expansion of power demand in the mid-west meant that it was likely for any generation that occurred north of Perth to be channelled further north to meet this growing need.

Outside of this project Western Power has a role in the following initiatives that are looking at alternative power sources¹ and an overall strategic direction for the state power supply.

- Strategic energy initiative
- Demand side management
- Perth Solar City
- Smart Grid

Western Power shared the community view that suitability of power supply is a critical element in future planning.

- Will the peak power needs of the community be met by an additional substation/switchyard?

There were two aspects to the answer, one focused on the amount of power needed and the other focused on the security of the network.

Amount of power needed: The demand for power in the metropolitan area is steadily growing and as such Western Power continues to look at all options to ensure generators are able to contribute to the system as and when they become operational. The current project is an example of Western Power exploring how potential new generators of power can connect to the SWIS network. In this instance the generation source was coming from the south west region. This project has been deferred due to an external business wanting to connect a new generator to the network, no longer requiring this connection. Western

¹ Project information was not readily available at the workshop. As such the following information has been added after the workshop for participant and public information.

Power will continue to review the need for this project in consultation with key government and industry stakeholders (ie: new generators).

Security of the network: The driver for a substation/switchyard to be established was to help bolster the security of the network to prevent interruptions of supply (eg: Blackouts). The establishment of a switchyard gives Western Power the ability switch lines and to isolate sections of the network in the event of power disruption (ie: less people get affected).

▪ Once a switchyard goes in, what will it turn into? How many reticulation lines will come out of the station in the future?

There was confusion about the language being used by Western Power throughout the history of the project. While on the evening the comment was made that for 330Kv transmission lines there are essentially the same thing, in the interest of accuracy the following clarification is offered:

- Switchyards enable Western Power to connect and isolate powerlines, maximising the security of the network.
- Substations ‘step’ or ‘convert’ power voltage up or down so that electricity can ultimately be delivered from power generators through to local homes, businesses and communities.

ie: 330 kV substation/switchyards services regions, 132 kV substations service suburbs.

Depending on where the 330 kV switchyard for this project is located (ie: proximity to a junction of another 330 kV route) the substation could have two lines coming in and four lines coming out.

Currently there is insufficient power demand in the Hacketts Gully locale to require a 132 kV substation. As such no 132 kV is being considered. In the future, if there was significant development around the hills, this would change the power demand and therefore a 132 kV substation may be required.

▪ Why is Western Power drawing the peak power from Collie? The length of line and the effect on the output must be considered.

Western Power doesn’t determine where peak power comes from, this is dependent on the private proponents, however by connecting the circuit into the Collie area, this will release capacity on the coastal circuits which will strengthen the supply into Perth.

▪ Have the efficiency of the proposed line alignment and the environmental value of the land really been considered?

There are two elements to this question. The second element relating to environmental concerns will be answered in the next set of questions below.

The other focus of this question was about the need for a new line route to be created and whether the existing 132 kV transmission line from Landwehr Terminal to South East Terminal could be used rather than creating the Wells Terminal to Hacketts Gully route.

While the Landwehr to South East Terminal route would be able to transport the power to the South East Terminal, the congestion in the southern suburbs makes it extremely difficult to transport the power from there to the Northern suburbs.

The proposed Wells to Hacketts Gully route (at this early stage of investigation) is the most favourable route to deliver power to the Northern suburbs where it is needed. The ultimate decision about the most favourable route still needs to be assessed once/if the project recommences and would need to satisfy economic, social and environmental criteria.

Please see map at the end of this document.

- How can a 330 kV transmission line be contained in a 40m easement rather than the usual 60m easement? What technologies will be used to make this happen?
- How are all the environmental principles/policies being met?

There was significant concern expressed about the potential environmental impact of the proposed line route and the fire hazard created by the reduction of the easement from 60m to 40m.

The effect on catchment areas and vegetation was considered an essential consideration. One member of the community mentioned that there new legislation is soon to be in place that would prevent new corridors being created in National Park and water catchment areas.

Other questions

What are the optic fibre power lines?

These are transmission lines that have optic fibre located in the earth wire in the conductor core that allows for improved communication between substations and the system overall. This being trialled in a few locations to test the efficiency of improved system security.

What is auto switching (reclose)?

Auto switching or reclose is used to improve recovery from lightning strike. The technology disconnects the piece of line that is affected by the fault and keeps in service all other components not affected by the fault before returning that line back to service when the fault is cleared which minimises the overall disturbance to the system.

What are the overall costs and viability criteria being used to assess this project?

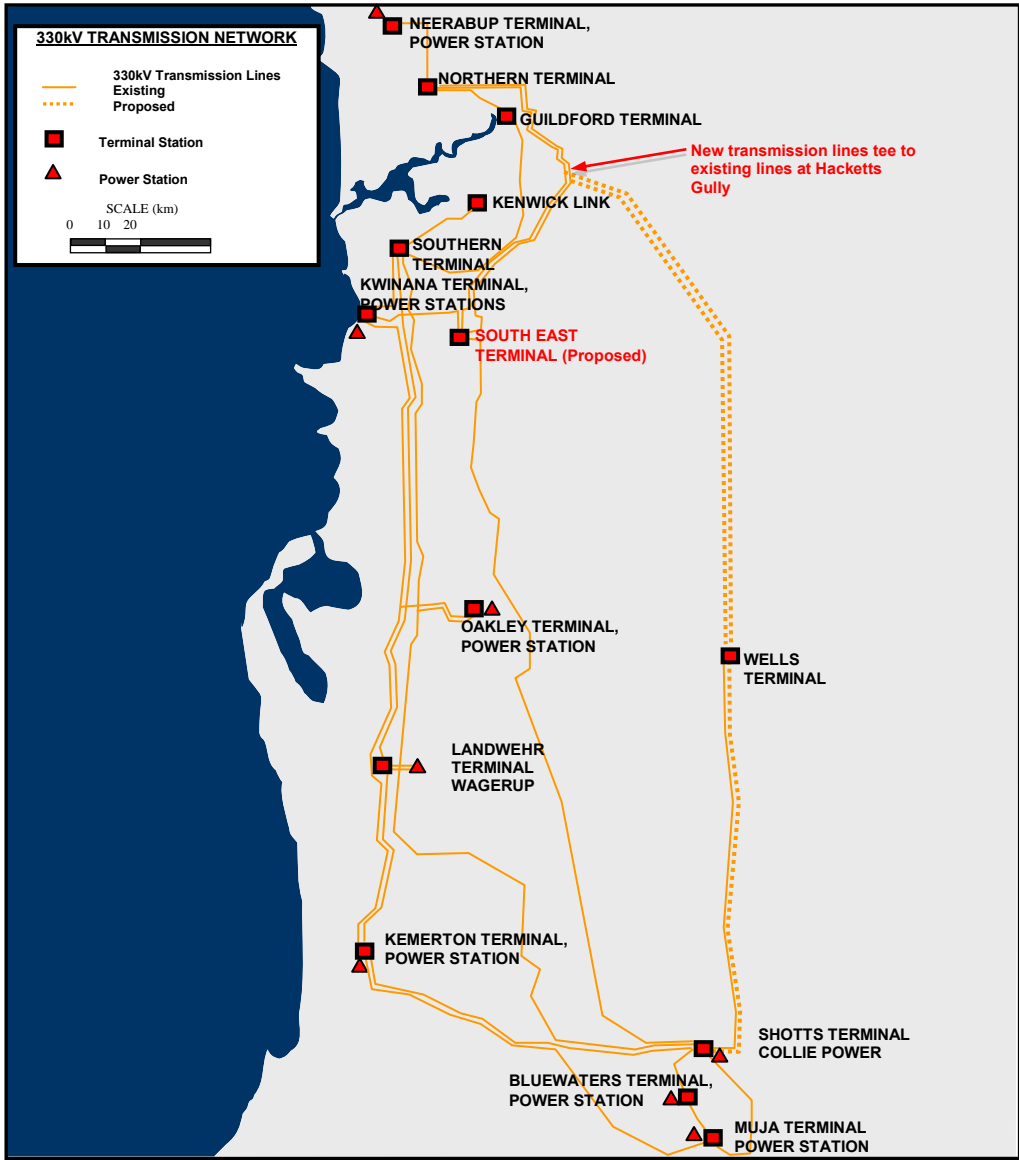
It was estimated to be \$1m per kilometre of 330 kV transmission line. This figure was seen to be conservative by a community member.

Another member of the community suggested that phase two costs should include an overall assessment of suitability of the substation site. When the project is reviewed it is proposed to include all costs in the planning horizon. At this moment in time the timing and scope of phase 2 is unknown and will be determined when the project is further reviewed in future.

What is the location for the new South East Terminal

Orton Rd, Oldbury

3. Line Route Map



- End of Report-