Proposed Transmission Line – Marlow Lagoon

Why does the new 66 kV line need to go here?

Due to the growth in demand for electricity services in the Darwin, Palmerston and East Arm areas more transmission infrastructure is necessary to meet that growing demand. Space for transmission corridors is always difficult to source, but provision has been made within the existing transmission corridor for this circuit and is what is being utilised in this case.

When will construction commence?

Construction is due to commence in May 2010.

How will the construction crews traverse the existing transmission corridor where fences have been erected?

Power and Water would like to speak with affected landowners and discuss the installation of gates within some of the existing fence lines crossing the easement at Power and Water's cost. This will assist with construction of the new line and allow ongoing maintenance activity to be conducted with minimal impact on the residents.

Why can't the new line be strung on the existing towers?

The existing towers have been designed for their existing bearing capacity and their strength would be compromised if loaded with more conductors. Also, with the new circuit being strung on independent poles it provides increased security of supply to the Darwin and Palmerston areas in the event of a problem with one of the towers.

Why can't the new line be strung on a gantry between to the 132kV towers?

This is not a viable option as under cyclone conditions there is an increased risk of losing both 132kV lines and unacceptable outage times while a gantry is being constructed.

Why can't the line be put underground?

The cost of underground 66kV versus overhead 66kV construction is about 5:1 ratio. Overhead construction is costing about $300,000 per kilometre whereas the underground equivalent would cost in the order of $1.5m per kilometre. It is also very rare for utilities to underground 66kV circuits as it can compromise system security during fault finding and maintenance activity. Power and Water will not be undergrounding 66kV circuits through Palmerston.

Why can't the new line be constructed on the western side of the existing transmission corridor?

Construction cannot be done on the western side as statutory clearances (13m) to existing buildings cannot be maintained.

What is the outcome of community consultation in relation to the position of the new line?

While still of greater operational risk than the original option to construct the line on the eastern side of the easement corridor, it has been agreed to construct the 66kV line between the existing 132kV towers. This will place poles 55m away from the easement boundary instead of 17m and will also result in one less pole. The pole heights next to existing towers will need to be increased from 17m to 19m with intermediate pole heights being reduced from 17m to 14.9m to reduce the risk of conductor clash under cyclonic conditions. This option will require approval from Palmerston City Council, Freightlink and the Northern Territory Government where their properties are affected.

Will towers or concrete poles be used for the new line?

Cylindrical spun concrete poles are to be utilised at 16-20m in height above ground level.

What types of activities are allowed within an electricity easement?

Details on the types of activities that are allowed within an electricity easement can be found at the following website link:
http://www.powerwater.com.au/__data/assets/pdf_file/0018/2709/NPO21.pdf

Will existing trees be removed from the route of the new transmission line?

Trees will be trimmed to within 5m of the new overhead line.

PowerWater