

Transmission line relocations



Transmission lines are the backbone for transferring electricity in Western Power's South West Interconnected Network.

Western Power operates and maintains the electricity network in the South West of Western Australia, ensuring a reliable electricity supply to the community. The voltage of the powerlines that make up the network varies, and according to their voltage level they are categorised as either transmission or distribution lines. Powerlines operating above 33,000 volts (33 kV) are designated transmission lines, and those below 33 kV are distribution lines. Generally speaking, higher voltage powerlines require bigger supporting poles and structures.

Requests for line relocations can come to Western Power as a result of many different types of customer-initiated projects. These can include land development, road works, building construction and infrastructure projects, and projects aimed at improving the aesthetics or usability of land. The customer can be an individual, a company, a council or a government authority.

Types of relocation work

- **General line relocation**

Such relocations can involve a range of work, from the movement of a single pole through to the relocation of a section of line. A combination of wood and steel poles are sometimes used in order to achieve the outcomes required by the customer.

- **Reconfiguration**

Reconfiguration occurs where the arrangement at the top of a pole is changed – for example to minimise the easement on an adjacent property, or to improve the separation between the line and an existing or proposed building. Reconfiguration work may also require poles to be changed.

- **Undergrounding**

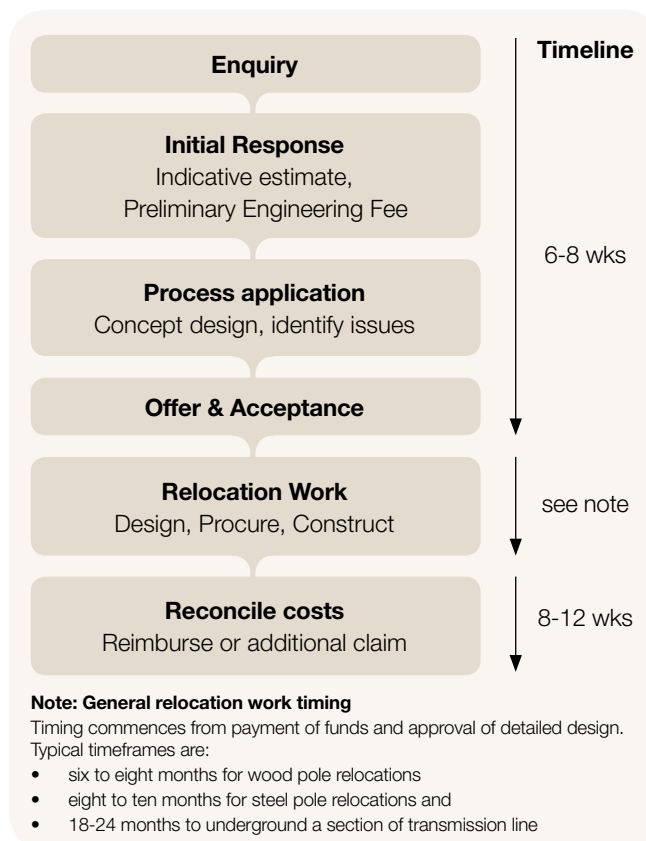
This form of relocation is usually chosen when no alternative overhead route exists, or where the customer needs to reduce the visual impact of a transmission line. The cost of undergrounding a transmission line is significantly greater than that of an overhead relocation.

- **Raising the line height**

Occasionally a customer's project will require the height of a transmission line to be increased – for example, to improve the separation between mobile plant or vehicles passing under or near the transmission line. This is generally done by installing taller wooden poles, or by replacing the wooden poles with steel poles.

Key steps in transmission line relocation

This high-level process flowchart outlines the key steps involved in transmission line relocations.



Costing

Each relocation project is quoted individually and costs vary considerably depending on the extent of the work required to achieve the customer's objectives.

Transmission line relocation work is 100% customer funded i.e. all costs associated with the transmission relocation or reconfiguration work are paid for by the customer.

Western Power will provide an initial response to a customer enquiry, which will give an indication of costs for the relocation works and request the payment of an upfront preliminary engineering fee to cover costs in preparing a formal offer. Should the preliminary engineering fee not be paid, Western Power will assume the customer does not require the relocation.

Upon receipt of payment of the preliminary engineering fee, Western Power can provide a formal offer within 6-8 weeks. This timeframe will vary depending on the complexity of the request and the information provided by the customer.

Prior to any work commencing the formal offer must be paid in full. Costs are reconciled on completion of the work, with the intention of recovering actual costs. A refund is issued when funds in excess of the actual costs have been collected. An additional invoice is issued when the actual cost of the work exceeds the initial cost estimate.



132 kV wood pole configured as a running post with overhead earth wire.



132 kV steel transition structure.

Customer considerations

The customer is responsible for the following tasks (where required):

- vegetation clearing, including obtaining approvals
- survey work
- obtaining approvals and consents, where the proposed relocation impacts upon another party (eg a landowner or government body)
- undertaking any studies required as a result of the proposed relocation works, such as Earth Potential Rise (EPR) studies or Low Frequency Induction (LFI) studies
- negotiating directly with other utilities to arrange the relocation of services – such as water, gas, telecommunications, etc – which may be affected by the transmission line relocation work
- arranging the registration of easements

Distribution line relocations

Information on projects requiring the relocation of distribution lines only, is available on Western Power's website.

Documentation and further information

For all enquiries please call **13 10 87**.

For more information on the Electricity Networks Access Code 2004, the Access Arrangement, the Applications and Queuing Policy, or the Capital Contribution Policy please refer to the Western Power website at **www.westernpower.com.au**

The information provided here is to be used as a guide only.