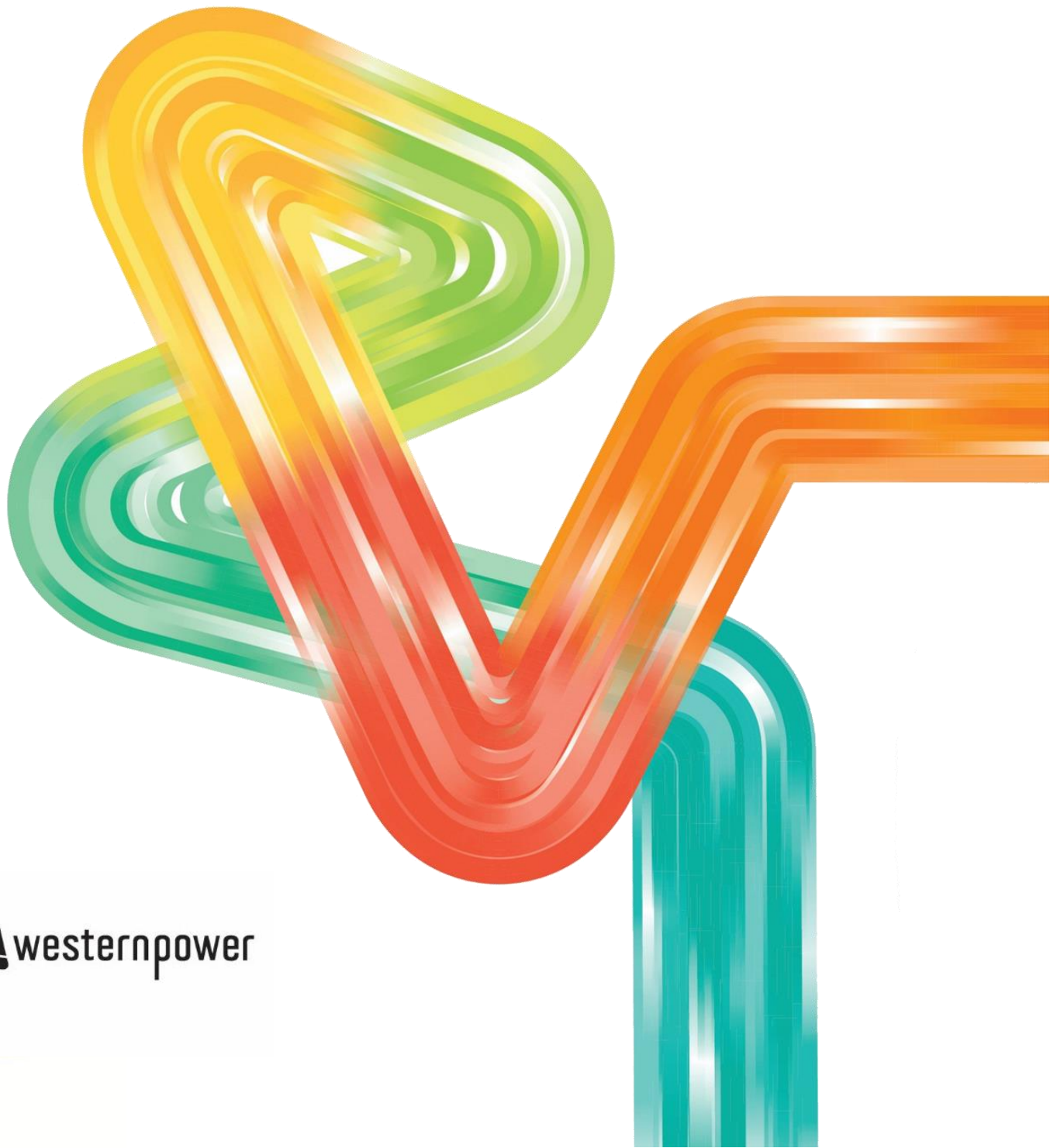


Total Transmission Cost Estimate for the Benchmark Reserve Capacity Price for 2026/27

30 August 2023



Contents

1. Introduction	1
2. Methodology	2
2.1 Western Power’s Contributions Policy and NFIT	2
3. Shallow Connection Costs	4
3.1 Substation	4
3.2 Overhead Line to Power Station	5
3.3 Easement for Overhead Line	5
3.4 Total Shallow Connection Cost	5
4. Results	6
4.1 Total Transmission Costs.....	6
4.2 Escalation Factor for Network Infrastructure	6
Appendix A Auditor's Report	A-1

1. Introduction

This document provides the calculation of the Transmission Connection Costs in accordance with Section 2.4 of the Market Procedure: Benchmark Reserve Capacity Price (BRCP), Version 7, developed by the Economic Regulation Authority (ERA).

Section 2.4.1 of the Market Procedure requires Western Power to use capital contributions from relevant users, to calculate an estimate of the Transmission Connection Costs. Western Power is obligated under relevant legislation to treat commercially sensitive customer information on a confidential basis. Hence individual customer capital contributions – which are required to calculate the Transmission Connection Costs – can't be publicly disclosed by Western Power. The Market Procedure recognises this, and consequently requires Western Power to appoint a suitable auditor to review the application of the process in step 2.4.1, on a confidential and independent basis. The Auditor's Report is included in Appendix A.

Section 2.4.2 of the Market Procedure requires Western Power to estimate the shallow connection costs that will be included in the Transmission Connection Costs, where relevant capital contribution data is not available, and calculate the average percentage escalation for electricity infrastructure assets, for use by the Economic Regulation Authority (ERA) elsewhere in the Market Procedure.

The ERA has requested Western Power use a specially tailored spreadsheet – that was provided and verified by the Australian Energy Market Operator's (AEMO) auditor – to implement the requirements of the Market Procedure. Western Power has collated customer capital contributions and shallow connection costs and included them in the spreadsheet provided by the ERA. The results are presented in this report.

2. Methodology

In accordance with the Market Procedure, Western Power must provide an estimate of the Transmission Connection Costs using the methodology specified.

In summary, the estimated Transmission Connection Cost is based on a weighted average over 5 years of the capital contributions (either paid historically or expected to be paid to Western Power under Access Offers and Western Power's Contribution Policy as approved by the ERA) only for generators that are capable of being gas or liquid fuelled.

The calculation must exclude any facility where:

- the significant driver for the location of the facility is the access to source energy (fuel or renewable) or the need to embed the generation with a load (electrical or heat); or
- the facility is connected on a shared distribution feeder; or
- the capital contribution does not relate to a significant increase in the Declared Sent Out Capacity associated with the facility.

Where no capital contributions have been paid in a particular year, an estimate of shallow transmission connection costs only for the works required to connect a relevant generator to the shared transmission is used.

Western Power must estimate the shallow transmission connection costs for the works required to connect a relevant generator to the shared transmission network in accordance with section 2.4.2 of the Market Procedure.

The estimate of shallow connection costs is also used to determine the basis of escalation of network infrastructure costs where relevant, and it is calculated as an average change over 5 years in the estimates calculated consistent with section 2.4.1.

For more details of the methodology, please see the Market Procedure:

<https://www.erawa.com.au/electricity/wholesale-electricity-market/market-procedures>

2.1 Western Power's Contributions Policy and NFIT

Actual transmission connection costs are governed by the Access Code 2004, the New Facilities Investment Test (NFIT), and Western Power's Access Arrangement including the Contributions Policy approved by the ERA.

In accordance with sections of Western Power's contributions policy, a contribution payable by a customer for any works is calculated by:

- determining the appropriate portion of any of the forecast costs of the works which do not meet the new facilities investment test or the alternative option test to allocate to the applicant,
- deducting the amount likely to be recovered in the form of new revenue gained from providing covered services to the applicant, or, if the applicant is a customer, to the customer's retailer, as calculated over the reasonable time, at the contributions rate of return.

Future capital contributions which may be required from users do not relate to the transmission component of the Benchmark Reserve Capacity Price (BRCP). Capital contributions required from new users

will be assessed individually and depend on the amount of network investment that may or may not pass NFIT which may ultimately be determined by the ERA.

3. Shallow Connection Costs

For the purposes outlined in step 2.4.1 of the Market Procedure, Western Power must estimate the shallow transmission connection costs for the works required to connect a relevant generator to the shared transmission network.

In summary, estimates in accordance with section 2.4.2 of the Market Procedure are required for the costs for the following:

- a substation,
- 2 km of overhead line to the power station, and
- an overhead line easement.

Each of these cost components are discussed below.

3.1 Substation

In accordance with the Market Procedure, the Transmission Connection Cost Estimate must include the cost of a generic three breaker mesh substation configured in a breaker and a half arrangement. The connection of the substation into the transmission line should be turn-in, turn-out and will be based on the most economical (i.e., least cost) solution. The typical three-switch mesh 330 kV substation configuration which has been used recently in the SWIS has been assumed as shown in the single line diagram in Figure 3.1

Figure 3.1: Three-switch mesh 330 kV substation configuration

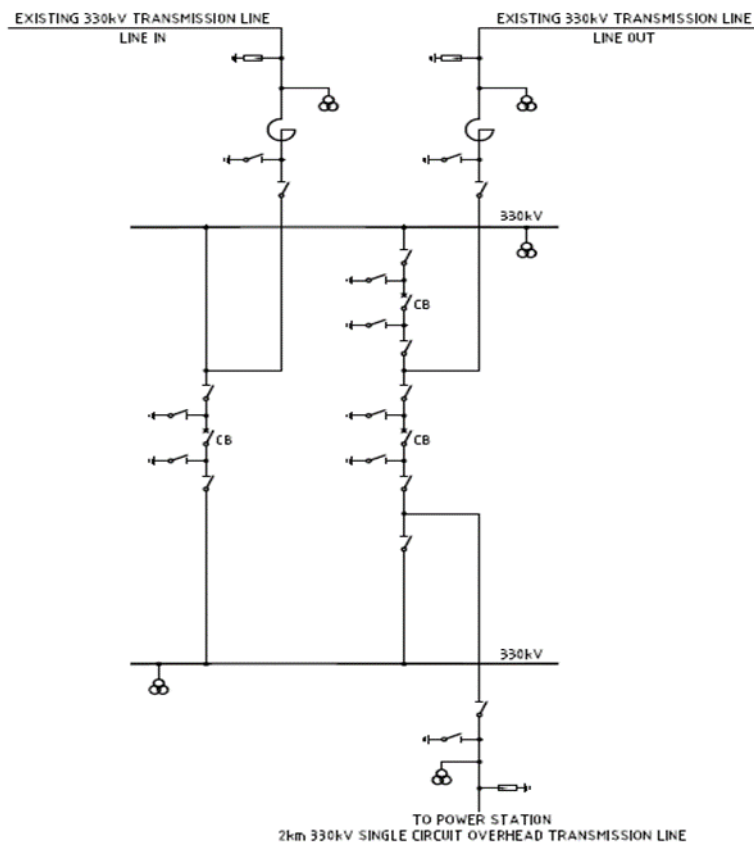


Table 3.1 lists the estimated costs of a typical new substation. It should be noted that the estimate does not include the cost of the land, nor does it consider any site-specific details.

Table 3.1: Total Substation cost

Description	Cost
330kV Breaker & Half 3 ocb, 3xCircuit Breakers, 3xGantry, 2xCircuits	\$5,250,000
Site Works - Terminal Station 1 Yard	\$3,490,000
Terminal Relay Room (Tilt Panel)	\$3,420,000
TOTAL	\$12,160,000

3.2 Overhead Line to Power Station

In accordance with the Market Procedure, the Transmission Connection Cost Estimate must include the cost for 2 km of 330 kV overhead single circuit line to the power station that will have one road crossing. It must be assumed that the transmission connection to the Power Station will be located on 50% flat - 50% undulating land, 50% rural - 50% urban location and there will be no unforeseen environmental or civil costs associated with the development.

Table 3.2 shows the estimated costs of the 2km transmission line connection.

Table 3.2: Connection Transmission Line Costs

Description	Cost
Connection Assets (Two kilometres of single circuit steel towers to connect the generator)	\$8,650,000

3.3 Easement for Overhead Line

In accordance with the Market Procedure, the cost of an easement for the 2km overhead line has been provided by the ERA in accordance with section 2.4.2(h) of the Market Procedure and is \$5,811,234.

3.4 Total Shallow Connection Cost

The Total Shallow connection costs calculated in accordance with section 2.4.2 of the Market Procedure is shown in Table 3.3.

Table 3.3: Total Transmission Connection Cost Estimate

Description	Cost
Substation	\$12,160,000
Transmission line	\$8,650,000
Line easement	\$5,811,234
TOTAL	\$26,621,234

4. Results

Western Power is required to provide an estimate of the Total Transmission Costs in accordance with section 2.4 of the Market Procedure: Benchmark Reserve Capacity Price. In accordance with the Market Procedure, Western Power has sought agreement with the ERA regarding which generators should be included in the calculation of the Transmission Connection Costs (if any) and has collated all relevant information including confidential capital contribution data and estimates of shallow connection costs for the current and previous years. However, no new generators that meet the requirements outlined in section 2.4.1 of the Market Procedure: Benchmark Reserve Capacity Price have been installed in the relevant period.

4.1 Total Transmission Costs

The Total Transmission Costs calculated for the 2024 BRCP, which will apply to the 2026/27 Capacity Year in accordance with the Market Procedure, is \$207,493 / MW. This is an increase of 5.90% when compared to the previous year's price.

4.2 Escalation Factor for Network Infrastructure

The escalation factor for network infrastructure calculated in accordance with section 2.4.1(d) of the Market Procedure is 2.52%.

Appendix A

Auditor's Report



Independent Limited Assurance Report to the Directors of Electricity Networks Corporation

Conclusion

Based on the evidence we obtained from the procedures performed, we are not aware of any material misstatements in the Total Transmission Cost Estimate for the Benchmark Reserve Capacity, which has been prepared by Electricity Networks Corporation (Western Power) in accordance with the Market Procedure: Benchmark Reserve Capacity Price.

Information Subject to Assurance

The information as presented in the Total Transmission Cost Estimate for the Benchmark Reserve Capacity Price for 2026/27 and available on the Economic Regulation Authority's website, comprised the following:

Section	Selected data and text statements	Page no.
Substation	• Table 3.1 Total Substation Cost	5
	• Table 3.2 Connection Transmission line Costs	5
	• Cost of easement for 2km overhead line	5
	• Table 3.3 Total Transmission Connection Cost Estimate	5
Results	• Total transmission costs and increase from prior year's price.	6
	• Escalation factor.	6

The Total Transmission Costs Estimate for the Benchmark Reserve Capacity Price for 2026/27 has been prepared by management and adopted by the directors in order to meet the requirements of the Market Procedure. There is a considerable degree of subjective judgement involved in preparing the Total Transmission Costs Estimate for the Benchmark Reserve Capacity Price for 2026/27 since it relates to event(s) and transaction(s) that have not yet occurred and may not occur. Actual results are likely to be different from the forecast since anticipated event(s) or transaction(s) frequently do not occur as expected and the variation may be material.

Management's best-estimate assumptions on which the Total Transmission Costs Estimate for the Benchmark Reserve Capacity Price for 2026/27 is based relate to future event(s) and/or

KPMG, an Australian partnership and a member firm of the KPMG global organisation of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. All rights reserved. The KPMG name and logo are trademarks used under license by the independent member firms of the KPMG global organisation. Liability limited by a scheme approved under Professional Standards Legislation.



transaction(s) that management expect to occur and are also subject to uncertainties and contingencies, which are often outside the control of Western Power. Evidence may be available to support management's best-estimate assumptions on which the forecast is based; however such evidence is generally future-oriented and therefore speculative in nature.

Criteria Used as the Basis of Reporting

The estimate of total connection costs is part of the calculation for the Benchmark Reserve Capacity Price as documented in the Market Procedure: Benchmark Reserve Capacity Price (*"the criteria"*).

Basis for Conclusion

We conducted our work in accordance with Australian Standard on Assurance Engagements ASAE 3000 (Standard). In accordance with the Standard we have:

- used our professional judgement to plan and perform the engagement to obtain limited assurance that we are not aware of any material misstatements in the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027, whether due to fraud or error;
- considered relevant internal controls when designing our assurance procedures, however we do not express a conclusion on their effectiveness; and
- ensured that the engagement team possess the appropriate knowledge, skills and professional competencies.

Summary of Procedures Performed

Our limited assurance conclusion is based on the evidence obtained from performing the following procedures:

- enquiries with relevant Western Power personnel to understand the internal controls, governance structure and reporting process of the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027;
- reviews of relevant documentation;
- analytical procedures over the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027;
- evaluating the appropriateness of the criteria with respect to the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027; and
- reviewed the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027 in its entirety to ensure it is consistent with our overall knowledge.

How the Standard Defines Limited Assurance and Material Misstatement

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Misstatements, including omissions, are considered material if, individually or in the aggregate, they could reasonably be expected to influence relevant decisions of the Directors of Western Power.



Use of this Assurance Report

This report has been prepared for the Directors of Western Power for the purpose of providing an assurance conclusion on the information subject to assurance and may not be suitable for another purpose. We disclaim any assumption of responsibility for any reliance on this report, to any person other than the Directors of Western Power, or for any other purpose than that for which it was prepared.

Management's responsibility

Management are responsible for:

- determining that the criteria is appropriate to meet their needs and the needs of the Economic Regulation Authority;
- preparing and presenting the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027 in accordance with the criteria; and
- establishing internal controls that enable the preparation and presentation of the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027 that is free from material misstatement, whether due to fraud or error.



KPMG

Our Responsibility

Our responsibility is to perform a limited assurance engagement in relation to the Total Transmission Cost Estimate for the Benchmark Reserve Capacity for 2026/2027, and to issue an assurance report that includes our conclusion.

Our Independence and Quality Management

We have complied with our independence and other relevant ethical requirements of the *Code of Ethics for Professional Accountants (including Independence Standards)* issued by the Australian Professional and Ethical Standards Board, and complied with the applicable requirements of Australian Standard on Quality Management 1 to design, implement and operate a system of quality management.


Michael Day
Partner
Perth

25 August 2023