



APPENDIX N

500kV Projects:

Incremental costs and Contingent Projects

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1 Introduction

In its Draft Decision, the AER did not accept Powerlink's proposed capital expenditure forecast for the 500kV suite of projects. The AER was "not satisfied that Powerlink has demonstrated the need for, and efficient costs of, such strategic expenditure"¹. The AER instead substituted Powerlink's forecast costs for the 500kV suite of projects with the costs that the AER considered would be associated with typical 275kV builds² and indicated that further material would need to be provided to demonstrate the need for, and efficient costs of, the incremental cost of developing a 500kV network which is to be initially operated as a 275kV network.

The AER commented in the Draft Decision that Powerlink may be able to include the 500kV incremental costs as a contingent project. The AER stated:

The AER, however, considers that Powerlink may be able to include the 500kV incremental costs as a contingent project in its revised revenue proposal. If so, Powerlink would need to identify an appropriate trigger event, such that the incremental cost of the 500kV network could be classified as a contingent project. An appropriate trigger event must satisfy the requirements in clause 6A.8.1(c) of the NER, and may include, though not be limited to, a RIT -T demonstrating the analysis of 275kV network options and evidence showing that easements will be unable to be acquired.³

In Powerlink's view, the analysis provided in Section 7.7 and Appendix M of the Revised Revenue Proposal is comprehensive and clearly demonstrates the efficiency and prudence of building the transmission network from South West to South East Queensland capable for 500kV operation. On the basis of the information provided by Powerlink in relation to the development of the 500kV network, Powerlink considers that the AER should accept the costs associated with the development of that network as complying with the requirements of the Rules in relation to forecast capital expenditure. As such Powerlink has not incorporated in its Revised Revenue Proposal the 'incremental cost' of the 500kV projects as a contingent project under Clause 6A.8.1. However, to the extent the AER determines in its Final Decision not to accept the relevant forecast amounts and instead considers that some of the forecast capital expenditure in respect of the 500kV incremental costs should be appropriately included as a contingent project (Clause 6A.6.7(e)(10)), Powerlink has provided the information in this appendix as an input to:

- The AER's determination of the forecast capital expenditure amounts that would need to be approved by the AER if the network was continued to be developed at 275kV; and
- The AER's determination of appropriate trigger events that meet the requirements of Clause 6A.8.1(c).

¹ Draft Decision, Powerlink Transmission Determination 2012-13 to 2016-17, p.29, AER, November 2011.

² In estimating the capex adjustment as a result of this substitution, EMCA and the AER underestimated the costs in the 2013-17 regulatory control period associated with a 275kV alternative. These are discussed in Section 2 of this appendix.

³ Draft Decision, Powerlink Transmission Determination 2012-13 to 2016-17, p.132, AER, November 2011.

2 Adjustment to Capital Expenditure Forecast

There are two material issues not captured in the AER’s Draft Decision capital expenditure adjustment for the 500kV suite of projects. These are discussed in this section and include:

- costs associated with additional 275kV easements; and
- calculation of 275kV project costs.

2.1 Costs associated with additional 275kV easements

In the AER’s Draft Decision, the AER observes that “Powerlink has assumed it will be unable to acquire 275kV easements for the project in the future and therefore needed to build on existing easements. The AER considers this should have been tested rather than assumed.”⁴

Powerlink has further tested this assumption by obtaining independent expert advice from IDM Partners and Norton Rose (provided to the AER on a confidential basis). Powerlink conclude from this independent advice that it would be unrealistic and unreasonable to expect that Powerlink would be able to secure the necessary approvals to build 275kV on the existing 500kV easements and acquire additional easements to preserve the necessary further development at 275kV.

In the event that the AER do not consider that Powerlink has sufficiently tested the inability to acquire further 275kV easements into SEQ and only allow 275kV costs, such a strategy would require the acquisition of additional strategic easements to assure its feasibility. The 2013-17 capital expenditure forecast needs to capture the costs associated with these additional strategic easements. Table 2.1 lists the additional costs associated with the acquisition and compensation of these strategic easements.

Table 2.1: Additional strategic easement requirements (\$m, 2011/12)

| Project description | Period capital expenditure |
|---|-----------------------------------|
| Western Downs – Halys 275kV easement widening acquisition | 0.3 [†] |
| Western Downs – Halys 275kV easement widening compensation | 5.2 [†] |
| Halys – Springdale 275kV easement widening acquisition | 3.9 |
| Halys – Springdale 275kV easement widening compensation | 20.1 |
| Springdale – Blackwall 275kV easement widening acquisition | 4.7 |
| Springdale – Blackwall 275kV easement widening compensation | 44.2 |
| Springdale – Greenbank 275kV easement widening acquisition | 3.5 [†] |
| Springdale – Greenbank 275kV easement widening compensation | 49.3 [†] |
| TOTAL | 131.3 |

[†] The AER Draft Decision included easement costs for 500kV construction. The costs listed in the table represent the additional costs required to continue transmission network development at 275kV.

2.2 Calculation of 275kV project costs

EMCa interpreted Powerlink’s advice that a factor of 1:1.95 should be applied to the total project costs to establish the cost of a 275kV build⁵. The factor provided by Powerlink was only for the transmission line component of the project. Essentially, applying the factor to the total project cost

⁴ Draft Decision, Powerlink Transmission Determination 2012-13 to 2016-17, p.131, AER, November 2011.

⁵ Draft Decision, Powerlink Transmission Determination 2012-13 to 2016-17, footnote 282, p.124, AER, November 2011.

incorrectly reduces the cost of other components (such as substation works) which are common to both options. Table 2.2 provides the 2013-17 period capital expenditure for 275kV builds calculated using Powerlink’s estimating methodology, probabilistic planning methodology and capital expenditure forecasting methodology.

Table 2.2: Capital expenditure of 275kV build (\$m, 2011/12)

| Project description | Powerlink revised proposal period 500kV capital expenditure | Period capital expenditure 275kV build |
|--|---|--|
| Halys – Blackwall | 379.9 | 231.0 |
| Western Downs – Halys (circuits 3 and 4) | 261.4 | 148.3 |
| Halys – Greenbank | 149.2 | 84.9 |
| Western Downs – Halys (circuits 5 and 6) | 0.0 | 0.0 |
| TOTAL | 790.5 | 464.2 |

2.3 Capex forecast adjustment

Section 2.1 lists costs associated with additional strategic easements required to support the 275kV augmentation approach to supply SEQ. Section 2.2 establishes the appropriate costs of 275kV builds in the 2013-17 regulatory period. Table 2.3 combines these to provide the appropriate capital expenditure forecast adjustment to apply to Powerlink’s Final Decision in the event that AER were to determine in the Final Decision that the forecast costs for the 500kV suite of projects should be substituted with forecast costs for 275kV builds.

Table 2.3: Capex adjustment for 275kV costs (\$m, 2011/12)

| Adjustment | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | Total |
|---|--------------|--------------|--------------|------------|---------------|---------------|
| 500kV Projects in Revised Revenue Proposal | 45.3 | 98.0 | 264.5 | 142.7 | 240.0 | 790.5 |
| 275kV alternative project required in capex | 32.7 | 73.7 | 223.5 | 146.0 | 119.6 | 595.5 |
| Capex adjustment | -12.7 | -24.3 | -41.0 | 3.4 | -120.4 | -195.0 |

3 Additional Project Details

3.1 Specific projects

In the event the AER determines in the Final Decision that the 500kV incremental costs should be included as a contingent project they could include:

- CP.01875 Halys to Blackwall 500kV operating at 275kV;
- CP.01477.2 Western Downs to Halys 500kV DCST operating at 275kV; and
- CP.01470 Halys to Greenbank 500kV DCST operating at 275kV.

These are the specific locations required to address the Rules Clause 6A.8.1(c)(3).

3.2 Trigger events

In the event that AER considers the uncertainty of 500kV build warrant the inclusion of incremental costs under Clause 6A.8.1 (b) of the Rules, Powerlink would suggest the following trigger events would be appropriate for each contingent project:

- Forecast requirement for power flow into South East Queensland exceeds the capability of line easements already acquired if these are developed at 275kV;
- Independent expert advice concludes that additional easements for 275kV development options will require lengths of underground cable sections. The length of required undergrounding will make these 275kV options uneconomic; and
- Establish through the Regulatory Investment Test for Investment (RIT-T) public consultation and cost-benefit analysis framework that the 500kV construction is the credible option⁶ that maximises net economic benefit.

3.3 Indicative incremental costs

The indicative incremental costs are the cost difference between the actual cost of delivering the contingent project and the 275kV allowance provided in the 2013-17 capital expenditure forecast. Indicative incremental costs are provided in Table 3.1.

Table 3.1: Contingent projects indicative costs (\$m, 2011/12)

| Project Description | Indicative cost of 500kV | 275kV build | 275kV strategic easements no longer required | Indicative incremental cost [†] |
|---|--------------------------|-------------|--|--|
| Halys – Blackwall | 379.9 | 231.0 | 60.9 | 88.0 |
| Western Downs – Halys (3 rd and 4 th circuit) | 311.3 | 148.3 | 5.5 | 157.5 |
| Halys – Greenbank | 530.9 | 84.9 | 64.9 | 381.1 |

[†] Shown amount for full project expenditure (includes 2013-17 and 2018-22 regulatory periods).

⁶ National Electricity Rules Clause 5.6.5D (a), a credible option is defined as an option or group of options that addresses the identified need, is (or are) commercially and technically feasible, and can be implemented in sufficient time to meet the identified need, and is (or are) identified as a credible option in accordance with Rules Clause 5.6.5D (b) (that may include non-network option).

3.4 Addressing Rules requirements

Clause 6A.8.1(b) of the Rules sets out the requirements that the AER must be satisfied of in order to include a *contingent project* in a *Revenue Determination*. These requirements, and their applicability to Powerlink’s suite of 500kV projects, are summarised in Table 3.2.

Table 3.2: Summary of Rules requirements and applicability to Powerlink’s suite of 500kV projects

| NER Clause | Rules requirement | Applicability |
|------------|---|---|
| 6A.8.1 (a) | A Revenue Proposal may include proposed contingent capital expenditure, which the Transmission Network Service Provider considers is reasonably required for the purpose of undertaking a proposed contingent project. | Powerlink considers that <i>capital expenditure</i> is reasonably required for the purposes of building a 500kV capable network on the remaining existing easements into SEQ. |
| 6A.8.1 (b) | The <i>AER</i> must determine that a <i>proposed contingent project</i> is a <i>contingent project</i> if the <i>AER</i> is satisfied that: | |
| | (1) the <i>proposed contingent project</i> is reasonably required to be undertaken in order to achieve any of the <i>capital expenditure objectives</i> ; | The specific <i>projects</i> are required to meet the <i>capital expenditure objectives</i> in relation to reliability and security of demand supply, and regulatory obligations (Rules requirement 6A.6.7(a)). |
| | (2) the <i>proposed contingent capital expenditure</i> : (i) is not otherwise provided for (either in part or in whole) in the total of the forecast capital expenditure for the relevant <i>regulatory control period</i> which is accepted in accordance with clause 6A.6.7(c) or substituted in accordance with clauses 6A.13.2(b)(4) and (5) (as the case may be); (ii) reasonably reflects the <i>capital expenditure criteria</i> , taking into account the <i>capital expenditure factors</i> , in the context of the <i>proposed contingent project</i> as described in the <i>Revenue Proposal</i> ; and (iii) exceeds either \$10 million or 5% of the value of the <i>maximum allowed revenue</i> for the relevant <i>Transmission Network Service Provider</i> for the first year of the relevant <i>regulatory control period</i> whichever is the larger amount; | The capital expenditure is set out in Section 3.3 of this appendix. |

| NER Clause | Rules requirement | Applicability |
|------------|---|--|
| | (3) the <i>proposed contingent project</i> and the <i>proposed contingent capital expenditure</i> , as described or set out in the <i>Revenue Proposal</i> , and the information provided in relation to these matters, complies with the requirements of <i>submission guidelines</i> made under clause 6A.10.2; and | Capital expenditure in relation to these projects is addressed in Section 7.7 of the Revised Revenue Proposal. For compliance, refer to Appendix A for Powerlink’s Revised Revenue proposal submission guidelines checklist. |
| | (4) the <i>trigger events</i> in relation to the <i>proposed contingent project</i> which are proposed by the <i>Transmission Network Service Provider</i> in its <i>Revenue Proposal</i> are appropriate. | The <i>triggers events</i> are set out in Section 3.2 and the appropriateness of these <i>trigger events</i> is considered in the Table 3.3. |

National Electricity Rules Clause 6A.8.1 (c) of the Rules sets out the factors the AER must have regard to in determining whether a *trigger event* for a contingent project is appropriate. Powerlink’s assessment of the *trigger events* in satisfying these factors is set out in Table 3.3.

Table 3.3: Summary of trigger event Rules requirements

| NER Clause | Rules requirement | Applicability |
|------------|--|---|
| 6A.8.1 (c) | In determining whether a <i>trigger event</i> in relation to a <i>proposed contingent project</i> is appropriate for the purposes of subparagraph (b)(4), the <i>AER</i> must have regard to the need for: | |
| | (1) a <i>trigger event</i> to be reasonably specific and capable of objective verification; | Powerlink considers the <i>trigger events</i> set out in Section 3.2 are specific to the justification for building 500kV capable transmission lines on the existing overhead transmission line easements into SEQ and that this can be objectively verified. |
| | (2) a <i>trigger event</i> to be a condition or event, which, if it occurs, makes the undertaking of the <i>proposed contingent project</i> reasonably necessary in order to achieve any of the <i>capital expenditure objectives</i> ; | Powerlink considers that if the <i>trigger events</i> set out in Section 3.2 occur then it will be reasonably necessary to undertake the <i>contingent project</i> to meet the <i>capital expenditure objectives</i> in relation to reliability and security of demand supply, and regulatory obligations (Rules requirement 6A.6.7(a)). |
| | (3) a <i>trigger event</i> to be a condition or event that generates increased costs or categories of costs that relate to a specific location rather than a condition or event that affects the <i>transmission network</i> as a whole; | The <i>trigger events</i> will generate increased costs in building a 500kV capable network on the specific transmission corridors between Halys and Blackwall / Greenbank and between Western Downs and Halys. In several instances this will be on easements already/to be acquired by Powerlink. It is not a <i>trigger event</i> that affects the <i>transmission network</i> as a whole. |

| NER Clause | Rules requirement | Applicability |
|------------|---|--|
| | <p>(4) a <i>trigger event</i> to be described in such terms that the occurrence of that event or condition is all that is required for the <i>revenue determination</i> to be amended under clause 6A.8.2; and</p> | <p>Powerlink considers that if the <i>trigger events</i> occur then no further triggers are required to be satisfied for the <i>revenue determination</i> to be amended.</p> |
| | <p>(5) a <i>trigger event</i> to be an event or condition, the occurrence of which is probable during the <i>regulatory control period</i>, but the inclusion of capital expenditure in relation to it under clause 6A.6.7 is not appropriate because:</p> <p>(i) it is not sufficiently certain that the event or condition will occur during the <i>regulatory control period</i> or if it may occur after that <i>regulatory control period</i> or not at all; or</p> <p>(ii) subject to the requirement to satisfy clause 6A.8.1(b)(2)(iii), the costs associated with the event or condition are not sufficiently certain.</p> | <p>Powerlink has included the <i>trigger events</i> as the AER was not satisfied that the conditions described by the <i>trigger events</i> have previously occurred or that they would certainly occur during the <i>regulatory control period</i>.</p> |

4 Conclusion

Powerlink has included the incremental costs of the 500kV suite of projects in the Revised Revenue Proposal capital expenditure forecast, and maintains that on the basis of the information and evidence it has provided to the AER that the AER should be satisfied that those forecast amounts should be included in Powerlink's forecast capital expenditure. In the event the AER does not accept the inclusion of the 500kV suite of project incremental costs in the allowance, they should be included as contingent projects. This appendix provides the information that, in Powerlink's view, the AER requires to make any adjustment to forecast capital expenditure amounts to remove the incremental costs of the 500kV build and to define and identify trigger events for the contingent projects. Powerlink is willing to discuss and provide further information to the AER and its consultants, if required, to ensure the incremental costs of the 500kV suite of projects is either included in the capital expenditure allowance or as contingent projects.