



## **Appendix H**

### **Proposed Contingent Projects 1 July 2008 to 30 June 2013**



## **Proposed Contingent Projects**

**1 July 2008 to 30 June 2013**

**31 May 2007**

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## **1. Eyre Peninsula Reinforcement**

### **1.1 Project Description**

Construction of new transmission lines and associated substation works to reinforce the radial supply to the Eyre Peninsula region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and cost of the project.

### **1.2 Trigger Event**

An increase in demand in the lower Eyre Peninsula region exceeding the published 2013-14 aggregated demand forecast for the region by 15 MW<sup>1</sup>.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **1.3 Project Requirement**

The new Electricity Transmission Code (ETC) allows ElectraNet to contract Agreed Maximum Demand up to 120% of transmission line capacity for Category 1, 2 and 3 connection points under system normal operating conditions.

The connection points (and new ETC load categories) currently supplied via the radial 132 kV network on the Eyre Peninsula are Middleback (1), Yadnarie (2), Wudinna (2) and Port Lincoln (3).

A step load in the lower Eyre Peninsula region exceeding 15 MW during the regulatory period will cause demand to exceed the ETC 120% transmission line capacity requirement. Additional network support in the region cannot satisfy the ETC requirement.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **1.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$150 million.

This estimate is based on the establishment of a new double circuit 275 kV line from Cultana to Yadnarie (initially energised at 132 kV) and a double circuit 132 kV line from Yadnarie to Port Lincoln.

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<sup>1</sup> Aggregate of connection point demand forecasts for the region published by the ESIPC in its 2007 Annual Planning Report.

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The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **1.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## 2. Riverland Reinforcement

### 2.1 Project Description

Construction of new transmission lines and associated substation works to reinforce the Riverland region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and cost of the project.

### 2.2 Trigger Event

An increase in demand in the Riverland region exceeding the published 2013-14 aggregated demand forecast for the region by 30 MW<sup>2</sup> or publication by VENCORP of available Murraylink dispatch into South Australia that is insufficient to provide the necessary network support to meet ETC reliability standards in the Riverland region.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### 2.3 Project Requirement

ElectraNet is required to provide continuous N-1 equivalent transmission line and transformer capacity at these connection points in accordance with the new ETC reliability standards (Load Category 4).

Murraylink is contracted through its connection agreement with ElectraNet to provide such additional installed line capacity (up to the maximum power transfer capability of the interconnector) as is necessary at times of high load to satisfy ElectraNet's obligation under the ETC in relation to the Berri/ Monash connection point.

VENCORP has advised ElectraNet that Murraylink capability is falling by approximately 5 MW per 100 MW increase in Victorian demand at times of peak demand.

An unplanned outage of the Robertstown – North West Bend #2 132 kV transmission line will result in the thermal overloading of the Robertstown – North West Bend #1 132 kV transmission line, voltages below the minimum standards specified in the Rules and potential voltage collapse if Murraylink cannot provide sufficient network support. A second emerging limitation is that the loss of one of the two Robertstown 275/132 kV transformers will result in the thermal overloading of the remaining unit.

Based on the most recent ETSA Utilities load forecasts, the timing of these N-1 capacity run-outs is shown in the following graph (2014/2016/2018 for high, medium and low load forecasts in both South Australia and Victoria respectively).

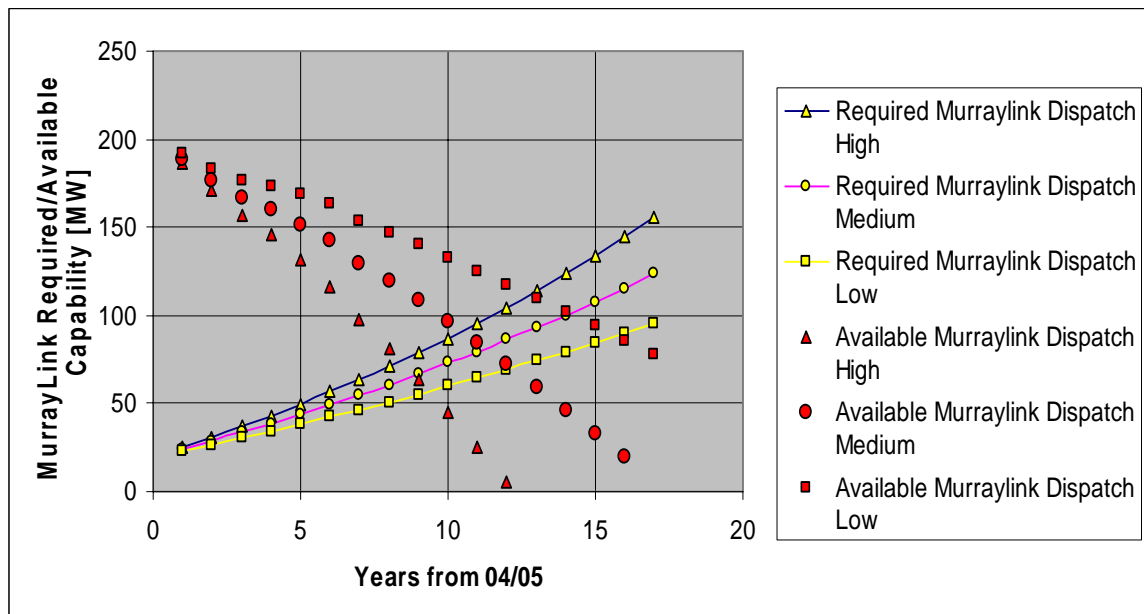
A demand increase of sufficient magnitude on either the South Australian or Victorian side of Murraylink will bring forward the run-out of Murraylink capacity to provide the network support required to meet the ETC reliability standards.

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<sup>2</sup> Aggregate of connection point demand forecasts for the region published by the ESIPC in its 2007 Annual Planning Report.



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If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services, comply with all applicable regulatory obligations associated with the provision of prescribed transmission services and maintain the quality, reliability and security of supply of prescribed services.

### 2.4 Contingent Capital Expenditure

The proposed contingent project is estimated to cost \$130 million.

This estimate is based on constructing a double circuit 275 kV line from Robertstown to Monash and replacing the existing Berri and Monash 132/66 kV transformations with a more efficient 275/66 kV transformation. The rebuilding of one of the existing 132 kV transmission lines connecting Monash to Berri substations as a double circuit 66 kV line is also included in the scope of the project.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### 2.5 Demonstration of Rules Compliance

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;

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- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

### **3. Yorke Peninsula Reinforcement**

#### **3.1 Project Description**

Construction of a new transmission line and associated substation works in the Yorke Peninsula region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

#### **3.2 Trigger Event**

An increase in demand in the Yorke Peninsula region exceeding the published 2013-14 aggregated demand forecast for the region by 25 MW<sup>3</sup>.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

#### **3.3 Project Requirement**

In about 2024, an unplanned outage of the Waterloo – Hummocks 132 kV transmission line will result in the thermal overloading of the Bungama – Hummocks 132 kV transmission line, voltages below the minimum standards specified in the Rules and potential voltage collapse.

An unexpected demand increase in the Yorke Peninsula region exceeding 25 MW will cause these emerging limitations to occur during the regulatory period.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services, comply with all applicable regulatory obligations associated with the provision of prescribed transmission services and maintain the quality, reliability and security of supply of prescribed services.

#### **3.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$41 million.

This estimate is based on construction of a Brinkworth-Kadina East 132 kV transmission line.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be

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<sup>3</sup> Aggregate of connection point demand forecasts for the region published by the ESIPC in its 2007 Annual Planning Report.

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required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **3.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (f) not otherwise provided for in the total forecast capital expenditure;
- (g) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (h) exceeds the contingent project threshold as set out in 1.4;
- (i) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (j) has an appropriately defined trigger event as set out in 1.2.

## **4. South East Reinforcement**

### **4.1 Project Description**

Establishment of a new 275/132 kV substation and minimal associated transmission line works in the South East region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **4.2 Trigger Event**

An increase in demand in the South East region exceeding the published 2013-14 aggregated demand forecast for the region by 15 MW<sup>4</sup>.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **4.3 Project Requirement**

In about 2015, an unplanned outage of a South East 275/132 kV transformer will result in the thermal overloading of the remaining unit at South East, voltages below the minimum standards specified in the Rules and potential voltage collapse. The capacity made available from a control scheme implemented during the current period to avoid this transformer overload will run-out at this time.

An unexpected demand increase in the South East region exceeding 15 MW will cause these emerging limitations to occur during the regulatory period.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services, comply with all applicable regulatory obligations associated with the provision of prescribed transmission services and maintain the quality, reliability and security of supply of prescribed services.

### **4.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$33 million.

The estimate is based on the establishment of a new 275/132 kV transformation substation west of Penola with minimal transmission line works to connect the substation into both a Tailem Bend to South East 275 kV transmission line and the Kincaig to Penola West 132 kV transmission line.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

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<sup>4</sup> Aggregate of connection point demand forecasts for the region published by the ESIPC in its 2007 Annual Planning Report.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **4.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3;
- (e) and has an appropriately defined trigger event as set out in 1.2.

## **5. Bungama Reinforcement**

### **5.1 Project Description**

Installation of additional transformer capacity at Bungama in the Mid North region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **5.2 Trigger Event**

An increase in demand in the Port Pirie area exceeding the published 2013-14 aggregated demand forecast for the area by 20 MW<sup>5</sup>.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **5.3 Project Requirement**

In about 2015, an unplanned outage of the Bungama 275/132 kV transformer will result in the thermal overloading of the Brinkworth to Bungama 132 kV transmission line, voltages below the minimum standards specified in the Rules and potential voltage collapse.

An unexpected demand increase in the Port Pirie area exceeding 20 MW will cause these emerging limitations to occur during the regulatory period.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services, comply with all applicable regulatory obligations associated with the provision of prescribed transmission services and maintain the quality, reliability and security of supply of prescribed services.

### **5.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$12 million.

This estimate is based on installing a second 200 MV.A 275/132 kV transformer at Bungama.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be

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<sup>5</sup> Aggregate of connection point demand forecasts for the region published by the ESIPC in its 2007 Annual Planning Report.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **5.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.



## **6. Southern Suburbs**

### **6.1 Project Description**

Installation of additional transformer capacity at Morphett Vale East substation supplying the Southern Suburbs of Metropolitan Adelaide.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **6.2 Trigger Event**

An increase in demand in the Southern Suburbs of Adelaide exceeding the published 2013-14 demand forecast for the Southern Suburbs by 35 MW<sup>6</sup>.

This trigger event is specific and capable of objective verification, relates to a specific location, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **6.3 Project Requirement**

In about 2015, an unplanned outage of a Morphett Vale East 275/66 kV transformer will result in the thermal overloading of the remaining unit.

An unexpected demand increase in the Southern Suburbs exceeding 35 MW will cause this emerging limitation to occur during the regulatory period.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **6.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$16 million.

This estimate is based on installing a third 225 MV.A 275/66 kV transformer at Morphett Vale East.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

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<sup>6</sup> Connection point demand forecast for the Southern Suburbs published by the ESIPC in its 2007 Annual Planning Report.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **6.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **7. Playford (Davenport) to Leigh Creek 132kV Transmission Line**

### **7.1 Project Description**

Up-rating of the Playford (Davenport) to Leigh Creek 132 kV transmission line.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **7.2 Trigger Event**

An increase in demand on the Playford (Davenport) to Leigh Creek 132 kV transmission line more than 25 km from the Playford (Davenport) end exceeding the published 2013-14 aggregated demand forecasts for existing loads connected to this line by 10 MW<sup>7</sup>.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **7.3 Project Requirement**

The existing Playford to Leigh Creek 132 kV transmission line is designed with a thermal rating of 49°C (120°F), which has been shown to be inadequate for Australian summer climactic conditions. The line does, however, have marginally adequate rating for the magnitude of the loads currently connected.

An unexpected load increase anywhere along this line will be beyond the thermal capability of the line, breaching conductor to ground clearances.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services, comply with all applicable regulatory obligations associated with the provision of prescribed transmission services and maintain the reliability, safety and security of the transmission system.

### **7.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$11 million.

This estimate is based on rebuilding 25 km of the Playford (Davenport) to Leigh Creek 132 kV transmission line. Up-rating the existing line is not considered practical with the existing transmission line structures.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated

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<sup>7</sup> Aggregate of connection point demand forecasts for existing loads connected to this line published by the ESIPC in its 2007 Annual Planning Report.

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cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **7.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **8. Fleurieu Peninsula Reinforcement**

### **8.1 Project Description**

Construction of a new transmission line and establishment of a new substation and DNSP connection point in the Fleurieu Peninsula.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **8.2 Trigger Event**

DNSP application to connect in accordance with Chapter 5 of the National Electricity Rules and successful completion of the Regulatory Test by the DNSP.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **8.3 Project Requirement**

The existing and rapidly increasing ETSA Utilities loads at Victor Harbour and Goolwa are currently supplied via a radial 66 kV network supplied from Willunga.

ETSA Utilities has advised that the capacity of this distribution system is expected to run out by 2014 and that any unexpected demand increase above current demand forecasts will advance the need for this development.

If the trigger event occurs the proposed contingent project would reasonably be required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **8.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$65 million.

This estimate is based on the construction of a new 275 kV double circuit transmission line from the existing Tungkillo to Cherry Gardens or Cherry Gardens to Morphett Vale East 275 kV circuits to Square Water Hole, the site of a new ETC Category 4 275/66 kV connection point substation.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **8.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **9. Murray Mallee Reinforcement**

### **9.1 Project Description**

Establishment of a new DNSP connection point substation and associated transmission line works in the South East region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **9.2 Trigger Event**

DNSP application to connect in accordance with Chapter 5 of the National Electricity Rules and successful completion of the Regulatory Test by the DNSP.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **9.3 Project Requirement**

The existing ETSA Utilities loads at Geranium, Lameroo and Pinnaroo are currently supplied via a radial 33 kV network supplied from Tailern Bend.

ETSA Utilities has advised that the capacity of this distribution system is expected to run out by 2015 and that any unexpected demand increase above current demand forecasts will advance the need for this development.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **9.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$34 million.

This estimate is based on the construction of a new ETC Category 1 132/33 kV connection point substation with a single 25 MV.A transformer connected via a radial 132 kV transmission line from the proposed Coonalpyn West substation.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **9.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.



## **10. Munno Para Reinforcement**

### **10.1 Project Description**

Establishment of a new DNSP connection point substation in the vicinity of Munno Para.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **10.2 Trigger Event**

DNSP application to connect in accordance with Chapter 5 of the National Electricity Rules and successful completion of the Regulatory Test by the DNSP.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **10.3 Project Requirement**

The existing ETSA Utilities loads in the Para 66 kV system are currently supplied via ElectraNet's 275/66 kV transformers at Para and Parafield Gardens West substations.

ElectraNet is required to provide continuous N-1 transmission line and transformer contingency capacity at these connection points in accordance with ETC reliability standards (Load Category 4).

An unplanned outage of a Para transformer will cause thermal overloading of the remaining unit when the Para system demand reaches about 410 MW. Based on the most recent ETSA Utilities demand forecasts, the timing of this N-1 capacity run-out would occur in 2013/2014/2015 for the high, medium and low load forecasts respectively.

An unexpected demand increase of about 30 MW in the distribution system will advance this emerging limitation into the forecast regulatory period.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **10.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$26 million.

This estimate is based on the construction of a new 275/66 kV substation with a single 225 MV.A transformer connected to the existing Para to Bungama 275 kV transmission line.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **10.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **11. Lucindale West Reinforcement**

### **11.1 Project Description**

Establishment of a new DNSP connection point in the South East region of South Australia.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **11.2 Trigger Event**

DNSP application to connect in accordance with Chapter 5 of the National Electricity Rules and successful completion of the Regulatory Test by the DNSP.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **11.3 Project Requirement**

The existing ETSA Utilities loads at Kingston in the South East and Lucindale are currently supplied via a radial 33 kV network supplied from Kincaig.

ETSA Utilities has advised that the capacity of this distribution system is expected to run out by around the end of the 2008-2013 regulatory period, the exact timing being highly dependent upon potential new loads. Any unexpected demand increase above the current forecast will advance the need for this development.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **11.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$17 million.

This estimate is based on the construction of a new ETC Category 4 132/33 kV connection point substation with 2x25 MV.A transformers connected to the existing Snuggery-Keith 132 kV transmission line.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **11.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **12. Western Suburbs Reinforcement**

### **12.1 Project Description**

Establishment of a new DNSP connection point in the Western Suburbs of Adelaide.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **12.2 Trigger Event**

DNSP application to connect in accordance with Chapter 5 of the National Electricity Rules and successful completion of the Regulatory Test by the DNSP.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **12.3 Project Requirement**

The existing ETSA Utilities loads in the Western Suburbs 66 kV system are currently supplied via ElectraNet's 275/66 kV transformers at Kilburn, Torrens Island and Le Fevre substations.

ElectraNet is required to provide continuous N-1 transmission line and transformer contingency capacity at these connection points in accordance with the ETC reliability standards (Load Category 4).

An unplanned outage of either a Torrens Island or Le Fevre transformer will cause thermal overloading of the Kilburn transformer when the Western Suburbs load reaches about 570 MW. Based on the most recent ETSA Utilities demand forecasts, the timing of this N-1 capacity run-out occurs in 2015/2016/2017 for the high, medium and low load forecasts respectively.

An unexpected demand increase in the Western Suburbs distribution system exceeding 30 MW during the regulatory period will cause these emerging limitations to occur during the regulatory period and exceed the ETC capacity requirement.

If the trigger event occurs the proposed contingent project would be required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services and to comply with all applicable regulatory obligations associated with the provision of prescribed transmission services.

### **12.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$15 million.

This estimate is based on the installation of a new ETC Category 4 275/66 kV connection point transformer at the proposed City West substation or at Kilburn, depending on the location of demand growth within the Western Suburbs.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **12.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **13. Tailem Bend to Tungkillo Reinforcement**

### **13.1 Project Description**

Transmission line works between Tailem Bend and Tungkillo substations and associated substation works.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **13.2 Trigger Event**

Application of the Regulatory Test demonstrating that the project would deliver net market benefits.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **13.3 Project Requirement**

If generation connects at Tailem Bend or in between Tailem Bend and Tungkillo substations, then the proposed contingent project could deliver net market benefits by removing Heywood interconnector flow constraints.

If the trigger event occurs the proposed contingent project would deliver net market benefits and be reasonably required to meet the Rules capital expenditure objective to efficiently meet the expected demand for prescribed transmission services over the regulatory control period.

### **13.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$41 million.

This estimate is based on stringing the vacant 275 kV circuit from Tailem Bend to Tungkillo and populating diameters at both Tungkillo switching station and Tailem Bend substation.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **13.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.



## **14. Parafield Gardens West**

### **14.1 Project Description**

Turning the existing Torrens Island to Cherry Gardens 275 kV transmission line into Parafield Gardens West Substation.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **14.2 Trigger Event**

Application of the Regulatory Test demonstrating that the project would deliver net market benefits.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **14.3 Project Requirement**

Pelican Point generation is currently constrained to 260 MW under both planned and unplanned single transmission line outage conditions.

If Pelican Point, Torrens Island or Western Suburbs generation expands sufficiently, the proposed contingent project could deliver a net market benefit by removing the constrained operation of this generation.

If the trigger event occurs the proposed contingent project would deliver net market benefits and be reasonably required to meet the Rules capital expenditure objective to efficiently meet the expected demand for prescribed transmission services over the regulatory control period.

### **14.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$14 million.

This estimate is based on turning the existing Torrens Island to Cherry Gardens 275 kV transmission line into Parafield Gardens West Substation.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

## **14.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **15. Para – Brinkworth – Davenport 275kV transmission lines**

### **15.1 Project Description**

Up-rating of the thermal capacity of the existing Para-Brinkworth-Davenport 275 kV transmission lines.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **15.2 Trigger Event**

Application of the Regulatory Test demonstrating that the project would deliver net market benefits.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **15.3 Project Requirement**

The existing Para – Brinkworth – Davenport 275 kV transmission lines are currently being up-rated from their original 49°C to 65°C thermal capacity. This has been identified as adequate to accommodate the existing loading on the transmission network.

However, the thermal capacity of this line could need to be increased further if expansion of generation at Hallet or similar mid-point location between Adelaide and Port Augusta occurs.

If the trigger event occurs the proposed contingent project would deliver net market benefits and be reasonably required to meet the Rules capital expenditure objective to efficiently meet the expected demand for prescribed transmission services over the regulatory control period.

### **15.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$12 million.

This estimate is based on up-rating the thermal capacity of the existing Para-Brinkworth-Davenport 275 kV transmission lines from 65°C to 80°C thermal capacity.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

## **ElectraNet Proposed Contingent Projects – 31 May 2007**

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **15.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **16. Heywood Interconnection Capacity Upgrade**

### **16.1 Project Description**

Upgrade of the Heywood interconnector capacity.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **16.2 Trigger Event**

Application of the Regulatory Test demonstrating that an upgrade would deliver net market benefits.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **16.3 Project Requirement**

If the trigger event occurs the proposed contingent project would deliver net market benefits and would reasonably be required to meet the Rules capital expenditure objective to efficiently meet the expected demand for prescribed transmission services over the regulatory control period.

### **16.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$80 million.

This estimate is based on upgrading the interconnector capacity to 630 MW (+170 MW) for import to South Australia by adding series capacitors at Black Range, stringing the vacant Tailem Bend to Tungkillo 275 kV circuit, and associated works at both Tungkillo and Tailem Bend substations. The cost estimate does not include supporting works required in Victoria.

The methodology used for developing the forecast cost estimate was to adopt the estimate included in Inter Regional Planning Committee "Assessment of the 2005 ANTS conceptual augmentations: Verification Studies", 8 February 2006.

It is plausible that a higher capacity upgrade of the interconnector could also deliver net market benefits.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

## **16.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.

## **17. Northern Transmission Reinforcement**

### **17.1 Project Description**

Construction of new transmission lines and associated substation works in the Upper North region of South Australia and other supporting works to maintain existing capacity between Adelaide and Port Augusta.

ElectraNet considers that the project should be accepted as a contingent project for the regulatory period because of uncertainty about the trigger event occurring and the scope and costs of the project.

### **17.2 Trigger Event**

Customer application to connect in accordance with Chapter 5 of the National Electricity Rules and a regulatory ruling that required network assets should be treated as providing prescribed transmission services.

This trigger event is specific and capable of objective verification, relates to a specific location or locations, and is probable but too uncertain to include the proposed contingent project in the capital expenditure forecast.

### **17.3 Project Requirement**

The proposed BHP Billiton Olympic Dam expansion project will add anything upwards of 400 MW of load onto ElectraNet's transmission network. The existing transmission system is unable to accommodate the proposed Olympic Dam expansion.

Both the timing and magnitude of the expansion project and, therefore, the transmission requirements are uncertain at this time. There is also uncertainty about whether the works will be required to provide prescribed transmission services or be limited to negotiated and non-regulated transmission services.

If the trigger event occurs the proposed contingent project would be reasonably required to meet the Rules capital expenditure objectives to efficiently meet expected demand for prescribed transmission services, comply with all applicable regulatory obligations associated with the provision of prescribed transmission services and maintain the quality, reliability and security of supply of prescribed services.

### **17.4 Contingent Capital Expenditure**

The proposed contingent project is estimated to cost \$250 million.

This estimate is based on the construction of a new 275 kV double circuit transmission line from Davenport substation to Olympic Dam, dynamic and static reactive requirements at Davenport and works to maintain existing transmission capacity between Adelaide and Port Augusta.

The methodology used for developing the forecast cost estimate is described in section 5.7.7 of ElectraNet's Revenue Proposal.

ElectraNet notes that by definition it is generally not possible to accurately define the scope of a proposed contingent project at this early stage. Therefore, the estimated

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cost of the project is indicative only. A detailed project scope and cost estimate will be required before any amendment to the revenue determination is considered by the AER should the specified trigger event occur during the regulatory period.

The estimated contingent capital expenditure exceeds the applicable contingent project threshold of \$10.3 million (see section 5.9 of ElectraNet's Revenue Proposal).

### **17.5 Demonstration of Rules Compliance**

ElectraNet considers that the project should be accepted as a contingent project for the regulatory control period as it is:

- (a) not otherwise provided for in the total forecast capital expenditure;
- (b) reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (c) exceeds the contingent project threshold as set out in 1.4;
- (d) is reasonably required to achieve the capital expenditure objectives as set out in 1.3; and
- (e) has an appropriately defined trigger event as set out in 1.2.