

## **Supply to Broken Hill**

### **1.1. Background**

This contingent project has been established to ensure reliability of supply to Broken Hill.

The reliability standard for the upcoming regulatory period finalised by IPART on 22 December 2016 adds an unserved energy allowance requirement to the standard of redundancy currently in place.

The expected unserved energy allowance for Broken Hill is 10 minutes. TransGrid may be required to provide additional capacity to supply Broken Hill in the event that the total 220 kV and 22 kV load at Broken Hill exceeds the capacity of the backup gas turbines owned by Essential Energy and expected unserved energy exceeds the unserved energy allowance.

### **1.2. Project Description**

TransGrid considers that this project should be accepted as a contingent project for the 2019-2023 regulatory period because of the uncertainty of the trigger events occurring.

### **1.3. Trigger Event**

The proposed triggers for this contingent project are:

- Notification from Essential Energy of available capacity of backup generation at Broken Hill that would result in expected unserved energy exceeding 10 minutes at average demand.
- Successful completion of economic evaluation demonstrating that a network investment is the most efficient option to meet the applicable electricity transmission reliability standard.
- TransGrid Board commitment to proceed with the project subject to the AER amending the revenue determination pursuant to the Rules.

The triggers are specific and capable of objective verification, relate to a specific location or locations, and are probable but too uncertain to include the proposed contingent project in the ex-ante capital expenditure forecast.

### **1.4. Project Requirement**

Two options were identified and considered to address the Need. However, both the timing and scope of this project, and therefore the transmission requirements, are uncertain at this point in time and depend on the outcome of the economic evaluation.

The two identified options (including scope of works) are:

- Establishment of a new 260 km 220 kV transmission line parallel to the existing Line X2 route, terminating at new switch bays at Buronga and Broken Hill substations
- Operation of the existing 22 kV gas-turbines from cold-start, using battery storage to supplement the load during the gas-turbine start-up phase and beyond in order to supply the excess load (greater than GT capacity) until the line X2 is restored. The gas-turbine is expected to take up to 1 hour to supply the 220 kV mine load.

### 1.5. Contingent Capital Expenditure

The preferred option will be identified based on the outcome of the economic evaluation process, which will take place in the event this contingent project is triggered. However, the likely preferred option is to supplement the gas-turbine operating with battery storage. This is based on the lowest cost option to meet the IPART reliability standard for Broken Hill 220 kV load.

Total estimated cost will be **\$59 million (Nominal)**.

TransGrid 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. In accordance with clause 6A.8.2(b)(3), 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.

Consistent with clause 6A.8.1(b)(iii) of the NER, the range of estimated contingent capital expenditure exceeds the applicable contingent project threshold of the larger of either \$30 million or \$40 million.<sup>1</sup>

### 1.6. Demonstration of Rules Compliance

TransGrid considers that this project should be accepted as a contingent project for the forthcoming regulatory control period as it complies with the provisions set down in clause 6A.8.1(b) of the NER as:

- (a) it is reasonably required to achieve the capital expenditure objectives as set out in 1.4 above;
- (b) it is not otherwise provided for in the total forecast capital expenditure;
- (c) it reasonably reflects the capital expenditure criteria, noting that the costs are an estimate at this point;
- (d) it exceeds the contingent project threshold as set out in 1.5 above;
- (e) it complies with the requirements of the Submission Guidelines; and
- (f) it has an appropriately defined trigger event as set out in 1.3 above.

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<sup>1</sup> This represents 5% of the value of the maximum allowed revenue for the first year of the regulatory control period.