Decision

Contingent project application: ElectraNet

Adelaide Central reinforcement project

November 2009

AUSTRALIAN ENERGY REGULATOR

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1 Introduction

The AER accepted in the 2008 ElectraNet revenue determination[1] that the Adelaide Central reinforcement works as a contingent project due to the need to meet new ETC reliability standards requiring N–1 transmission line and substation capacity for at least 100 per cent of agreed maximum demand.

The change to the standard resulted from investigations by the Electricity Supply Industry Planning Council of South Australian (ESIPC)[2], and was implemented into the SA-ETC by the responsible state regulator, ESCOSA. The standard broadly required two separate transmission supply points for the Adelaide CBD, where currently the Adelaide CBD is served by only one transmission circuit.

At the time of the 2008 determination there was uncertainty surrounding the project, in particular on the route of the line, technology (whether over head or underground) and consequently the likely cost. As a result of this uncertainty it was made a contingent project, with an indicative cost of $105 million being given.

The indicative cost given by the AER relates only to the line works, with the substation component having already been included in the revenue cap approved by the AER The AER stated that the trigger events for this project were the successful completion of the regulatory test and the receipt of development approval for the project.[3]

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ElectraNet's application submits final forecast capital expenditure for the project of $136.1 million. The ACR line project includes:

- A new underground cable from Torrens Island Power Station (TIPS) to the proposed new Adelaide substation (City West substation)
- Substation works at each end to connect the cable and allow for required shunt reactors
- Associated design, investigations, planning and management.

[1] AER, ElectraNet transmission determination 2008-09 to 2012-13, 11 April 2008, p. 139.

[2] ESPIC is now part of the Australian Energy Market Operator (AEMO)

[3] AER, ElectraNet transmission determination 2008-09 to 2012-13, 11 April 2008, p. 139.

[4] AER, ElectraNet transmission determination 2008-09 to 2012-13, 11 April 2008, p. 139.

2 Regulatory framework

2.1 National Electricity Rules

Under clause 6A.8.2 of the NER, ElectraNet must demonstrate to the AER's satisfaction that the relevant trigger event relating to a contingent project has occurred before an assessment of any adjustments to ElectraNet's maximum allowed revenue (MAR). Where a trigger event has occurred, the scope of the contingent project must not include any projects (or associated project scope) that were contained in ElectraNet's approved ex ante capex allowance.

If the AER is satisfied that the trigger event has occurred, and that the forecast of the total capital expenditure for the contingent project meets the threshold, under the 6A.8.2(e)(1) it must determine:

- the amount of capital and incremental operating expenditure, for each remaining regulatory year which the AER considers is reasonably required for the purpose of undertaking the contingent project;
- the total capital expenditure which the AER considers is reasonably required for the purpose of undertaking the contingent project;
- the likely commencement and completion dates for the contingent project; and
- the incremental revenue which is likely to be required by the Transmission Network Service Provider in each remaining regulatory year as a result of the contingent project being undertaken.

2.2 AER 2008–09 to 2012–13 revenue determination

The contingent project requirements of the AER were set out in the 2008 revenue determination as follows;[5]

Where ElectraNet makes a contingent project application, it is expected to comply with the contingent project guideline and accordingly, either before or during the pre-lodgement consultation it is expected to develop feasible options and costs that address the need for the project. The AER expects ElectraNet to provide best available supporting information with its contingent project application, which would generally include:

- the final regulatory test assessment
- tender submissions

[5] AER, ElectraNet transmission determination 2008-09 to 2012-13, 11 April 2008, p. 134.

- contracts
- other investment appraisals.

3 AER considerations

3.1 Trigger events

The AER consider that the trigger events for the Adelaide CBD contingent project have occurred. ElectraNet successfully completed the regulatory test[6] on 24 August 2009 and received development approval on 23 September 2009.[7]

3.2 Information provided

Based on an assessment by the AER and its consultant, Nuttall Consulting, the AER considers that ElectraNet has provided the AER with sufficient information to constitute a compliant application. Specifically, ElectraNet has provided the information required under clause 6A8.2 of the NER and, on a confidential basis, the requisite tender and contractual material as set out in the determination.

3.3 Total capital expenditure

The AER considerations in relation to the contingent project application are informed by ElectraNet's application and supporting documents, expert advice by the AER's consultant Nuttall Consulting and the AER's own analysis.

3.3.1 Public consultation

On 14 October 2009, the AER published ElectraNet's contingent project application, calling for submissions from interested parties by 28 October 2009. The AER did not receive any submissions on the contingent project application.

3.3.2 Justification of project selection (regulatory test)

The SA Electricity Transmission Code effectively requires ElectraNet to arrange for a transmission augmentation to a site on the western side of the Adelaide CBD by 2012.[8] ElectraNet undertook a regulatory test to satisfy its obligation to conduct an investment appraisal of options for the project. The AER consider that this investment appraisal as part of the contingent project application is consistent with the requirements under the NER.

[6] Regulatory Test final report available on ElectraNet website.
[7] Appendix B in ElectraNet's Contingent Project Application.
[8] SA Electricity Transmission Code, July 2008, p.12

Four technically feasible 275kV supply sources were available for the new substation; TIPS switchyard to the north-west, Kilburn to the north, Magill to the east, and Happy Valley to the south. Analysis revealed that supply from Magill, Happy Valley or Kilburn would each require additional costly reinforcement to ensure that the underlying transmission network supplying those substations had sufficient capacity and security to deliver reliable supply to the new substation.

The Regulatory Test analysis was applied to a combination of the four supply source options and three short-listed potential substation site options. The results of the analysis demonstrated that supplying the new City West substation from TIPS was the preferred option.

The TIPS line corridor option was then subjected to further detailed investigation, and seven alternative line route options, involving a variety of corridors and construction methods, were identified and subjected to detailed economic analysis. These included both overhead line and underground cable options.

Present value analysis of the seven line route options between Torrens Island and City West revealed that an all underground cable solution mainly following Port Road, was the preferred line route option by a clear margin. The regulatory test therefore recommends that an all underground cable solution mainly following Port Road was the preferred line route. This recommendation is made based on the least cost test (in accordance with the regulatory test) to meet ElectraNet's reliability standard.

ESIPC (now AEMO) endorsed the preferred line route option as follows: "It is the Planning Council's considered view that ElectraNet's preferred line option, namely, an underground cable running predominantly along Port Road from Torrens Island to the new City West substation, meets the requirements of the Regulatory Test and the South Australian Transmission Code."

3.3.3 AER review

The AER engaged Nuttall Consulting to assist reviewing the contingent project application.

3.3.3.1 Consideration of the regulatory test

Based upon its review, Nuttall Consulting has advised the AER that they consider that the need for the project has been established and ElectraNet's preferred solution is reasonable. Of particular note in this regard is the previous AER determination and associated technical advice, which accepted the need as a necessary pre-requisite to incorporating an allowance for a contingent project in the ElectraNet determination.

Further, ElectraNet undertook a fairly rigorous consultation with the ESIPC to determine the preferred route and technology during the regulatory test process. This culminated with the ESIPC endorsing the preferred solution. The AER considers these processes to have been rigorous: a comprehensive suite of augmentation options were considered in an open consultation process, significant investigation of likely costings were performed and a final report consistent with those investigations has been prepared and published.

3.3.3.2 Consideration of the cost estimates

Nuttall Consulting has concluded that the expenditure estimates provided in the contingent project application reasonably represent prudent and efficient costs, particularly given that they are largely based upon a competitive tender process. To assist the AER's considerations, Nuttall Consulting has provided a comparison of the more significant cost components with cost information available through recent AER decisions.

In relation to the tender process and the cable costs (which account for over 60 per cent of the total cost of the project) Nuttall Consulting found that, allowing for the voltage and cable ratings, the ElectraNet proposed cable costs appear reasonable. Nuttall Consulting considered that ElectraNet's position that the cable costs, based upon the lowest cost compliant tenderer, can be used as the efficient costs for this item in its application, is reasonable.

In relation to ElectraNet's overall capital cost estimate though Nuttall Consulting recommended two minor reductions, amounting to a 4 per cent ($5.5m) reduction in estimated costs. These reductions relate to:

- A reduction of $1.82 million in the proposed project risk costs of $12.0 million. This places the risk costs at the 50 per cent confidence limit (rather than the proposed 80% limit), which is considered a more appropriate position given the limited level of "up-side" risk assessment that appears to have been performed. Possible upside risks assessed by Nuttall Consulting include savings in the finalisation of the tender process if the least cost tender can meet technical requirements.

- A reduction of $3.65 million to project delivery costs of $18.3 million. This assumes delivery costs will be 12 per cent of construction costs (rather than the 15% proposed), which is considered an appropriate position given recent AER decisions and the limited detail supporting the ElectraNet delivery costs.

The AER and its consultant sought further information from ElectraNet which was duly considered. However, the AER is not satisfied that ElectraNet has demonstrated that project delivery costs of 15 per cent are prudent and efficient. Instead it has concluded the 15 per cent allowance sought by ElectraNet is excessive and should be replaced with standard project delivery costs of 12 per cent. This reduction in project delivery costs is consistent with recent AER decisions and reflects the lack of supporting evidence provided by ElectraNet to support higher project delivery costs of 15 per cent.

The AER also considers that ElectraNet has failed to demonstrate that they had appropriately considered the up-side risks in their assessment of the project. Exchange rate changes are the only upside risk for the project identified by ElectraNet. Given this failure to give sufficient regard to potential upside risks, it is considered that the 80 per cent confidence limit has not been justified. The AER considers therefore that the 80 per cent confidence limit should be replaced with a 50 per cent confidence limit.

3.4 Capital expenditure and operating expenditure for each remaining regulatory year

Apart from the two matters noted in the previous section, the AER believes that the bulk of expenditure forecasts reflect efficient and prudent costs, with the tender process revealing the efficient costs of the cable.

The AER has approved total expenditure for the ACR line works project of $131.38 million, a reduction of $5.6 million compared to that applied for by ElectraNet. The $5.6 million reduction results from amendment of project delivery costs to a 12 per cent benchmark figure, the project risk confidence limit to 50 per cent and recalculation of equity raising costs. Table 1 sets out the incremental capex and opex the AER considers necessary in each of the remaining years.

Table 1: Incremental capex and opex, 2007-08 ($m)

	2008-09	2009-10	2010-11	2011-12	2012-13	Total
Capex	4.8	13.5	90.8	21.4	-	130.5
Opex	-	-	0.01	0.30	0.57	0.88
Total	4.8	13.5	90.81	21.7	0.57	131.38

The AER has also verified that ElectraNet's methodology used to determine operating expenditure is based on the same process approved by the AER in the 2008 revenue determination.

3.5 Commencement and completion dates

ElectraNet has informed the AER that work will commence on the project in April 2010 and it will be completed by 31 December 2011. The proposed commencement and completion dates, while not specific, are considered reasonable given the scope and nature of the project and the requirements of the SA Electricity Transmission Code.

3.6 Incremental revenue required for each remaining regulatory year

The AER has approved a $30.11 million increase to ElectraNet's revenue cap, $1.5 million lower than ElectraNet's application. Table 2 demonstrates the change in the revenue requirement resulting from the changed expenditure.

Table 2: Change in the revenue requirement ($m nominal)

	2008-09	2009-10	2010-11	2011-12	2012-13	Total
Existing revenue cap	229.99	245.26	269.29	288.59	306.43	1339.57
Amended revenue cap	229.99	245.70	271.0	299.25	323.74	1369.68
Difference	0.00	0.44	1.71	10.65	17.31	30.11

The AER has also assessed the incremental revenue associated with the contingent project and confirm that it is consistent with the requirements of the PTRM used by the AER in the 2008 revenue determination.

3.7 The MAR for each remaining regulatory year

The AER has also verified that the appropriate net capital expenditure allowance and incremental operating expenditure for the project has been correctly inputted into the PTRM.

4 AER decision

The AER has considered ElectraNet's contingent project application relating to the Adelaide CBD Reinforcement project in accordance with the 2008 revenue determination and the National Electricity Rules.

The AER notes that the regulatory test was finalised on 24 August 2009 and the proposed option was endorsed without amendment. The AER also note that development approval was received on 23 September 2009. The AER are, therefore, satisfied that ElectraNet has met these obligations.

The AER considers that the tender process that ElectraNet has engaged in has revealed the likely efficient costs of the cable and that the future expenditure estimates for the project broadly represent efficient and prudent costs.

The AER, however, considers that ElectraNet's proposed project risk and project delivery costs have not been fully justified. ElectraNet have not provided sufficient evidence to justify project delivery costs of 15 per cent or a project risk limit of 80 per cent for assessing project risks.

The AER is satisfied, therefore, that the proposed expenditure of $131.38 million reflects:

- efficient costs
- the costs a prudent operator would incur
- a 'realistic expectation' of demand forecasts and cost inputs.

Accordingly, the AER has:

- determined that the amounts specified in ElectraNet's application meet the requirements in the 2008 revenue determination and NER.
- approved amending ElectraNet's 2008-09 to 2012-13 revenue cap to allow for the increase in costs attributable to commencing the project. The amended MAR of $1,368.38 million is based on a revised X factor of –5.93 per cent (revised from -5.97 per cent in the 2008 revenue determination).

Table 3: Amended maximum allowed revenue, ($m nominal)

	2008-09	2009-10	2010-11	2011-12	2012-13	Total
MAR (smoothed)	229.99	250.01	271.78	295.44	321.16	1368.38
X factor	-	-5.93%	-5.93	-5.93%	-5.93	