



FINAL DECISION

Early application of the network capability component of the service target performance incentive scheme for ElectraNet

May 2015

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1 Introduction

1.1 Background

Under the National Electricity Rules (Electricity Rules), the AER creates, maintains and administers the service target performance incentive scheme (STPIS) for Transmission Network Service Providers (TNSPs). The purpose of the STPIS is to provide incentives to TNSPs to maintain a high level of service for the benefit of participants in the National Electricity Market (NEM) and end users of electricity.

On 20 December 2012 the AER published version 4 of the STPIS in which the network capability component (NCC) was introduced. The NCC provides an incentive equal to 1.5 per cent of Maximum Allowed Revenue (MAR) subject to the completion of projects that improve the capability of the transmission network at times most needed. The component is designed to influence a TNSP's operation and management of its network assets to develop one-off projects that can be delivered through low cost operational and capital expenditure (up to a total of 1 per cent of a TNSP's proposed MAR). The Australian Energy Market Operator (AEMO) plays a part in prioritising the projects to deliver best value for money for consumers.

On 19 February 2015, the Australian Energy Market Commission (AEMC) approved the addition of clause 11.77 of the Electricity Rules which enabled the early application of the NCC in the middle of the regulatory control period. On 27 March 2015, ElectraNet applied to the AER for the early application of the NCC. As required by the Electricity Rules, ElectraNet's application will be assessed against the latest version, version 4.1¹ of the STPIS.²

1.2 Summary of AER decision

A summary of the AER's final decision on whether to apply the NCC to ElectraNet during its current regulatory control period is as follows:

- accept ElectraNet's proposed state date of 1 July 2015
- approve the six priority projects proposed by ElectraNet and the ranking of those priority projects

¹ On 28 May 2014, the AER amended the STPIS, publishing version 4.1 of the scheme. Version 4.1 of the STPIS did not make any amendments to the NCC.

² National Electricity Rules, Clause 11.77.1.

1.3 ElectraNet proposal for early application

In its request for early application, ElectraNet proposed to commence the NCC within its current regulatory control period on a start date of 1 July 2015 and a network capability incentive parameter action plan (NCIPAP) consisting of six priority projects. A priority project is defined as a project proposed in the TNSP's NCIPAP which addresses one or more of the limits identified on its transmission network.³ Of the six projects:

- four relate to increasing transfer capacity across the Murraylink and Heywood interconnectors by increasing the conductor clearances of these lines.
- two are planning studies to better understand and model the South Australian transmission network under disturbed conditions.

Table 1 below provides a summary of ElectraNet's proposed priority projects.

Table 1: Summary of ElectraNet proposed priority projects

Rank	Project	Description	Improvement Target	Capex (\$M)	Opex (\$M)	Total (\$M)	Payback period
1	Upper South East uprating	Increase conductor clearance of Upper South East lines	Increase the rating of the Taillem Bend to Tungkillo 275kV line by 146 MVA (summer) / 118 MVA (winter) and Taillem Bend to Mobilong 132 kV line by 42 MVA (summer) / 29 MVA (winter).	2.30	0	2.3	0.87 years
2	Riverland uprating	Increase conductor clearance of Riverland lines	Increase the rating of the Robertstown - Morgan Whyalla Pump (MWP) No.3 132 kV line, MWP No.3 to MWP No.2 132 kV line, MWP No.2 to MWP No.1 132 kV line and MWP1 - North West Bend 132 kV line each by 42 MVA (summer) / 32 MVA (winter) and the North West Bend to Monash 132 kV circuit #2 by 31 MVA (summer) / 32 MVA (winter)	4.43	0	4.43	1.79 years
3	Robertstown Waterloo East uprating	Increase conductor clearance of Robertstown Waterloo lines	Increase the rating of the Robertstown to MWP No.4 132 kV line and the Waterloo East to MWP No.4 132 kV line by 42 MVA (summer) / 32 MVA (winter)	1.33	0	1.33	4.26 years

³ Version 4.1 (V4.1) STPIS, Clause 5.2(b)(2),.

Rank	Project	Description	Improvement Target	Capex (\$M)	Opex (\$M)	Total (\$M)	Payback period
4	Load model enhancements	Examination of load behaviour under disturbed system conditions	Progress reports and final assessment report including model validations against system events to be compiled	0.04	0.07	0.11	N/A
5	Distributed rooftop solar PV response to frequency	Examination of PV load behaviour under disturbed system conditions	Progress reports and a final assessment report including model validations against system events to be compiled	0	0.05	0.05	N/A
6	Lower South East uprating	Increase conductor clearance of Lower South East lines	Increase the rating of South East to Taillem Bend 275 kV #1 and #2 lines each by 109 MVA (summer) / 93 MVA (winter)	1.83	0	1.83	5.78 years

Source: ElectraNet NCIPAP, AEMO endorsement letter. Available at the AER website on: <http://www.aer.gov.au/node/31390>.

AEMO endorsement of NCIPAP priority projects

The Electricity Rules require that ElectraNet's proposal for early application of the NCC comply with clauses 5.2(b)-(j) and (q) of the STPIS.⁴ This includes a requirement for a TNSP to consult with AEMO prior to submitting its NCIPAP.

ElectraNet has, prior to the submission of its proposal to the AER, worked with AEMO to identify and quantify the market benefits of projects proposed by ElectraNet. AEMO conducted an independent assessment of those projects and endorsed ElectraNet's priority projects as it considers that they will bring value to customers.⁵

1.4 Preliminary examination and AER determination on compliance with information requirements

Clause 11.77.3(c) of the Electricity Rules requires the AER to, within ten business days of receiving ElectraNet's proposal, make a determination on whether ElectraNet's proposal complies with the relevant information requirements of the submission guidelines in respect

⁴ National Electricity Rules, clause 11.77.3(b)(3).

⁵ AEMO, 20 March 2015, Letter to ElectraNet endorsing NCIPAP for 1 July 2015 to 30 June 2018. Available on the AER website at: <http://www.aer.gov.au/node/31390>.

of the relevant STPIS. The AER made a determination that ElectraNet's proposal satisfied these requirements and ElectraNet were notified on the 13 April 2015.⁶

1.5 Consultation

Clause 11.77.3(f) of the Electricity Rules requires the AER to publish ElectraNet's proposal for public consultation. On 8 April 2015 the AER published ElectraNet's proposal and invited written submissions from interested parties by 13 May 2015.

One submission was received from the South Australian Council of Social Service (SACOSS).

2 AER final decision

The AER must make a final decision on whether to apply the NCC on ElectraNet's proposal in accordance with clauses 11.77.3(h)-(n) of the Electricity Rules. A final decision must include a decision on:

- the start date from which the network capability component will apply to ElectraNet in their current regulatory period, and
- whether to approve ElectraNet's priority projects and the ranking of such projects,

setting out the reasons for the decision.⁷

In making the final decision, the AER must consider ElectraNet's proposal and any written submissions received on the proposal.⁸

In determining whether to approve a priority project and the ranking of such projects, the AER is to apply clauses 5.2(k)-(q) of the relevant STPIS and consider any submissions received.⁹

A priority project is a project proposed in the TNSP's NCIPAP submitted to the AER which addresses one or more of the limits identified on its transmission network.¹⁰

Under the STPIS, the AER must approve a priority project if it is consistent the requirements in the STPIS.¹¹ The key requirements in the STPIS are:

- the proposed increase in network capability (known as the improvement target) must result in a material benefit,¹²

⁶ AER, 13 April 2015, Letter to ElectraNet on whether application for early implementation of the NCC complies with information requirements. Available on the AER website at: <http://www.aer.gov.au/node/31390>.

⁷ National Electricity Rules, clause 11.77.3(k).

⁸ National Electricity Rules, clause 11.77.3(h).

⁹ National Electricity Rules, clause 11.77.3(j).

¹⁰ V4.1 STPIS, clause 5.2(b)(2).

¹¹ V4.1 STPIS, clause 5.2(k).

¹² V4.1 STPIS, clause 5.2(c).

- capital expenditure associated with a priority project must be less than the regulatory investment test for transmission (RIT-T) cost threshold,¹³ and
- the cost of the priority projects must not be included in the TNSPs capital or operating expenditure for the regulatory control period.¹⁴

In determining whether a priority project improvement target results in a material benefit the AER may take into account some of the factors listed in clause 5.2(l) of the STPIS. This includes factors such as the likely effect on wholesale market outcomes and the likely deferral of major network augmentation or replacement network assets if the priority project improvement target is achieved.

The total cost of the proposed priority projects must not be more than 1 per cent of the TNSP's average annual maximum allowed revenue in its revenue proposal for the regulatory control period.¹⁵

Each priority project in the NCIPAP also has a proposed project ranking based on the likely benefit that implementing the project will have on customers or wholesale market outcomes.¹⁶ The AER may amend the order of approved projects to ensure consistency with the objectives of the STPIS.¹⁷

2.1 Concerns raised by SACOSS submission

In its submission¹⁸, SACOSS did not accept that any of the priority projects proposed had been demonstrated as being needed prior to ElectraNet's next revenue determination and considered that the NCC did not need to be applied in the current regulatory control period.

SACOSS made four main points:

- in the context of declining demand for wholesale electricity, it would not be prudent for ElectraNet to be paid an incentive allowance under the NCC to undertake projects aimed at removing constraints in the wholesale market.
- that the constraints addressed by the priority projects would likely be eroded by declining demand and that a prudent approach would not see any additional expenditure undertaken until the next revenue determination when the issues can be assessed in totality.
- ElectraNet has not been able to robustly demonstrate the benefits to consumers, particularly those benefits which would be achieved within the remainder of the regulatory control period.

¹³ V4.1 STPIS, cl 5.2(b)(2), (d).

¹⁴ V4.1 STPIS, cl 5.2(q).

¹⁵ V4.1 STPIS, cl 5.2(b)(2).

¹⁶ V4.1 STPIS, cl 5.2(b)(2)(iv).

¹⁷ V4.1 STPIS, cl 5.2(o).

¹⁸ Available on the AER website at: <http://www.aer.gov.au/node/31390>.

- if early access to the NCC is to be granted, then ElectraNet's NCIPAP should demonstrate why the projects need to be implemented prior to the next regulatory control period.

With regard to the priority projects SACOSS considered:

- for some of the projects which uprated transmission lines in ElectraNet's network, the payback period showed that it was unlikely that the additional capability provided would be required within the current regulatory control period.
- in relation to two planning study priority projects proposed, it was inconceivable to provide ElectraNet money to undertake these projects when it appears to be precisely to be on face value the core business of an electricity transmission business.

The AER considers that the NCC provides a framework which allows for the robust assessment of proposed priority projects. As the AER has highlighted in previous NCC decisions¹⁹, the intention of this component is not to require TNSPs to undertake a RIT-T style assessment to justify small scale projects. Full scale market benefit assessments are time consuming and costly to undertake. Rather the level of assessment under the NCC depends on the project ranking, cost of the project and the class of benefits associated with the project. This was considered during the design of the scheme and considered an appropriate balance between promoting low cost high value projects and undertaking a sufficiently robust assessment of proposed projects to ensure value is achieved for consumers.

In addition, AEMO provides an additional safeguard under the scheme in ensuring priority projects deliver material benefits for consumers. Consistent with the requirements of the NCC, AEMO has undertaken an independent assessment of ElectraNet's proposed priority projects to ensure they deliver material benefits. If there is any disagreement between AEMO and ElectraNet as to the material benefits of a project, this must be documented in ElectraNet's submission to the AER.²⁰

In this instance, AEMO undertook an independent assessment of ElectraNet's proposed priority projects and endorsed all six priority projects. This would include an assessment of the assumptions (i.e. future congestion) used by ElectraNet. Based on AEMO's endorsement and our review of ElectraNet's NCIPAP, we are satisfied with the assessment undertaken by ElectraNet and consider it is consistent with the requirements of the NCC.

In relation to SACOSS' comments that projects must be shown to benefit consumers in the regulatory control period in which it is implemented, the AER notes that this is not a requirement of the NCC. However, the potential payback period of any project is a factor which the AER considers in determining whether a priority project results in material benefits, as it is an indication of the value-for-money of a project.

¹⁹ For example see AER Final decision - SP AusNet (now AusNet) 2014-17 revenue determination, p.166-7. Available on the AER website at: <http://www.aer.gov.au/node/19819>.

²⁰ V4.1 STPIS, cl 5.2(j).

In relation to SACOSS' comments regarding the proposed planning studies, we note one of the purposes of the NCC is to encourage TNSPs to undertake low cost beneficial projects for which there is otherwise no incentive. The planning studies proposed by ElectraNet fall into this category. It is unlikely that in the absence of the NCC, ElectraNet would undertake these studies as the chapter 6A framework does not support them doing such studies. Further, the incentive allowance under the NCC is set at 1.5 per cent of MAR irrespective of the total cost of the projects. As such, the addition of beneficial projects will result in increased value for money for consumers.

2.2 Start date

The AER approves the start date proposed by ElectraNet. As required by clause 11.77.3(b) of the Electricity Rules, the proposed start date is no earlier than 60 business days after the proposal is submitted.

2.3 Proposed priority projects

Assessment of the material benefits of the proposed priority projects

Table 2 below outlines the benefits outlined in ElectraNet's NCIPAP for each of the proposed priority projects.

Table 2: Outline of benefits by project

Rank	Project name	Description of benefits
1	Upper South East Uprating	<p>The uprating of the Upper South East lines will increase the capability of the Heywood interconnector to import power from Victoria into South Australia.</p> <p>It is forecast that there will be a substantial increase in the gas price before the end of ElectraNet's current regulatory control period. This is expected to increase flows across the Heywood interconnector of lower priced Victorian generation into South Australia.</p> <p>The uprating of the Upper South East lines will reduce the next constraint on the Heywood interconnector, alleviating congestion on the interconnector. It will also facilitate increased exports of wind from South Australia.</p> <p>The benefits modelled by ElectraNet and AEMO factor in the upgrade of the Heywood interconnector and are in addition to the market benefits modelled in the RIT-T for that project.²¹</p>

²¹ Heywood Interconnector RIT-T, available at AEMO's website on: <http://www.aemo.com.au/Electricity/Planning/Regulatory-Investment-Tests-for-Transmission/Heywood-Interconnector-RIT-T>.

Rank	Project name	Description of benefits
2	Riverland Uprating	<p>The uprating of the Riverland lines will increase the capability of Murraylink to import power to Victoria under high Riverland demand.</p> <p>The increase in capability will assist in alleviating the constraint managing congestion between Robertstown to the North West Bend. Historically, this constraint has bound for average of 132 hours per year and 242 hours in 2014, limiting the dispatch of South Australian wind generation across the interconnector.</p> <p>The uprating of the Riverland lines will alleviate this congestion, especially in high demand conditions.</p>
3	Robertstown - Waterloo Uprating	<p>The uprating of the Robertstown - Waterloo lines will increase the export of wind generation from South Australia.</p> <p>Wind exports across the Murraylink interconnector from South Australia are at times limited by the Robertson - Waterloo conductor. Congestion caused by this limitation is expected to increase from 126 hours a year to 350 hours a year.</p> <p>Uprating the line will assist alleviate this constraint, increasing marginal supply in the NEM.</p>
4	Load model enhancements	<p>The project aims to build on previous ElectraNet studies and seek to refine further the representation of loads for the power system by assessing the frequency of system loads and maintaining up to date information on the voltage dependence of loads.</p> <p>The outcomes of these studies may allow for further refinements when formulating network limitations. Greater accuracy may allow for improvements in reducing operating margins, improving network limitations and a better understanding of risks under certain operating conditions.</p>
5	Distributed rooftop solar PV responses to frequency disturbances	<p>This project will assess the risk to network security caused by the wide spread and rapid uptake of solar PV systems to the South Australian Network.</p> <p>This may provide for greater insight into the likely operation of PV systems under disturbed conditions, allowing ElectraNet to identify the appropriate timing and design of corrective action to prevent limitations on further installations of PV systems or the unexpected effects of PV systems on the grid in general (i.e. potential to contribute to cascading network failure).</p>
6	Lower South East Uprating	<p>The uprating of the Lower South East lines will increase the capability of the Heywood interconnector in both directions.</p> <p>Similar to the Upper South East Uprating project, this proposed project seeks to alleviate congestion on the Heywood interconnector, which is expected to increase due to the forecast increase in the gas price and an increase in the level of wind generation in South Australia.</p>

Source: ElectraNet NCIPAP. Available at the AER website on: <http://www.aer.gov.au/node/31390>.

The AER considers that, based on AEMO's assessment, our review of ElectraNet's proposal and the stakeholder submission, the six proposed priority projects and their associated priority project improvement targets will provide material benefit if implemented.

Proposed priority projects 1, 2, 3 and 6, which uprate lines on ElectraNet's transmission network, will likely benefit both generators and consumers through alleviating constraints on both the Heywood and Murraylink interconnectors, resulting in more efficient dispatch outcomes and lower wholesale costs for customers. These benefits have been verified by AEMO through its independent assessment.

The payback period modelled for proposed priority projects 1 and 2 is less than 2 years, providing high value for money for customers. The payback period associated with priority projects 3 and 6 are modelled to be in excess of 4 years. Notwithstanding the longer payback period, the AER considers that projects 3 and 6 still provide value for money for consumers, and result in benefits being achieved in sufficient time to be considered to provide material benefits.

While the two planning studies do not have quantifiable benefits, the AER considers that if implemented they will provide ElectraNet with valuable information with which to plan, operate and improve its network limits and that otherwise would not be investigated. AEMO will also be provided a copy of the results for use in undertaking its planning functions. On this basis, the AER considers that ElectraNet's planning studies result in a material benefit and should be included as priority projects.

Capital expenditure

The proposed priority projects satisfy the capital expenditure requirements in clauses 5.2(b)(2) and 5.2(d) of the STPIS as each of the projects has an estimated capital cost less than the current RIT-T cost threshold of \$5 million.²²

Are costs already included in regulated capital or operating expenditure

Consistent with the requirements of the STPIS, the costs of the proposed priority projects are not included in ElectraNet's capital or operational expenditure allowance for 2013-18.²³

A number of ElectraNet's proposed priority projects were included in its revenue proposal as operating expenditure. However, they were rejected by the AER as it did not meet the step change requirements to be included in its operating expenditure allowance.²⁴ ElectraNet removed these projects from its proposed operating expenditure allowance in its revised revenue proposal and proposed to include them in future NCC applications.²⁵

²² See National Electricity Rules, clause 5.13.3 and AER, 20 November 2012, RIT-T cost thresholds review final determination, available at AER website: <https://www.aer.gov.au/node/17099>.

²³ V4.1 STPIS cl. 5.2(q).

²⁴ AER Draft Decision - ElectraNet 2013-2018 revenue determination appendix A, p.285-6.

²⁵ ElectraNet transmission network revised proposal 1 July 2013 - 30 June 2018, p.106.

Total cost of proposed priority projects

Consistent with the requirements of the STPIS, the total cost of the proposed priority projects is \$10.5 million which is not higher than the 1% MAR threshold.²⁶

2.4 Priority project rankings

The AER accepts with the ranking of the priority projects proposed by ElectraNet. The ranking of projects affects the reductions in the NCC incentive payment which the AER can make if a priority project fails to achieve its improvement target.²⁷ Projects ranked in the top half of the project list are more heavily penalised for a failure to meet the improvement target compared to projects in the bottom half. This is done to incentivise TNSPs to prioritise the development of higher value priority projects.²⁸ The three priority projects in the top half of ElectraNet's ranking have a shorter payback period and have been shown to provide greater value for money for consumers. Thus, it is appropriate they are ranked in the top half of the project list above the three other priority projects.

²⁶ V4.1 STPIS, cl. 5.2(b).

²⁷ V4.1 STPIS cl 5.3(b)-(f).

²⁸ AER, Explanatory statement - draft version 4 STPIS, p.39. Available on the AER website at: <http://www.aer.gov.au/node/9780>.