



**IPRA submission to South Australia –
Victoria (Heywood) Interconnector
Upgrade
RIT-T: Project Assessment Draft Report**

26 October 2012

Level 33, Rialto South Tower, 525 Collins Street
Melbourne, Victoria 3000, Australia
Tel. +61 3 9617 8400 Fax +61 3 9617 8401
www.gdfsuezau.com
INTERNATIONAL POWER (AUSTRALIA) PTY LTD
ABN 59 092 560 793

1 Introduction

International Power-GDF Suez Australia (IPRA) welcomes the opportunity to comment on the joint AEMO and ElectraNet Project Assessment Draft Report (PADR) on options to upgrade the Heywood interconnector.

International Power, a wholly-owned subsidiary of GDF SUEZ, is a leading independent electricity generating company with 75,579MW gross (43,288MW net) in operation and a significant programme of 12,820MW gross (5,868MW net) projects under construction as at 31 December 2011. International Power is present in 30 countries across six regions worldwide. Together with power generation, International Power is also active in closely linked businesses including downstream LNG, gas distribution, desalination and retail.

International Power entered the Australian energy industry in 1996 and has grown to become one of the country's largest private energy generators, with assets in Victoria, South Australia and Western Australia. The International Power portfolio also includes Simply Energy, a significant second-tier gas and electricity retail business and includes the Hazelwood and Loy Yang B generation assets in Victoria and the Synergen, Pelican Point and Canunda generation assets in South Australia.

2 Response to earlier consultation report (January 2012)

IPRA responded to AEMO and ElectraNet's Project Specification Consultation Report (PSCR) as a signatory to the submission of the Private Generator Group (PGG) in January 2012.

As a signatory to the PGG submission IPRA:

- was supportive of AEMO and ElectraNet's efforts to assess enhancing interconnection capacity between Victoria and South Australia;
- argued that, in addition to evaluating interconnector capacity between Heywood and South East, the network limitations that affect generators in and around South East in South Australia must also be overcome to ensure the increased interconnector capacity is not limited by intra-regional constraints; and
- encouraged AEMO and ElectraNet to consider all credible options including any low-cost non-network options such as special control schemes.

3 Comments on the draft report

IPRA notes the preferred option of the draft report is to install a third transformer and 500kV bus tie at Heywood in Victoria, series compensation on the 275kV transmission lines in South Australia and reconfiguration works between the 132kV network in South Australia (Snuggery-Keith and Keith-Tailem Bend lines).

IPRA has reviewed the draft report and has a number of concerns related to the analysis that has led to this recommendation.

IPRA has identified a number of questions related to network modelling issues, market modelling assumptions and general policy assumptions on which the draft report relies. These areas are discussed in detail below.

3.1 Modelling of network congestion in the draft report

The preferred option of the draft report relies on decommissioning 132kV circuits in South Australia.

IPRA requests that ElectraNet/AEMO provide details of the power flow studies to show that the removal of the 132kV circuits does not compound (and hopefully alleviates) transmission congestion around South East network in South Australia.

The preferred option also relies on market benefits which arise by allowing greater levels of renewable export from South Australia to Victoria and beyond.

Increasing the level of export out of South Australia has the potential to create new transmission bottlenecks elsewhere in the NEM. For example, this could create conditions where power flow from Victoria to New South Wales is constrained.

IPRA therefore requests that AEMO/ElectraNet demonstrate that the preferred option does not create congestion in other parts of the network.

Specifically, IPRA requests ElectraNet/AEMO to provide network modelling data to show that the increase in transfer capability on the Heywood interconnector from 460MW to 600MW from South Australia to Victoria will not be restricted by congestion on the South Morang transformers. (As indicated in AEMO's 2012 constraint report this issue has been identified as the biggest factor limiting the South Australia to Victoria flow on the Heywood interconnector).

The draft report suggests that ElectraNet/AEMO consider the Keith to Tailem Bend 132kV lines to be the main factor reducing the Victoria to South Australia limit on the Heywood interconnector.

This is inconsistent AEMO's NEM Constraint Reports for 2009, 2010 and 2011 which indicate that there are no occasions where the Keith to Tailem Bend 132kV lines were constrained enough to enter the top 10 list of constraint equations which set the Victoria to South Australia limit on the Heywood interconnector.

IPRA therefore requests that ElectraNet/AEMO provide evidence to support their contention that the Keith to Tailem Bend 132kV lines are the limiting factor for the Victoria to South Australia limit on the Heywood interconnector.

3.2 Market modelling in the draft report

IPRA challenges a number of assumptions used to perform the analysis in the draft report.

- Section D.3 of the draft report shows that minimum generation levels for Yallourn, Loy Yang A and B, Anglesea and Northern power stations have been arbitrarily varied. No explanation has been provided and IPRA requests that AEMO/ElectraNet explain why this has been done and explain the frequency that the units run at such so low levels in the modelling. Based on our operational experience, IPRA contends that the minimum generation levels at Northern and Loy Yang B are too low and inconsistent with normal plant capability.
- IPRA would also like to understand the basis on which ElectraNet/AEMO have modelled Playford power station running as an open cycle gas turbine from 2012/13. We are aware of no current development that would lead to delivery of this capability.
- The assumptions related to retirement of two units at Hazelwood power station in each of 2016/17, 2017/18, 2018/19 and 2019/20 are invalid. Contract for closure has been abandoned

by the Federal Government, and Hazelwood has indicated no intent to close in this timeframe. It is not sufficient in our view to dismiss this assumption with an acknowledgement that the situation has changed. Removal of more than 1600 MW from the Victorian system over the decade must impact modelling results.

IPRA argues that the assumptions given above should be reviewed and recommends that AEMO/ElectraNet update their modelling to reflect more realistic assumptions before final recommendations are concluded.

3.3 General policy assumption impacts on market modelling

In the draft report, ElectraNet and AEMO acknowledge that several significant policy announcements which have recently been made have a material impact on the outcome of this analysis. These include deferral of the expansion of the Olympic Dam mine, the Federal Government's announcements to remove the floor price under the carbon trading scheme and to abandon negotiations with coal-fired generators under the Contract for Closure Program.

Three of the four scenarios rely on Treasury carbon curves which translate to a relatively high carbon cost while Scenario 4 assumes a fixed carbon costs for three years followed by a carbon price with a legislated floor in place.

None of these scenarios considers a low carbon price curve reflective of current and predicted carbon forward prices, particularly given planned linkage of the Australian and EU emissions trading schemes. We suggest it is likely these inputs may have caused the modelling to overestimate the benefits arising from displacing fossil fuel plant with lower greenhouse emitting plant.

The Climate Change Authority (CCA) is currently performing a review of the Renewable Energy Target (RET) and has recently released a draft position suggesting no change to the RET target. This review is due make its recommendations by the end of this year. This is the same time frame over which AEMO and ElectraNet are seeking to finalise recommendations for this process.

Public submissions to the CCA's RET review have spanned a wide spectrum of views including calls to lower the overall target and conversely to make no change.

Given that there is significant public debate on this matter, notwithstanding the interim view of the CCA, it is our preference that the modelling used to potentially upgrade a major interconnector in the NEM be done on the most recent government policy. Each of the scenarios used in the draft report include assumptions that the RET target of 45TWh is met by 2020.

IPRA believes that the policy assumptions are fundamental to the results of the process and urges AEMO and ElectraNet to review their modelling using the latest policy settings and to delay a decision on this until after the outcome of the CCA RET review.

4 Addressing intra-regional congestion at South East

IPRA noted that ElectraNet and AEMO investigated the market benefits which may be expected as a result of intra-regional investment in South Australia to address constraints around the south-east, not coupled with a 3rd transformer being installed at Heywood.

The option modelled included re-configuration of the 132 kV network and installation of a 100 MVar capacitor, but did not include a 3rd transformer at Heywood (Option 4).

Table 1 below ranks the options based on net market benefit as in the draft report while Table 2 ranks the options on the ratio of their market benefits to cost. While IPRA is aware that this is not the assessment parameter under the RIT-T, we have done this as a measure of how cost-effective each option is. Ranking options on this basis shows that Option 4 is ranked first in the assessment.

Table 1 – Draft report ranking of options

Rank	Option	Costs	Market Benefit	NMB	Market benefit/costs
1st	1b	79.8	270.5	190.7	3.390
2nd	6b	64.1	253.1	189	3.949
3rd	2b	92.7	270.4	177.7	2.917
4th	1a	57.8	222.2	164.4	3.844
5th	5	147.1	304.1	157	2.067
6th	2a	70.7	227.5	156.8	3.218
7th	4	30.6	155.6	125	5.085
8th	3	212.2	303	90.8	1.428
9th	6a	17.6	18.5	0.9	1.051

Table 2 – Ranking options based on ratio of benefits to cost

Rank	Option	Costs	Market Benefit	NMB	Market benefit/costs
1st	4	30.6	155.6	125	5.085
2nd	6b	64.1	253.1	189	3.949
3rd	1a	57.8	222.2	164.4	3.844
4th	1b	79.8	270.5	190.7	3.390
5th	2a	70.7	227.5	156.8	3.218
6th	2b	92.7	270.4	177.7	2.917
7th	5	147.1	304.1	157	2.067
8th	3	212.2	303	90.8	1.428
9th	6a	17.6	18.5	0.9	1.051

Consistent with our comments to the earlier consultation report (January 2012), IPRA believes that the issue of congestion in and around the South East network in South Australia should be of significant concern to ElectraNet and AEMO.

As per our comments in Section 3.1 we remain concerned that decommissioning lines in the 132kV network may exacerbate existing congestion in and around South East. IPRA requests that AEMO perform revised modelling of Option 4 including a 3rd transformer at South East.

Option 4 is the cheapest option considered and when ranked alongside the other eight options, is ranked highest in terms of the ratio of market benefits to cost as shown in Table 2. Including a third

transformer will alleviate congestion related to existing thermal constraints related to the South East transformers and may still prevail as the option with the highest ratio of market benefits to cost.

5 Non-network option

IPRA also notes that the draft report appears to have dismissed the control scheme option (Option 6b) at a very early stage. We encourage AEMO/ElectraNet to undertake greater due diligence as this option delivers the same level of net market benefit as the preferred option but is at least \$15M cheaper.

6 Conclusion

IPRA supports the extensive work that AEMO and ElectraNet have done to model opportunities to upgrade the Heywood interconnector. After reviewing the draft report we have raised a number of questions related to the analysis and findings.

These issues have led us to argue that AEMO and ElectraNet should review their modelling and modelling assumptions in a number of key areas, before final recommendations are made. Even without the more detailed modelling, the results are not clear-cut.