

Ms Michelle Groves
Chief Executive Officer
Australian Energy Regulator
GPO Box 520
MELBOURNE VIC 3001

Dear Ms Groves

HEYWOOD INTERCONNECTOR UPGRADE: REGULATORY INVESTMENT TEST – TRANSMISSION (RIT-T)

In our earlier correspondence to the Australian Energy Regulator dated 5 March 2013, Macquarie Generation raised a number of concerns relating to the modelling of gross market benefits as reported by ElectraNet and AEMO in their *RIT-T: Project Assessment Conclusions Report for the proposed South Australia – Victoria (Heywood) Interconnector Upgrade*, published in January 2013 (the Heywood Upgrade PACR).

At the time, we commissioned some preliminary market modelling work which had shown markedly lower gross market benefits than that reported in the Heywood Upgrade PACR. The purpose of our letter was to inform the AER that we were engaging an economic modelling firm to undertake a more detailed modelling project. We were hopeful that this further work would be of value to the AER when it was assessing the merits of the Heywood Upgrade proposal.

As flagged in the Heywood Upgrade PACR, ElectraNet applied to the AER on 5 April 2013 for a determination that the preferred Heywood Upgrade option (Option 1b) satisfies the requirements of the RIT-T as set out in clause 5.16.6 of the National Electricity Rules. We note that the AER has 120 business days from receipt of the application to make this assessment, taking into account any information it considers relevant.

Macquarie Generation is concerned to ensure that there is adequate external scrutiny of the Heywood Upgrade proposal for a number of reasons:

- The Heywood Upgrade PACR is the first RIT-T to be completed by TNSPS under new rules and guidelines, as revised in 2010. As such, this PACR will set a benchmark for all future studies
- The cost of the Heywood Upgrade option, if approved, would deliver a guaranteed return to its owners, recovered in full through an increase in network charges and an ongoing rise in retail prices
- The purported gross market benefits of \$284 million claimed in the Heywood Upgrade PACR seem to rely on a few key changes in investment and dispatch patterns, which may or may not be sensitive to the modelling tools or input assumptions used in the analysis

Ms Michelle Groves
Chief Executive Officer

Macquarie Generation engaged Frontier Economics to undertake a full review of the Heywood Upgrade PACR modelling results and to perform an independent modelling exercise to measure likely gross market benefits of the Heywood Upgrade Option 1b. A copy of the Frontier report on the market benefits of the Heywood Upgrade is attached to this letter.

Frontier sought to use input assumptions that were as close as possible to those used by the AEMO and Electranet, based on information published in the various modelling documents published throughout the RIT-T process. This included information on fuel prices, plant technical and operating parameters, plant capacities, demand growth, carbon price and LRET target. Where input information was not available, Frontier used assumptions that were consistent with earlier work published by AEMO.

Frontier was asked to model the Revised Central scenario. We consider that this scenario was the most realistic and up-to-date of the four modelled scenarios, given recent actual changes in carbon prices and demand trends. ElectraNet and AEMO gave this scenario the highest weighting in the Heywood PACR.

Frontier's modelling used a least-cost investment and dispatch electricity market model. Frontier's model dispatches generation plant in a manner consistent with a perfectly competitive electricity market or 'short run marginal cost' bidding. This is consistent with the modelling approach used by the AEMO and ElectraNet.

Frontier's modelling reported gross market benefits for Option 1b under the Revised Central scenario of **only \$24.2 million – less than one-tenth of the \$284 million** in gross market benefits reported in the Heywood Upgrade PACR. Using the comparable Frontier modelling numbers, the costs of Option 1b substantially outweigh the likely market benefits.

The Frontier modelling report identifies two key reasons for difference between the two modelling exercises:

- AEMO and ElectraNet find much larger and more enduring operating cost savings in response to the upgrade, driven by persistent displacement of SA brown coal and gas-fired generation by NSW black coal generation. Frontier finds a similar pattern of displacement, but on a far lower scale
- AEMO and ElectraNet find generation capital cost savings over the period 2016/17 to 2024/25 due to gas generation deferral in SA. The Frontier modelling results show relatively small capital cost savings and a different pattern of benefits

Frontier has attempted to assess what could be driving the large discrepancy in results between the two modelling exercises. Frontier suggests that the treatment of intra-regional congestion in the AEMO and ElectraNet study could be a large driver of the overall difference. One possibility is that there is a large degree of congestion in the base case, which is alleviated by the augmentation. This may then deliver large operating cost savings.

The Heywood Upgrade PACR makes almost no comment on the level of congestion in the base case other than noting in one sentence that: *"... modelling indicates that current constraints will be significantly reduced as a result of the augmentation"*.

3.

Ms Michelle Groves
Chief Executive Officer

If the modelling does rely on the alleviation of existing intra-regional constraints, we believe this raises two important issues:

- To what extent are the costs of building out existing congested parts of the network factored into the costs of the Option 1b project?
- To what extent would existing intra-regional constraints be built out if the Option 1b project did not proceed?

The Frontier modelling report lists a series of further questions regarding the modelling and analysis performed by AEMO and ElectraNet that require further detail to enable a full independent review.

Macquarie Generation submits the Frontier modelling report to the Australian Energy Regulator in the hope that the AER finds the independent modelling work useful in its current assessment of the Heywood Upgrade determination. Frontier's modelling of market benefits reveals a huge difference from those estimated by ElectraNet and AEMO – **\$24 million not \$284 million**. Macquarie Generation considers this merits further detailed investigation. The AER has the ability to seek answers to the questions raised in the Frontier modelling report and to undertake further modelling where necessary.

If the key driver of market benefits under Option 1b is the relief of intra-regional constraints which limit existing Heywood interconnector flows during peak demand periods, we believe that the ElectraNet and AEMO should have separately quantified this effect, published data on the incidence of intra-regional congestion at key times and provided detailed commentary in the PACR. We consider that this lack of detail is potentially a serious shortcoming in the work undertaken by AEMO and AER.

If you have any questions or would like to discuss this matter further, please contact either myself on 02 9364 3123 or Peter Shields on 02 4968 7499.

Yours sincerely



LEISL BAUMGARTNER
GENERAL MANAGER, CORPORATE AFFAIRS

31 May 2013

4.

Ms Michelle Groves
Chief Executive Officer

