23 February 2009

Dr John Tamblyn
Chairman
AEMC
PO Box A2449
Sydney South NSW 1235

Dear Dr Tamblyn,

Review of energy market frameworks in light of climate change policies

Thank you for the opportunity to provide a submission regarding the Commission's first interim report (the report) on its review of energy market frameworks in light of climate change policies (the review).

Climate change will bring an evolutionary change to Australia's electricity and gas markets. The impacts will occur, not just at the wholesale level, but also in energy distribution and retail. In the short term, the rapidly changing policy environment means increasing uncertainty for energy businesses. In the medium term and beyond, the effects of climate change policies will lead to a more dynamic and challenging operating environment, particularly for distributors and retailers.

In terms of the National Electricity Market (NEM), Integral Energy submits that changes to the regulatory framework are needed to enable distributors and retailers to respond to these developments and ensure the sustainable supply of electricity to customers. Those changes are described in more detail in the Attachment to this letter with the key recommendations being to provide:

- increased *certainty* regarding:
    - retailers' ability to pass on in full the increased costs associated with climate change; and
    - distributors' ability to recover additional costs and manage the revenue impact of lower volumes, not currently provided for in pass-through arrangements, arising as the result of climate change; and
- greater *innovation* funding to allow distribution businesses to invest in the systems and technologies, such as "smart grid", that will be needed to ensure supply in the more dynamic operating environment that will exist in only a few years' time — this

includes finding ways to work more effectively with customers to better manage peak demand and encourage greater energy efficiency.

It is a challenging and exciting time to be a participant in the energy sector. The Commission's review is critical in ensuring that the right mechanisms are in place to provide a secure basis for Australia's future energy supply. The challenges that climate change brings now, and will bring in the future, require that the regulatory frameworks too must also evolve.

Integral Energy looks forward to further participating in the Commission's review process. To this end, Integral Energy would like to attend the public forum in April 2009.

Should you wish to discuss any aspect of this submission, please contact Anthony Englund on (02) 9853 6511.

Yours sincerely,

Vince Graham
Chief Executive Officer

Attachment

Integral Energy's responses to the Commission's preliminary views set out in its first interim report appear below. Please note that those responses are, with the exception of A1 below, with respect to the National Electricity Market (NEM) only.

Issue A1: Convergence of gas and electricity markets

Integral Energy agrees with the Commission that the convergence of the gas and electricity markets is not a significant issue in the Eastern states in terms of the impact of climate change policies.

Issue A2: Generation capacity in the short term

Integral Energy agrees with the Commission that:

- the fundamental market mechanisms are robust;
- even with transitional assistance to high-emissions baseload generators, there appears to be an increased risk of a supply/demand imbalance in the first years following the introduction of the CPRS; and
- greater use of the existing reserve mechanisms will help to a point.

Integral Energy endorses the Commission's view that focus should be given to examining additional mechanisms, particularly demand side options, to ensure the reliability of supply to customers during the upcoming transitional period. Those mechanisms should be as economically efficient, including as non-distortionary, as possible.

It is also important that arrangements are made as soon as possible to ensure that retailers will be able to pass through the full cost impact of the CPRS in a way that efficiently signals the price of carbon to consumers. Minimising the price signal would lessen the value of the CPRS mechanism while any pass through limitation may increase the risk of a Retailer of Last Resort event. In this regard, Integral Energy notes the statement made by the Ministerial Council on Energy (MCE) in its communiqué dated 6 February 2009:

> In considering the interaction of the CPRS and the operation of retail markets, the broader issue of retail price regulation for energy consumers is being addressed by the MCE. The MCE recognised the importance of addressing regulatory impediments to carbon cost pass-through associated with the efficient functioning of the CPRS. To ensure a national commitment to the pass-through of carbon prices to end-use consumers, the MCE will ask that Council of Australian Governments (COAG) amend the 2006 Australian Energy Market Agreement to specify that where retail prices are regulated, energy cost increases associated with the CPRS shall be passed through to end-use customers.[1]

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1 MCE, *18th Meeting Communique* dated 6 February 2009, www.mce.gov.au.

If retail price controls have not been removed in all jurisdictions by the start of the CPRS, then it will need to be made clear how the cost of carbon is included in the relevant regulated tariffs.

Issue A3: Investing to meet reliability standards with increased use of renewables

Subject to the transitional issue referred to in A2 above, Integral Energy agrees that there appears to be little evidence that the existing energy-only market structure, including financial contracting, shouldn't be able to function appropriately and deliver sufficient generation to continue to meet the reliability standard.

Issue A4: System operation and intermittent generation

The introduction of the CPRS and MRET are likely to lead to an increase in intermittent generation within Integral Energy's franchise area and more widely across the NEM. Integral Energy considers that the steps being taken to refine the wholesale market forecasting and dispatch processes to incorporate that increase are broadly appropriate.

Subject to the issues raised in A5 below, Integral Energy believes that the operational impacts of additional intermittent generation at the distribution level should be able to be managed through the existing National Electricity Rules (Rules) technical standards and connection negotiation process. If additions or revisions to the current technical standards are required, the framework provides a process for this to occur.

Issue A5: Connecting new generators to energy networks

Integral Energy agrees that much of the new low emissions generation that will be required to address Australia's future energy needs will be installed at the transmission level. However, it is also important to recognise that an increasing volume is also likely to be embedded within distribution networks. This includes both mini (cogeneration plants and wind farms) and micro (less than 10 kV, typically household solar photovoltaic) generation. In particular, Integral Energy expects that the current round of government rebates and introduction of feed-in tariffs is likely to lead to a short-term increase in the installation of household micro-generation. The exact size of the increase is difficult to forecast at present.

The results of an overall increase in embedded generation will almost certainly be a larger number of connection applications required to be processed by the relevant distributor. It will also be likely to give rise to power system safety concerns as attempts are made to install a greater range of equipment in a wider range of customer circumstances. This may have implications in terms of the resourcing and the speed with which those connections can be processed.

Both the technical and cost dimensions can be managed through the existing Rules framework. There may also be value in a streamlined connection process for household micro-generation as part of that solution. Such a process could help to improve the timeliness and lower the overall cost of connection. Integral Energy notes there is a joint MCE and industry initiative currently underway in this regard.

Beyond the short-term impacts, there may be a more important implication from having a larger volume of embedded generation in the NEM. In the medium term (perhaps only a few years), the higher energy prices that will flow from government climate change policies should lead to the availability of low emissions generation technologies at costs lower than they have previously been available. This will be likely to further encourage the takeup of smaller scale, more diverse forms of generation. It will also be likely to include more end-use customers installing their own sources of micro-generation with the ability to sell their excess power back into the grid via feed-in tariffs. In the longer term, the availability of local energy storage technologies may add a further dynamic.

Historically, energy has been generated upstream by a small number of large scale plants and delivered to a relatively passive demand side. The overall effect of the changes referred to would be to move the energy market from a supply driven model, to a more supply and demand interactive model.

This rapidly developing environment presents a particular challenge for distribution businesses. They will need to be able to change and innovate in order to meet those challenges. And they will need to do so at a faster rate than in the past.

By way of example, one major consequence of the change will be the need to cater for more complicated network power flows than is currently the case. This will make for a more dynamic planning and operating environment, particularly when coupled with a more sophisticated demand side response to prices (enabled through smart meters). A key tool for addressing this challenge will be the development of "smart grid" systems that enable greater network responsiveness to local conditions. However, such systems require time to design, test and install and, as a prerequisite, investment certainty to enable it to happen.

Integral Energy's concern is that the existing regulatory framework is inherently too conservative and not equipped to respond to the faster rate of change needed to ensure quality of energy supply in the post-carbon environment. Currently, only very limited allowances are provided for forward looking investment in innovation. This is true not only in terms of system development and operation but also in finding ways to work more effectively with customers to better manage peak demand and encourage greater energy efficiency.

Integral Energy submits that the Commission must find regulatory mechanisms that, in addition to rewarding businesses for finding cost efficiencies also actively encourages the investment required to meet the new demands on networks that climate change will bring. Incentive regulation will also need to accommodate the greater levels of uncertainty inherent in such an environment.

Issue A6: Augmenting networks and managing congestion

Congestion is not currently a material issue at the distribution level. There is a longer term potential for it to increase as the result of an increase in the amount of embedded generation. However, any solutions at the distribution level would almost certainly either form part of or follow the issue first being addressed at the transmission level.

Issue A7: Retailing

As noted in A2 above, Integral Energy agrees that the current inflexibility in retail pricing arrangements means that the introduction of the CPRS and MRET will increase the financial risk to retailers. Integral Energy also agrees that the existing Rules mechanisms may be inadequate to mitigate the effects of the failure of either a large retailer or the simultaneous failure of a number of retailers.

The CPRS is scheduled to commence in just over one year. Integral Energy strongly submits that the Commission recommend in its second interim report to the MCE that the MCE confirm as soon as possible that the costs associated with climate change may be passed in full through retail bills. This should be captured through appropriate amendments to the Australian Energy Market Agreement and via relevant jurisdictional pricing instruments.

Issue A8: Financing new energy investments

Integral Energy submits that greater certainty is needed with respect to the ability of regulated distribution network businesses to recover the lost revenue and/or additional costs and/or lost revenues associated with the impacts of climate change.

The impact on both input costs and energy forecasts will be extremely difficult to predict in the upcoming period as the price attached to carbon begins to work its way through the global economy. In particular, under the current weighted average price cap (WAPC) form of regulation, networks are financially exposed to volume variation. The existing pass through mechanism does not cater for the revenue losses that would flow from a fall in energy volumes driven by government climate change policies.

To address this issue, Integral Energy submits that the Rules should be specifically amended to allow affected regulatory revenue determinations to be re-opened where the network can demonstrate that the impact of those volume changes is material. This would ensure that the regulatory framework meets the revenue and pricing principles set out in the National Electricity Law that provide that a network should recover at least the efficient costs of providing regulated services.

Finally, Integral Energy shares the Commission's concerns about the ability of the energy sector to secure the additional finance needed to address climate change in the current difficult economic climate. For example, it is intended that much of the

required new generation capacity will be based on low emissions technologies. However, as relatively new technologies, it may well be the case that the proponents of such projects have shorter financial "track records", particularly in terms of operating within the Australian market. This may make the prospect of obtaining finance even more problematic.