



Hydro Tasmania

the renewable energy business

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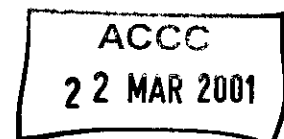
Dear Mr Rawstron

DRAFT DETERMINATION ON NETWORK PRICING AND MARKET NETWORK SERVICE PROVIDERS

Please find attached Hydro Tasmania's submission for the above draft determination. If you have any queries, please contact David Bowker on (03) 62 305775.

Yours sincerely

Mark Kelleher
General Manager Corporate



Hydro Tasmania's Submission to the ACCC in response to the Network Pricing and Market Service Providers Draft Determination dated 12 December 2000

9 March 2001

Introduction

Hydro Tasmania is an interested party to this matter for several reasons, the major ones being:

- It is a renewable energy portfolio generator whose distributed generation depends heavily on transmission to bring its product to market;
- The determination is scheduled to come into effect around the time at which Tasmania enters the NEM and when Hydro Tasmania becomes a market participant; and
- It is party to an agreement with Basslink Pty Ltd linked to the interconnection of Tasmania and the consequential improvement of the supply mix in the NEM.

Although this submission largely concentrates on issues specific to Hydro Tasmania, Hydro Tasmania has instructed Professor Grant Read to provide a report on the Draft Determination. Professor Read's brief is a general one and extends to considering the effect on generation facilities as well as on interconnectors. It is intended that Professor Read's report will be made available to the ACCC.

Executive Summary

The following key points are made in this submission.

- **Benefits and aims of the National Electricity Market (NEM) as enunciated by the ACCC in its 1997 and 1998 Determinations need to be addressed in any revisions to the network-pricing regime applied to the NEM**

The benefits and aims identified by the ACCC in 1997 and 1998 included:

1. The need to incent the interconnection of new regions (i.e. of the States and Territories);
2. Strengthening existing interconnection of the regions;
3. Better use of existing infrastructure;
4. Exploiting the complementarities of different State based generation technologies especially hydro and thermal generation; and
5. Balancing efficiency and equity objectives.

Unless these are incorporated in considering a revised network pricing regime there is a risk that the original aims and concepts of the NEM, together with COAG's policy direction, are not met.

- **Reform of Network Pricing is a complex issue that requires a holistic analysis to be undertaken in conjunction with other reviews. The expiry of current derogations must**

not be allowed to be the sole driver for change or the determinative factor in the timing of change;

- **Regulatory uncertainty arising from this Draft Determination has the potential to adversely impact on the development of Basslink and Tasmania's entry into the NEM;**
- **The Draft Determination may have a number of "unintended consequences" which undermine the benefits identified in the ACCC's own analysis in its earlier decisions on the NEM. These include the potential to hinder new investment in interconnectors and failure to maximise the benefits achievable from exploiting the complementarities of hydro and thermal generation;**
- **Professor Grant Read has made several points quite strongly including the following:**
 1. Care is needed to avoid confusion between forward looking price signals that will incent augmentations and backward looking recovery of the cost of those augmentations;
 2. There may be a need for re-consideration of the position with respect to the "beneficiaries test" proposed by NECA for new investment in particular, the principles identified by the ACCC may need to be supplemented by re-introducing the "beneficiary pays principle";
 3. Whilst the logic of the first 7 of the 8 principles leads one to nodal pricing it unfortunately fails the 8th of the ACCC's principles; and
 4. The "Adjusted CRNP" proposal does not meet the criteria laid down by the ACCC, and may not be able to be modified to do so.
 5. Pursuit of the "Adjusted CRNP" proposal might be expected to have a number of implications for the development of the NEM. These are:
 - It will reduce dispatch efficiency as more distant plant exit the dispatch, forcing prices to rise to levels which bring plant closer to loads on line;
 - It will reduce investment efficiency in generation, as distant plant become under-utilised, and higher prices encourage new investment closer to load;
 - It will reduce trading, and hence competition in the NEM, and raise a serious prospect that regions, both small and large, will find it more economic to effectively revert to "island" status, rather than actually use the transmission lines to which such charges are attached;
 - It will reduce investment efficiency in transmission, simultaneously discouraging interconnection between regions, and possibly stimulating development of unnecessary MNSP's to avoid the charges on regulated lines within regions;
 - It will result in significant windfall gains and losses, and create the conditions for controversy and conflict within the industry, thus further reducing incentives for efficient investment;

- It will create serious implementation problems for both NECA and NEMMCO, both at the technical and administrative levels, and the level of industry politics; and
- Most importantly of all, it will increase costs to consumers, both in the short run, as inefficient dispatch raises generation costs, and in the long run, as inefficient investment is encouraged, and competition discouraged.

Background to Present Draft Determination

As a starting point it is necessary to revisit the original aims of the National Electricity Market. These original aims need to be kept whole in order to preserve the integrity of the Market.

In its Final Determination on the Authorisation of the National Electricity Code dated 10 December 1997 the Commission identified the four key benefits of the NEM. These are enumerated at page “x” of its Final Determination and were:

“First, economic benefits can arise from greater competition between suppliers made possible by a larger interconnected network. Under the NEM arrangements dispatch of scheduled generating units and loads is to be determined through a competitive auction process where generating units and loads are dispatched nationally in least cost merit order, subject to any physical constraints placed on dispatch by the power system. It is argued by the applicants that bidding in this manner, in conjunction with demand responses, will clear the market and reflect the differing economic cost of electricity over different time periods and with respect to different technologies.

Second, the development of market based incentives via national arrangements can improve the efficiency of resource allocation. An industry which faces market prices for its input and market rates for its capital, while facing market censure for poor use of such inputs, is likely to allocate inputs far more effectively than if price signals are not present. In this environment the costs of poor production and investment decisions will no longer be borne by consumers through higher prices and poorer service/product options. The costs of inefficient investment and production decisions will be borne by shareholders in the form of lower share prices or firm financial performance. In the case of publicly owned businesses, poor performance is likely to increase the pressure for governments to reassess their ownership of such businesses. In short, efficiency gains will result from pressures on electricity producers to reduce costs, align tariffs and prices with costs, and use their assets more effectively.

Third, benefits can be derived from the deferral of new plant investment. To maintain power supply, electricity authorities need to have excess capacity (reserve plant) to provide for both foreseen and unforeseen generator downtime. The development of State based industries resulted in each State maintaining a high reserve margin for plant. Interconnection of State grids has the potential to reduce reserve plant margins by sharing between jurisdictions better management of non-coincident peaks. Surplus capacity in one area can be used to supplement local generation in another area, or to provide reserve in other areas. Lowering the levels of reserve will imply benefits for both producers and consumers through reduced total capital requirements.

Fourth, benefits will arise from complementarities between state systems. Electric power is difficult to store and demand is highly variable. Some electricity production methods, such as hydro-electric generation can respond quickly to changes in demand, others such as thermal coal stations, although slower in response are relatively cheaper for base load supplies. Interconnection between systems based on different technologies can make better use of existing generating capabilities and therefore increase flexibility and reduce costs.”

In the present context all of these benefits are important but the first, third and fourth benefits are of most relevance, namely:

- The greater competition between suppliers resulting from a larger and interconnected network;
- Better use of existing infrastructure;

- Exploiting the complementarities of hydro and thermal generation.

Further, in its NEM Access Code Final Decision dated 16 September 1998, page 62, the ACCC recognized that the then proposed TUOS regime - while it disadvantaged embedded generation - also fulfilled the important aim of promoting an integrated national electricity market. The ACCC said:

“Conversely the beneficiaries of this arrangement [the then proposed TUOS regime] are likely to be generators which are located quite some distance from the load. As a result, this arrangement will encourage the transport of electricity across state boundaries and will thereby promote the development of a more integrated national electricity market with the potential for consequential benefits for electricity users.”

It was against that background that the ACCC sought the NECA review of transmission pricing with the aim of introducing “additional locational signals” (see page 63, ACCC NEM Access Code Final Decision dated 16 September 1998).

In its Final Determination dated 10 December 1997 on Authorisation of the National Electricity Code, the ACCC at page 161 further discussed locational signals and said:

“Network pricing is a complex issue involving many trade offs and changes to the incidence of network pricing may have unforeseen consequences.”

This need for “trade offs” was echoed further in the 1998 Final Decision at pages 27 and 28 where the ACCC said:

“Traditionally electricity prices have been used to meet a number of objectives. As with any good or service, electricity prices are used to cover costs and to earn a return on the assets employed in the industry. They are also used to provide a signal to influence the pattern of demand and investment. Apart from these general efficiency objectives, electricity pricing has also been used to achieve a number of equity objectives. The most obvious example has been uniform pricing policies which involve cross-subsidising rural and remote communities at the expense of major urban areas. These cross-subsidies have usually been provided on the grounds of state development and to ensure that all sectors of the community have equal access to publicly provided services. However, it is generally recognised that attempting to achieve both efficiency and equity objectives through a single pricing policy involves a trade-off. An efficient pricing regime will generally have undesirable equity consequences while an equitable pricing regime will generally have undesirable efficiency consequences.

In recent times this trade-off has been well recognised, and some jurisdictions have moved to more efficient pricing structures and have attempted to meet equity objectives using other mechanisms not involving cross-subsidies. This change in the mood of governments is reflected in the access code’s transmission pricing regime, whereby the code’s transmission pricing objectives emphasise efficiency criteria. However, this does not mean that the code has been written in a way which ignores the equity concerns, nor does it mean that the Commission should disregard equity issues when assessing the proposed access code’s transmission pricing regime.”

The ACCC then went on (on page 28 of the same Decision) to discuss and reject nodal pricing.

“An efficient pricing regime will generally reflect the interaction between an industry’s costs and consumer demand. In the case of electricity, transmission networks are dominated by fixed capital costs. Moreover, as these assets are task and location specific they have a limited use in alternative activities, in particular those costs associated with planning and constructing network

capacity. Therefore, once installed, many of the transmission assets can be viewed as being sunk.

An efficient pricing regime would have to recognise these various characteristics of transmission networks. In this respect, a nodal pricing regime received some support but was rejected in the early development of the NEC as being too complex. For example, in response to network constraints, such a regime could lead to widely fluctuating network prices both at different locations on the network and over time. Consequently, the regulator would be faced with a complex task of providing equitable outcomes for network users as well as preventing NSPs from exploiting their monopoly power in circumstances where profits and losses would vary from year to year."

In summary the ACCC, in its previous decisions on the establishment of the NEM, has focused on five significant considerations. These same considerations need to be addressed in any revisions to the network-pricing regime applied to the NEM. They are:

1. The need to incent the interconnection of new regions (i.e. of the States and Territories)
2. Strengthening existing interconnection of the regions
3. Better use of existing infrastructure
4. Exploiting the complementarities of different State based generation technologies especially hydro and thermal generation
5. Balancing efficiency and equity objectives

Hydro Tasmania has a number of issues which it wishes to raise

Introduction

Hydro Tasmania's issues are ones for both the medium and long term. Hydro Tasmania's position, as a potential NEM participant, is the quintessential reflection of those elements that the ACCC saw as the benefits that would flow from its decisions in 1997 and 1998. At present it is:

1. Working with Basslink Pty Ltd to strengthen the linkages between regions and the better use the existing infrastructure in Victoria and Tasmania;
2. Increasing the size of the NEM and the level of competition from suppliers in a larger interconnected in the market; and
3. Introducing a significant improvement in the mix of generation sources in the NEM by improving the balance between hydro and thermal generation sources.

Central to the achievement of this is the construction of a transmission interconnection by means of Basslink. The current Draft Determination has raised a number of matters that need to be addressed in this context. They arise because Tasmania is in the unique position of not yet being interconnected with the mainland electricity network. Further the position is exacerbated because the project to construct that interconnection (i.e. Basslink) is in midstream.

Hydro Tasmania's specific issues it wishes to raise at this point include:

1. Reform of Network Pricing is a complex issue that requires holistic analysis undertaken in conjunction with other reviews.

Hydro Tasmania well understands the concern that the ACCC plainly feels as recognised at Page “xi” of the Draft Determination Dated 12 December 2000; that the matters the ACCC identified as needing to be addressed in a network pricing regime yet to be seen to be addressed adequately. Hydro Tasmania shares that concern.

Addressing that concern in a timely fashion must not be allowed to outweigh the importance of arriving at a network-pricing regime that balances the various considerations and meets the various aims identified by the ACCC in 1997 and 1998 (see above). In particular Hydro Tasmania does not believe that the concern that must arise because of the expiry on 31 Dec 2002 of the various transmission pricing derogations should override the importance in arriving at an optimal network-pricing regime. Hydro Tasmania, of course shares the concern about expiry of those derogations but believes that that concern too must be balanced and assessed in the context of the long term design and effects of any network pricing regime.

Against that backdrop as an industry we have embarked on a journey to explore and develop a new regime. In this debate it is necessary to be aware that the current system whilst not perfect is not producing significant problems. Accordingly any amendments need to be considered carefully in the total context of the market and its operation. There is no need to rush to a decision that may result in unintended regulatory or policy outcomes. Further the network pricing review needs to be integrated into the other reviews underway at present. These include amongst others the NECA RIEMNS review and the proposed Network and Distributed Resource Code Changes. These reviews together with the network-pricing review need to be drawn together. This will enable the comprehensive development of the market to continue in the spirit in which it was designed.

Hydro Tasmania believes that any new network-pricing regime needs to meet some essential criteria. Hydro Tasmania identifies these as being:

1. It must not undermine the public benefits of the NEM that the ACCC so clearly articulated in 1997.
2. It needs to be able to demonstrate that it overcomes weaknesses in the current system, whilst at the same time not giving rise to a set of unintended policy outcomes which are worse than the perceived problem it was designed to remedy;
3. It needs to demonstrate that it is incorporated into a holistic framework of reform; and reform is not implemented in a piecemeal fashion.

2. Regulatory Uncertainty

This Draft Determination has the potential to impact adversely on the process of Tasmania joining the NEM by heightening the level of regulatory uncertainty for the project. Construction and commissioning of Basslink is scheduled to occur in an environment where the regulatory regime under which it will operate is unclear. This uncertainty renders it difficult to finalise the commercial and operational arrangements for the link. This is a highly undesirable position in which to construct the first major MNSP in Australia and the first significant interconnection of a new region to the NEM. Thus Hydro Tasmania sees a longer period of uncertainty in the current exercise that overlaps with the projected dates for completion of construction of Basslink and Tasmania joining the NEM in 2003.

Accordingly Hydro Tasmania considers it is essential that the existing rules remain in place until the long-term solution that is consistent with the benefits articulated by the

ACCC in 1997 and 1998 has been identified. For Hydro Tasmania regulatory certainty is thus initially a short to medium term issue.

In the longer-term regulatory uncertainty resulting from frequent revisions of the regulatory regime can send signals to the wider electricity and capital markets about the effective long term planning of major projects. It is important to remember in designing the future network-pricing regime that the strengthening of interconnection of the States and Territories was seen by COAG in the early 1990's, the ACCC in 1997 and 1998, and informed commentators today as a principal outcome of the NEM. The introduction of regulatory uncertainty and inadequate pricing signals may exacerbate the inadequacy of the thin threads that link the previous State-based systems and not strengthen them.

3. Draft Determination may lead to Unintended Policy Consequences

Hydro Tasmania considers that the Draft Determination may have a number of "unintended consequences" which undermine the benefits identified in the ACCC's own analysis in its earlier decisions on the NEM and transmission pricing namely:

1. Dis-incenting interconnection of Tasmania with mainland Australia and interconnection within mainland Australia;
2. Hindering the strengthening of existing interconnectors;
3. Not maximising the benefits achievable from the better use of the existing infrastructure in Tasmania and Victoria;
4. Not exploiting the complementarities of hydro and thermal generation; and
5. Possibly not meeting the equity aim.

These are plainly unintended consequences.

3.1 *Not maximising the benefits from the use of existing Infrastructure*

One of the central design tenets of the NEM was the creation of a system that maximised the efficient and effective use of the existing infrastructure in the electricity supply industry in Australia. Under the previous State based systems electricity authorities maintained reserve levels and plant efficiencies not at optimal points. Interconnection of State grids has the potential to reduce reserve plant margins by sharing between jurisdictions better management of non-coincident peaks. Thus the surplus capacity in one area can be used to supplement local generation in another area, or to provide reserve in other areas. Optimising the level of reserve delivers benefits for both producers and consumers through reduced total capital requirements. Since NEM1 there has been a significant change in the reserve levels in Victoria as a result of the strengthening of the interconnector with New South Wales as well as more efficient use of the generation capabilities of both States on a temporal basis. Basslink is designed to take this benefit one stage further by:

1. Better management of the non-coincident peaks in both regions both seasonally and by time of day;
2. Improved management of reserves in both regions; and
3. Improving the mix of generation in both regions.

The development of the network pricing regime needs to be undertaken in such a way as to maximising the benefits from the use of existing infrastructure by incenting the construction of the interregional links that deliver this benefit to end users.

3.2 *Hydro (and other renewable energy) complementarity*

Turning now to another of the fundamental benefits that the ACCC saw as arising from its authorisation of the NEC and the NEM, namely the complementary nature of generation types for example hydro and thermal generation. The Kyoto Protocol to the United Nations Framework Convention on Climate Change was agreed on 11 December 1997 and Australia is a signatory to that Protocol. Australia is committed to reduce growth in Australia of greenhouse gas emissions by 2010.

As an initial step to reflect that commitment, Commonwealth legislation was enacted in the year 2000 and comes into effect on 1 April 2001. This legislation requires the increased use of renewable energy of which hydro and wind generation is envisaged as major contributor to the attainment of reduction in greenhouse gas emissions levels.

One significant unintended consequence of the Draft Determination is that may operate to dis-incent use of hydro, wind and other renewable generation. That is because it seems to incent construction of new generators close to load. But in practice only thermal generation can move close to load. Hydro and wind generation must be close to useable water and wind – which in Australia is usually some distance away from load. It is worth noting that the Draft Determination in fact identifies gas-fired generation as the generation source as responding to transmission pricing signals close to load. Gas generation, whilst emitting lower levels of greenhouse gases than coal fired thermal plant, still will increase national greenhouse gas emissions. Thus making attainment of national greenhouse gas targets even more difficult.

Hydro Tasmania sees improving the mix of generation as a long-term issue. The development of significant wind generation in Tasmania (by new generators as well as Hydro Tasmania), along with the existing hydro plant will vastly improve the mix of generation technologies available in the NEM. Again this was seen by the ACCC as a fundamental benefit of the NEM leading to more appropriate resource allocation on a national basis. The development of the network pricing regime needs to be undertaken in such a way as to sustain the national objectives of enhancing renewable generation, both wind and hydro, and improving the efficient allocation of resources.

3.3 *Meeting the Equity objectives identified by the ACCC*

As the ACCC correctly identified in its 1998 Final Decision the requirements for equity, particularly rural/urban pricing disparities need to be considered. The ACCC has identified the need for cross-subsidising rural and remote communities. Without an active consideration of equity issues rural communities may end up paying substantially more for electricity than their urban counterparts.

There are two consequences of not adequately addressing the equity issues.

Firstly, there is a danger that there will be a return to the electricity supply industry structures of the early part of last century with local communities establishing their own generation companies and disconnecting from the national network. This would result in stranded assets and a less connected and robust national market with an attendant diminution in the consumer benefits articulated by the ACCC in 1997.

Secondly there is a danger that it will exacerbate further divisions and heighten a sense of isolation in rural and regional Australia. This danger of this isolation, as recent political events have demonstrated, is one which Governments and agencies at State and national levels need to be cognizant. The threat to national competition reform, by failing to find an adequate balance

between efficiency and equity, needs to be avoided in the NEM. Accordingly the network-pricing regime needs to factor this balance into its consideration. It is not a simple proposition of “cranking the handle” of a modified cost reflective pricing model.

4. Report of Professor Grant Read on the Draft Determination

Finally to assist the ACCC, Hydro Tasmania has retained Professor Grant Read to review aspects of the Draft Determination. His report will be made available to the ACCC. Professor Read, along with Larry Ruff and Bill Hogan, generally is acknowledged as one of the seminal thinkers on network pricing. In fact our discussions with Professor Read and his experience in a number of jurisdictions throughout the world that have visited this matter over the past 12 years have highlighted the complexities of the issues involved and the interrelatedness of this matter with other elements in the electricity market.

In Professor Read’s preliminary communications with Hydro Tasmania, he has made five points quite strongly. These are:

1. Care is needed to avoid confusion between forward looking price signals that will incent augmentations and backward looking recovery of the cost of those augmentations.
2. There may be a need for re-consideration of the position with respect to the “beneficiaries test” proposed by NECA for new investment. In particular, while the principles identified by the ACCC are appropriate for a forward looking pricing regime, they may need to be supplemented by re-introducing the “beneficiary pays principle”, if a regime is to be designed which also recovers transmission investment costs in an equitable and efficient manner.
3. The logic of the first 7 of the ACCC’s 8 principles leads one to nodal pricing. Even if, arguably this fails the 8th principle of practical cost-effectiveness, it provides an important benchmark.
4. Thus a pricing regime, which produces markedly different prices, cannot possibly satisfy the Commission’s criteria.
5. The ways in which the “Adjusted CRNP” proposal is defined will produce very different results from a nodal pricing regime, and hence does not accord with the criteria laid down by the ACCC and may not be able to be modified to so; Pursuit of the “Adjusted CRNP” proposal might be expected to have a number of implications for the development of the NEM. These are:
 - It will reduce dispatch efficiency as more distant plant exit the dispatch, forcing prices to rise to levels which bring plant closer to loads on line;
 - It will reduce investment efficiency in generation, as distant plant become under-utilised, and higher prices encourage new investment closer to load;
 - It will reduce trading, and hence competition in the NEM, and raise a serious prospect that regions, both small and large, will find it more economic to effectively revert to “island” status, rather than actually use the transmission lines to which such charges are attached;
 - It will reduce investment efficiency in transmission, simultaneously discouraging interconnection between regions, and possibly stimulating development of unnecessary MNSP’s to avoid the charges on regulated lines within regions;

- It will result in significant windfall gains and losses, and create the conditions for controversy and conflict within the industry, thus further reducing incentives for efficient investment;
- It will create serious implementation problems for both NECA and NEMMCO, both at the technical and administrative levels, and the level of industry politics; and
- Most importantly of all, it will increase costs to consumers, both in the short run, as inefficient dispatch raises generation costs, and in the long run, as inefficient investment is encouraged, and competition discouraged.

These points are developed fully in Professor Read's paper. They highlight the complexity of the issues under consideration and the need to deliver a regime that meets the original design objectives and benefits of the NEM enunciated by the ACCC in 1997.

What Hydro Tasmania requires from the Current Policy Debate

In summary:

1. Hydro Tasmania requires sufficient regulatory certainty to enable the planned interconnection of the Tasmania and Victoria to proceed on time and to enable Tasmania to enter the NEM. Hydro Tasmania's needs would be met if the existing rules continue past 31 December 2002 (under an extension to the interim authorization) until such time as a comprehensive long term solution is developed fully and new rules are put in place.
2. Hydro Tasmania agrees that the debate on network pricing must proceed and intends to fully participate in that debate. Hydro Tasmania sees this as an extremely important and complex issue that needs comprehensive assessment. It is a long-term issue and unlikely to be able to be resolved conclusively in the proposed timeframe. In pursuing this debate it is necessary to be aware that the current system whilst not perfect is not producing significant problems. Accordingly any amendments need to be considered carefully in the total context of the market and its operation. There is no need to rush to a decision that may result in unintended regulatory or policy outcomes. Further the network pricing review needs to be integrated into the other reviews (e.g. the NECA RIEMNS review and the proposed Network and Distributed Resource Code Changes). This will enable the comprehensive development of the market to continue in the spirit in which it was designed.

The benefits of this course of action are that:

1. The current arrangements that are working can continue to work without risk of unintended consequences destabilising the market;
2. It provides adequate time for resolution of what all agree are very difficult issues. In particular it enables the issues to be resolved which design a regime which:
 - i. Incentivises interconnection of new regions (i.e. of the States and Territories);
 - ii. Strengthens existing interconnection of the regions;

- iii. Maximises the benefits achievable from the better use of the existing infrastructure in Tasmania and Victoria
 - iv. Exploits the complementarities of hydro/wind and thermal generation;
 - v. Balances efficiency and equity considerations.
3. It provides sufficient regulatory certainty for Basslink and for Tasmania to join the NEM.

This approach will enable the benefits and aims of the NEM as previously enunciated by the ACCC, to be embodied and maintained in the Final Determination.