Australian Competition & Consumer Commission

Draft Determination

Applications for Authorisation

VoLL, Capacity Mechanisms and Price Floor

Date: 21 June 2000

Authorisation nos:
A90711
A90712
A90713

File no:
C1999/865

Commissioners:
Fels
Shogren
Cousins
Jones
Bhojani

Contents

Glossary

ABARE	Australian Bureau of Agricultural and Resource Economics
APC	Administered Price Cap
BCA	Business Council of Australia Energy Reform Task Force
CPT	Cumulative Price Threshold
EMRI	Electricity Markets Research Institute
MWh	Megawatt hour
NECA	National Electricity Code Administrator
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
OFGEM	Office of Gas and Electricity Markets
TPA	*Trade Practices Act 1974*
VoLL	Value of Lost Load

1. Introduction

1.1. The Application

On 29 September 1999, the Australian Competition and Consumer Commission (the Commission) received applications for authorisation (A90711, A90712 and A90713) of changes to the National Electricity Code (Code). The applications were submitted by the National Electricity Code Administrator (NECA) under Part VII of the *Trade Practices Act 1974* (TPA). The proposed amendments to the Code outlined in the applications dealt with:

- the NECA review of capacity mechanisms;
- the Reliability Panel review of the Value of Lost Load (VoLL); and
- the Code requirement that negative spot prices be allowed within twelve months of market commencement.

On 12 November 1999, NECA requested that interim authorisation be granted to the Code changes outlining the administered floor price arrangements, such that the Y2K arrangements could be given effect to.[1] On 2 December 1999, the Commission granted interim authorisation to these price floor Code changes.

A number of typographical amendments to the applications were lodged with the Commission on 26 April 2000.

On 6 June 2000, NECA requested that the Commission's revoke its 2 December 1999 interim authorisation of the price floor Code changes and grant a new interim authorisation covering the same provisions as that initial interim authorisation, but also covering the capacity mechanisms provisions. On 21 June 2000, the Commission revoked its 2 December 1999 interim authorisation and granted interim authorisation to the proposed price floor and capacity mechanisms Code changes.

The Commission's public consultation process has highlighted that the changes dealing with VoLL are clearly the most contentious. Therefore, a great majority of the discussion in this draft determination deals with the VoLL Code changes.

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1 On 20 October 1999, the Commission granted authorisation to the Y2K Code changes. These amendments set a ceiling price of $300/MWh and a floor price of $0/MWh for the electricity spot market in the Y2K pricing period. As part of these Y2K Code changes, there was a clause 3.14A.3 that referred to replacing the *administered price floor* for the Y2K pricing period. However, NECA advised staff that the *administered price floor* was not in the Code at that time, but rather was part of the Code changes which are the subject of this determination. Therefore, NECA argued that the sections of this application dealing with the administered price floor needed to be granted interim authorisation for the Y2K Code changes to be put into effect.

1.2. Statutory test

These applications were made under sub-sections 88(1) and 88(8) of the TPA. The TPA provides that the Commission shall only grant authorisation if the applicant satisfies the relevant tests in sub-sections 90(6) or 90(8) of the TPA.

Sub-section 90(6) provides that the Commission shall grant authorisation only if it is satisfied in all the circumstances that:

- the provisions of the subject arrangements or conduct would result, or be likely to result, in a benefit to the public; and
- that benefit would outweigh the detriment to the public constituted by any lessening of competition that would, or would be likely to result from the arrangements or conduct.

Sub-section 90(8) provides that the Commission shall grant authorisation only if it is satisfied in all the circumstances that the proposed provision or conduct would result (or be likely to result) in such a benefit to the public that the proposed contract, arrangement, understanding or conduct should be allowed.

In deciding whether it should grant authorisation, the Commission must examine the anti-competitive aspects of the arrangements or conduct, the public benefits arising from the arrangements or conduct and weigh the two to determine which is greater. Should the public benefit or expected public benefits outweigh the anti-competitive aspects, the Commission may grant authorisation or grant authorisation subject to conditions.

Determining just what is a benefit to the public is therefore a key issue. Public benefits recognised in the past include:

- fostering business efficiency;
- industry rationalisation;
- expansion of employment;
- promotion of industry cost savings;
- promotion of competition in industry;
- promotion of equitable dealings in the market;
- development of import replacements;
- growth in export markets; and
- arrangements which facilitate the smooth transition to deregulation.

If the Commission determines that the public benefits do not outweigh the anti-competitive detriment, the Commission may refuse authorisation or alternatively, in refusing authorisation, indicate to the applicant how the applications could be constructed to change the balance of detriment and public benefit so that authorisation may be granted.

.e value of authorisation for the applicant is that it provides protection from action by the Commission or any other party for potential breaches of certain restrictive trade provisions of the TPA. It should be noted, however, that authorisation provides exemption only for the particular conduct specified. Authorisation does not provide blanket exemption from all provisions of the TPA. Further, authorisation is not available for misuse of market power (section 46).

1.3. Public consultation process

The Commission has a statutory obligation under the TPA to follow a public process when assessing an application for authorisation.

The Commission received the initial application for authorisation of the changes to the Code on 29 September 1999. Notification of the application and a request for submissions was advertised in *The Financial Review* of 12 October 1999 and placed on the Commission's web site. Interested parties were asked to make submissions to the Commission regarding their views on the issues of public benefit and anti-competitive detriment arising from implementation of the proposed changes.

Eight interested parties provided submissions (see Appendix A). All submissions have been placed on the Commission's public register. The Commission also interviewed a number of the parties that provided submissions.

1.4. Commission processes

The Commission has produced this draft determination outlining its analysis and views on the Code according to the statutory assessment criteria set out in section 2. The Commission now invites the applicant and other interested persons to notify it within 14 days of 21 June 2000 whether the applicant or other interested persons wish the Commission to hold a conference in relation to this draft determination[2].

If the applicant or an interested party notifies the Commission in writing within the 14 days that they want the Commission to hold a conference, the Commission will appoint a date, time and place for the holding of the conference and notify all interested parties. The applicant, interested parties who receive a copy of the draft determination and any other interested parties whose presence the Commission considers appropriate are entitled to participate in the conference.

Following the conference, the Commission will take into account issues raised at the conference, and any related submissions, and will issue a final determination. If no pre-determination conference is called then this draft determination will become the final determination.

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[2] For the purposes of the conference, an interested person is a person who has notified the Commission in writing that the person, or a specified unincorporated association of which the person is a member, claims to have an interest in the applications and the Commission is of the opinion that the interest is real and substantial.

A person dissatisfied with the final determination may apply to the Australian Competition Tribunal for its review.

2. VoLL

The basic principle of spot price determination in the National Electricity Market (NEM) is that the price at each regional reference node should reflect the marginal value of supply at that location and time, this being the price of meeting an incremental change in load taking into account all relevant constraints and transport losses.

Under the mandatory pool arrangements of the NEM, a 'dispatch price' at each regional reference node is calculated by the National Electricity Market Management Company (NEMMCO) every five minutes, in accordance with the above principle. The spot price at a regional reference node (the 'regional reference price') for a particular half-hour is set equal to the average of the dispatch prices applying through that interval. Finally, the spot prices to apply to electricity traded at individual connection points are obtained by adjusting the regional reference price for transport losses.

VoLL is a cap on these regional reference prices and is currently set at $5000/MWh.[3] Currently, in situations where determination of dispatch prices would otherwise result in a dispatch price greater than VoLL at any regional reference node the dispatch price at that regional reference node must be reduced to VoLL. In such situations all generators able to produce electricity to help meet demand will receive the price cap for their output.

In markets that do not have an effective level of competition, or are immature, there are often logical arguments to support some form of price cap. This can especially be the case in markets that do not have effective risk management tools or where demand is inelastic to changes in price.

To date it has been widely accepted that a cap on the energy price in the NEM is warranted due to the immature state of development of risk management instruments and the limited level of demand side participation, both being affected by franchise tariffs and vesting contract arrangements. In its 10 December 1997 determination on the Code the Commission questioned the value of a price cap in the NEM. The Commission considered that in a truly competitive market that had efficient market clearing mechanisms, a price cap would be unnecessary. Nevertheless, the Commission accepted that there could be good reasons for having a price cap on the market clearing price provided the need for, and the level of any cap, was kept under constant review.

As a result of this decision, clause 3.9.4(c) of the Code was amended to require that the NECA Reliability Panel conduct, in consultation with market participants, annual reviews of the level of VoLL in the NEM.

The terms of reference for the first such review required the Reliability Panel, amongst other things, to recommend a level of VoLL that would:

- promote reliance on price based signals to deliver the reliability standards determined by the Reliability Panel both immediately and over time;

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[3] Unless otherwise noted all prices are quoted in Australian dollars.

- encourage appropriate demand-side, as well as generation, response to those price base signals; and

- reduce the likelihood of intervention through the use of the reserve trader or other mechanisms and of NEMMCO's use of its power of direction.

The Reliability Panel's Final Report was published in July 1999.[4] The report recommended an increase in VoLL, in two steps: first to $10,000/MWh by September 2001 and then to $20,000/MWh by April 2002. This increase would be linked to a mechanism to limit the market's exposure to VoLL once cumulative prices exceed a pre-determined threshold. The timing of the two proposed increases is intended to reflect the time required to allow the market to develop appropriate risk management and insurance mechanisms, and to allow scope for enhanced demand-side participation. The timing also reflects the timetable for the expiry of the jurisdictional vesting contracts and franchise tariff arrangements.

The Panel proposed that VoLL should in future be set for three years in advance, with a new third year being added at each annual review.

The recommendations of the Reliability Panel resulted in NECA submitting the following VoLL Code changes for authorisation:

- increasing VoLL in two steps, to $20,000/MWh. The timing of these increases is as recommended in the Reliability Panel report;

- introducing a rolling three-year schedule of VoLL extended by one year in each annual review; and

- imposing a cap on the market price if the cumulative effect of high spot prices exceeds a threshold level. If the spot price in the preceding week (336 trading intervals) exceeds a cumulative price threshold (CPT) of $300,000, the market price cap is reduced to the Administered Price Cap (APC). The APC is $300/MWh in peak times of the day and $50/MWh in off peak times of the day. A cumulative spot price of $300,000 over a one-week period is equivalent to an average pool price of $1,786/MWh over a week.

2.1 Issues for the Commission

Price caps may constitute a form of price fixing under s.45 of the TPA. The Commission must compare the potential anti-competitive detriment arising from an increase in the price cap to the potential benefits of improved supply side and demand side signals in the market. In making this assessment the Commission will pay attention to market structure and institutional arrangements that may adversely effect competitive market outcomes, in particular, in the circumstances where the price cap is being relaxed.

2.2 What the applicant says

In its assessment of the public benefits of increasing VoLL, NECA argues that it is important to examine the increase in VoLL in conjunction with the development of the CPT. NECA

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[4] NECA Reliability Panel, *Review of VoLL in the national electricity market: report and recommendations*, NECA, July 1999.

claims that the CPT balances the increase in risk that is introduced into the market with the increase in VoLL.

NECA indicated that almost all participants support the changes to allow the Reliability Panel to set a forward path for VoLL. NECA argues that the imposition of any cap on the market, such as VoLL, is potentially anti-competitive and thus should only be imposed to the extent absolutely necessary. At the start of the market a market cap was proposed to ensure that the volatility of the market would not create unmanageable risks to the integrity of the market and deter participation. NECA therefore committed to reviewing the cap during the initial authorisation process.

NECA argues that the essential public benefit from an increase in VoLL is that at its existing level there can be no assurance that historical levels of reliability of supply can be maintained. NECA notes that the existing level of $5,000/MWh was accepted as a public benefit by the Commission because it was necessary to curtail risk in the early stages of the NEM as participants had little opportunity to manage higher levels of risk at that time. At the time the level was set there were no other codified risk management measures in the Code and contract arrangements were in their infancy and the existing capacity available in the market was considered sufficient to ensure reliability was adequate.

NECA argues that this position has changed. Reliability is now a key focus and risk management tools in the market have been improved.

The Reliability Panel has therefore concluded that a higher and less intrusive price cap is required and that any additional risks introduced are manageable through the CPT.

At the start of the market, risk in the spot market was limited by the level of VoLL and the design of the force majeure provisions. Hourly risk was capped by the level of VoLL to $5,000/MWh. If involuntary load shedding occurred, risk over many hours was capped at a cumulative level of $300,000 (an average hourly price over one week of $1,786/MWh). Once the cumulative effect of spot prices reached $300,000 over any one week period an administered price cap would then imposed.

NECA argues that the joint impact of VoLL and the new CPT means that, while hourly risk is still capped to the level of VoLL, the cumulative effect is now capped by the CPT. The rate at which risk accumulates is directly related to the level of VoLL and therefore risk due to short periods of extreme prices is higher under the proposed changes but the accumulated level is capped by the CPT. The CPT has been deliberately set to the same level as the initial force majeure limit. This means that an administered price cap is applied after 30 hours of VoLL if VoLL is at $5,000/MWh and 7.5 hours if VoLL is set to $20,000/MWh. NECA argues that the CPT therefore provides a more certain cap on risk, being based on price alone, than the previous force majeure administered price which could not be imposed unless there had also been a period of involuntary load shedding.

NECA claims VoLL provides the incentive for reliability of supply through investment in peak generation, demand side facilities and network investment. NECA argues that investments that ensure reliability during system peaks may only earn revenue from an

energy-only market such as the NEM for a few hours per year.[5] The Reliability Panel examined the price that would be required to provide incentive for these investments in making its recommendation on both the level of VoLL and the CPT. It also noted that if these investments were viable at lower prices then competitive market forces should ensure that they occur.

NECA argues that, in one form or another, the market will need to pay for peak investments if reliability is to be maintained. A number of alternatives were canvassed in the initial design of the NEM and in NECA's capacity mechanism review. These include:

- **capacity obligations and contracts.** This approach places obligations to contract for specified levels of capacity as a pre-condition for market participation by customers. This results in the emergence of separate capacity contract markets between customers and generators. It also requires a strong central presence to set the level of contract for each customer and the contribution each generator can make towards those obligations. It is unlikely that payment streams would be volatile but on the other hand they would also be centrally determined. A residual energy market would still operate, but it is likely to be less volatile.

- **separate pool capacity payment/bonus.** A separate payment can be added to the spot market, possibly along the lines of the original UK market design. Generators presenting capacity are paid for presenting capacity to the market and customers pay according to the load. A central agency must determine the incidence and allocation of these charges and payments. Depending on its design, NECA argues that this payment can be very volatile.

- **dependence on safety net.** The market operates but if a deficiency is forecast additional capacity can be acquired, possibly through reserve trader style contracting. A charge is then levied on market participants to pay for this contract. NECA notes that this is the concept behind the current intervention safety net and is regarded as distortionary and highly undesirable.

- **energy-only market (NEM).** Allowing prices to clear at the level which remunerates peak investments. NECA argues that this is the approach taken in the NEM. Generators receive revenue only when they generate and customers pay in accordance with their half hourly demand. Contracting to smooth the inevitably volatile payments is expected.

Each of the alternatives results in payment for capacity to provide reliability. All else being equal, the contract payments under an energy-only market would equate with the price of a capacity contract plus residual energy market and with the average of a capacity bonus plus residual energy price. In one way or another payment must be made if the physical capacity is to be present. In each of the alternatives canvassed, capacity is accounted for either explicitly or implicitly. On this basis NECA argues that increasing VoLL benefits the public by increasing the incentive for market responses by both the demand and supply sides, ensuring the future reliability of the system and reducing the price distortion introduced by a market cap. NECA further argues that increasing VoLL reduces the anti-competitive nature of the market price cap and ensures balance between network and energy market measures. NECA

[5] A risk of between 3 and 7 hours of involuntary load shedding (that is net of voluntary demand side response) in the face of extreme demand conditions (10% probability of exceedance) is a common international standard. NECA claims that reliability in Australia has often been better than this.

...gues that risk in the market is restrained, by use of the CPT, to near current levels on an overall basis.

2.3 What the interested parties say

The Commission received eight submissions on the proposed Code changes (see Appendix A). Interested parties raised a number of issues concerning the proposed Code changes, each of which is dealt with separately below.

Supply side incentives

A broad range of interested parties argued that there are flaws in NECA's arguments that an increase in VoLL is necessary to provide adequate incentives for peak load generators to enter the market in order to maintain adequate system reliability.

The Queensland generator CS Energy argues that the current level of VoLL allows the market to clear on a voluntary basis. It believes that incidents of VoLL have occurred because of genuine supply demand imbalances, rather than because there is insufficient incentive for generators to commit plant.

The South Australian retailer ETSA Power[6] argues that the current market arrangements facilitate voluntary clearing of the market and indeed have attracted sufficient new investment to ensure that the market continues to clear voluntarily into the future. ETSA Power argues that there is no basis for the statement that the ability of the market to clear would be enhanced by increasing the value of VoLL.

Energy Markets Research Institute (EMRI) argues that evidence that there is a problem about future investment in new generating facilities has not been provided in the application. It adds that evidence to establish that holding out special incentives for open cycle gas turbine generation facilities that will run only six hours a year will increase the public benefit has also not been provided. It claims that other potential lower cost options (such as new gas turbine plant at exiting generation facilities) and other developments impacting on future reserve capacity (such as the Basslink interconnector) have not been considered.

The Business Council of Australia Energy Reform Taskforce (BCA) and the Bardak Group (Bardak) contend that the argument that a higher VoLL is necessary in order for peaking generators, operating for just a few hours each year, to recover sufficient revenue to cover fixed costs and a reasonable return on investment is flawed. They contend that this argument does not take into account that peaking generators are most likely to be the recipients of revenue from ancillary service contracts. They add that the amounts of money involved in covering the cost of peaking plants is small relative to overall payments for energy in the NEM and that it is preferable to deal with this problem directly through capacity payments rather than allowing opportunities for all generators to lift pool prices where market power exists. Further, they argue that even if a case can be made to allow peaking generators to bid up to the prevailing price cap, there is no justification for allowing all generators this degree of freedom.

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[6] AGL acquired ETSA Power in January 2000

Demand side incentives

CS Energy states that the current level of VoLL provides sufficient incentive to develop demand side responses and that the only impediments are jurisdictional transitional arrangements and time for the appropriate instruments to be developed and implemented.

CS Energy also argues that a higher level of VoLL can provide a disincentive for demand response. It argues that this would occur if a retailer became over-contracted as a result of load shedding. In this case the retailer would receive large difference payments without having made payments in the energy market for the over-contracted portion and not have an incentive to reduce demand to relieve the VoLL condition.

The EMRI argues that increasing the level of VoLL has a threefold effect on end users. First, it increases the average energy price in the wholesale market. Second, EMRI argues that a higher VoLL leads to higher price volatility resulting in end use customers being faced with an increase in hedge costs to manage this volatility. Third, EMRI claims that end-users would also incur increased network charges from an increase in VoLL.

Further, EMRI takes issue with the argument that an increase in VoLL will lead to greater demand side response. It argues that with an increase in VoLL, retailers and end users will increase their level of hedge cover to minimise exposure to the pool price.

ETSA Power argues that the current level of VoLL is achieving the required demand side response. It adds that an increase in the level of VoLL would increase customer preference for no pool exposure.

Risk management

A range of interested parties argued that an increase in VoLL would increase the likelihood of price spikes and therefore risk in trading in the NEM. They argued this was particularly a problem at this stage of the NEM's development given the underdeveloped nature of the market's risk management tools.

CS Energy claims the lack of firm access or compensation for network outages represents a revenue risk to generators that cannot be managed. It argues that any increase in VoLL would exacerbate this situation.

CS Energy considers that increasing the level of VoLL will considerably increase exposure to risk. It agrees with the WM Mercer report in concluding that more robust risk management solutions are required and that they will take a number of years to develop.

AGL believes that moving to a value of $20,000/MWh without first having tested the value of $10,000/MWh is premature and may require the market to manage significant risks, which may ultimately prove costly to end customers.

The EMRI argues that a change in the price cap is likely to increase the size of price spikes (as opposed to the frequency of price spikes) and will lead to an increase in both average prices and the cost of managing the higher price risk (hedge costs).

ETSA Power's submission argues that the NECA issues paper was predicated on the pretext that the current level of VoLL is set too low to allow voluntary clearing of the market,

.thout any detailed analysis to support this assertion. Consequently the NECA review recommended an increase in the VoLL.

ETSA argues that the level of wholesale pool spot prices and contract hedge prices in the SA electricity market has a direct relationship with the level of VoLL. Since the start of the NEM, the average pool price in South Australia has been significantly affected by price spikes in January, February and April 1999 where the half-hourly price has been as high as $4400/MWh. Without these price spikes the average pool price would have been 20-30% lower (that is around $35/MWh instead of $50/MWh). ETSA argue an increase in the level of VoLL will increase the potential size of price spikes, which will increase the average pool price. Since the hedge contract price is a function of the expected level and volatility of the pool price, it would also rise if the level of VoLL were increased.

ETSA argues that any increase in VoLL will potentially reduce the amount of liquidity in the contract market, as there will be an increase in risk for both the retailer and the generator. If either party finds themselves in an over contracted position and a higher VoLL pool price occurs, there will be a significant increase in financial risk compared to the current scenario. There will be an increase in counter-party credit risk that once again will affect market liquidity.

ETSA Power argues that due to the tight demand/supply balance in South Australia there is insufficient hedge cover available from the generators in South Australia to cover all contestable and franchise exposures. As such market participants are already exposed to excessive price risk at a $5,000/MWh VoLL, let alone any price increase which may occur.

Loy Yang Power considers that the proposed changes will give adequate time for market development and for risk management products to be developed and support the changes.

Cumulative price threshold

As noted previously, under the proposed arrangements, an administered price period is initially applied if the sum of the spot price in the previous 336 half-hour trading intervals exceeds the CPT of $300,000. Under this requirement the spot price would have to be, on average, $1,786/MWh over a week before an administrative price is applied.

AGL argues that the role of the price mechanism is to provide the appropriate signals to both generators and customers. It questions whether an average pool price of $1,786/MWh over a one-week period is required to provide appropriate signals to the market. AGL states that an average pool price of this level has the potential to bankrupt a participant should they have even minimal exposure over this period. For these reasons AGL believes that the administered price cap should be lower for a force majeure event.

AGL is also concerned that the potential exists for the administered price cap to remain in place for extended periods of time. Should the administered price cap be required for an extended period AGL recommends that a 'phase down' of the actual level be adopted. This recommendation is made on the basis that enforcing a price cap for an extended period of time does not enhance the price signal, and has the potential to bankrupt retailers and customers with even limited exposure to the wholesale price.

Market power

Bardak argues that an increase in VoLL to $20,000/MWh, without taking steps to eliminate all unnecessary price spikes due to market power problems, will inevitably lead to higher pool prices for end customers. It adds that there is an increased possibility for gaming inherent in the proposal to increase the value of VoLL. It argues that better and more independent market monitoring activity, as well as market power mitigation measures, are required to address these problems.

Overseas evidence

The BCA and EMRI note that both the current and proposed levels of VoLL are well in excess of market price caps which apply in other electricity markets. The EMRI states, for instance, that in the Californian market a price cap of $US750/MWh applies.

The BCA notes that in the Californian market full investigation of pool prices above $US150/MWh are common. Further in the England/Wales market, OFFER has investigated any bids above £60/MWh and has expressed concerns as to the frequency of such bids.

Other issues

ETSA Power argues that South Australia will be affected more by an increase in the level of VoLL than NSW or Victoria because it has less available capacity (currently) to meet peak demand than those states. Since South Australia entered the NEM it has experienced more frequent and more extreme price spikes than the other states. As a result an increase in the level of VoLL would be expected to have a bigger increase on South Australia's pool price and contract price than in the other states, with a consequent detriment to public benefits from the proposed change.

2.4 Commission considerations

In its determination of 10 December 1997 the Commission noted many of the arguments, both for and against, the VoLL price cap. The Commission noted that the main rationale for VoLL was to act as a price cap to ensure that the market is not subject to large price shocks, particularly in the transitional phases of the NEM. The Commission acknowledged that through introducing VoLL, generators may be encouraged to game the market and force the spot price to VoLL.

The Commission also noted that VoLL created a number of market distortions. In particular the Commission noted that VoLL restricts market outcomes by placing an upper bound on the prices and hence revenues that a seller in the market may earn and, in so doing, can distort the market value of electricity.

On balance, the Commission concluded that there was a public benefit in having VoLL as it protects customers against price spikes that may arise in periods of excess demand. This was considered to be an important factor given that the NEM was a new market arrangement where demand side responses to high prices were expected to take some time to develop.

However, given its concerns about VoLL, the Commission imposed a condition of authorisation which required an amendment to clause 3.9.4(c) to provide for the Reliability

. .nel to conduct yearly reviews of the value of VoLL. The proposed Code changes have resulted from the first of these yearly reviews.

The proposed Code changes seek to separate the economic price signalling and risk capping roles VoLL currently fills. It is proposed to set VoLL primarily on the basis of the market clearing signal it provides with the revised force majeure provisions, the CPT, acting as the primary codified mechanism for capping risk. The remainder of this section assesses the various arguments put forward in relation to the proposed Code changes.

Investment

In its 10 December 1997 determination the Commission noted that if VoLL is set too low it may result in insufficient generation capacity being available in periods of excess demand resulting in intervention by the market operator. If the price cap is too low it may also affect long term investment signals. For example, if the spot price is capped at too low a level, investment in peaking, stand by and other generation plant, or equivalent demand management techniques, may be less than they would otherwise have been. In addition, existing facilities in each of these categories may be disadvantaged.

The Commission notes that in regions such as Queensland and South Australia where spot prices are more volatile, new investment in generation and interconnection is already occurring at the present level of VoLL. In New South Wales, excess generation capacity means that there is little incentive to invest in generation plant. As such it could be argued that the even at the current level of VoLL appropriate investment signals are being provided in these jurisdictions.

However, the Commission notes the view of the Reliability Panel that in regions where significant levels of demand occur for only a few hours per year, relatively high peak prices will be necessary to support marginal plant. NECA argues that the proposed changes provide a path for increasing VoLL to levels that will allow appropriate cost recovery for fast start plant acting in a peaking role. The Commission observes that in Victoria it would appear that there may be insufficient generation in the top end, or peak part of the market.

The Commission accepts that an increase in the level of VoLL will increase the opportunity for generators to be rewarded and thus should lead to greater investment in needed generation capacity. The Commission believes that a market based solution to problems of insufficient peaking capacity is far preferable to alternatives which involve continued central intervention in the market. The Commission believes that an increase in VoLL as proposed by NECA does offer a market based solution to the problem of insufficient generation capacity being available at times of excess demand.

The Commission acknowledges that other alternatives may also address the issue of market clearance at times of peak demand. For example, several submissions argued that transmission capacity augmentations, including the proposed Basslink interconnector, represent a more cost-effective means of addressing concerns as to supply side imbalances. The Commission believes that an increase in the level of VoLL does not preclude these alternatives from developing should they be the most efficient means of addressing system reliability issues.

Therefore while the Commission agrees that an increase in the level of VoLL should lead to significant public benefits by encouraging market signal based investment in peaking plant, and thus improving system reliability the Commission considers that NECA should continue to monitor the interrelationship between VoLL, investment and system reliability. NECA needs to ensure that VoLL and the CPT remains the most appropriate mechanism to achieve the goals of adequate investment signals and system reliability.

Demand side

Another consideration is what role does VoLL have in respect to the level of demand side participation in the NEM. The Commission acknowledges that current levels of demand side participation in the NEM are too low. The Commission suspects that a degree of market immaturity and the complexity of the market by the demand side act as impediments to truly effective demand side participation in the NEM.

Another factor which limits demand side response is that many contestable customers are large with flat load profiles. As such, they are unable to shut down in response to short term price spikes. Generally it is smaller retail customers (commercial and residential loads) who have volatile demand patterns that result in demand peaks. These customers do not presently see the impact of their demand patterns on prices.

The Commission believes that these factors impact on the extent of demand side response in the NEM. Consequently, the Commission is of the view that an increase in VoLL will encourage some demand side response over time, as it provides additional incentives for contestable customers to the extent that they are exposed to the pool price to reduce demand in periods of high prices.

The Commission notes CS Energy's argument that jurisdictional transitional arrangements are impeding the development of price responsiveness in the NEM. Submissions to the Reliability Panel's review of VoLL similarly stated that vesting contracts and franchise tariff arrangements are inhibiting the development of more flexible arrangements for price responsiveness. The Commission notes NECA's argument that these concerns were taken into account in considering the timing of the proposed changes. To the extent that jurisdictional transitional arrangements do impede demand side responsiveness it can be expected that there will be an improvement in demand side response once such arrangements are removed.

If introducing the proposed arrangements has the effect of encouraging greater demand side participation or at least management of demand, then an increase in VoLL will provide public benefits through more efficient pricing and allocation of electricity.

Risk

VoLL acts as a cap on market price and therefore at least in part on risk in the NEM. The Commission notes the concerns that have been raised over the impact of an increase in VoLL on the level of risk for market participants in the NEM. This appears to be a particular concern in regions with tight demand/supply balances. ETSA Power has expressed concerns that there is insufficient hedge cover available from generators in South Australia to cover all contestable and franchise customers exposure at the current level of VoLL let alone at $20,000/MWh. Participants have also indicated that it is difficult to secure hedge cover in Queensland.

NECA has argued that the proposed Code amendments will increase risk, but also will encourage the development of management measures to deal with such risk. The Commission consequently agrees with NECA that risk is necessary to promote both demand and supply side responses.

The Commission believes that an increase in VoLL provides greater incentives to manage risk. Robust risk management instruments are required at $5,000/MWh and an increase to $20,000/MWh would simply appear to increase their necessity.

However, one of the concerns raised in submissions to the Commission is whether an increase in the level of VoLL will impose substantial additional costs on end users. Some parties have argued that small periods of time at prices of $20,000/MWh could have a significant effect on average pool prices. The Commission, however, also notes that increasing VoLL to $20,000/MWh should make periods of high prices less likely because of the impact that increasing VoLL has on supply side investment. Nevertheless, this is a matter that NECA needs to monitor closely during its annual reviews of VoLL.

Cumulative Price Threshold

The Commission notes the arguments of the applicant that the CPT provisions are intended to replace VoLL as the primary mechanism for controlling risk in the NEM.

The Commission notes that the risk borne by market participants from short periods of extreme price spikes increases under the proposed arrangements. Were spot prices to spike to $20,000/MWh this price would need to be sustained for up to 7.5 hours before an administered price cap would apply. As noted earlier, however, the Commission believes that risk is necessary to promote demand side and supply side responses in the NEM. The Commission also notes that under the proposed arrangements, market participants are afforded a similar degree of protection from protracted periods of high spot prices as under the current force majeure arrangements. The Commission therefore believes that the proposed CPT levels are reasonable.

Market power

The Commission notes the comments of the Reliability Panel on the impact of an increase in VoLL where generator market power is a concern. The Panel noted that:

> a further source of risk is the potential gaming of market price. It has earlier been noted that efficient market prices can be volatile, particularly over the short term. Provisions of the code which allow market participants to efficiently respond to that volatility also allow the possibility of abuse if there is insufficient competition to counteract its effect. An increase in the level of the market price cap recommended in this report will have the effect of increasing the alternatives for balancing supply and demand under extreme conditions when abuse is potentially attractive. It will also reduce any perceived need or justification to act in a non-competitive manner. However it will also increase the potential return from it.

The Commission believes that significant issues are involved in increasing VoLL in an environment where market power concerns are relevant. The Commission has held concerns over generator market power in the NEM since market commencement. In its 10 December 1997 determination, the Commission raised significant concerns with potential market power possessed by generators in the NEM. The Commission noted that the design of the NEM, and the industry structure in the participating jurisdictions, has important implications for developing effective competition in the NEM. It was argued that market power leading to strategic behaviour in the NEM could arise from either market structure and/or market design. It added that the use of market power imposes a cost on society that can diminish the public benefit from reform.

The Commission noted that market power in the NEM may stem from a number of factors and their interaction. The factors identified included:

- the non-disaggregation of generation, or insufficient disaggregation;
- anti-competitive conduct by and between generators;
- demand during certain times of the day, seasons or random fluctuations;
- the capacity of interconnection — the greater this capacity the less likely that an entity will have regional market power;
- the ease with which new entrants may be able to enter and exit the market; and
- the impact of market rules/market design on incentives.

However, the Commission's principal concern, then and now, was the influence of market structure on market power, and the apprehension that insufficient structural disaggregation may allow generators to exercise market power.

At the time, analysis of the structure of the NEM by the Commission's consultants, the Australian Bureau of Agricultural and Resource Economics (ABARE), indicated that the NEM was characterised by a significant degree of market concentration, particularly in South Australia and New South Wales.

ABARE argued that market structure was such that large generation portfolios in South Australia and New South Wales would be in a position to dominate particular segments of the market. ABARE claimed that this occurs because in periods where the level of demand is high relative to the capacity of rival generators, an individual generator may face a residual demand and hence be in a position to bid 'strategically' to maximise profits.

ABARE suggested that structural reform, such as further disaggregating generation assets, may be necessary to attain the competitive benefits from implementing the NEM. It argued that establishing more generation businesses to compete in the market should make it more difficult to exercise market power as it results in capacity demanded being distributed among a number of competing businesses. This means that it becomes much riskier for any one generator to assume that it will be the marginal producer, forcing it to bid into the pool at marginal cost to ensure dispatch.

The Commission acknowledged that market structure is not addressed in the Code, as it was determined to be a matter for the individual jurisdictions to consider. However, the

ɔmmission concluded that market structure issues were fundamental to realise the benefits arising from implementation of the Code. The Commission argued that the potential, both at the time and in the future, for generation businesses to exercise market power will reduce or negate the public benefits of the NEM reforms.

The Commission still harbours these concerns about potential market power in the NEM. Since the commencement of the NEM, pool prices suggest that market power concerns are particularly relevant in South Australia and, notwithstanding the structural separation to date, Queensland. The Commission also has concerns about potential market power in NSW. However those concerns have not, as yet, materialised into systematically higher pool prices in that region.

While the Commission notes that significant generation investment and interconnection with New South Wales may help address generator market power problems in Queensland, and that new generation is planned for South Australia, concerns about market power remain.

The Commission is concerned that an increase in the level of VoLL would appear to increase the potential benefits from any attempt to set the marginal price at or near the new price cap figure. The Commission believes that the detrimental impact on consumers of any exercise of market power will be magnified with an increased VoLL.

Overseas evidence

The Commission considers it interesting to contrast the level of VoLL and market power mitigation measures in the NEM to those in other electricity markets.

The Reliability Panel's issues paper made brief comparisons of the reliability arrangements in a number of international competitive electricity markets. The vast majority of overseas markets examined (predominantly North and South American) have price caps below the $1,000/MWh level. Of those markets examined only the England/Wales market had a price cap similar to that in the NEM.

The study highlighted not only the differing approaches taken but also the different market designs. It noted that the NEM is the only market where the spot price is intended to be the prime driver for remuneration for energy sold and capacity made available. Most overseas markets engage in some form of contract trading with provisions to trade variations to contracts. This, to a large degree, explains differences in the level of VoLL in the NEM, as against overseas markets.

As discussed the Commission is concerned about how market power might manifest itself with a higher VoLL. In many overseas markets, as in the NEM, concerns remain as to the ability of generators to game the market and force up prices. It can be noted that many overseas markets have far more stringent mechanisms in place to mitigate market power possessed by generators than exist in the NEM.

In the England and Wales market, for example, the Office of Gas and Electricity Markets (OFGEM) has, in response to concerns about generator market power, recently instigated monthly analysis of generator behaviour in the pool and corresponding impact on prices. Additionally the OFGEM has recently proposed the introduction of a modification to the licences of those generators who are likely to have substantial market power in the pool. The

introduction of a 'good market behaviour' condition into generator licences is designed to allow OFGEM to take action against any generator found to be abusing its market power.

Subsequently OFGEM has referred two generators to the Competition Authority for their refusal to agree to this licence condition.

In the Californian market the Californian Power Exchange sets a benchmark of behaviour under perfect competition against which participant performance is monitored. Additionally routine investigations of pool prices above $US150/MWh occur. In the Pennsylvania, New Jersey, Maryland market a market monitoring committee examines pricing outcomes, in particular prices near the market cap of $US1, 000/MWh.

The lack of comparable mechanisms in the NEM means that the level of VoLL assumes greater significance, as the ability of generators possessing market power to bid up prices is not as supervised. The Commission's concerns over an increase in the level of VoLL would diminish should more comprehensive market monitoring measures be put in place in Australia.

Conclusion

Intrinsically a competitive market would not require a price cap or reserve trader provisions. Consistent with this philosophy, NECA has argued that an increase in the level of VoLL will increase investment in fast start plant and lead to improved demand side response. In this eventuality the market would voluntarily clear on a more regular basis, which is necessary to ensure system reliability.

The Commission accepts the intellectual strength of this argument. Indeed, the Commission recognises the need for the NEM to provide appropriate price signals to generate incentives to maintain supply reliability in the longer term. The Commission accepts that an increase in VoLL will provide public benefits, as identified by NECA. The Commission believes that the proposed changes to VoLL will increase investment in needed fast start plant and achieve improved demand side response.

However, the Commission does have a number of concerns about the proposed Code changes.

The Commission's major concern with the proposed Code changes relates to the likely outcome of increasing VoLL to $20,000/MWh in a market where there remains significant concerns over generator market power. The Commission considers that a rise in VoLL increases rewards for generators to exercise market power. Given that generator market power concerns are still an issue in the NEM the Commission believes that an increase in VoLL could translate to higher energy prices across the NEM.

The Commission considers that the implementation of market power mitigation measures in the NEM, similar to those in place in overseas markets, would alleviate a number of the concerns with an increase in VoLL. The Commission believes that any time the spot price exceeds the current level of VoLL, $5,000/MWh, warrants investigation by NECA.

The Commission, therefore, recognises the need for appropriate price signals in the NEM to provide market based incentives for the reliability of supply to be maintained. However, the Commission proposes a condition of authorisation requiring more stringent market

monitoring measures in the NEM to address concerns about the impact of an increase in VoLL given current generator market power issues in the NEM.

The Commission also concludes that the annual review of VoLL by NECA should monitor the impact of the change in VoLL on the spot market, level of investment and system reliability. The purpose of this evaluation is to ensure that the increase in VoLL and the operation of the CPT is achieving the objectives of the changes as set out in this application.

Condition of authorisation

C2.1 Clause 3.13.7 of the Code must be amended to require NECA to publish a report when the spot price exceeds $5,000/MWh. The report must:

(a) describe the significant factors that led to the price spike;

(b) establish whether rebidding, especially rebidding close to real time, of price and/or quantities had contributed to the price spike; and

(c) identify the marginal unit(s), and all those units that bid above $5,000/MWh, and compare the bids and offers with past bids and offers for the same unit(s).

C2.2 In undertaking the annual review of VoLL as prescribed in clause 3.9.4(c) of the Code, the Reliability Panel shall have regard, in addition to any other requirements of the Code, to the impact of the increases in VoLL on spot market prices, levels of investment and system reliability. The report by the Reliability Panel shall include an assessment of whether the level of VoLL and operation of the CPT have achieved the outcomes intended by the Code changes.

3 Capacity mechanisms

Internationally there is no consistent approach in the way that capacity is rewarded and encouraged. In some cases energy and capacity are treated as separate goods and are separately priced in the spot market. In contrast to those arrangements, the NEM is designed as an energy only market with spot market revenues based on market clearing prices. No other payments are made in the spot market except those arising from specifically designed reliability safety nets. Reliability requires consistent, voluntary market clearing, that is balancing of the supply and demand side without involuntary load shedding or other market intervention in all but extreme circumstances. Whilst an appropriate level of VoLL ensures consistent voluntary market clearing the NEM also includes a reliability safety net given concerns about the market's immaturity. The existing reserve trader provisions of the Code preclude NEMMCO from entering into reserve contracts after 30 June 2000. The proposed Code changes replace the existing reserve trader provisions of the Code with a reliability safety net requiring NEMMCO to consult with jurisdictional representatives in determining the necessary level of capacity contracted and must agree upon the cost sharing arrangements for such capacity with the nominated jurisdictional representatives. The changes provide that compensation for reliability directions be based on the higher of the prevailing compensation methods.

The changes provide for extending of the time horizon for the proposed reliability safety net from six months to a rolling three-year period. The changes also provide for annual reviews of the necessity of the safety net mechanism as part of the Reliability Panel's annual reviews of VoLL and for removing of the safety net provisions should the panel so recommend. The proposed changes provide that, unless removed earlier at the recommendation of the Reliability Panel, the reliability safety net provisions will cease to have effect from 30 June 2003.

3.1 Issues for the Commission

The Commission considers that the reliability safety net provisions could be anti-competitive in that NEMMCO's intervention could substantially lessen competition in the spot market between generators and/or scheduled load. For example, participants in the wholesale pool may behave in a way which secures reserve contracts. Central provision of reserves may also diminish incentives for market based approaches, as participants may come to rely on central intervention.

3.2 What the applicant says

In its application NECA indicated that it initiated a review of the NEM's capacity mechanisms in order to address concerns that the current market design may not attract sufficient investment in the supply and demand side resources necessary to achieve the reliability standards set by the Reliability Panel. The review was also intended as a pro-active assessment of the reserve trader arrangements and to establish a framework for the Reliability Panel's initial review of the level of VoLL.

NECA stated that there is a need for an appropriate level of VoLL to achieve consistent voluntary market clearing. However, NECA argued that given that the current immaturity of the market, some form of reliability safety net will continue to be required, at least for a

ther, limited, period beyond the current 30 June 2000 sunset for the existing reserve trader arrangements.

NECA's review of capacity mechanisms in the NEM reached the following conclusions:

- The existing reserve trader provisions in the Code should be replaced with a reliability safety net that extends the timeframe for its operation from the current six-month, to a rolling three-year, period.

- The reliability standard, currently expressed as a maximum level of unserved energy, should continue to be set by the Reliability Panel.

- NEMMCO should remain responsible for calculating the appropriate level of capacity required in each region to meet that standard.

The review further concluded that as this requires NEMMCO to make judgements about future demand and generating capacity which involve wider issues of legitimate public policy, NEMMCO should in future take this decision in consultation with experts appointed or nominated by the participating jurisdictions. This consultation is intended to provide judgemental input to address concerns as to the capacity of NEMMCO to make such judgements.

The review also proposed that the role of the revised safety net should be designed to diminish as the market matures. Further it proposed that the safety net should be removed entirely at the earliest opportunity in response to firm evidence of consistent voluntary market clearing, the development of a pro active demand-side response and development of more sophisticated contract and risk management mechanisms. The review proposed that the Panel should be required, as part of its future annual reviews of VoLL, to consider and report on whether such evidence yet exists. If the Panel concludes that it does, it was proposed that the safety net should immediately and automatically be removed. As a further safeguard to ensure that the safety net does not simply become institutionalised, the review proposed that the express approval of the ACCC should be required for the safety net to extend beyond 1 July 2003. These sunset arrangements were proposed, in particular, to reflect concerns expressed very strongly during consultation on the draft report that there should be a defined end-date for the safety net arrangements, and that the end date should be as early as possible.

The review further recommended that the potential for individual participants to reduce the need for the safety net, for example through the submission of demand-side bids, should be recognised and encouraged by the allocation of responsibility for funding those arrangements. It was proposed that the net costs of the safety net should therefore be allocated on an energy basis in benefiting regions in peak times during the periods when the safety net is in place and that exemptions should be available for demand-side bids.

Therefore, the applicant states that the proposed code changes have been developed to address concerns that the current immaturity of the market requires some form of reliability safety net at least for a further, limited period, beyond the current 30 June 2000 sunset for the existing reserve trader arrangements. The revised safety net is designed to ensure that its role can diminish as the market matures and be removed entirely at the earliest opportunity in response to firm evidence of consistent, voluntary market clearing, the development of proactive demand side responses and development of more sophisticated contract and risk management mechanisms.

3.3 *What the interested parties say*

Interested parties expressed a range of views on the proposed code changes. On the one hand Loy Yang Power supported the proposed code changes, whereas AGL, the BCA and Bardak were more critical of the proposals.

AGL argues that the jurisdictional representatives chosen to consult on the level of capacity required and the cost sharing arrangements may not have the necessary expertise to determine supply and demand parameters, or could be exposed to conflicts of interest. Further AGL argues that jurisdictional regulators may not be in a position to determine a 'fair market value' of such services.

AGL is also concerned that tendering in the open market could potentially raise costs with the number of generators willing or able to participate likely to be few, creating market power problems. Further it is contended that by going to the market and tendering for capacity current contracts for capacity could be duplicated or the private sector crowded out.

With regard to the requirement for reserve trader provisions AGL argues that the level of demand side bidding should not be used as an indication that such provisions are no longer required. AGL contends that customers with the capacity to provide demand side bids may have sound commercial reasons for choosing not to, for example if it is their best interest to participate in the ancillary services market.

Loy Yang Power has expressed its support for the proposed code changes.

Bardak and the BCA argue that there are fundamental deficiencies in a mandatory, single-price pool energy only market.

The BCA argues that the single price pool involves limited demand side participation, is inherently (price) volatile, potentially subject to misuse of market power and is not an efficient competitive market. The BCA and Bardak both claim that continued government ownership of generation assets (thereby limiting competition), the small number of large generators and the regional nature of the Australian power systems suggest that the mandatory single price pool is inappropriate.

The BCA contends that the single system marginal price in each 30-minute period means there is inherent cross subsidies from industrial loads to domestic loads, as industrial loads cost less to supply. The BCA therefore argues that the trading system is not producing competitive outcomes.

The BCA argues that the review of capacity mechanisms should have analysed the whole NEM trading system. Further the BCA and Bardak contend that the mandatory single price pool should have provision for capacity payments to enhance the chances of replicating the outcomes of a competitive market.

The BCA argues that:

- the energy only market should be rejected;
- provision be made for capacity payments to augment the conditions of a competitive market; and

independent market monitoring and market power mitigation measures be implemented.

3.4 Commissions considerations

In its 10 December 1997 determination the Commission argued that it was sensible that the reserve trader and NEMMCO's power to direct be available in the initial stages of market development. It was argued that without the reserve trader, a lack of market maturity may result in unnecessary breaches of the minimum reliability margin, which could lead to involuntary load shedding.

However the Commission imposed a condition of authorisation that the existing reserve trader provisions of the Code end on 30 June 2000 to address concerns that the provisions may become entrenched to the detriment of free market trading. The Commission imposed a further condition that NECA review the adequacy of the reserve trader provisions. It was noted at the time that should there be sufficient evidence of the market still requiring a reserve trader function beyond this date, then an application for authorisation of amendments to, or extension of, the reserve trader function could be made at that time.

The Commission considers that many of the concerns raised at market commencement as to the immaturity of the market remain valid today. It appears that the ability of the market based signals to deliver adequate system reserves and reduce the risk of involuntary load shedding is still limited. Consequently the Commission considers that some sort of reliability safety net is necessary to accommodate the market, at least in the short term where a lack of market maturity may result in unnecessary breaches of the minimum reliability margin, which could lead to involuntary load shedding.

Such provisions should however minimise distortions and free market trading and should not inhibit the ability for market based alternatives to develop. In this regard, the Commission notes NECA's argument that the safety net should be removed entirely at the earliest opportunity in response to firm evidence of consistent voluntary market clearing, the development of a pro active demand-side response and development of more sophisticated contract and risk management mechanisms.

Notwithstanding that these Code provisions can be removed if there is firm evidence of voluntary market clearing, the Commission sees some inconsistency between them and the VoLL Code changes. The capacity mechanisms arrangements appear to recognise that the market cannot provide adequate reserve. The VoLL Code changes, however, rely on increasing the level of VoLL so that the market provides reserve. The very fact that the capacity mechanisms arrangements have been submitted for authorisation appears to indicate some lack of confidence in the ability of an increase in VoLL to provide reserve sufficient to ensure system reliability.

Interested parties have raised a number of concerns with the proposed code changes. The AGL submission argues that jurisdictional representatives may not have the necessary expertise to determine supply and demand parameters, or could be exposed to conflicts of interest. The Commission notes that whilst the proposed code changes do require NEMMCO to consult with persons nominated by the relevant jurisdictions, ultimate responsibility for assessing future reliability and entering into reserve contracts rests with NEMMCO.

Clause 3.12.1(b) requires the Reliability Panel to annually review whether the reliability safety net provided for by the power granted to NEMMCO under clause 3.12.1 to enter into

reserve contracts can be removed from the Code. AGL argues that the level of demand side bidding should not be used as an indication that reserve trader provisions are no longer required.

Discretion as to the terms of reference for the Reliability Panel's review of the requirement for reserve trader provisions rests with NECA. NECA's final report on capacity mechanisms in the NEM sets out a sound history of voluntary market clearing, the development of a global demand side response and development of more sophisticated contract and risk management mechanisms as the appropriate signals for the early withdrawal of the reliability safety net provisions. The Commission considers the reliability review process the appropriate forum for concerns as to the criteria for assessing the continuing need for reserve trader provisions to be raised.

The Commission has previously noted its concerns about the potential market power possessed by generators in the NEM. In regions where the number of generators willing or able to enter into reserve contracts are few this could potentially raise the cost of reserve contracts. One means by which such supply side market power concerns may be mitigated is the extent to which demand side capacity is contracted. The Commission notes NECA's intention to launch a renewed initiative to examine the scope for improving the broad regulatory environment for increased opportunity for demand side participation in the market.

The Commission remains concerned about potential supply side market power in the NEM generally, and notes that such market power problems could potentially raise the cost of contracting for reliability. The Commission does not however consider that the proposed arrangements will necessarily raise such costs. The proposed Code changes provide for an annual review of the necessity of the reliability safety net by the Reliability Panel. Should it become apparent that market power problems are serving to raise the cost of contracting for reserves the Commission believes that the reserve trader provisions should be revisited as part of this review.

The Commission notes the concerns of Bardak and the BCA as to perceived deficiencies in the mandatory, single price pool energy only market. The Commission is continuing to monitor developments both overseas and in the NEM with regard to market design issues. However the Commission believes that the issue of the appropriate trading system in the NEM is well beyond the scope of this authorisation.

.. Price Floor

Condition C8.6 of the Commission's 10 December 1997 determination required that the Code be amended to remove the zero spot price floor during an excess generation period within one year from market commencement. The Code changes proposed by NECA fulfil this condition.

The proposed changes to the Code:

- remove the zero price floor and the accompanying excess generation provisions that were necessary to allow controlled off loading of generators;
- implement a new negative price floor, initially set at - $1,000/MWh. NECA proposes that the level of the market price floor be reviewed by the Reliability Panel concurrent with its next review of the market price cap of VoLL; and
- provide for negative administered prices, based on arrangements that precisely mirror the ceilings represented by the administered price cap at the top end of the market.

4.1 Issues for the Commission

The main issue for the Commission is that the imposition of a floor price may constitute a price fixing arrangement in breach of s. 45 of the TPA. These arrangements may detract from the overall public benefit of the market to the extent that they may distort market signals.

4.2 What the applicant says

NECA argues that the proposed Code changes allow the market to move freely between positive and negative prices using the same mechanisms thus improving the price signals in the market by allowing customers to see the marginal value of electricity more often.

NECA adds that initially setting the market floor price at - $1,000/MWh, significantly below the lowest current market outcome for dispatch prices (- $18/MWh), will ensure that it does not interfere with the normal clearing of the market while providing some protection to participants from extremely high prices.

Further NECA argues that as well as capping participant risk a price floor at some level is essential in order to set a bound on the dispatch algorithm.

4.3 What the interested parties say

Loy Yang Power was the only party to comment on the floor price issue. It does not agree with the -$1,000MW/h spot floor. It argues that the price, including a negative price, should be set by market conditions at the time, and so the size of the price would be determined by the bids / offers lodged. In particular it states that negative prices caused by constraint or IT issues should be capped at the greatest negative price bid of available generation.

4.4 Commissions considerations

In its 10 December 1997 determination, the Commission allowed a zero spot floor price, but only as an interim measure. This was to address concerns as to the maturity of demand side responses at that time. The Commission considered that not allowing market customers to see negative prices has anti-competitive effects that impact upon the efficiency of market outcomes.

The Commission argued firstly that customers are denied the market benefits of negative prices at times of very low demand. In a market where customers are exposed to positive pricing outcomes in times of high demand there is generally no justification for asymmetry in the rare event of a negative price outcome.

Secondly, the Commission argued that non-negative pricing distorts price signals by not allowing the market to function unimpeded and formulate an appropriate response. Prices are a signalling mechanism to customers; if customers are not exposed to appropriate pricing then the efficiency benefits arising from changing demand patterns are lost.

In order to address these concerns, the Commission's 10 December 1997 determination required that the Code be amended to remove the zero spot price floor within one year of market commencement. The Commission considers that the proposed amendments to the NEC address these concerns.

The Commission notes the argument of Loy Yang Power that negative spot prices should be set by market conditions at the time. However the Commission accepts NECA's argument that some floor level is essential to set the bounds of the dispatch algorithm.

The Commission considers that a floor price of - $1,000/MWh will provide customers with the benefits of negative prices at times of very low demand and will allow the appropriate market signals to be sent thereby removing a possible source of distorted market behaviour.

5. Determination

After consideration of the issues raised in sections 2, 3 and 4 the Commission concludes that, subject to the conditions set out below, in all the circumstances, the proposed amendments to the Code:

- are likely to result in a benefit to the public which outweighs the potential detriment from any lessening of competition that would result if the proposed conduct or arrangements were made, or engaged in; and
- are likely to result in such a benefit to the public that the proposed conduct or arrangements should be allowed to take place or be arrived at,

as the case may be.

The Commission therefore grants authorisation to applications A90711, A90712 and A90713. This authorisation is subject to any pre-determination conference requested pursuant to s.90A of the TPA. The Commission's authorisation is granted subject to the following conditions:

C2.1 Clause 3.13.7 of the Code must be amended to require NECA to publish a report when the spot price exceeds $5,000/MWh. The report must:

(a) describe the significant factors that led to the price spike;

(b) establish whether rebidding, especially rebidding close to real time, of price and/or quantities had contributed to the price spike; and

(c) identify the marginal unit(s), and all those units that bid above $5,000/MWh, and compare the bids and offers with past bids and offers for the same unit(s).

C2.2 In undertaking the annual review of VoLL as prescribed in clause 3.9.4(c) of the Code, the Reliability Panel shall have regard, in addition to any other requirements of the Code, to the impact of the increases in VoLL on spot market prices, levels of investment and system reliability. The report by the Reliability Panel shall include an assessment of whether the level of VoLL and operation of the CPT have achieved the outcomes intended by the Code changes.

Subject to the consideration of any issues raised during a possible pre-determination conference, the Commission proposes to limit the period of the authorisations to 31 December 2010. This is the period of time set down by the Commission in the 10 December 1997 determination for authorisation of the existing National Electricity Code.

Appendix A – Submissions

AGL Electricity

Bardak Group

Business Council of Australia Energy Reform Task Force

CS Energy

Electricity Markets Research Institute

Ergon Energy

ETSA Power

Loy Yang Power

Approved for Public Register and to be published on the Internet

YES / NO

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