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20 September 2007

The Chairman  
Reliability Panel  
Australian Energy Market Commission  
PO Box H166  
Australia Square NSW 1215

By email panel@aemc.gov.au

Dear Mr Woodward,

**RE: COMPREHENSIVE RELIABILITY REVIEW – SECOND INTERIM REPORT**

Please find attached the National Generators Forum (NGF) submission in response to the Comprehensive Reliability Review – Second Interim Report.

The NGF appreciates the opportunity to provide comments on this stage of this Review. Although this submission addresses some additional points, it should be read in conjunction with our previous submissions to the Issues Paper and First Interim Report, as the views expressed in those submissions are still current.

Yours faithfully,

John Boshier  
Executive Director

## **NGF Submission to the Reliability Panel Comprehensive Reliability Review – Second Interim Report**

The NGF has organised its submission in line with the matters under specific consultation in the Second Interim Report while also addressing further issues which the NGF considers should be considered in the Final Report.

### **Summary Positions**

In summary the NGF is proposing:

- EAAP Design
  - The rules should be minimalist and simple
  - The Rules should replicate the current NEMMCO Drought Report process
  - EAAP should be limited to water issues
  - EAAP should have a sunset of 3 years
  - There is no value in a 10 year energy outlook
- NEMMCO Reliability Direction
  - A uniform power of direction should apply in accordance with clause 4.8.9
- RERM
  - The name should be “Reserve Trader”
  - Fund to cover RERM is opposed
  - Recovery of RERM costs should be over whole market in arrears over several years
- RERM Guideline
  - RERM should not be triggered from EAAP
- VOLL
  - Give 3 years notice of change
  - More work is required to determine if a change in the level of VOLL is required to support market sustainability.
  - Support for a 3 year review recognising earlier reviews can be triggered through a rule change
- Market Floor
  - No change
- CPT
  - No change to CPT
- Other Issues
  - Oppose publication of Doomsday Scenarios

### **The design, operation and information dissemination process of the EAAP.**

The NGF is very concerned at the potential for substantive additional costs to be passed onto the industry from implementing an EAAP, but with little

practical benefit. The NGF would like to see that the rules explicitly require the EAAP to be minimalist and simple.

The Reliability Panel have identified potential energy constraints that may lead to insufficient or delayed investment in generation to ensure reliability in the future. The panel further emphasised that the risks associated with the continuing drought are material and that a timely response to this is required.

The NGF disagrees. Firstly, we question the extent of the impact of the drought on overall reliability. While we acknowledge that there has been some supply shortage and that this has led to associated price increases, no reliability issues have been raised. NEMMCO's second drought report shows limited USE issues in only one region which is still within the standard when viewed over 10 years. Despite the drought reducing reserve margins, there are no reliability issues looking backward or forward and no reserve trader indicated for the summer.

Based on the input at the Public Forum, the current proposal does not appear to be consistent with what was expected from several key players. The current proposal envisages Generator Energy Models covering a range of input conditions. The use of the word "model" conveys some formula which is to be used in a calculation. The NGF believes that the term "data framework" is a more meaningful term.

The NGF sees a number of problems in attempting to estimate future energy shortages:

- The multidimensional nature of the issue makes the task of estimating energy shortages very difficult. There is no discrete solution to energy limits as it is all a function of electricity price and not just fuel or water availability. Assessing energy reliability requires price modelling of the entire electricity, gas and water markets. This is unrealistic.
- If NEMMCO could get such models, they would have no credible way of combining them for different participants to form a system view. This is primarily because it is not satisfactory to assume that different participant variations are statistically independent (at one extreme), or totally correlated (at the other)

These shortcomings lead to our position that whilst some estimation of possible future energy shortages is possible, this will always be very imprecise and subjective. It follows that the amount of effort, and cost, expended should be commensurately small.

The NGF proposes that the process for the EAAP should follow the existing Drought Report process where the Reliability Panel specifies the scenarios to be used.

The NGF understands that the guidelines require information to be provided on all fuel sources. The NGF's view is that the EAAP should be limited to water issues. The concept of a medium term gas shortage which lends itself

usefully to this type of analysis is not credible. The paper discusses a pipeline incident as a possible event. NGF is of the view that such an incident would only be a short term capacity issue. Similarly, the NGF sees no value in the 10 year energy view. Over this time frame, it would be sensible to use average inflows and these will not show an energy problem for a market such as the NEM.

The NGF proposes that the best approach is for the EAAP to be produced on a quarterly basis on the assumption that the input requirement from participants is no more onerous than the NEMMCO Drought Report input.

In the NGF presentation, some comments were made in relation to the need to trigger the production of the report. NGF has reconsidered its position here and believes that the report should be produced every quarter but that the EAAP should have a sunset of 3 years. This would then require a proposal for a rule change to extend the EAAP.

The draft rules specify that the EAAP should be published on the first business day of each quarter. The NGF would like to see some flexibility by allowing for the exact timing of the publication to be incorporated in the NEM Timetable.

### **NEMMCO's power to issue reliability directions**

Prior to the review by NECA in 2002, the power of direction by NEMMCO was divided into "security" and "reliability" directions.

This distinction had proved unclear and arbitrary in application, and following this review, the (then) Code was changed to provide a common power of direction under 4.8.9.

The NGF supports the concept of a uniform power of direction, without any attempt to divide this power between reliability and security.

### **The Design of the RERM.**

The NGF believes that the change in title to 'Reliability Emergency Reserve Mechanism' is an unnecessary change as the market was familiar and comfortable with the concept of Reserve Trader. The NGF proposes that this term be retained.

The paper raises the issue of a possible levy and fund to cover the uses of the RERM. The NGF opposes this as it is an impractical proposal which is likely to be inequitable for different sized regions. NGF recognises that there is a problem for retailers, which we think could be mitigated by recovering charges for the RERM ex post over an extended period, possibly several years. In this case, NEMMCO would have the cost of carrying these funds but this cost could be recovered from the retailers.

The NGF does not believe the increase of the RERM contracting period to 9 months will make a material difference to the outcome but it raises no objection.

With the high level of reserve sharing which is now taking place in the NEM and a strong focus on enhancing the national nature of the market, the NGF believes it would be appropriate to recover the cost of any RERM from the whole market, not from the affected region(s). This will also assist the retailers as the size of the repayment will be reduced for customers in the affected region.

### **The guidelines to be issued by the Panel to NEMMCO on the practical operation of the RERM.**

The guidelines and the draft rules (page 128 section C.3.3) indicate that EAAP results should be taken into account when exercising RERM. This would imply intervention for energy rather than capacity shortages (as pointed out in NEMMCO's presentation at CRR Forum). The NGF strongly believe that this is impractical as the analysis of the energy position is very imprecise and the plant required for the size of the energy shortfall will be large in contrast to the small, short duration capacity reserves needed.

From the Forum proceedings, we believe that this energy triggering was not intended by the panel.

### **Should the current level of VOLL and the CPT be increased to ensure the reliability standard is met?**

The NGF believes more work is required to determine if a change to the current level of VOLL is required to support market sustainability. This work is not complete so any recommendation to change VOLL at this time would be essentially an interim position.

In arriving at this position the NGF has considered the modeling work undertaken by CRAI for the RP and the submissions by NEMMCo and ESIPC and other factors relevant to meeting the reliability standard with the current level of VOLL and the CPT.

The CRAI work shows that in "ideal" market conditions there is a relationship between the cost of plant and the level of VOLL required to meet the reliability target. Based on the new entrant costs escalating by CPI as assumed by CRAI, a small increase VOLL followed by sustaining that level (in real terms) would remain at about the right level, for these assumptions

The ESPIC modelling shows that the current market settings will encourage investment, under most scenarios however investment may be too little and too late to achieve the expected reserve margins to meet reliability targets.

Analysis of post investment returns in particular were likely to show inadequate revenue resulting in a modest mismatch of investment and reliability and consequently any market correction should be proportionate. (The relationship between the plant costs assumed by the respective modelers is not known.)

The Panel notes that there are risks on the horizon, due to external policy factors that create uncertainty and potentially distort market investment, which may impact the NEM achieving the reliability standard in the future.

The Panel has concluded that it is likely to be prudent to consider adjustments or additions to the reliability settings and mechanisms to provide continuing confidence in the NEM's ability to deliver the reliability standard in the long term and has therefore sought stakeholder feedback.

The NGF believes assessments based on "ideal" outcomes need to be balanced against the practical implications of a change in VOLL, particularly in the face of future market uncertainty and numerous externalities impacting the EOM.

#### The role of VOLL & CPT

The NGF's view is that the objective of a sound market design is to provide an adequate return for efficient investment at the level of reliability required, ie a sustainable market will deliver reliable outcomes.

Assuming VOLL, CPT and administered prices are all retained in a similar form, any changes to price caps and safety nets need to be consistent with the sustainability objective and because the modeling results represent an ideal world, the RP needs to consider the practical outworking of such changes on the market including the impact on participant risk.

VOLL and the CPT set constraints within which the market must operate to drive investment and providing they are set at a level to allow the market to clear voluntarily; their only real role is in limiting unnecessary risk exposure to participants. In achieving this balance a number of other issues need to be considered, in addition to the modeling that has been undertaken.

#### Market Sustainability

The relationship between the level of VOLL and sustainable investment is not necessarily direct as sustainable outcomes depend on a wide range of variables with countervailing impacts with more complex interactions than modeled.

Increasing the level of VOLL does not necessarily improve sustainability as the duration of such VOLL events is expected to reduce as more peaking plant is installed (due to the increased risk) and hence the profitability of peaking plant may not change but the level of USE decreases as there is

more plant waiting for such events. Increasing VOLL therefore may not increase revenue adequacy, by may just retain a similar profitability for plants.

An increase in new entrant costs suggest that the level of VOLL may need to be increased to meet the reliability target, as demonstrated in the modeling. In proposing an increase in VOLL it should be noted that there is not necessarily a direct relationship between plant costs and CPI, new entrant prices can be volatile as is demonstrated in the attached figure (provided by SKM) showing cost trends in OCGT plant.

■ Figure 2 Cost trend for the V94.2 160MW class gas turbine<sup>3</sup>



<sup>3</sup> Costs are FOB basis for basic package from successive issues of Gas Turbine World Handbook converted to the relevant currency using the average Fx rate for the year. Values are in nominal dollars. Note that the V94.2, which is a Siemens turbine, is now denoted the SGT5-2000E.

The ESIPC has noted this issue and has suggested that there may be other ways of escalating VOLL. However in reality there are countervailing factors that mean that VOLL may not need to be as high as the modeling suggests. These are discussed below. There may only be the case to increase VOLL if there is insufficient headroom between VOLL and the price required to support the new investment, or if the cap is distorting market operation.

Investment decisions in the real world are more complex than market model simulations and can be driven by sustained high prices well below the level of VOLL. This influences forward contract prices which together with long term contracting stabilizes revenue and customer prices. It is not necessary (or desirable) to have VOLL events and unserved energy to drive investment. The contract market provides the price signals for new investment and it is therefore not necessary to have VOLL at the level suggest by the theoretical calculation.

## Risk management

As noted above an important feature of the settings is risk management. The level of VOLL and the CPT provide a cap on participant risk, increasing VOLL increases participant risk.

A key element of participant risk that we believe needs to be addressed is the negative impacts on generators and retailers and the random wealth transfers such as occurred on the 16th of January. Events such as this one are outside the envelope of market operation that the reliability standard aims to address. This is a complex issue and changes to the Rules are being considered by the NGF and regulators. This issue is also relevant as generators face risks due to non firm access to the transmission system.

## Externalities

It is not clear that a change to the reliability settings is an appropriate response to the impending changes in policy settings. There has been a flood of regulated greenhouse measures, such as MRET, VRET, NRET, VEET, GGAS, 13%Gas in Qld and the recently announced CET.

In addition there are a number of factors which impact sustainable outcomes including:

- demand volatility (driven by weather and climate change );
- supply side performance;
- less than optimal supply and demand mix;
- fuel costs; and in the future
- the cost of carbon

All of these variables are assumed to be internalised in the NEM design by allowing the exercise of market power, and have only been considered to a limited extent in the modeling.

From an administrative point of view, the NGF believes that having 3 years notice of a change to the value of VOLL is appropriate as it allows participants to amend their contract positions. In a well functioning market there should be no need for frequent changes to VOLL.

The NGF considers that an annual review of VOLL is too frequent. However, the implication of a three year review is that VOLL would be unable to change for 6 years (given the requirement for 3 years notice) which seems an excessive duration. The NGF believes that the best solution is to have a regular 3 year review but allow more frequent reviews. This can be effectively achieved by a participant making a rule change to amend VOLL.

Given that the level of the price cap and CPT are fundamental to the operation of the market, the NGF requests that the Panel issue a draft determination on its intentions in relation to these settings prior to a final report. This would allow comment on a draft position by stakeholders.

## **The level of the market floor price**

NGF supports no change to the current market floor price.

## **The Level of the CPT**

The NGF considers that the fact that the CPT has only been approached once or twice in 8 years of market operation is a reason to not change it. The events in June 2007 were the result of a specific and unusual combination of circumstances which in fact demonstrated the appropriateness of the current level of CPT.

However, the NGF supports the decision to review the value of the administered price cap.

## **The consideration of additional or alternative reliability measures (such as a Reliability Ancillary service or Reliability options etc) to ensure reliability in the NEM.**

The NGF has previously articulated its concerns regarding investment focused on meeting reliability standards given its potential to distort the market. At the present point in time, the need for a radical departure from an energy-only market is not broadly held in the NGF.

The NGF work in this area is still underway so NGF offers no view on this issue at this time.

## **Other matters that arise through the upcoming stakeholder consultation process.**

The NGF supports the panel's conclusions that:

- the current form and level of USE of 0.002% is appropriate and should be retained.
- the form of the standard be measured over ten years looking backwards, and that it should be targeted to be achieved prospectively on an annual basis, NEM-wide and in each region
- the explicit exclusion of security events and external events such as terrorism, industrial action or 'acts of God'. In line with its past two submissions the NGF strongly supports exclusion of exogenous events from the objectives of reliability setting to avoid confusing load interruptions that are not avoidable through greater reliability reserves, such as security events and industrial action. In this regard, the panel could provide some clear classification guidelines. For example, Oren (2000) classified:
  - *Security* as the "ability of the system to withstand sudden disturbances" and

- *Adequacy* as the “ability of the system to supply the aggregate electric power and energy requirements of the consumers at all times”

The NGF supports the 10 year look-back for historical analysis and agrees there is no linkage to looking forward. Following the clearer classification, the panel should now exclude 2000 industrial events and the January 2007 transmission event from its compilation of historical unserved energy.

The panel has noted the potential for inconsistency in relation to new plants which are delayed by IR and whose delay cause additional USE. NGF is comfortable that this level of inconsistency is not material and unavoidable as the practical problem of assigning some elements of a delay to IR is too complex.

### ***Doomsday Scenarios (Section 4.2.4 pg 28)***

Section 4.2.4 pg 28 of the report notes: ‘a hybrid model should not be adopted, but forecasts of frequency, duration and depth of possible shortfalls that make up the 0.002% USE should be prepared by NEMMCO on a regular basis to provide stakeholders with a gauge as to the possible nature of USE events. This would in effect allow these other measures to be used on an information basis.’

As provided in our previous two submissions, the NGF does not support the mandated preparation of forecasts of frequency, duration and depth as they do not provide additional economic value and distract from the economic simplicity of the output based objective. Multiple simulation models create a small number of hypothetical ‘doomsday’ scenarios. When considered in isolation these scenarios have no meaning and their presentation creates a dangerous distraction and could potentially mislead stakeholders eg the media.

### **Conclusions**

The NGF believes that the Generator Energy Model is unwarranted, intrusive and impractical. Furthermore NGF is disappointed that the Panel have proposed such an onerous process with out undertaking full cost-benefit analysis (regulatory impact statement). It is clear that generators will bear the cost but it is unclear what value the benefit is and who will benefit.