Comprehensive Reliability Review

Second Interim Report and Stakeholder Forum

Electricity Supply Industry

Planning Council comments

September 2007

Previous work by the ESIPC

- The Planning Council undertook market modelling for the first stage of this review and analysis indicated that:
  - *While the current market settings will encourage investment, under most scenarios that investment is 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*
  - *This mismatch of investment and reliability is only modest and any market correction should be proportionate*

Level of VoLL

- Interim report by the Reliability Panel includes an appendix describing a price cap that is too low as leading to “missing money”
- In an energy only market the “missing money” applies to all plant
- Revenue adequacy requires that plant cover costs and achieve a commercial rate of return commensurate with the risks
- Market outcomes are volatile and revenue adequacy cannot be guaranteed in all periods with any price cap

Level of VoLL

- VoLL was changed to $10,000/MWh in 2000 and remains at that level. CPT remains at $150,000.
- Market settings have remained fixed despite significant changes which impact on the cost of plant and revenue adequacy including:
  - commodity prices for key inputs
  - the cost of labour in Australia for infrastructure works
  - interest rates and expected risk premia exchange rates and international demand for plant
  - the nature and cost of plant required to meet future carbon pricing regimes
- Bipartisan policy would see price sensitive carbon trading announcements made within the period where VoLL remains fixed.

Market design requirements

- A sound market design must provide an adequate return for efficient investment and at the level of reliability required
- Price caps and safety nets need to be consistent with that objective
- Assuming VoLL, CPT and administered prices are all retained in a similar form, the combined effect needs to deliver:
  - long term revenue adequacy;
  - short term exposure management; and
  - no barriers to an efficient plant mix

The 'right' price caps

- A range of design choices are possible
- Choices are unlikely to get easier at subsequent reviews
- Some change to the market setting appears to be required albeit modest
- One approach is to escalate VoLL and CPT on the basis of either:
  - A purpose designed index; or
  - A well defined, cost based calculation.

The ongoing need for a reliability safety net

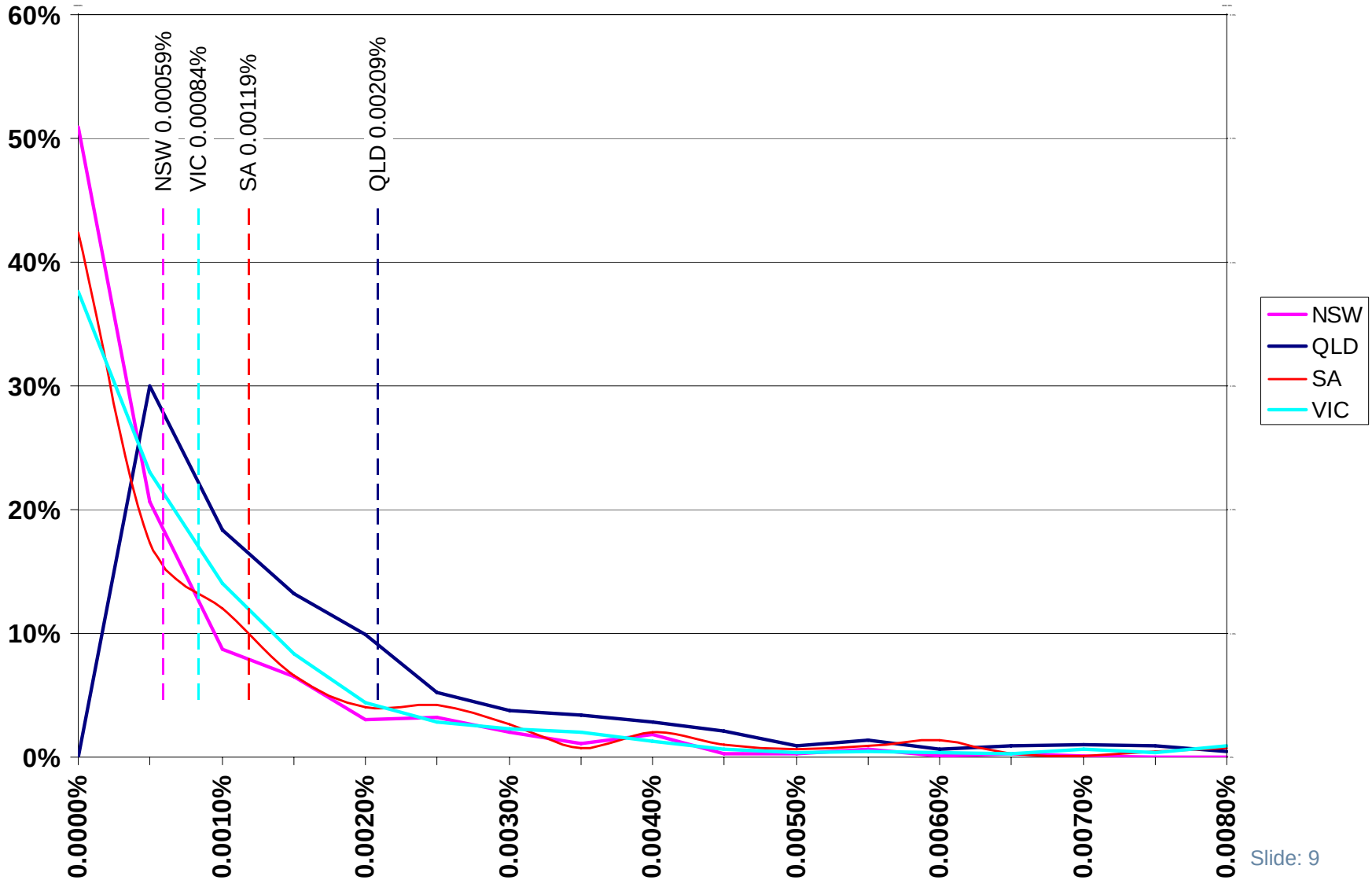
- The Reliability Panel is not recommending radical changes to the market design or the current market settings
- To the extent that some changes are made to market settings, we could hope for a reduced reliance on the reliability safety net
- However a remaining requirement seems very likely and hence the Panel needs to consider:
  - the reliability standard
  - the reserve margins calculated from the standard
  - the efficient recruitment of any additional reserves required; and
  - the recovery of the costs of reserve trading .

The USE reliability standard

- The Planning Council does not seek to argue against the proposed standard although a clearer definition is warranted
- A USE standard can provide a clear planning benchmark but is unable to be practically applied or meaningfully measured on a year to year basis
- We interpret the “long term’ USE as imposing a cap on the mean probable expected Unserved Energy in simulation studies

Frequency distribution histogram of USE

(Typical case - one 10% PoE demand profile - 800 years simulated)



Importance of reserve margins

- USE standard cannot be realistically observed in less than hundreds of years experience – our expert maths advisers recommend thousands for a good confidence interval on the answer
- Reserve margins calculated from the planning standard are therefore the measure actually implemented and against which performance can be observed

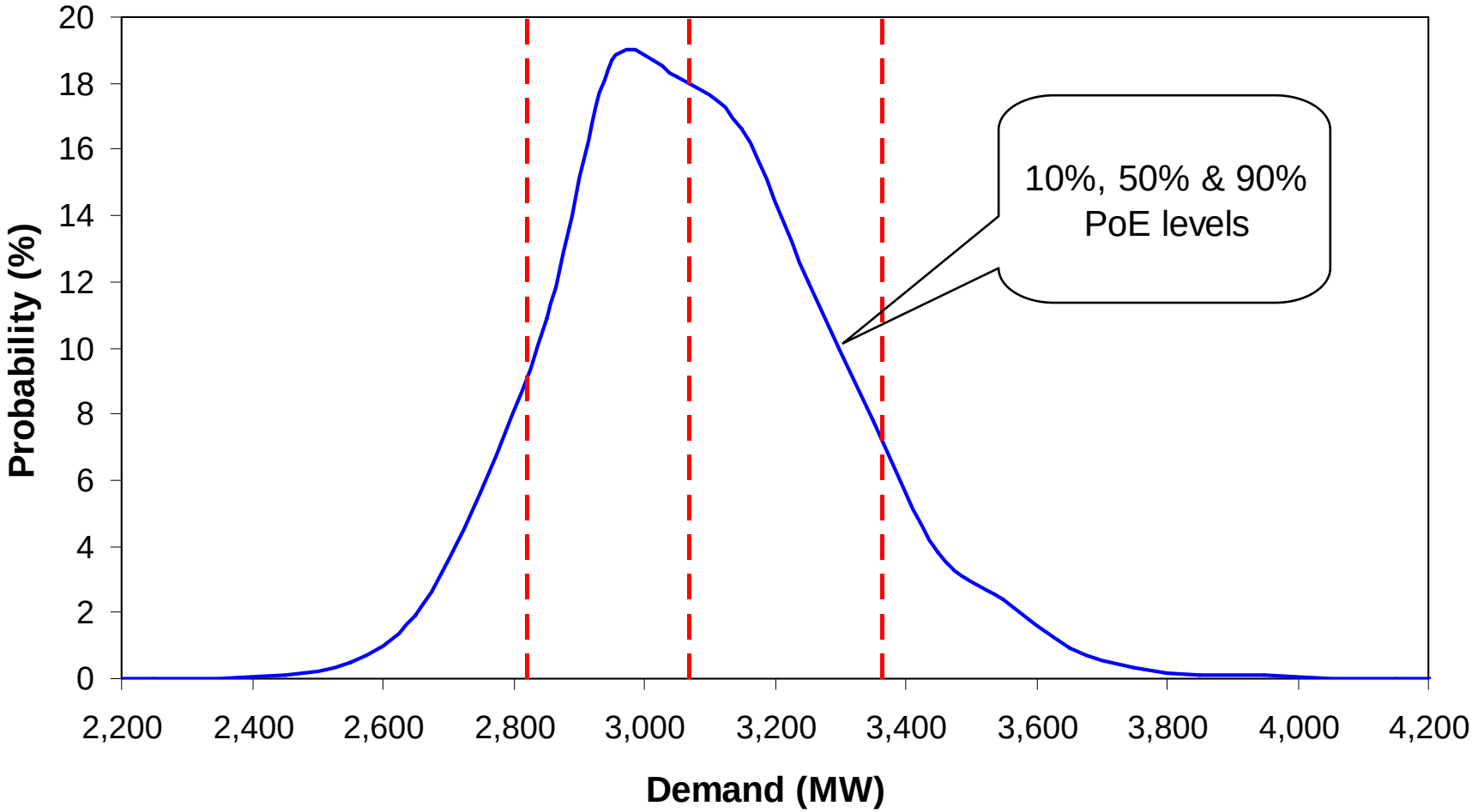
Calculation of reserve margins

- Given the importance of the reserve margin calculation, the Planning Council is concerned that the methodology adopted has significantly changed a number of times since market start
- Rules should provide the principles and NEMMCO should be required to develop and maintain procedures in consultation with stakeholders with the objectives of:
  - efficiency
  - consistency; and
  - transparency

Reserve Trader

- Revamped reserve trader will have to act as a safety net and with tight market settings can be expected to be required from time to time
- The fact that the Reserve Trader was not used when activated is not an indication that it was not necessary
  - supply risks and volatility exist as shown in our previous USE slide
  - demand in the market is also very volatile, especially in Victoria and South Australia

Forecast probability distribution of SA maximum demand 2007-08 summer



Reserve Trader

- A reserve margin based on delivering a given and nationally consistent level of USE cannot be reasonably expected to be consistent with the level and location of generation investment the market settings might drive.
- The following table shows the most recent theoretical reserve requirement calculated (prior to pragmatic adjustments)

Minimum Reserve Level Recommendation				
Year	QLD	NSW	VIC	SA
2006-07	480	-1490	0	370
2007-08	560	-1430	-30	390

Reserve Trader arrangements

- Actual definition of regional reserve margin in current calculations is arbitrary and varies on a region by region basis
- Current definition does not reflect actual network constraints and hence deliverability
- Definition should allow the greatest economic choice in terms of sources of supply

Reserve Trader arrangements

- Reserve requirements, even though calculated on a regional or nodal basis, are a resource shared by the market as a whole
- While current requirements might be for a reserve margin of 560 MW in Queensland and -1430 MW in New South Wales, reserve plant in Queensland would clearly contribute to reliability in New South Wales
- Currently recovery of Reserve Trader costs is not defined in the Rules. Cost recovery should reflect the shared nature of the service

Reserve Trader arrangements

- Any Reserve Trading arrangements will cause distortions and have to meet a range of competing objectives
- A case may be made for a less episodic intervention and a more concerted approach to recruiting demand response to ensure reliability
- DR offers for reserve contracts in the past have been limited by the short lead time to take action and a short contract period over which to recover costs
- A standing DR capability within the NEM could provide a number of reliability benefits at lower cost than the alternatives