NEMMCO

National Electricity Market
Management Company Ltd

ABN 94 072 010 327

Sydney Office

27 April 2009

Dr John Tamblyn
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Dr Tamblyn

Review into the role of hedging contracts in existing NEM prudential framework Submission on Framework and Issues Paper

Thank you for the opportunity to provide this submission to the above Review.

NEMMCO supports the development of further alternatives for the management of credit risks in the NEM. NEMMCO has already provided substantial material on Futures Offset Arrangements (FOA) and the associated risks in our submissions to the AEMC during the Rule change considerations of FOAs. That material covers a large proportion of the issues raised within the review and for simplicity NEMMCO has assumed that the material provided earlier will be included within the new review. On that basis this submission only highlights incremental material and comments from our previous submissions.

NEMMCO's comments are provided in **Attachment A**: Comments on the Framework and Issues Paper;

NEMMCO will continue to support the review through its participant in the review working group. We look forward to the Commission's consideration of our submission. If there are any queries about this submission, please do not hesitate to contact Craig Parr, Head of Metering and Settlements on 02 8884 5030.

Yours sincerely

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Attachment A: Comments on Framework and Issues Paper

NEMMCO has reviewed the Framework and Issues Paper of 26 March 2009 and offers the following comments, in addition to the material we have previously provided in the NEMMCO submissions to the earlier Futures Offset Arrangements (FOA) Rule change.

The following References refer to section numbers in the AEMC review paper.

4.4 Integrating futures contracts into the NEM prudential framework using future offset arrangements

The first paragraph on page 24 states an assumption that the current reallocation arrangements are unworkable for FOA "...Development of these arrangements is premised on the assumption that the current reallocation arrangements are not workable for futures contracts."

NEMMCO questions this premise and is of the view that a FOA arrangement could be incorporated within the current reallocation arrangements. NEMMCO had developed a model of FOA under the existing Rules, however the work had not been finalised due to the withdrawal of ASX and the commencement of Rule change considerations by the AEMC in January 2008. Nothing came to our attention that during this work that suggested a Rules/Procedure approach would not be viable.

NEMMCO recommends that any further development work should also include consideration of incorporating FOAs under the existing Reallocation Rule. An advantage of Rules/Procedure approach is that it would be consistent with existing offset arrangements.

4.4.1.2 Parties

The existing reallocations in the NEM rely on the exchange of future liabilities (or risk) between two parties (ie the reallocation of liabilities). The process relies on two independent parties 'signing off' before a transaction is committed so that one of the parties accepts on ongoing forward risk. The use of two separate Rules based parties is a key element of reallocating risk between parties and it is suggested that this could be a key consideration for any FOA model.

4.4.1.3 Termination

Termination is a key determinant of the benefit (or risk mitigation value) of an FOA in the NEM. NEMMCO has already provided comments regarding this in the our submission on the 14 March 2008.

4.4.1.4 MCL reduction – (Second comments box on page 30)

The size of any MCL reduction should be determined through the design phase of the FOA and most likely needs to be informed by a suitable independent risk analysis.

NEMMCO recommends that the calculation of any MCL reduction needs to be via explicitly defined Rules or Rules based procedure, with minimal scope for interpretation. The more

mechanical the calculations are the more readily they will be understood and anticipated by participants and implemented by the market operator.

It is suggested that the MCL should be determined by a party independent of those financially affected by the instrument and a party that is governed by the Rules, however the calculations should be able to be replicated by any party.

4.4.1.5 Payment to NEMMCO

Regarding Security Deposits (SDA) clawback, NEMMCO recommends that independent expert advice regarding insolvency and SDA clawback be obtained to inform the review.

5 MCL Methodology

Scope of the review

NEMMCO supports the AEMC's intention to extend the scope of the review to include clarification of the "reasonable worst case" criterion for determining MCLs. This is the criterion referred to in the National Electricity Rules (Rules) as the basis for determining MCLs, but as explained by NEMMCO in its submissions to the first and second rounds of consultation to the Rule change proposal on Futures Offset Arrangements, it can be difficult to interpret. Therefore, the success of the MCL regime, and of proposals to change it can be similarly difficult to quantify.

Shorter Settlement Cycle

The AEMC has sought comment on the merits of a shorter NEM settlement cycle in reducing the prudential burden for NEM participants. NEMMCO has previously prepared a discussion paper on this matter for the Financial Markets Working Group (FMWG), which was convened in early 2008 by the MCE / SCO to consider ways to improve the integration of spot and forward markets. The FMWG has wide industry representation, including the AEMC, and the merits of a shorter NEM settlement cycle have been discussed in that group in some detail. We encourage the AEMC to take those discussions into account in the context of this review.

Reasonable Worst Case

Section 5.5.1 of the AEMC's Issues Paper develops a probabilistic interpretation of the "reasonable worst case" criterion which currently appears in the Rules. Our understanding of that interpretation is that the MCL should be set at a level which would have a 99.5% probability of exceeding a market participant's financial outstandings to NEMMCO at any time.

NEMMCO has carried out some exploratory modelling of a probabilistic approach to MCL determination in the past, and some of the outcomes of that work are provided here for the AEMC's information. The work has not been updated to account for recent two years of market outcomes, but it might still serve to inform discussions on the matter.

For the purpose of the following discussion, two measures, effectiveness and efficiency, are used to help quantify the differences between approaches. These measures were developed in the context of a consultation NEMMCO carried out in 2007 to assess the potential for a seasonal approach to the calculation of MCLs. The material published by NEMMCO during that consultation may be of interest to the AEMC for the current review, and can be found on the NEMMCO website[1].

Broadly, the measures of effectiveness and efficiency are as follows:

[1] See http://www.nemmco.com.au/met_sett_sra/538-0002.html

Effectiveness	• A measure of the degree to which the MCL protects the market; • Calculated as the percentage of days for which the MCL exceeded outstandings over a particular period of time; • 100% effectiveness would indicate the MCL exceeded the outstandings for every day of the period. 98% effectiveness indicates that the MCL exceeded outstandings for about 358 days out of 365 on average;
Efficiency	• A relative measure of the cost of providing the MCL; • Calculated by determining the aggregate outstandings value over a period of time, as a percentage of the aggregate MCL value over the same period (or more specifically, the area under the outstandings trace as a percentage of the area under the MCL trace). Where outstandings exceed the MCL, the MCL is increased to the same value as outstandings for the purpose of this calculation to avoid overstating the efficiency due to poor effectiveness;

Figure 1 shows indicative MCL values that have been calculated using regional spot price and demand data for Victoria, so that the MCL is expected to be adequate to cover outstandings 98% of the time, based on analysis of historical data.

The blue line in the chart indicates the total level of outstandings in the region, calculated over the prior 42 days of regional reference prices, and demands. As this representation of participant outstandings is calculated at the regional level, it should be considered as indicative only, but is intended here to facilitate discussion. MCLs can then be considered with reference to this regional outstandings trace and the desired performance target.

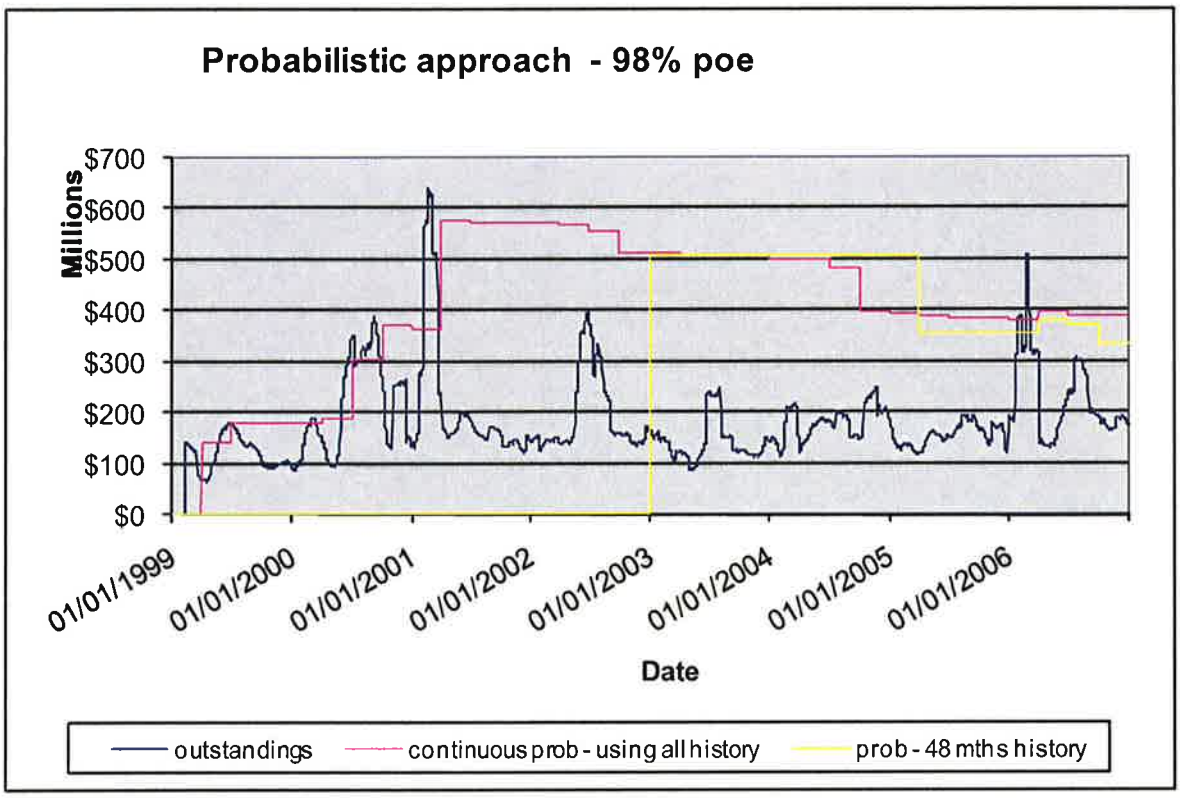

Figure 1: Probabilistic approach to MCLs for Victorian prices

The continuous probability MCL (magenta line) is calculated using all of the available historical price and demand data available for Victoria at the time. For example, the Q103 MCL is based on the data from market start to Q402, and represents the 98th percentile of outstandings over that period. This MCL value has an effectiveness of 92% over its full period of 7 years, and 98% for the period since 2003. Efficiency is 43% over the full period, and 40% since 2003. The effectiveness of this mechanism in the early years of the NEM was low until enough price data had accumulated to be representative of the likely level of volatility that will be experienced through time.

The 48 month probabilistic MCL (yellow line) is calculated using only the most recent 48 months of probabilistic data. It is 98% effective, and 32% efficient over the 4 years that it could be applied. This approach could not be applied to periods prior to 2003 because the required 48 month history had not yet accumulated. Although the effectiveness of 98% is the targeted outcome, as this is a historical approach it is reliant on past market volatility being reasonably representative of future outcomes on average.

Both of these probabilistic approaches appear to allow a desired performance level to be targeted. As would be expected, their efficiency is lower than the currently used mechanism (ie they would require higher levels of credit support).

Some indicative modelling has also been carried out for 97% and 99% performance targets, and the results are shown below in Figures 2 and 3, together with the 98% target and the

current approach. It is apparent from these plots that a probabilistic approach would often require greater amounts of credit support than the current approach. While this would be more expensive, it would also provide a higher level of protection to creditors and would potentially have a higher level of predictability in performance. The approaches used here might provide a useful perpective for consideration by the AEMC in its further assessment of how the performance of MCLs should be targeted and measured.

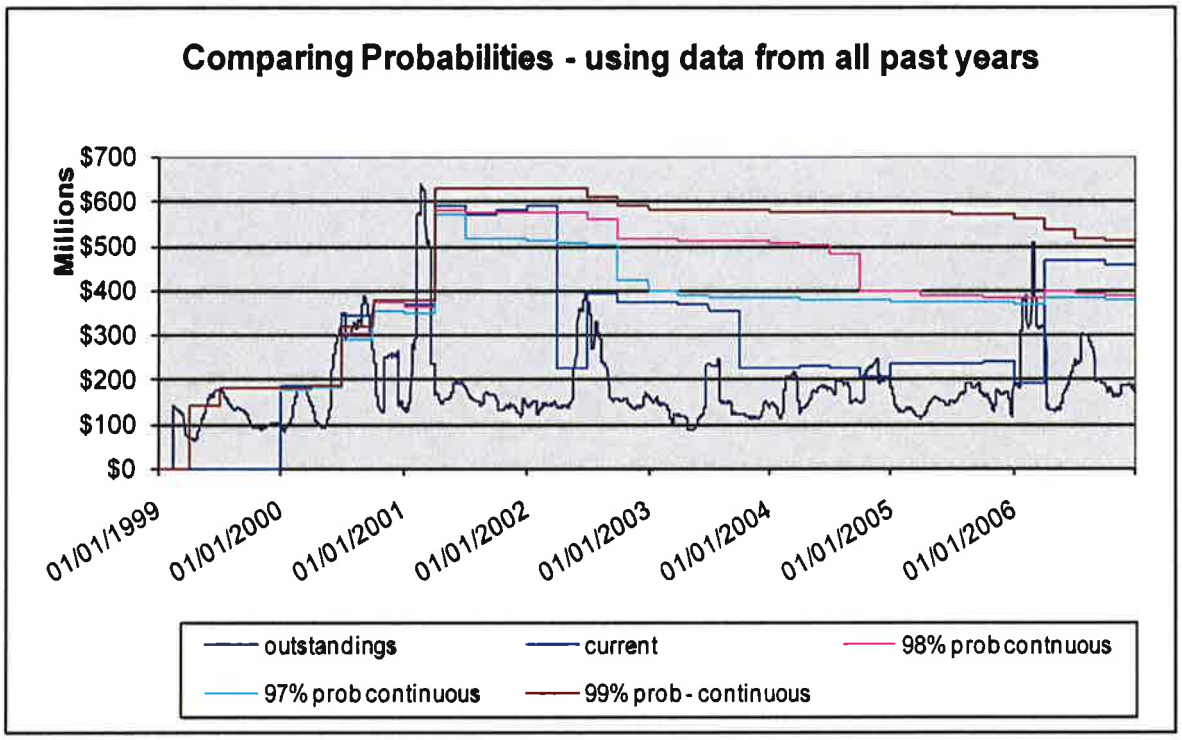

Figure 2: Probabilistic approach to MCLs using all available past data

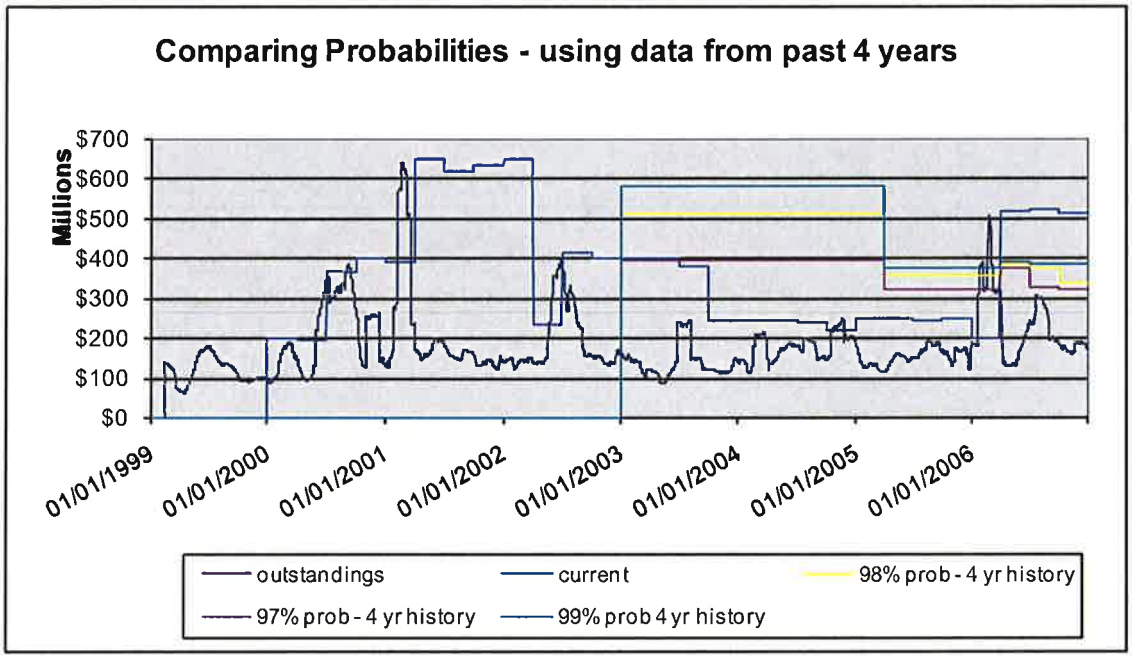

Figure 3: Probabilistic approach to MCLs using past 4 years of data

5.5.2.3 "Stress Test"

NEMMCO notes that the proposed stress test would result in a material increase in the current MCL levels in the NEM.