ATTACHMENT A – PROPOSED CHANGES TO ESTABLISH THE NEW CREDIT LIMIT PROCEDURES

ID	PARAMETER	EXPLANATION AND COMMENTS REGARDING KEY CHANGES TO ESTABLISH THE NEW CREDIT LIMIT PROCEDURES
1	Loss given default (LGD) (refer to Figure 1 and 2)	• The new maximum credit limit (MCL) must meet a 2% probability of LGD. This prudential standard accepts the possibility that in 2 out of every 100 days a Market Participant exceeds its outstandings limit (OSL) and there is an insufficient prudential margin (PM) to avoid loss if the Market Participant does not provide further credit support to rectify the breach. • To determine whether an OSL breach occurred Seed and Taylor Fry's modelling calculated the outstandings on aggregated interval data of load times price over the outstandings period. This was determined at a regional level with a regional MCL based on the regional load. • The modelling assumes that each day any OSL breach occurring on the previous day was rectified by the Market Participant providing credit support to AEMO to ensure its outstandings are below the OSL. • In the above, if the trading limit is kept equivalent to the OSL in value (that is, no excess credit support in the form of bank guarantee is provided) then the two terms can be considered as synonymous.
2	Maximum Credit Limit (MCL)	• Set to meet a 2% LGD over the life of the NEM, the process for calibrating the performance of MCL will be done through the volatility factors which are outlined in items 3 and 4. • MCL is the sum of the OSL and PM - this is a fundamental change to the calculation of MCL. These parameters are referred to as the "prudential settings". • The prudential settings need to be calculated simultaneously; in particular the volatility factors for the OSL and PM must be calculated simultaneously to meet the LGD rate. • The MCL calculation will be performed on a regional basis and summed to provided the final credit support to be provided by a Market Participant. • At this stage, this is likely to be calculated over three seasons per year. • No reduced MCL concept. • The trading limit is still required in the National Electricity Rules (NER) for prudential management purposes, this is different to the new OSL.

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3	Outstandings Limit (OSL)	OSL = VF_{OSL} x Price x 21 days x TLF x GST • Volatility Factors (VF) and Price are described in items 5 and 6. • The use of 21 days reflects the length of the billing period and payment period of 14 days which is used to calculate a reduced MCL – this is a carryover from Seed and Taylor Fry's approach. It influences the OSL to PM ratio if you choose to select equivalent percentile outcomes for the OSL and PM volatility factors – see comments on VF in item 6. • The magnitude of OSL in conjunction with PM is ultimately what meets the 2% LGD.
4	Prudential Margin (PM)	= VF_{PM} x Price x 7 days x TLF x GST • VF and Price are described in items 5 and 6. • The use of 7 days reflects the reaction period and includes the day in which the breach of OSL occurred (that is, a day before it is formally identified). • The magnitude of PM in conjunction with OSL is ultimately what meets the 2% LGD.
5	Price	Average over the previous four similar seasons in each region.
6	Volatility Factors VF_{OL} VF_{PM} (refer to Figure 3)	The VF is calculated as follows (region based): • A factor is calculated for every day in the relevant season based on the historical data for each region • Factor for OSL = (average daily outstandings over previous 35 days) / (average of all these 35 day averages, in the relevant season, based on the historical data for each region up to the day for which the factor is being calculated). • Factor for PM = (average daily outstandings over previous 7 days) / (average of all these 7 day averages, in the relevant season, based on the historical data for each region up to the day for which the factor is being calculated). • The volatility factors are calculated as though one season runs continuously into the next season of the same type. • The resulting list of factors is determined for each season and for the OSL and PM independently. • In determining which factor will become the relevant VF a percentile approach is taken to the factor list. The percentile used is currently identical for all seasons, PM and OSL, that is, the 99th percentile will return the 99th percentile VF in the list of VFs presented in ascending order. • A model is constructed to compare the outstandings (calculated as described in 1 above) against the OSL and PM. • An iteration of the VF percentiles occurs, increasing the OSL and PM as each of the VF percentiles increase, this calibrates the model to ensure a 2% probability of loss given default is achieved over the history of the NEM. This iteration to 2% LGD sets the value of each volatility factor. • The model which sets the VFs uses all seasons, based on all NEM historic data, not just the season of interest.

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6 (cont.)	Volatility Factors VF_{OL} VF_{PM} (refer to Figure 3)	The model has the potential to accept different volatility factor percentiles for OSL and PM which would allow a Market Participant to change its MCL while maintaining the 2% probability of LGD. In the future, and when there is more certainty surrounding the operational effectiveness of the model, Market Participant's might elect to manage outstandings more regularly, for example with security deposits, by requesting a higher PM VF percentile than OSL VF percentile.
7	Load Factor	• The load factor should be determined on a Market Participant-by-Market Participant basis. • It will account for the increased risk associated with an individual Market Participant's load increasing relatively more than the region's demand. • If the load profile of a Market Participant, with respect to the average load profile, is peaky, then the MCL is likely to reflect this risk by an increased MCL. In contrast, Market Participant's with relatively flat loads have a lower risk and the MCL is likely to reflect this by a decreased MCL.
8	Load Profiling	• Load profiling will improve load to price correlations. How this is done needs further input from Market Participants. Nonetheless, this could be implemented by running the methodology for two or more time periods with two or more sets of parameters – a simple summing can be applied to get OSL, PM, MCL. • Currently the only profiling performed is an off-peak on-peak approach to reallocations.

Figure 1: Illustration of default event with no loss

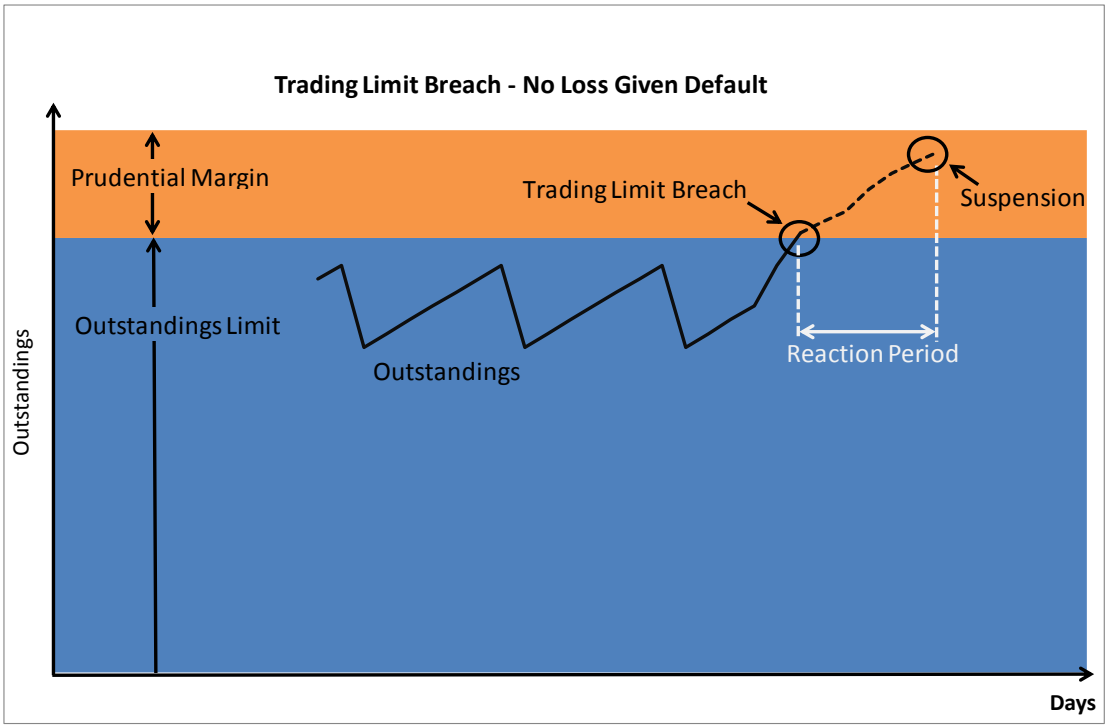

Figure 2: Illustration of default event with subsequent loss - loss given default event

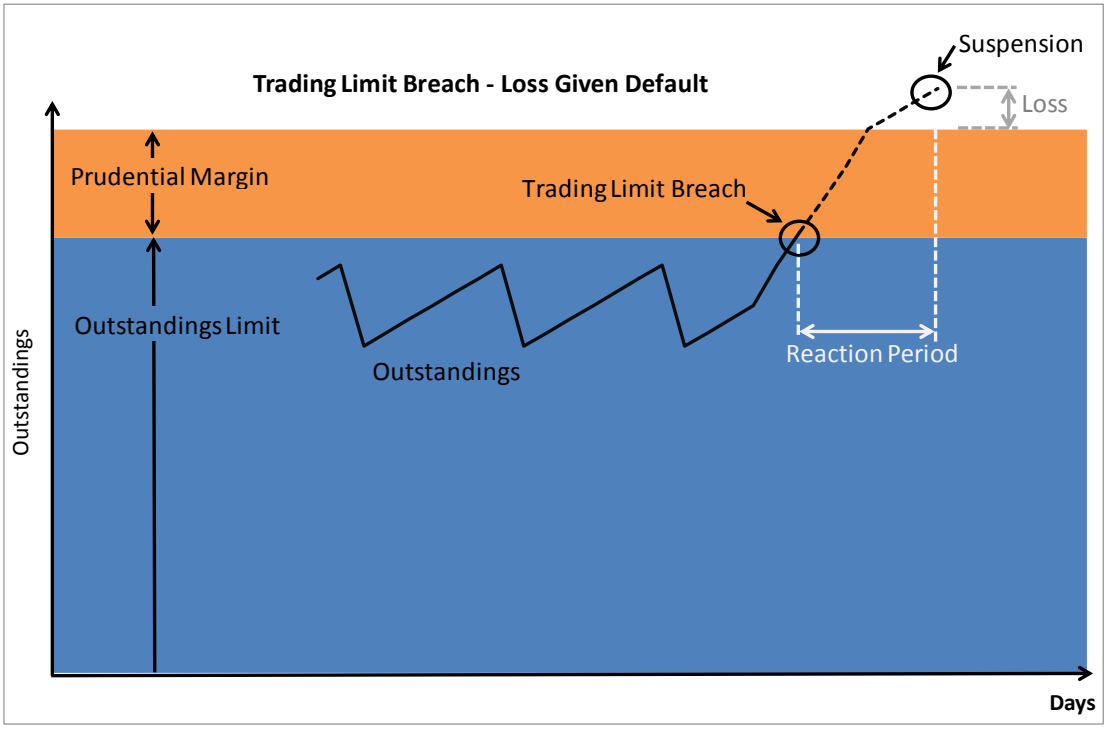

Figure 3: Illustration of volatility factor percentile approach (VFs used here are not indicative of the likely VFs to be used)