



Australian Energy Market Commission

RULE DETERMINATION

National Electricity Amendment (New Prudential Standard and Framework in the NEM) Rule 2012

18 October 2012

**RULE
CHANGE**

For and on behalf of the Australian Energy Market Commission

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About the AEMC

The Council of Australian Governments (COAG), through its then Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. In June 2011, COAG established the Standing Council on Energy and Resources (SCER) to replace the MCE. The AEMC has two principal functions. We make and amend the national electricity, gas and energy retail rules, and we conduct independent reviews of the energy markets for the SCER.

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Summary of rule determination

On 27 July 2011, the Australian Energy Market Operator (AEMO or Proponent) submitted a rule change request¹ to the Australian Energy Market Commission (AEMC or Commission) in relation to a new prudential standard and framework in the National Electricity Market (NEM).

The Commission has determined to make, with consequential amendments, the rule proposed by the rule proponent. The Commission notes the supportive submissions offered to the draft determination, and has decided to implement the proposed prudential standard and framework as laid out in the draft rule and as described in the draft determination.

The Commission is satisfied that the rule will, or will be likely to, contribute to the achievement of the National Electricity Objective (NEO) because it facilitates improved economic efficiency of the prudential framework, improves transparency of the market arrangements and provides greater certainty for participants and AEMO. This will, all else equal, reduce barriers to investment, facilitate competition and thereby lower the long-term price of electricity for consumers.

Presently, the National Electricity Rules (NER) stipulate that AEMO must calculate the amount of credit support that must be procured by participants in the NEM with reference to the "reasonable worst case" of monies that could accrue as a result of the lag between energy consumption and energy settlement, or monies that, in practice, could accrue during the time taken to suspend a retailer following the commencement of default. The reasonable worst case is defined as "*a position that, while not being impossible, is to a probability level that the estimate would not be exceeded more than once in 48 months*". AEMO considered that this definition is ambiguous. The rule change request focussed on the establishment of a more transparent, predictable and understandable statistical standard for credit support for protection against default of payments in the NEM. AEMO labelled this the 'prudential standard'.

AEMO proposed to define a new prudential standard as 2% probability of loss given default P(LGD). This would imply that the prudential arrangements would set an expectation that no shortfall of monies collected by AEMO would arise in 98 out of 100 instances of retailer default. In the remaining 2% of cases, as AEMO pays generators for the energy they generate, generators would bear a shortfall incurred as a result of the default. Critically, the P(LGD) does not reflect the size of the potential losses that could occur in the remaining 2% of cases. The management of this risk is left to generators, their insurers and financiers to estimate and manage as seems best to them.

AEMO also proposed a suite of modifications to the processes (and corresponding rule amendments) by which they calculate the credit support parameters, known as the maximum credit limit (MCL) and prudential margin (PM). These changes include provisions requiring AEMO to consider seasonal variability and individual load

¹ AEMO, National Electricity Rule Request - New Prudential Standard and Framework.

² AEMO, *NEM Prudential Standard and Framework Draft rule Determination* - ERCO133 2012

profiles in determining the credit support parameters. AEMO also proposed to remove provisions for the use of a reduced MCL (RMCL) from the NER.

Following the first round of consultation which took place in late 2011, the Commission determined to make a draft rule to implement the proposed rule changes as put forward by the rule proponent, creating a prudential standard in the rules defined as a P(LGD) of 2%. The draft rule also featured consequential amendments including the use of local definitions in line with the Commission's rule drafting approach. The Commission published its draft determination on 12 April 2012, with the accompanying draft rule.

The draft determination did not pose direct questions to respondents but did invite any comments on the determination and the draft rule. Three submissions were received, including one from AEMO which identified a concern that the draft rule contained provisions, carried over from the existing prudential framework, that "the current offset arrangement does not appropriately reflect the respective prudential benefits of reallocation and generation credits, and that it is likely to overstate the benefit of generation and understate the benefit of credit reallocations."² AEMO put forward a proposal to create a new set of provisions that would generally align the benefit of generation and credit reallocations. These would give AEMO the discretion to discount credit offset amounts when it considered there to be a risk that they may be ineffective during the reaction period (the period of time assumed to be required to remove a participant from the NEM). An important effect of the proposed changes would be to permit the offsetting of reallocations against load in the calculation of the prudential margin. Such offsetting is not permitted presently. Further, AEMO indicated how the clause might be interpreted with regard to the offsetting of positive trading amounts, by suggesting a possible assumption that the generation from the largest generator in a given portfolio might not be effective during the reaction period.

The Commission considered this to be a substantive proposal, but one that fell within the scope of this rule change. The Commission published a further (second) consultation paper on this particular topic on 27 August 2012, seeking submissions from interested parties. Four responses were received, three of which were opposed to the adoption of the revised clause as proposed by AEMO. All four respondents however saw merit in the principle of seeking to align the benefit of generation and credit reallocations in determining prudential margins.

The Commission has determined not to implement the additional changes to the offsetting of credit amounts as proposed by AEMO in their response to the draft determination. In light of submissions received to the further consultation paper, the Commission considers that the issue may warrant more rigorous analysis and/or a different amendment than that proposed by AEMO. The rationale for this decision and supporting discussion is provided in more detail in Chapter 6.

The rule as made contains transitional provisions that will require AEMO to complete and publish the new credit limits procedures as soon as practicable after the making of

² AEMO, *NEM Prudential Standard and Framework Draft rule Determination* - ERCO133 2012

the rule, and to determine and notify each participant of the new prudential settings that apply to it by no later than 1 December 2013. The existing procedures and credit support parameters applying under the old prudential provisions are to apply in the meantime.

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1 AEMO's rule change request

1.1 The rule change request

On 27 July 2011, AEMO made a request to the AEMC to make a rule regarding a new prudential standard and framework in the NEM³ (rule change request). The request included a draft rule, and an attachment covering the envisaged accompanying amendments to AEMO's procedures for calculating the level of credit support provided by debtor participants to AEMO. These documents are available on the AEMC's website.

At its core the rule change request sought to reform the prudential framework in the NEM and introduce at its foundation a statistical standard to be used in calculating the level of credit support (comprising the maximum credit limit (MCL) and prudential margin (PM)) to be provided by participants to AEMO. This standard would be based on the concept of probability of loss given default (P(LGD)) and would replace the existing language of the "reasonable worst case" currently defined in the rules. AEMO also proposed a suite of modifications to the processes (and corresponding rule amendments) by which they calculate the level of credit support to be provided by participants.

1.2 Rationale for rule change request

AEMO's rule change request followed its completion of a large body of work called the 'Energy Market Prudential Readiness Review' (Readiness Review)⁴. The conclusions of the Readiness Review included a number of potential reforms to the prudential arrangements in the NEM, and has informed the content of the rule change request, in which the rule proponent contends⁵ that:

- "the "reasonable worst case" definition is unclear";
- "the current prudential arrangements do not adequately take into account the credit risk that retailers pose to the NEM";
- "Some of the principles in schedule 3.3.1 of the NER for determining the MCL are unclear and some redundant";
- "the current prudential arrangements could be improved by including relevant factors that affect the credit risk retailers pose to the NEM in the methodology used to determine the MCL, while also improving the process for determination of the MCL";

3 AEMO, National Electricity Rule Request - New Prudential Standard and Framework

4 http://www.aemo.com.au/electricityops/prudential_review.html

5 Text in point taken from the rule change request

- "notes that there is an inconsistency between the NER's definition of reaction period and the reaction period used in the credit limits methodology, and considers the NER definition to be in error".

"AEMO considers that the proposed Rule and consequential changes to the methodology would result in overall benefits to the NEM through an improved prudential framework. A clear prudential standard and the proposed framework would make the risk allocation between generators and retailers more transparent and this would increase regulatory certainty in the operation of the NEM's prudential arrangements. In turn, this would promote confidence in the NEM, and the operation of the proposed framework would encourage retailers to manage the credit risk that arises from trading in the NEM more prudently while reducing their long term costs of operating in the NEM."

1.3 Solution proposed in the rule change request

The proponent proposed amendments to the rules as laid out below⁶.

The proposed rule:

- deletes references to "reasonable worst case" and schedule 3.3 in the NER;
- replaces "reasonable worst case" with a new definition for the prudential standard defining it as a 2% probability of a Market Participant's MCL being exceeded by its accrued trading amounts (outstandings) at the end of the reaction period;
- defines "reaction period" as the time from the day that a Market Participant's outstandings exceeds its trading limit to when the Market Participant is suspended from trading if the exceedance is not rectified.

The proposed rule would delete existing clause 3.3.8 and the principles for determining the MCL and PM in schedule 3.3, and replace with a new clause 3.3.8 that:

- establishes a set of credit limit procedures and a "credit limit procedures objective";
- establishes the MCL as the sum of the Outstandings Limit (OSL)⁷ and PM, and defines the three collectively as the 'prudential settings';

⁶ Text is taken selectively from the rule change request, is paraphrased in places and is intended to give a high level summary of the changes. The reader is referred to the request itself for the full text.

⁷ This is a new variable to be defined in the rules, used to calculate the MCL in conjunction with the PM, and is designed to distinguish from the existing Trading Limit, which itself would be retained in the rules.

- redefines the suite of factors that AEMO should take account of in developing the methodology used to determine the level of the prudential settings for individual participants;
- requires AEMO to review the effectiveness of the methodology and the prudential settings for each participant at least once per year.

1.4 Rule making process

On 20 October 2011, the Commission published a notice under section 95 of the National Electricity Law (NEL) advising of its intention to commence the rule making process and the first round of consultation in respect of the rule change request. A consultation paper prepared by AEMC staff identifying specific issues and questions for consultation was also published with the rule change request.

The Commission received 11 submissions on the rule change request as part of the first round of consultation. They are available on the AEMC website⁸. A summary of these submissions is contained in Appendix A.1.

The Commission published its draft determination on the rule change proposal on 12 April 2012, inviting submissions from interested parties. Three submissions were received. These are also available on the AEMC website. A summary of these submissions is contained in Appendix A.2.

The Commission published a second consultation paper on 27 August 2012 to seek submissions regarding AEMO's additional proposed amendments to clause 3.3.8(e), as outlined in their submission to the draft determination. Four submissions were received to this paper. These are also available on the AEMC website. A summary of these submissions is contained in Appendix A.3.

1.5 Extensions of time

The publication date of the draft determination was extended under section 107 of the NEL by four weeks. This extension was required due to a short-notice material change in circumstances regarding project staff availability within the AEMC during February 2012. A notice of the extension was published on 15 March 2012.

The publication date of this final determination was extended under section 107 of the NEL by 11 weeks. This extension was required in order to allow time for the AEMC to consult on the additional proposal put forward by AEMO in their response to the draft determination.

⁸ www.aemc.gov.au

2 Final Rule Determination

2.1 Commission's determination

In accordance with section 102 of the NEL the Commission has made this final rule determination in relation to the rule proposed by AEMO. In accordance with section 103 of the NEL the Commission has determined to make, with minor consequential amendments, the rule proposed by the rule proponent⁹.

The Commission's reasons for making this final Rule determination are set out in section 3.1.

The *National Electricity Amendment (New Prudential Standard and Framework in the NEM) Rule 2012 No 6* (rule as made) is published with this final rule determination. The rule as made commences on 1 November 2012.

2.2 Commission's considerations

In assessing the rule change request the Commission considered:

- the Commission's powers under the NEL to make the rule;
- the rule change request;
- the fact that there is no relevant Ministerial Council on Energy (MCE) statement of policy principles;¹⁰
- submissions received during first round consultation, submissions received to the draft determination, and submissions received to the second round of consultation;
- the Commission's analysis as to the ways in which the proposed rule will or is likely to contribute to the NEO.

2.3 Commission's power to make the rule

The Commission is satisfied that the rule falls within the subject matter about which the Commission may make rules. The rule as made falls within the matters set out in section 34 of the NEL as it relates to regulating the operation of the National Electricity Market.

⁹ Under section 103 (3) of the NEL the rule that is made in accordance with section 103(1) need not be the same as the draft of the purposed rule to which a notice under section 95 relates or the draft of a rule contained in a draft rule determination.

¹⁰ Under section 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a Rule.

2.4 Rule making test

Under section 88(1) of the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO. This is the decision-making framework that the Commission must apply.

The NEO is set out in section 7 of the NEL as follows:

“The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- (a) price, quality, safety, reliability and security of supply of electricity;
and
- (b) the reliability, safety and security of the national electricity system.”

For the rule change request, the Commission considers that the relevant aspects of the NEO include the promotion of efficient investment in, and efficient operation of, electricity services for the long term interests of consumers of electricity with particular relevance to the efficient pricing of electricity. This is because the prudential framework and the particular standard of prudential surety directly affects the cost of doing business for electricity generators and retailers in the NEM¹¹.

The Commission is satisfied that the rule will, or will be likely to, contribute to the achievement of the NEO because it facilitates improved economic efficiency of the prudential framework, improves transparency of the market arrangements and provides greater certainty for participants and AEMO. This will, all else equal, reduce barriers to investment, facilitate competition and thereby lower the long-term price of electricity for consumers.

Under section 91(8) of the NEL the Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of AEMO’s declared network functions. The draft rule does not impact AEMO’s performance of its declared network functions, and consequently this requirement is not applicable.

¹¹ Under section 88(2), for the purposes of section 88(1) the AEMC may give such weight to any aspect of the NEO as it considers appropriate in all the circumstances, having regard to any relevant MCE Statement of Policy Principles.

3 Commission's reasons

The Commission has analysed the rule change request and assessed the issues and propositions arising out of it. For the reasons set out below, the Commission has determined to make the rule as proposed by AEMO, with minor consequential amendments.

3.1 Assessment

At its core, this rule change request seeks to enshrine a new, quantitative standard for prudential surety in the NEM, and facilitate the construction of a new and improved calculation methodology for determining the level of credit support provided by debtor participants based on the new standard.

The Commission considers that there is a high degree of quality and depth in the work carried out in recent years on this topic, including within AEMO's Readiness Review which preceded the submission of the rule change request. Further, the Commission acknowledges the depth of insight and participation provided by the array of respondents to the consultation and draft determination papers.

Respondents to the various papers generally agree with the proposition put forward by the rule proponent; that the language of "reasonable worst case" is ambiguous, and that this ambiguity should be removed from the rules. Further, respondents generally concur that the application of the proposed metric; the probability of loss given default (P(LGD)), is prudent and would be an improvement to the prudential arrangements.

Having regard to the quality and depth of research conducted thus far and the submissions received to the various papers, the Commission is satisfied that the installment of P(LGD) as an explicit prudential standard in the rules is appropriate.

Several respondents to the consultation paper expressed support for the work compiled by Seed Advisory and Taylor Fry¹². This work and AEMO's subsequent efforts in the Readiness Review make the case that there exists economic efficiency in changing the way that the credit support requirements are calculated for individual market participants. The Commission recognises that this efficiency may come at a cost in the form of increased methodological complexity. However, it is satisfied that - quite aside from the form and value of the prudential standard - the proposed procedural reforms (such as seasonal adjustments) would materially improve the economic efficiency of the framework and by extension, would further the long-term interest of consumers.

The Commission noted the arguments put forward by the Energy Retailers Association of Australia (ERAA) and by TRUenergy in response to the first consultation paper, in regard to the actual level of probability that should be used for the prudential

¹² Seed Advisory and Taylor Fry, *The Prudential Standard in the National Electricity Market - Final Report*, 4 August 2010 - <http://www.aemo.com.au/electricityops/0539-0003.pdf>

standard. While material is now publicly available in regards to the P(LGD) metric, its meaning and use¹³; these respondents indicated a view that there is no firm quantitative proof that the value of 2% is beyond a reasonable doubt the most optimal value to use. The Commission is satisfied that the candidate value of 2% does appear, with a significant degree of empirical evidence, to be a reasonable number with which to commence the operation of the new prudential framework. With regard to the concerns raised, the Commission notes that the value of 2% could be reviewed via a relevant rule change proposal in future.

The submissions to the draft determination were of a significantly lower volume than those received to the first consultation paper and were generally limited to agreement with the Commission's intent to make the draft rule. The submissions have provided the Commission with further confidence that the intent to implement the new prudential standard and framework as described in the draft determination will be a development that stakeholders will see as a positive change with regard to the NEO.

A key topic raised however in response to the draft determination was the proposal put forward by AEMO in their submission, suggesting the replacement of draft clause 3.3.8(e) with provisions that would change the way that the prudential margin was calculated¹⁴. AEMO's proposal was to install provisions in the clause that would change the netting of credit offset amounts in calculating the prudential margin.

Given the materiality of the proposal with regard to the potential impact on the level of credit support required of participants, the Commission decided to consult on this specific proposal, and received some detailed submissions arguing that the proposed measures should not be adopted¹⁵.

The Commission has decided not to implement the additional proposals at this time, but instead to implement the original version of 3.3.8(e) as it appears in the draft determination. The detail of the additional proposal, the submissions to the second consultation paper and the Commission's decision on this matter are laid out below in Chapter 6.

13 Material available from AEMO's Readiness Review at <http://www.aemo.com.au/Consultations/National-Electricity-Market/Closed/Energy-Market-Prudential-Readiness-Review>, and the AEMC's previous papers on this rule change at <http://www.aemc.gov.au/Electricity/Rule-changes/Open/new-prudential-standard-and-framework-in-the-nem.html>

14 The clause in the draft rule was simply a re-worded reflection of the existing provisions in Schedule S3.3.2 in the NER.

15 Three submissions were opposed to the additional amendments, while one was in favour.

3.2 Rule as made

The Commission has determined to make a rule to implement the proposed rule change, with clarifying amendments including the use of local definitions in line with the Commission's rule drafting approach, as put forward by the rule proponent¹⁶.

The rule as made is published with this final determination and is available to download on the AEMC's website.

3.3 Civil penalties

The rule as made does not amend any rules that are currently classified as civil penalty provisions under the National Electricity (South Australia) Law or Regulations. The Commission does not propose to recommend to the MCE that any of the amendments in the rule be classified as civil penalty provisions.

¹⁶ AEMO, New Prudential Standard and Framework Draft Rule - [http://www.aemc.gov.au/Media/docs/Rule%20Change%20Request%20Appendix%201%20\(Draft%20Rule\)-143e297f-f0e7-462f-b5ca-11bfd7567115-0.PDF](http://www.aemc.gov.au/Media/docs/Rule%20Change%20Request%20Appendix%201%20(Draft%20Rule)-143e297f-f0e7-462f-b5ca-11bfd7567115-0.PDF)

4 Commission's assessment approach

Chapter 5 of the first consultation paper laid out the Commission's proposed assessment framework in considering this rule change. The Commission stated its intention to consider the degree to which:

- the rule better encourages retailers to take on an efficient level of risk, or at least to take on a level of risk that is not excessive;
- participants agree that the P(LGD) is a good metric to use in pursuing a prudential standard, and to use as a basis for further reform of the prudential regime more generally;
- the rule minimises the administrative costs of the prudential regime;
- the rule maximises flexibility for retailers and other parties to respond to the prudential regime;
- the rule improves the perceived transparency and predictability of the prudential regime.

The Commission received a number of supporting and supplementary suggestions on the assessment framework in submissions to the first consultation paper, which were summarised in Chapter 4 of the draft determination. On the basis of this support, the Commission decided to proceed with this criteria in assessing the merit of the rule change proposal.

5 Submissions

This chapter summarises the issues covered by, and submissions received to the first consultation paper and draft determination. Chapter 6 then summarises separately the submissions received to the second consultation paper regarding AEMO's proposed amendments to the credit offsetting provisions.

5.1 Submissions to first consultation paper

This section recaps the outcome of the first consultation paper and the considerations put forward by the Commission in the draft determination that followed. A detailed list of points raised in submissions and the Commission's responses are provided in Appendix A.1.

5.1.1 Platform for reform of prudential framework in the NEM

In its consultation paper, the AEMC asked whether or not the existing architecture of prudential management and 'protection from default' in the NEM constitutes a sound platform from which to begin reform, via the introduction of an explicit prudential standard. This question was designed to allow respondents to comment on their view of the strength of the underlying arrangements, and highlight any systemic flaws not explored by the rule proponent, that might hinder the effectiveness or appropriateness of the rule change.

Stakeholder views

Aurora and TRUenergy argued that the existing architecture is indeed a sound platform from which to begin reform. TRUenergy noted in particular that it is well understood by participants, has a track record and no serious flaws have been identified in the work carried out so far. TRUenergy also expressed confidence that any future reforms to the arrangements would be broadly compatible with the preceding changes put forward by the proponent.

Origin argued that it is important that a new Prudential Standard and Framework are established prior to the pursuit of the other recommendations in AEMO's Readiness Review.

Ergon Energy suggested that a platform for reform should be based on broader conservative financial market credit risk reforms being carried out under the Basel II accord.

Commission's considerations

On the basis of responses to the consultation paper and the quality and depth of the research and development behind the rule change request, the Commission was satisfied that the existing architecture for protection from default in the NEM is a

sound platform from which to begin reform to the prudential arrangements. Regarding the point made by Ergon Energy, while the Basel accords do feature content relating to prudential security, the Commission did not consider it desirable to seek to mimic these accords in making rules relating to the NEM.

5.1.2 Ambiguity of the existing prudential standard

The proponent contended in its rule change proposal that the language of "reasonable worst case" is ambiguous and should be replaced in the rules. The consultation paper posed this question to respondents directly.

Stakeholder views

Ergon Energy, Aurora Energy and the ERAA all explicitly expressed support for the argument that the existing wording is ambiguous, and that it should be replaced using a quantifiable statistical measure that is less open to interpretation.

TRUenergy also supported the concept of moving to an improved standard, arguing that it would provide certainty and a baseline from which to measure future incremental reform.

The National Generators Forum (NGF) considered that the need to replace the language was clear following the work conducted by Seed and by AEMO in their Readiness Review, regardless of the level of ambiguity.

Commission's considerations

On the basis of responses to the consultation paper and the quality and depth of the research and development behind the rule change request, the Commission was satisfied that the language of "reasonable worst case" is ambiguous and should be replaced in the rules.

5.1.3 Probability of Loss Given Default

The consultation paper asked respondents whether the proposed metric - the Probability of Loss Given Default - would constitute a transparent, understandable metric that would satisfy the assessment criteria. The paper also asked whether the metric is sufficiently separable for use as a prudential standard from other variables such as the actual and assumed reaction period.

Stakeholder views

The ERAA, NGF, TRUenergy, Macquarie Generation and the Loy Yang Marketing Management Company (LYMMCo) expressed varying degrees of direct support for the application of P(LGD) as a prudential standard in their responses to the consultation paper.

The NGF noted the conclusions of the Readiness Review regarding the impracticality of folding in the probability of and/or size of defaults in establishing a prudential standard for the NEM.

TRUenergy and Alinta Energy, while generally supportive of the adoption of P(LGD) as a metric, suggested that the AEMC should procure some independent advice from a suitably qualified credit risk expert in assessing its suitability.

Aurora Energy stated a preference that the calculation of the P(LGD) for a given set of input data should be replicable by participant stakeholders, and that care should be taken with regard to the timeframe of historical data used.

The NGF argued that they do not consider that the settlement cycle or reaction period are separable from the prudential standard since they act to influence the level of protection from default enjoyed by creditors.

Commission's considerations

Regarding the proposition of a procuring further independent advice, the Commission noted this suggestion, but considered that a desktop study would not add much value to the more extensive research conducted by Seed Advisory and Taylor Fry and by AEMO in the Readiness Review. Alternatively, the Commission considered that a more extensive study would certainly have caused material delay and cost, and may have returned poor value for money. On balance it was decided that sufficient confidence was expressed by the proponent and respondents, and that sufficient research had been conducted during the Readiness Review to justify the adoption of the metric in the rules.

Aurora's comments regarding replicability of the calculations were noted, but insofar as they relate to implementation rather than design, the Commission considered that they would be better addressed as part of AEMO's ongoing consultation on the methodology it will use to implement the new credit limit procedures.

Regarding the NGF's point about the influence of the length of the settlement cycle and reaction period, the Commission agreed with this assertion. This point is important in the context of any future changes to the rules that would act to change the length of either the settlement cycle (credit period) or the reaction period, leading to consequent change in the level of protection offered by any given P(LGD)-based standard. The Commission did not however consider the interaction between these variables to be detrimental to the adoption of the new prudential standard and framework.

5.1.4 Procedural changes

The consultation paper asked whether the proponent's proposed changes to the procedures used to calculate the collateral requirements were appropriate. While the detail of these calculations would be left to AEMO to manage under consultation as outlined earlier, key guiding principles contained in the rule change include the

abolishment of the Reduced MCL (RMCL) provision, and introduction of seasonality and load profiling to the calculation of collateral obligations.

Stakeholder views

Respondents to the consultation paper expressed varying degrees of direct support for the introduction of seasonality and load profiling. These included the NGF, TRUenergy, Macquarie Generation, Progressive Green and EnerNOC. Alinta Energy noted potential concerns for new entrants and individual retailers, but on balance also supported the notion that differentiation between retailers and time of year is important.

Macquarie Generation welcomed the proposal to remove the RMCL, arguing that its use had been shown via the Seed modelling to have led to a worsening of exposure to default since its introduction. Aurora Energy disagreed, arguing that removal of the RMCL would increase the prudential requirements for those currently utilising it.

With regard to the detailed calculation methodology AEMO will use to calculate the prudential settings, Aurora argued that moving to longer periods of reference for the calculation of volatility factors is not appropriate for Tasmania, because of the high volatility seen during Tasmania's entry to the NEM.

Progressive Green proposed that AEMO include in their procedure a factor to apply to retailers that reflects any demonstrable change in the retailer's load in response to high market prices, and requested a separate paper on the topic.

Commission's considerations

The Commission considered that the Seed modelling conducted for AEMO and subsequently extended for the NGF demonstrated the potential to improve the efficiency of the prudential arrangements by increasing the sophistication of the calculation, to emphasise loads and times of year that pose the most risk. This efficiency can be perceived as either a reduction in the total amount of credit support required, or an improvement in the level of protection offered against default, or a combination of both.

It was the Commission's view that these two amendments ('load profiling' and 'seasonality') will clearly further the NEO. This is because they had been shown to improve efficiency - in this case the value for money of each dollar of credit support held - at the cost only of modest increases in the potential complexity of AEMO's calculation methodology.

The abolishment of the RMCL could be seen, in the Commission's view, as a matter of choice in the context of a fixed prudential standard based on the P(LGD). This is in contrast to the theoretical impact of removing the RMCL from the existing rules and making no other changes.

Under the new framework, if a given set of MCLs and PMs¹⁷ yielded a X% P(LGD), and all retailers were then to 'use the RMCL' to immediately reduce the amount of credit support required, the effective P(LGD) delivered by the lower collateral would worsen the level of protection being enjoyed by generators to a number greater than X. AEMO's calculation methodology, once then invoked, would demand increases in the amount of credit support required across the pool of retailers to deliver the fixed prudential standard. So in gross terms - and simplifying for demonstration any importance between the weighting of the outstandings limit and the prudential margin - it would make no difference if the rules featured an RMCL or not. In the case where some retailers used and others did not use the RMCL, this could lead to unfair economic advantage (depending on the detail of the calculation methodology) for those using the provision; but this is unlikely to represent a steady state as no retailer would be expected to choose to accept an isolated economic disadvantage.

Assessing the abolishment of the RMCL thus reduced to a question of clarity and transparency insofar as these outcomes act to further the NEO. To the extent that the abolishment reduces complexity in the rules by removing a variable, with no cost to economic efficiency, the Commission was satisfied that the abolishment complements the other amendments proposed.

Aurora's point about the historical timeframe for the volatility factor (VF) calculation in Tasmania, and Progressive Green's proposed demand-management factor were noted. The Commission considered that the draft rule contained language (under the credit limit procedures) that would allow AEMO to potentially implement these suggestions. As such, given the nature of these ideas, the Commission considered that they will be better suited for consideration under AEMO's ongoing consultation on the revised credit limits methodology and did not require a direct assessment or determination with regard to this rule change request.

5.1.5 Proposed prudential standard

The proponent proposed the adoption of a 2% P(LGD) as the prudential standard in the NEM. Section 4 of the first consultation paper explored this fundamental point, and noted that Seed and AEMO conclude that broadly, the total amount of collateral procured by the NEM retailers need not change by much in order to realise a 2% P(LGD) Standard: "Based on Seed Advisory and Taylor Fry's analysis, the proposed prudential standard could be achieved without increasing the NEM's average prudential requirements (that is, the overall amount of credit support required from retailers) by changing the methodology used to calculate the MCL and PM".¹⁸

¹⁷ Noting that under the proposed rule the MCL will be the sum of the PM and the new outstandings limit (OSL)

¹⁸ AEMO, National Electricity Rule Request - New Prudential Standard and Framework, p11

Stakeholder views

Respondents offered a range of different views on the appropriateness of the use of 2% for the value of the prudential standard:

- Macquarie Generation expressed extreme concern that the setting of 2% for the P(LGD) falls well short of the present standard in the rules;
- Macquarie Generation and the NGF advocated that a more appropriate value would be 2% minus one standard deviation, or minus the expected error;
- LYMMCo argued that the new arrangements will still not address the risk of payment shortfall to generators, and that a reduction in the P(LGD) standard below 2% is thus warranted;
- Aurora Energy argued that 2% is not an appropriate value, and that the value should be greater.

TRUenergy expressed concern regarding the lack of significant quantitative analysis supporting the setting of the P(LGD) to 2%. They argued that the analysis presented by AEMO to support the 2% standard is based on returning to the perceived P(LGD) prior to the introduction of the RMCL, thereby returning to the previous status quo; and is not seeking to determine the most efficient level of prudential security for efficient market operation. This sentiment was echoed by the NGF in their response.

TRUenergy proposed a solution to this issue, in similar vein to broader suggestions made by the ERAA; that the AEMC should have responsibility for, and publish the level of the prudential standard. TRUenergy argued that this approach would offer participants more certainty and alleviate concern about the efficiency of the immediate use of 2%, as it would be subject to review by the AEMC following its introduction.

Alinta Energy suggested instead that in the interest of regulatory certainty, the value of 2% should not be revisited; given that the risk is not easily managed or determined in quantity by the actions of generators.

Commission's considerations

The Commission was persuaded that there is no completely rigorous proof available that the use of 2% is necessarily optimal. However, the Commission considered that enough empirical evidence exists in the research and in the historical experience of the NEM to suggest that the use of 2% is reasonable. For example, Seed's work demonstrated the effective P(LGD) delivered under more than 13 years of NEM operation to be in the neighbourhood of 2% (closer to 4% following the introduction of RMCL).

While the Commission saw merit in TRUenergy's proposal, it did not consider that it would be desirable to obligate the AEMC to review the validity of the prudential standard within the rules. Rather, the Commission considered it preferable that the

prudential standard be subject to the same oversight as the rest of the rules; that is, subject to review and potential modification under the existing legal framework for rule changes.

5.1.6 Shorter settlement cycle

Several respondents offered a strong view that the length of the settlement cycle - or the time between energy consumption and energy settlement - is too long and should be shortened.

Alinta Energy considered that the rule change proposal should be implemented in a way that allows for reduction in the potential size of short payment should additional reform be progressed, with particular note of the potential impacts of a change to the settlement cycle or reaction period in this regard.

Progressive Green argued that the settlement window is unnecessarily long and presents a significant burden, tying up working capital that would otherwise be available to support business growth and efficiency improvements.

The NGF commissioned Seed Advisory to revisit the modelling work carried out for AEMO as part of the Readiness Review, with focus on the potential impact of shortening the settlement cycle on the level of P(LGD) and/or collateral required. The results of this work are available on the AEMC's website along with the NGF's submission¹⁹.

Seed's additional work indicated that there would either be a distinct reduction in the amount of collateral required to be procured by retailers, or an improvement in the P(LGD), or both, under a shorter settlement cycle.

The Commission noted the views put forward and considered the additional research carried out by Seed will be of value to stakeholders of the prudential arrangements in any future reform. The Commission noted that AEMO's Readiness Review concluded that a potential change to the length of the settlement window could be investigated following introduction of a revised prudential standard and framework.

To the extent that the rule change request does not feature amendments to the length of the settlement window (or 'credit period'), the Commission was unable to make any determination relating to that amendment under this request, because it was out of scope. However the Commission appreciated the efforts put forward as a valuable precursor to any future rule changes that might be proposed relating to this topic.

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<http://www.aemc.gov.au/Media/docs/NGF%20-%20Seed%20Report-a5301979-45d3-4c3c-aa32-76c6189908f1-0.PDF>

5.2 Submissions to draft determination

The draft determination did not pose direct questions to respondents but did invite any comments on the determination and the draft rule. Three submissions were received. A summary of the points made in the submissions, and a set of commentary from the Commission on these points is presented in Appendix A.2.

5.2.1 Alinta Energy

Alinta Energy expressed a general support of the reforms, in keeping with comments made in its submission to the first consultation paper. In particular, Alinta Energy stated a view that "the revision of the current approach and removal of the reasonable worse case provision, abandonment of the Reduced Maximum Credit Limit (RMCL), and introduction of seasonal and load factors represent sensible enhancements to the prudential framework."²⁰

Alinta Energy also expressed support for the Commission's conclusion in the draft determination that the proposal satisfies the NEO.

5.2.2 National Generators Forum

The NGF noted the commentary and analysis put forward in the draft determination regarding the chosen value of 2% as the prudential standard. The NGF concurred with the Commission's assessment that 2% P(LGD) is a reasonable benchmark for use as the prudential standard, citing evidence from the modelling work of Seed Advisory & Taylor Fry.

The NGF raised the potential benefits that could be realised by shortening the credit period²¹ in the NEM. This was a topic of interest in submissions to the first consultation paper.

Finally the NGF provided a numerical analysis highlighting the potential weaknesses of the current prudential framework, arguing that it gives rise to the possibility of too much or too little credit support being provided by market participants.

5.2.3 AEMO

AEMO's submission to the draft determination focussed on a specific issue related to the calculation of the prudential margin: "AEMO believes that the current offset arrangement does not appropriately reflect the respective prudential benefits of

²⁰ Alinta Energy, *Submission to draft determination - New Prudential Standard and Framework in the NEM* 2012.

²¹ ie, the time delay between energy consumption and settlement of debt by retailers to AEMO.

reallocation and generation credits, and that it is likely to overstate the benefit of generation and understate the benefit of credit reallocations."²²

AEMO proposed amendments to replace clause 3.3.8(e) as it is drafted in the draft rule. The provisions in this clause, currently also contained in Schedule S3.3.2 of the existing rules, prevents netting of positive reallocation amounts against load in the calculation of the prudential margin. The amended clause would instead grant all types of netting in the first instance, but then allow AEMO to reduce the contribution of assumed positive amounts (including from generation and positive reallocations) to the prudential margin if or when it considers there to be a risk that the positive amounts would not materialise during the reaction period.

5.3 Commission's considerations

The Commission notes the support offered by Alinta Energy and the NGF in endorsing the adoption of the draft rule.

Regarding the potential benefits of a shorter credit period, the Commission notes that this would be best considered under a separate rule change and would not form part of this rule change.

Regarding the numerical analysis provided by the NGF, the Commission notes that the level of credit support provided by individual participants may be likely to change under the new prudential standard and framework.

In consideration of AEMO's proposal regarding the amendments to clause 3.3.8(e) in the draft rule, the Commission decided to extend the project and consult stakeholders on this particular issue in a second consultation paper. The outcome of this process is discussed separately in the next chapter.

²² AEMO, *NEM Prudential Standard and Framework Draft rule Determination* - ERCO133 2012

6 Second consultation paper

The AEMC published a second consultation paper on 27 August 2012 seeking submissions regarding AEMO's proposal to change the way that credit offsetting amounts would be treated in calculation of the prudential margin.

6.1 Rule Proponent's view

AEMO's proposal was to replace the clauses set out in the AEMC's draft rule determination (where clause S3.3.2(1) in the current rules is moved and reflected in draft clause 3.3.8(e)) with provisions that "would allow AEMO to limit credit offsets where there is a reasonable probability that the offset may not be effective during the reaction period". The clause as drafted by AEMO also requires AEMO to have regard to the prudential standard when deciding whether there is a risk that the offset may not be effective, and prevents the calculation from yielding a negative value for the prudential margin.

The below is taken from AEMO's submission to the draft determination, with minor formatting amendments.

Box 6.1: Clause 3.3.8(e)

In determining the *prudential margin*, AEMO must take the following factors into consideration:

- Where AEMO considers there to be a risk that a *Market Participant's prospective reallocations* may cease or be deregistered during the *reaction period*, the corresponding *reallocation amounts* must be reduced accordingly;
- Where AEMO considers there to be a risk that a *Market Participant's positive trading amounts* may cease during the *reaction period*, the corresponding positive *trading amounts* must be reduced accordingly;
- In assessing the risk, AEMO will have regard to the prudential standard; and
- The *prudential margin* cannot be negative.

An important effect of the proposed changes would be to permit the offsetting of reallocations against load in the calculation of the prudential margin. Such offsetting is not permitted presently. Further, AEMO indicated how the clause might be interpreted with regard to the offsetting of positive trading amounts, by suggesting a possible assumption that the generation from the largest generator in a given portfolio might not be effective during the reaction period.

In its second consultation paper, the Commission asked stakeholders the following questions:

- Should clause 3.3.8(e) as it appears in the draft determination be amended; such that all forms of positive and negative elements are able to be included in calculating the prudential margin that applies to a participant?
- Should AEMO be granted the ability to reduce the assumed contribution of reallocation and trading amounts in the calculation of the prudential margin to allow for situations in which those elements may not be effective during the reaction period?
- If 'yes' is the answer to the previous question, what guidelines, if any, should be included in the rules to guide AEMO's decision making when using its discretion to discount elements from the prudential margin calculation?
- AEMO's drafting requires AEMO to 'have regard' to the prudential standard when assessing the risk that the offset amounts may not be effective. Is this an appropriate obligation to include in the clause?
- AEMO's drafting prevents the prudential margin from being negative. Is this an appropriate constraint?

Importantly, the Commission's consultation paper did not specifically seek views as to the merit of AEMO's potential interpretation of the new clause, but was focussed on the merit of the clause itself.

6.2 Stakeholder views

Four submissions were received, three of which (Alinta Energy, Origin Energy and TRUenergy) were opposed to adoption of the new provisions as part of this rule change, with one (Simply Energy) in support.

All four respondents stated a support for the principle of changing the rules to permit the netting of reallocations in the calculation of the prudential margin. Alinta Energy suggested that the proposition would appear to be uncontroversial and inclusion of such matters in the credit limits procedure would appear consistent with the draft determination. TRUenergy accepted the principle that reallocations and trading amounts should be treated equitably under the rules in the calculation of prudential margin, to the extent that their risk profile is the same.

However, three of the respondents expressed a disagreement that the proposal put forward by AEMO should be implemented as part of this rule change.

Alinta Energy, Origin Energy and TRUenergy all expressed a view that the specific proposed amendments were not sufficiently justified by AEMO or backed up with sufficient numerical analysis.

Origin Energy expressed concern that market participants may not have had adequate opportunity to consider and assess AEMO's proposed offsetting methodology. Origin Energy proposed that the AEMC should delay its decision to make its final rule determination until stakeholders have adequate opportunity to engage formally with

AEMO on this issue, or delay the commencement date of the rule to allow sufficient time to engage with AEMO.

Alinta Energy expressed that it is "not satisfied with the strength of a process which grants AEMO significant discretion, particularly in relation to new matters, at such a late stage of the introduction of the new prudential standard."²³

Alinta Energy argued that an insufficient level of guidance was provided in the draft clause, and that it would be "reluctant to endorse"²⁴ the level of discretion that AEMO would have to count or discount credit offset amounts in the calculation of the prudential margin.

TRUenergy stated that it "does not support the proposal to grant AEMO discretion to reduce the assumed contribution of reallocation and trading amounts in the calculation of the prudential margin", arguing that an impact of this approach is that it would increase uncertainty and costs for market participants without having demonstrated clear benefits for consumers or the market.²⁵

An opposition was also offered from Origin Energy, Alinta Energy and TRUenergy regarding AEMO's potential interpretation of the new clause, in which it would discount positive trading amounts from the largest generation facility in calculating each participant's prudential margin.

6.3 Commission's considerations

It was indicated in the second consultation paper that it is important that necessary input assumptions to the credit limits methodology are realistic and reasonable. Further, it highlighted that it is possible that the implicit assumptions currently in place about the offsetting of credit amounts in calculating the prudential margin - ie that netting generation is always effective during a retailer default, while reallocations are not - may not be the most reasonable assumptions that could be applied.

The Commission notes the support of the proposal by Simply Energy, but is however persuaded by the arguments put forward by Alinta Energy, Origin Energy and TRUenergy, and considers that the proposed amendment to 3.3.8(e):

- may grant a level of discretion or interpretation to AEMO that it does not have in other parts of the prudential framework, that could unnecessarily decrease the transparency of the prudential framework; and
- might be better addressed separately and more thoroughly, given its relative impact and the more comprehensive body of work and consideration behind the core decisions in the draft determination.

²³ Alinta Energy, *Submission to draft determination - New Prudential Standard and Framework in the NEM* 2012.

²⁴ *ibid.*

²⁵ TRUenergy, *New prudential standard and framework in the NEM, Second consultation paper*, 2012.

However the potential to improve the offsetting of credit amounts in the prudential margin calculation remains. Of note, this view is supported by all the submissions to the second consultation paper, despite the opposition offered regarding the particular drafting of the clause as proposed by AEMO.

The Commission considers that the decision not to implement this proposal should not undermine or delay the introduction of the new prudential standard and framework. As such, it has not decided to defer the making of the rule as suggested by Origin Energy²⁶.

The Commission notes that this topic could be considered in more depth and to a suitably high degree of rigour under a separate rule change proposal should one be put forward in future.

The Commission has subsequently decided not to implement AEMO's proposed amendments to clause 3.3.8(e) as part of this rule change.

²⁶ Noting that the suggestion was made only in the presumption of an adoption of the clause proposed by AEMO.

7 Transitional provisions

Following liaison with AEMO, the Commission has decided to set the commencement date of the new rule to be 1 November 2012.

However, AEMO is not required to apply the new framework to the calculation of participants' prudential settings until 1 December 2013. This delay has been included to permit AEMO sufficient time to complete its currently progressing consultation on the credit limits procedures, and to implement the necessary changes to its software and internal processes.

In the interim period, the existing calculation methodology is to apply.

These provisions are laid out under Schedule 2 of the rule as made.

Abbreviations

AEMO	Australian Energy Market Operator
Commission	Australian Energy Market Commission
ERAA	Energy Retailers Association of Australia
LYMMCo	Loy Yang Marketing Management Company
MCE	Ministerial Council on Energy
MCL	maximum credit limit
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NGF	National Generators Forum
P(LGD)	probability of loss given default
PM	prudential margin
RMCL	reduced MCL
VF	volatility factor

A Summary of issues raised in submissions

A.1 First consultation paper

Stakeholder	Issue	AEMC Response
	<i>General and approach-related comments</i>	
ERAA	<p>Suggested that the AEMC should consider:</p> <ul style="list-style-type: none"> the impact on competition and barriers to entry in the market; the impact on retailer costs, in particular working capital costs and potentially on retail market offers; the difficulty in Retailers providing constructive comment given that AEMO does not propose to release the methodology until after the AEMC publishes its draft determination. 	These considerations are addressed in section 5.1.
NGF	<p>Considered that the proposal to move to a P(LGD)-based methodology with approximately the same level of collateral currently provided by retailers is appealing, as it improves the creditworthiness of the pool whilst using the same level of resources (collateral). However, NGF had concern that the 2% P(LGD) would enshrine a risk of short payment to creditors in the rules, and is concerned over the justification of the proposed 2% benchmark as it appears this has been selected for no other reason than the notion that retailers should procure no more or less collateral than they do today.</p>	These considerations are addressed in section 5.1.
Origin Energy	<p>Considered that the market can benefit from the introduction of a more transparent, predictable and understandable standard, and supports a more specific and tangible definition of the standard.</p>	These considerations are addressed in section 5.1.
TRUenergy	<p>Argued that there is a link between the quality of the NEM's prudential arrangements and the ongoing level of competition in the market, as failing retailers can cause a reduction in</p>	The Commission agreed with this assertion and noted the relevance

Stakeholder	Issue	AEMC Response
	confidence among consumers and a lessened willingness to transfer to a new retailer. As such, incentivising retailers to take on an efficient level of risk is an important consideration.	of CEG's work in the Readiness Review in this regard.
TRUenergy	Noted that the administrative costs of the new regime will depend on the methodology for calculations proposed or envisaged by AEMO. Argued that significant variations in the level of prudential security may increase administration costs, even if the overall level of security required is lower.	The Commission noted this point and its implications with regard to the structural questions posed.
TRUenergy	Considered that the ability for risk-taking parties to manage their risk may be improved via reforms that may follow from the proposal rather than from the proposal itself.	The Commission noted this point and considered that the rule change will be likely to promote the NEO via not only its direct improvements to the rules, but via the further reform it may facilitate in future.
Macquarie Generation	Supported comments made by NGF in its submission	
Alinta Energy	Supported the collection of proposed changes, including the removal of the existing reasonable worst case language, removal of the RMCL, and introduction of seasonal and load adjustments to the calculation process.	These considerations are addressed in section 5.1.
Alinta Energy	Considered that the proposal will strengthen the relationship between minimum credit support obligations for retailers and the risk arising from their actions, and provide a signal to retailers to appropriately manage risk.	This support was noted.
Alinta Energy	Considered that the proposal will improve transparency and clarity, and clarify the probability of generator exposure to short payment.	This support was noted.
Alinta Energy	Considered the proposal will reduce the cost of capital and required credit support in most regions, and better match the credit support obligations with risks over time and by season.	This support was noted.
Alinta Energy	Endorsed findings by CEG that a retailer would be acting rationally by not considering the	This support was noted.

Stakeholder	Issue	AEMC Response
	impact of their failure on other participants in the absence of a prudential framework.	
Alinta Energy	Considered the AEMC's modified proposed definition for the reaction period to apply in the calculations appears appropriate.	This support was noted.
LYMMCo	Supported conclusions reached by CEG, with particular regard to the importance of appropriately allocating prudential risk amongst relevant parties in the NEM.	This support was noted.
LYMMCo	Supported the proposed AEMO rule change, and any further changes to the NEM Prudential Standards and Framework, to the extent that such changes align with this approach and also provide transparent, predictable and understandable arrangements for protection from default in the NEM	This support was noted.
LYMMCo	Argued that the assessment framework outlined by the AEMC should be augmented to include the extent to which the rule change proposal reduces the risk exposure of generators, or at least facilitates exposure to a level of risk that is not excessive.	This comment is addressed in detail in section 5.1. The Commission considered that the objective of incentivising retailers to take on an efficient level of risk encapsulates and implies an intent for generators to be exposed to an efficient level of risk.
	<i>Platform for reform</i>	
NGF	Considered that the Prudential Standard should be agreed upon prior to the implementation of further reforms, if these reforms are clearly separable from the Prudential Standard itself. The NGF did not however consider that the settlement cycle or reaction period are separable from the Standard since they act to influence the level of protection from default enjoyed by creditors.	Section 5.1 addressed these comments in detail.

Stakeholder	Issue	AEMC Response
Origin Energy	Considered it important that a new Prudential Standard and Framework are established prior to the pursuit of the other recommendations in AEMO's Readiness Review.	These considerations are addressed in section 5.1.
TRUenergy	<p>Noted that work conducted so far has not identified serious flaws in the architecture currently in place, and that future reforms such a shorter settlement cycle would be broadly compatible with the changes put forward by the Proponent.</p> <p>Noted that the existing architecture is well understood and has a track record. Many participants will have invested in ensuring efficient compliance with the existing architecture. Consider that no other reforms should be considered in advance of the AEMO proposal.</p>	These considerations are addressed in section 5.1.
Ergon Energy	Argued that any platform for reform of the Prudential Framework should be based on broader conservative financial market credit risk reforms being carried out under the Basel II accord.	This point is addressed in Chapter 5.
Aurora Energy	Considered that the existing architecture for protection from default is a sound platform to build meaningful reform to the prudential framework.	These considerations are addressed in section 5.1.
	<i>Ambiguity of the existing standard</i>	
ERAA	Supported the replacement of 'reasonable worst case' with a more transparent and predictable definition	These considerations are addressed in section 5.1.
NGF	Considered that the terminology of 'reasonable worst case' may be irrelevant given the conclusions of the Readiness Review; such that whether or not it is ambiguous is irrelevant since it cannot be efficiently obtained anyway.	These considerations are addressed in section 5.1.
TRUenergy	<p>Considered that the terminology of 'reasonable worst case' can be ambiguous.</p> <p>Argued that the timeframe for the pursuit of a Prudential Standard should be longer rather than shorter, and probably comparable to the timeframe used in the USE standard.</p>	These considerations are addressed in section 5.1.

Stakeholder	Issue	AEMC Response
TRUenergy	Supported the concept of moving to a transparent, predictable and understandable Prudential Standard, arguing it would provide certainty and a baseline from which to measure future incremental reform.	These considerations are addressed in section 5.1.
Ergon Energy	Considered that the term 'reasonable worst case' is ambiguous, and supports replacement with a statistical measure which is less open to interpretation.	These considerations are addressed in section 5.1.
Aurora Energy	Considered that 'reasonable worst case' is ambiguous and should be replaced with a more transparent and quantifiable measure.	These considerations are addressed in section 5.1.
	<i>Probability of Loss Given Default</i>	
ERAA	Supported use of the P(LGD) metric in formulating the Prudential Standard	These considerations are addressed in section 5.1.
NGF	Considered the P(LGD) to be transparent and understandable, and notes the conclusions of the Readiness Review regarding the impracticality of folding in the probability of and/or size of defaults.	These considerations are addressed in section 5.1.
NGF	Suggested that in the context of a gross pool market structure, little can be done to improve risk-takers' ability to manage their risk and that the intention of the rules is to remove the risk from the arrangements. The NGF did not consider that the settlement cycle or reaction period are separable from the Standard since they act to influence the level of protection from default enjoyed by creditors. As such, the NGF is of the view that this consultation should encapsulate these variables.	These considerations are addressed in section 5.1.
TRUenergy	Considered that the P(LGD) is a conceptually transparent and understandable metric and would allow AEMO to develop an accessible, predictable Credit Limits Methodology. However, also requested an independent assessment of its use be carried out by a suitable experienced credit risk management professional to ensure that there are no fatal flaws with the approach. Argued that the scope of the assessment should cover the concept of P(LGD) and its suitability	This view is noted, but as explained in section 5.1 the Commission did not consider such a study to be warranted in the context of this rule change.

Stakeholder	Issue	AEMC Response
	for the NEM, as well as the data and processes used to draw conclusions. Argued that this is desirable because the consultation process with participants is not a suitable method for an independent risk review of the model, because participants are not independent.	
Alinta Energy	Suggested there may be value in obtaining a peer review of the proposal, such as a desktop review by a credit risk expert independent of the development process, which may provide participants with additional comfort.	As above.
Macquarie Generation	Supported the application of P(LGD) as a metric to use if it reflects present standard in rules.	These considerations are addressed in section 5.1.
Aurora Energy	<p>Considered that the P(LGD) appears appropriate and is an understandable metric, but that its interpretation may vary depending on the historical time period over which data is collected. Argued that it is appropriate to use a 12 month historical data period due to the potential for change in the nature of demand under the carbon tax environment from July 2012.</p> <p>Stated a preference that the calculation of the P(LGD) for a given set of input data should be replicable so that participants can carry out analyses to prepare for changes to their obligations in advance of AEMO notifications.</p>	This support is noted in section 5.1. Regarding the detailed comments, the Commission anticipated that AEMO's consultation on its credit limits methodology will facilitate consideration of these.
LYMMCo	Supported deletion of references to the "reasonable worst case" in clause 3.3.8 and its replacement with the new definition for the prudential standard, defined as a 2% Probability of Loss Given Default P(LGD).	These considerations are addressed in section 5.1.
	<i>Procedural changes</i>	
NGF	Considered that the incorporation of load profiles and seasonal variances is more efficient than what is done presently, and that this would lead to better accomplishment of the NEO.	These considerations are addressed in section 5.1.
TRUenergy	Considered that the proposed changes to the procedures appear to support the P(LGD) Prudential Standard, though further review will be possible following AEMO's consultation on	These considerations are addressed in section 5.1.

Stakeholder	Issue	AEMC Response
	the actual detail of these procedures.	
Macquarie Generation	Supported the revised procedural methodology proposed to calculate MCL and PM and consider the inclusion of load factor and seasonal adjustments to be a vast improvement.	These considerations are addressed in section 5.1.
Macquarie Generation	Considered that the work completed by Seed Advisory and Taylor Fry has highlighted a severe under-provisioning of the current prudential scheme, pointing out that the impact of the introduction of RMCL in 2004 has led to 70 days of exposure to default over the 10 year study timeframe, as opposed to the 2.5 day standard implied by reasonable worst case language of 'once in 48 months'. Macquarie subsequently welcome the proposal to remove the RMCL.	The implications of the removal of RMCL was explored in some depth in section 5.1.
Alinta Energy	<p>Noted potential concerns for new entrants and individual retailers, but on balance supports the notion that differentiation between retailers and time of year is important.</p> <p>Noted point raised by AGL in previous AEMO consultations that retailers making use of bank guarantees are unlikely to benefit from a sculpted approach to credit support. Considers that this may be the case initially, but that guaranteeing institutions will have better clarity about the risk they are carrying and that more suitable and convenient facilities may be made available by those institutions over time.</p>	These considerations are addressed in section 5.1.
Progressive Green	<p>Argued that significant barriers exist within the current prudential arrangements for retailers who specifically set out to manage load according to market price, such as those exercising Demand Side Participation (DSP).</p> <p>Considered that the proposed Prudential Standard should encourage efficiency including the use of DSP during times of constraint in the NEM.</p> <p>Proposed that AEMO include in their procedure a factor to apply to retailers that reflects any demonstrable change in the retailer's load in response to high market prices. Suggested an example methodology using historic comparison between the exposure of the retailer at peak relative to the exposure of all retailers at peak. Recommended a separate discussion paper be issued by AEMO regarding the correlation between energy use and market price as part of development of the procedures.</p>	The Commission anticipated that these comments can be best addressed as part of AEMO's consultation on its revised credit limits methodology.

Stakeholder	Issue	AEMC Response
	Highlighted that DSP-focussed businesses manage price exposure using DSP and as such do not have the access to re-allocation relief enjoyed by a contracted retailer when it comes to meeting prudential obligations.	
Aurora Energy	<p>Did not consider that removal of the RMCL is appropriate, as it would increase the prudential requirements for those currently utilising the RMCL.</p> <p>Considered that moving to longer periods of reference for the calculation of volatility factors is not appropriate for Tasmania, because of the high volatility seen during Tasmania's entry to the NEM. Suggested that the reference period be weighted, with less emphasis placed on older data and more emphasis on recent data. Suggested exclusion of data from the period between Tasmania's entry to the NEM and the beginning of Basslink operation.</p>	<p>The implications of the removal of RMCL is explored in some depth in section 5.1.</p> <p>The reference period for calculations is a topic that the Commission anticipated can be best addressed as part of AEMO's consultation on its revised credit limits methodology.</p>
EnerNOC	<p>Strongly agreed with conclusion drawn by Seed Advisory that the risk of loss given default is related to the load factor of the market customer. Considered that generation and DSP are equivalent during peak demand and should therefore be treated equally.</p> <p>Considered that DSP has several advantages over additional generation, and notes different implications with regard to prudential security between the two alternatives.</p>	These considerations are addressed in section 5.1.
	<i>Proposed value of standard</i>	
ERAA	Argued that the level of P(LGD) should be subject to ongoing periodic review to ensure the setting continues to deliver an efficient level of prudential cover for the NEM. A review to establish the ongoing optimal value of P(LGD) should be independent and subject to public consultation.	These considerations are addressed in section 5.1.
NGF	Argued that combining the rule change proposal with a shorter settlement period will result in greater economic efficiencies than adoption of the rule change proposal in isolation.	These considerations are addressed in section 5.1.6.

Stakeholder	Issue	AEMC Response
	<p>Considered that the analysis performed on the historical data to obtain a 2% standard would be subject to statistical error as indicated by Seed, and that a standard of 2% minus the expected error, attained in conjunction with a shorter settlement cycle would allow a lower level of collateral to be procured and would present a reasonable compromise between the options available.</p>	
TRUenergy	<p>Expressed concern regarding the lack of significant quantitative analysis supporting the setting of the P(LGD) to 2%. Argued that the analysis presented by AEMO to support the 2% standard is based on returning to the perceived P(LGD) prior to the introduction of the RMCL, thereby returning to the previous status quo; and is not seeking to determine the most efficient level of prudential security for efficient market operation. Acknowledging that Seed were not tasked with proving the optimal value for the Standard, TRUenergy argued that a model should now be built to capture the costs of increased prudential security from retailers against the cost of increased default risk exposure for generators. The P(LGD) that yielded the lowest summation of costs would then represent the most efficient solution.</p> <p>Suggested that in the interest of timeliness, the proposed value of 2% could be implemented now with an understanding that it be revisited in the future via a potential rule change proposal for example. This is preferred to conducting more analysis now that would cause delay to implementation of the new framework.</p> <p>Also suggested a preferred alternative arrangement whereby a preferred rule be made, giving responsibility to the AEMC to publish the level of the Prudential Standard (similar to the Administered Price Cap). Argued that this approach would offer participants more certainty and alleviate concern about the efficiency of the immediate use of 2%, as it would be subject to review by the AEMC following its introduction.</p>	<p>These considerations are addressed in section 5.1.</p>
Macquarie Generation	<p>Expressed extreme concern that the setting of 2% for the P(LGD) falls well short of the present standard in the rules. Pointed out that the Seed report recommended the P(LGD) be no more than 2%, and that the standard error was estimated to be about 0.6%. Argued that the error is sufficient to justify setting the standard to at least one standard deviation below 2% in order to provide greater confidence that the collateral procured by retailers would be sufficient in at least 98 out of 100 cases.</p>	<p>While the prudential standard is labelled a 'standard', it is perhaps better understood as a 'target' in terms of the objective of the prudential arrangements. Should the prudential settings yield a 2%</p>

Stakeholder	Issue	AEMC Response
		P(LGD) over the long term, they could be deemed to have met the objective. Should they instead yield 1% or 3%, then in either of these cases, the settings could be deemed not to have met the objective as satisfactorily.
Alinta Energy	Argued that the risk is not easily managed or determined in quantity by the actions of generators. Therefore, Alinta considered that the 2% measure should not be revisited, and that the analysis to date has been robust, and as such support the rule change proposal proceeding.	The Commission noted this view but decided to make the rule such that the standard can be revisited in future as appropriate.
Aurora Energy	Did not consider that 2% is an appropriate value for the Prudential Standard, arguing that the value should be greater given that prudential requirements are actively managed.	These considerations are addressed in section 5.1.
LYMMCo	Considered that the introduction of the new arrangements will still not address the risk of payment shortfall to generators. Considered that a reduction in the P(LGD) standard below 2% is thus warranted.	These considerations are addressed in section 5.1.
	<i>Shorter settlement cycle</i>	
NGF	Commissioned Seed Advisory to investigate the relationship between the P(LGD) and a shorter settlement cycle. Seed's analysis argues that an improvement to 0.8% P(LGD) could be achieved by shortening the settlement cycle (to 7 days) while retaining the level of collateral procured currently or under the 2% condition. Alternatively, the collateral required could be reduced by about 40% by shortening the settlement cycle and continuing to hold a 2% standard.	This contribution is covered in depth in Section 5.1.6.
Macquarie Generation	Argued that the Seed report finds numerous benefits when combining the introduction of P(LGD) with a shorter settlement cycle, including a reduction in the level of collateral required and in the degree of seasonality observed in the P(LGD). Considered that in the absence of a	These considerations are addressed in section 5.1.

Stakeholder	Issue	AEMC Response
	shortened settlement cycle implemented as part of this rule change process, the standard should be set to no more than 1.4% P(LGD).	
Alinta Energy	Considered that the proposal should be implemented in a way that allows for reduction in the potential size of short payment should additional reform be progressed. In particular, Alinta noted the potential impacts of a change to the settlement cycle or reaction period in this regard.	These considerations are addressed in section 5.1.
Progressive Green	Argued that the existing settlement window is unnecessarily long and presents a significant financial burden, tying up working capital that would otherwise be available to support business growth and efficiency improvements. Argued that a shorter settlement cycle should be available to retailers who have predominantly large customers with remotely read interval meters which are generally read on a daily basis.	These considerations are addressed in section 5.1.6.

A.2 Draft determination

Stakeholder	Issue	AEMC response
	<i>General and approach-related comments</i>	
Alinta Energy	Believes the revision of the current approach and removal of the reasonable worst case provision, abandonment of the Reduced Maximum Credit Limit (RMCL), and introduction of seasonable and load factors represent sensible enhancements to the prudential framework.	Commission agrees with this point.
Alinta Energy	Re-stated observations that the proposal will act to further the NEO, and supports the AEMC's conclusions in this regard.	Commission agrees with this point.

Stakeholder	Issue	AEMC response
	<i>Proposed value of standard</i>	
NGF	Concurs with the Commission's assessment that 2% P(LGD) is a reasonable benchmark for use as the prudential standard, citing evidence from the modelling work of Seed Advisory & Taylor Fry.	Commission agrees with this point.
	<i>Shorter settlement cycle</i>	
NGF	<p>Stated view that the creditworthiness of the pool can be improved without increasing the prudential requirement on retailers, by reducing the credit period.</p> <p>Expressed support for the statements on the shorter settlement cycle in the draft determination, where the NGF's analysis, completed by Seed Advisory, was viewed as a "valuable precursor to any future rule changes".</p>	Commission notes that a review of the length of the credit period could be considered under a relevant rule change should one be presented in future.
	<i>Other issues</i>	
NGF	Provided a numerical analysis of the old and new prudential framework, concluding that the existing method results in a tendency to hold either too much or too little credit support.	

Stakeholder	Issue	AEMC response
AEMO	<p>Expressed a view that the current offset arrangement does not appropriately reflect the respective prudential benefits of reallocation and generation credits, and that it is likely to overstate the benefit of generation and understate the benefit of credit reallocations.</p> <p>Proposed a detailed amendment to clause 3.3.8(e) to address the concern.</p>	The AEMC published a consultation paper ('second consultation paper') in order to explore this proposal. As such, responses are presented in the next table, which focusses on that paper.

A.3 Second consultation paper

This paper was focussed specifically on AEMO's proposed amendments to 3.3.8(e), as submitted in their response to the draft determination.

Stakeholder	Issue	AEMC response
	General comments	
Simply Energy	Supports the proposed change to the prudential calculations as put forward in the second consultation paper.	Commission notes these views and covers this issue in section 6.3.
Alinta Energy	Notes that the issue of how credit offsets in the PM calculation are made is not the subject of the paper.	As above
Origin Energy	Considers that AEMO's proposal to incorporate into the CLP the detail around the methodology for	As above

Stakeholder	Issue	AEMC response
	determining credit offsets is consistent with the intent of the AEMC's draft determination.	
TRUenergy	Considers the new prudential standard and framework as described in the AEMC's draft determination represents a substantial improvement on the current arrangements. The AEMC should proceed to make the changes in the draft determination without the modifications proposed in the second consultation paper.	As above
	<i>Amending the prudential margin calculation</i>	
Alinta Energy	Argued that the draft determination should be amended to ensure it permits the inclusion of reallocations in the prudential margin. Suggested that the proposition would appear to be uncontroversial and inclusion of such matters in the credit limits procedure would appear consistent with the draft determination to introduce the new prudential standard and is a prudent development.	Commission notes these views and covers this issue in section 6.3.
TRUenergy	Accepted the principle that 'reallocations' and 'trading amounts' should be treated equitably under the rules in the calculation of prudential margin, to the extent that their risk profile is the same.	As above
Origin Energy	Proposes that the AEMC delay its decision to make its final Rule determination until stakeholders have had the opportunity to engage formally with AEMO on this issue, or delay the commencement	As above

Stakeholder	Issue	AEMC response
	date of the rule to allow sufficient time to engage with AEMO.	
	<i>AEMO's ability to discount elements, and the constraining of any such ability using guidelines within the NER</i>	
Alinta Energy	Expressed that it is not satisfied with the strength of a process which grants AEMO significant discretion, particularly in relation to new matters, at such a late stage of the introduction of the new prudential standard. Argued that AEMO's rationale for the exclusion of the largest generating facility appears underdeveloped, does not provide a cost-benefit analysis of the proposed change or any clarity as to how this amendment would impact the 2 per cent probability of loss given default measure.	The Commission agrees that further analysis and consultation could improve the robustness of any changes made to the way that credit offsets are applied in the prudential margin calculation.
Alinta Energy	<p>Argued that while on first principles, it would seem appropriate for AEMO to be able to discount elements within the prudential margin calculation as part of the credit limits procedure; without sufficient guidance and an assessment process of appropriate standing, Alinta Energy would be reluctant to endorse such discretion.</p> <p>Suggest that any guidelines should feature robust cost-benefit analyses, reference to the prudential standard and the NEO.</p>	As above

Stakeholder	Issue	AEMC response
Origin Energy	Expressed concern that market participants may not have adequate opportunity to consider and assess AEMO's proposed offsetting methodology given the late stage at which AEMO is raising these amendments.	Commission agrees and considers that participants may be better placed to consider the proposal in isolation from the adoption of the new prudential framework.
Origin Energy	Commented that AEMO's proposed treatment of reallocation offsets versus generation offsets indicates that it does not ascribe the same value to the two types of credit offsets. Origin does not agree with this position. Origin considers it is more realistic and equitable that a participant's required level of credit support is neutral towards generation credits and reallocation credits.	Although AEMO laid out their possible interpretation of the proposed clause, the Commission did not seek comments in relation to this, and has not made a statement of view in this regard in either the second consultation paper, or this final determination.
TRUenergy	<p>Does not support the proposal to grant AEMO discretion to reduce the assumed contribution of reallocation and trading amounts in the calculation of the PM. Argued that the impacts of this approach are that it would increase uncertainty and costs for market participants without having demonstrated clear benefits for consumers or the market.</p> <p>Specifically, do not support allowing AEMO discretion to discount trading amounts in proportion to the capacity of the largest generation facility in a portfolio, arguing that AEMO has not provided evidence or analysis to support this proposal.</p> <p>Expressed view that any guidelines on the discretion should require robust cost benefit analyses and make reference to the prudential</p>	As above

Stakeholder	Issue	AEMC response
	standard and NEO.	
	<i>Reference to the prudential standard</i>	
Alinta Energy	Suggested the current reference to the prudential standard, and the need for AEMO to “have regard” to it, is not strong enough given AEMO will effectively be assessing its own credit limits procedure.	While project staff at the AEMC have assessed the potential reference to the prudential standard in the draft clause, as it is not to be implemented, the Commission has not made a specific decision regarding the appropriateness of this provision.
TRUenergy	Consider that it is appropriate that AEMO should ‘have regard’ to the prudential standard when assessing the risk that the offset amounts may not be effective, but note that this on its own is not sufficient.	As above.
	<i>Non-negative prudential margin</i>	
Alinta Energy	Supports the prudential standard not being negative and considers this consistent with the draft determination.	
TRUenergy	Supports the principle that the prudential margin should not be negative, and considers that this is also consistent with the AEMC’s draft determination.	