



19 November 2013

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2499
Sydney South NSW 1235

Submitted online: www.aemc.gov.au

Dear Mr Pierce

EMO0024 - Stage Two Options Paper - NEM Financial Market Resilience

Origin Energy (Origin) appreciates the opportunity to provide comments to the Australian Energy Market Commission (AEMC) Stage Two Options Paper on National Electricity Market (NEM) financial market resilience. Origin understands the purpose of stage two of the NEM financial market resilience review is to assess the risks to financial stability in the NEM from the interconnectedness between participants, primarily through the use of Over-the-Counter (OTC) derivative contracts.

Origin recognises the importance of this review and has sought to explain its risk management practices and understanding of market risk to the AEMC through participating in the AEMC working group and advisory committee, previous submissions and informal briefings. Origin remains concerned, however, that the report does not reflect the way participants manage risk and as a consequence, does not demonstrate the risk to financial stability in the NEM from the interconnectedness between participants, in accordance with the terms of reference from the Standing Council on Energy and Resources (SCER).

Origin is concerned that the contagion risk appears to be overstated in the report, due to an assumption that OTC trades are highly concentrated between tier 1 participants. As the Australian Financial Markets Association (AFMA) survey suggests tier 1 participants are likely to be a counterparty to a high proportion of OTC trades. It does not follow, however, that most of these trades are likely to be between tier 1 participants. Tier 1 retailers are all 'short' physical generation and so likely need to trade significant volumes with a range of generators to manage their market risk.

Origin supports the work undertaken by Seed Advisory to assessing and quantifying the level of systemic risk in the NEM. Seed made a high level estimate of the risks to participants in the NEM and to the broader economy from the failure of either a large vertically integrated retailer or standalone merchant generator. Seed concluded the failure of the largest counterparty of a large vertically integrated retailer would be unlikely to cause contagion or systemic risk in the NEM based on the reported profits and cash flow of the vertically integrated retailers.

Origin considers that the AEMC should refine its assessment of risks and quantify the risks to financial stability in the NEM from any inadequacies or gaps in the current regulatory framework before identifying options that may strengthen or enhance existing mechanisms. In the absence of a quantified material risk to financial stability in the NEM, or evidence of a market failure arising from inadequate risk management, it is difficult to justify changes to existing risk management arrangements. This is particularly important as regulatory measures that seek to reduce one risk, for example credit risk from

interconnectedness, are likely to have consequences for other risks, including liquidity risk or constraints on managing market risk.

Participants that operate in the NEM are subject to extensive external and internal licensing, prudential, margining requirements as well as Board approved risk management policies and procedures to manage risk. It is not evident that the benefits of the additional risk management options canvassed in this Options Paper outweigh the associated risks and costs.

Origin proposes that as a next step the AEMC seek to quantify the level of exposure to contagion and use this as the basis for refining further risk management options.

Should you have any questions or wish to discuss this information further, please contact Ashley Kemp on (02) 9503 5061 or ashley.kemp@originenergy.com.au.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'K. Robertson'.

Keith Robertson
Manager Retail Regulatory Policy
Energy Risk Management

1. Defining the problem

Origin understands the background to the AEMC NEM financial market resilience review was the imposition of a price on carbon and the risk this placed on the stability of the NEM where a participant to fail. The stage two review was to assess the applicability of the Group or twenty (G20) reform agenda, for example, trade reporting to electricity derivatives. In its approach to the stage two review the AEMC has, however, sought to promote a set of policy principles relating to prudential standards to manage credit and liquidity risk, exogenous to operating in the NEM. This has diverted the AEMC from answering the central question of identifying the risks from the interconnectedness between participants and the adequacy of existing mechanisms to manage risk.

1.1 Quantifying the problem

Origin was a contributing sponsor to commission Seed Advisory to assess NEM financial market resilience.¹ Origin is supportive of the work undertaken by Seed Advisory as a starting point to inform further analysis of the AEMC into the risks to financial stability in the NEM from the interconnectedness between participants. The AEMC decided against supporting the findings and approach of Seed Advisory and has separately outlined why it has rejected the findings and approach of Seed.

The AEMC has indicated three problems with the Seed analysis and methodology:

- The magnitude of the losses of default incurred by the business is underestimated;
- Cash reserves and liquid assets would be a more critical determination in whether the business could immediately survive a counterparty default than the size of a balance sheet; and
- The survival of an average business is not what is being dealt with in extreme circumstances.²

In making these observations, that informed the subsequent approach of the AEMC to the review, the AEMC have made a conclusion and policy recommendation around cash reserves and collateral - external to operating in the NEM - that is separate to the terms of reference to assessing the risks from the interconnectedness between participants.

Origin recommends the AEMC revisit its assessment of Seed Advisory's work and if it still considers the findings and approach unacceptable then complete its own assessment focused on the interconnectedness between participants through OTC derivative contracts.

Origin notes that the NEM has worked well to date and successfully managed the exit and restructuring of a number of participants without approaching a risk of market failure. Over the past fifteen years the NEM has seen the failure of Enron in 2001, Energy One in 2007, Jackgreen in 2009 and drought in 2007. The introduction and pricing impact of carbon in 2012 was integrated without incident and the market continues to adapt to the ongoing uncertainty around carbon pricing through the use of OTC derivative contracts.

¹ Seed Advisory 2013, NEM Financial Market Resilience, Melbourne, 14 August 2013.

² AEMC 2013, *AEMC response to Seed Advisory*, 23 September 2013, Sydney. p. 2.

1.2 Defining the Risk Management Framework

Origin is concerned that in developing a risk management framework, the AEMC has drawn heavily upon existing financial market frameworks without giving sufficient weighting to the differences between a centrally cleared financial market and the bilateral electricity OTC market that, underpinned by a physical market. The result has been a shift from assessing credit risk in the NEM to a focus upon participant liquidity and risk management requirements.

In expanding on how participants should manage risk, the AEMC considered an evaluation of the following four points as particularly important to assessing systemic risk:

- (a) Whether market participants are able to correctly identify their level of interconnectedness with other participants and able to quantify their potential liabilities of a counterparty default;
- (b) Whether participants are determining their trading credit limit with other market participants to appropriately mitigate the risk of contagion occurring;
- (c) Whether participants are assessing credible stress test scenarios to understand how unexpected variations in market outcomes could compound the liabilities incurred with counterparty risk. This checks whether risk management strategies are robust enough to manage the risk of a number of coincident events; and
- (d) Whether the level of reserves and available cash flow margins are set accordingly, taking (b) and (c) into account to confirm that the business can survive the impact of another market participant failing.³

Origin recognises the importance of developing risk management frameworks in accordance with agreed concepts and principles. It is also important for risk management frameworks to be calibrated to the risks facing a participant and the risks the participant poses to other participants. Origin understands principles for credit and liquidity management have been developed as part of a broader framework for Principles for Financial Market Infrastructure (FMI).⁴ Principles for credit risk considered the following:

- An FMI should effectively measure, monitor, and manage its credit exposures to participants;
- An FMI should maintain sufficient financial resources to cover its credit exposures to each participant with a high degree of confidence; and
- An FMI should maintain additional financial resources sufficient to cover a wide range of stress scenarios in extreme but plausible market conditions.⁵

The Financial Stability Standards (FSS) in Australia, developed by the Reserve Bank (RBA), have been aligned with the Principles for FMI and informed the RBA's assessment obligations for clearing and settlements facilities in Australia, for example, the Australian Stock Exchange (ASX). In its 2012/13 assessment of clearing and settlement facilities, the RBA noted "[t]he new FSS set more detailed standards in relation to risk review, stress testing and model validation processes, as well as the coverage of financial resources."⁶

³ AEMC 2013, NEM Financial Market Resilience, Stage Two Options Paper, 8 November 2013, Sydney. p. 10.

⁴ CPSS-IOSCO, Principles for financial market infrastructure, Basel, April 2012.

⁵ Ibid. p. 36.

⁶ RBA, 2012/13 Assessment of ASX Clearing and Settlements Facilities, September 2013, Sydney. p. 3.

To be consistent with the principle for credit risk, participants should include an:

...analysis of capital stress-test models, through comprehensive annual validation, periodic reverse stress testing, and more detailed monthly reviews of stress-testing scenarios, models and underlying parameters and assumptions. These should include sensitivity analysis and analysis of concentration risk.⁷

Origin perceives the factors the AEMC considers important in assessing systemic risk are consistent with the Principles for FMI and the criteria the RBA uses for assessing clearing and settlement facilities in Australia. The similarities between the AEMC and Principles for FMI are:

- Identifying credit exposure with counterparties and ability to manage that exposure in the event of default;
- Collateral requirements for participants to adequately manage counterparty failure; and
- Stress testing scenarios based on extreme market conditions.

The evaluation criteria and approach of the RBA to developing its stress test also appears to have informed how systemic risk could be assessed in the NEM and how some of these factors could be applied in the NEM, for example, levels of concentration in the NEM and use of collateral.

The problem with this approach is the difference between FMI and participants in the NEM:

- FMI, for example the ASX, concentrate risk and are systemically important, acting as counterparty to all cleared buy and sell trades;
- Participants in the NEM, by comparison, are able to actively manage counterparty exposure, diversify risk and are not systemically important.

While a consideration of the factors identified by the AEMC may be appropriate for FMI, Origin does not consider that they are commensurate with the risks facing participants in the NEM or with the risks participants pose to other participants or the market as a whole. The AEMC has not identified risks to the contrary.

In adopting the broad assessment framework for assessing systemic risk outlined above, the AEMC has shifted from assessing credit risk in the NEM to imposing liquidity and risk management requirements. The AEMC has not identified the cost for participants in pursuing this approach or the additional risk liquidity requirements could have on participants. In addition to the added costs this could impose on consumers where the costs of complying with the requirements are passed on to consumers in the form of higher prices.

1.3 Assessing Participants' Risk Management Practices

Origin has provided the AEMC with an explanation of how it determines its risk appetite and tolerance, operates its risk governance system, delegates responsibilities, sets policy and directives and how it manages and reports each risk. Origin expects that other participants have comparable governance and management systems in place tailored to the nature of their business. The AEMC's report does not clearly articulate the shortcomings in internal risk management practices, however, the Options Paper prescribes a policy framework for how participants should determine the robustness of

⁷ Ibid. 4.

internal risk management frameworks and practices without identifying why. This approach infers participants' risk management frameworks are inadequate without identifying what risks participants face or how those risks are currently managed.

Origin would be pleased to provide the AEMC with further information on its risk management practices.

2. *Financial contagion and systemic risk*

The AEMC identified a range of channels where participants are interconnected in the NEM. The channels identified are valid however, the AEMC has not quantified the level of interconnectedness between participants or how material counterparty failure is to systemic risk. The failure in this approach is the AEMC is diverted from assessing the risks from the interconnectedness between participants in the NEM to focusing on issues that are exogenous to operating in the NEM and removed from the central question of assessing the risk to financial stability in the NEM through the interconnectedness between participants.

Origin supports the work undertaken by Seed Advisory to assessing and quantifying the level of systemic risk in the NEM. Seed made a high level estimate of the risks to participants in the NEM and to the broader economy from the failure of either a large vertically integrated retailer or standalone merchant generator.⁸ Seed concluded the failure of the largest counterparty of a large vertically integrated retailer would be unlikely to cause contagion or systemic risk in the NEM based on the reported profits and cash flow of the vertically integrated retailers.⁹

The risk from a large counterparty failure was estimated by Seed to comprise an initial settlement risk and a larger cost incurred in replacing the enterprise value of the contract over the duration of the contract:

- The initial settlement risk is estimated to be \$140 million and represents the cash shortfall relative to the contracted position over a four to five week period following default to enable the non-defaulting participant to meet its obligations in the spot and derivatives markets.
- The larger part of the potential loss is estimated to be between \$200 to \$490 million¹⁰ and relates to the loss of enterprise value in replacing the defaulted contracted position with more expensive OTC contracts following default, extended over the duration of the contract over two or more years.¹¹

Total cost from the failure of the largest counterparty to an OTC contract was estimated to be up to a maximum of \$630 million. In commenting on the short and longer term funding requirements to cover settlement risk and the cost of replacement contracts Seed noted:

Considering the two largest vertically integrated retailers whose results are published, a loss of \$140 million represents between a quarter and a third of company-wide annual profits, based on mid-year results for 2012/13 and, we

⁸ The analysis Seed conducted was based on data provided by seven participants including vertically integrated retailers and standalone generators.

⁹ Seed Advisory 2013. p. 6.

¹⁰ Seed considered the contract replacement cost of \$200 million for the first two years only with a full replacement cost to \$490 million for the full contract replacement over two years and could also be unlikely to result in further failures.

¹¹ Ibid. p. 42-43

*anticipate, would present no funding issues. The costs are also relatively small when compared to their annual cash flows and year end cash positions. We believe the risk of further failure in these circumstances appears low.*¹²

The largest OTC counterparty failure for a vertically integrated retailer could also be unlikely to contribute to systemic risk to the broader economy through the financial sector. Seed estimated that the short-term funding requirement for the NEM as a whole¹³ is unlikely to contribute to stress to the financial sector as RBA figures, since 2007, have estimate monthly lending by financial intermediaries in Australia has averaged \$2.3 billion with the largest estimated short-term funding requirement being a quarter of this amount.¹⁴

The AEMC identified the risk to participants from the potential high replacement costs for OTC contracts. Origin does not support the concern raised by the AEMC. Offsetting the cost of wholesale spot market or hedge contracts is the ability of retailers to pass wholesale energy costs through to consumers. The wholesale cost component for retail customers on regulated tariffs are determined annually so higher market costs could be passed on to mass market customers on market contracts in a reasonable timeframe. In addition, commercial and industrial contracts are typically not of a long duration enabling contracts to be progressively renewed at higher wholesale market prices.

2.1 Channels of financial contagion

The AEMC has accurately identified channels in the NEM where participants are interconnected through:

- The wholesale settlements process managed by AEMO;
- The ASX 24 centralised exchange; and
- Bilateral OTC derivative contracts.

Origin supports the view expressed by the AEMC that the AEMO settlements process and the ASX 24 exchange would be unlikely to channel contagion between participants or represent a risk to financial stability in the NEM. The prudential standards developed by AEMO¹⁵ could mitigate financial risk in the NEM. Similarly, the initial and variation margin requirements imposed by the ASX 24 could also be effective in mitigating financial contagion and systemic risk in the NEM.

Origin supports the AEMC in recognising exchange traded contracts require sufficient standardisation to enable products to be traded. OTC derivatives, in contrast are bespoke and customised to the load profile of the retailer and are therefore not suitable for trading on an exchange but are needed to enable retailers to effectively hedge against market risk.¹⁶

Bilateral OTC derivative contracts create a financial exposure between counterparties to the contract as there is no entity that acts as an intermediary or central counterparty to the transaction. There are, however, standard terms and conditions underlying the OTC

¹² Ibid. p. 6.

¹³ Seed estimate that the defaulting counterparty could have multiple other counterparties in the wider market and estimated that the short-term funding requirement could range from \$200-\$500 million spread over a number of counterparties.

¹⁴ Ibid. p. 42.

¹⁵ AEMO prudential standards are based on a 2 percent probability of loss given default with defined maximum credit and trading limits.

¹⁶ AEMC 2013. p. 20.

contract outlined in International Swaps and Derivative Association (ISDA) Master Agreements. The Australian Securities and Investment Commission (ASIC) also imposes financial and risk management requirements on counterparties through Australian Financial Services Licensing (AFSL) requirements.

ASIC requires counterparties to conduct monthly testing and annual reporting to ensure compliance with its financial obligations through retaining adequate surplus liquid funds. As outlined in ASIC Regulatory Guide (RG) 166, holders of an AFSL are required to hold:

- \$50,000, *plus*;
- 5% of adjusted liabilities in surplus liquid funds;
- Up to a total of \$100 million; and
- 3 months cash flow projections.

In addition, ISDA agreements contain standard contract terms and conditions outlining the rights and obligations of counterparties to the OTC contract and can be amended or tailored to include additional requirements where either counterparty considers the other to be of a higher credit risk or imposing additional pecuniary or other requirements.

Origin considers the combined ASIC AFSL requirements and standard practice for OTC contracts to be based on ISDA Master Agreements as adequate to manage counterparty exposure through the use of OTC contracts. The ASIC requirements ensure the participant has adequate financial resources, cash flow forecasts and risks management frameworks while the ISDA Master Agreements ensure the contracts are based on terms and conditions that are understood by participants. Participant's credit policies can establish counterparty limits in terms of volumes, financial exposure, product type, term, collateral requirements, etc. It is not unusual for participants to request additional credit related information from counterparties where there is insufficient public data available.

The AEMC has not identified any residual risk under these existing arrangements that could cause contagion or pose a risk to financial stability in the NEM.

2.2 Measuring market concentration in the NEM

The use of OTC derivative contracts has been identified by the AEMC to be a potential source of contagion and systemic risk. There is a requirement, however, to measure the materiality of systemic risk through the use of OTC contracts. The AEMC has attempted to measure and assess systemic risk through the results of voluntary annual surveys conducted by the AFMA. The AEMC appears to have misinterpreted the results and concludes there is a high degree of concentration in the NEM. The level of concentration in the NEM inferred by the AEMC is referred to as potentially exacerbating systemic risk and reducing liquidity in the NEM.

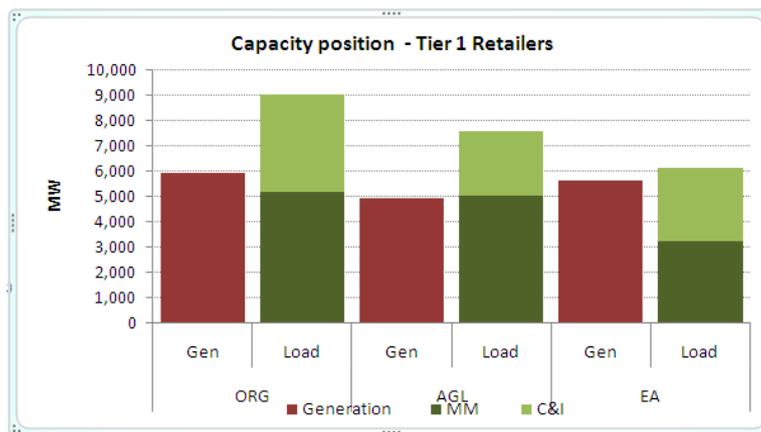
Origin considers the NEM is characterised by competition by the number and variety of participants in the NEM. This is also demonstrated by the level of customer churn across mainland regions of the NEM. The range of participants in the NEM include:

- large vertically integrated or tier 1 retailers;
- smaller vertically integrated or tier 2 retailers;
- standalone generators; and
- a number of smaller retailers operating in the NEM.

The tier 1 retailers have a dominant position in the NEM as measured by market share. To this extent, it is logical that they would be counterparty to a large percentage of OTC

trades. This should not be construed, however, that there is concentration between tier 1 retailers in the NEM.

The graph below indicates that based on the capacity position of the three tier 1 retailers it is highly unlikely that concentration would exist in either the wholesale or contract market in the NEM. To effectively hedge mass market and commercial and industrial customers, tier 1 retailers would be required to contract with either tier 2 retailers, standalone generators or both. Concentration between tier 1 retailers would not be possible based on internal generation capacity, supporting OTC contracts, and highly inefficient were it to occur through the contract market.



Market concentration in the NEM

In assessing and measuring systemic risk in the NEM through the use of OTC derivatives, the AEMC cites voluntary surveys conducted by AFMA measuring the turnover in the NEM and other OTC contract activity. The surveys have indicated that 92 percent of trade in OTC contracts involved the top eight respondents to the survey and, of this, the top four respondents accounted for around seventy percent of traded volumes.¹⁷

The AEMC seems to infer from the AFMA data that there is a high degree of concentration in the OTC contract market, despite noting that it is not clear the degree to which Origin, AGL and Energy Australia are interconnected with each other.¹⁸ This perception appears to be confirmed with the AEMC concluding that participants may not be able to adequately diversify exposures with different counterparties as “this may be challenging where there is significant concentration in the market.”¹⁹

This has led to an erroneous conclusion about trading activity of OTC derivatives in the NEM and, consequently, how to measure the materiality of risk from counterparty default and contribution to financial contagion and systemic risk. Indeed, the AEMC commented that to understand the level of systemic risk in the NEM, the degree of concentration would need to be understood, concluding:

A high degree of concentration in the wholesale market as well as in the contract market, in combination with large negative open positions could

¹⁷ Ibid. p. 24.

¹⁸ The AEMC noted that around 70 percent of reported OTC trades are concentrated between just four counterparties. p. iv.

¹⁹ AEMC 2013. p. 16.

*increase systemic risk, as it is likely the effects of the default of a (large) counterparty in terms of further financial contagion will be more severe in a highly concentrated market.*²⁰

Origin questions the AEMC inferring that there is a high degree of concentration in the wholesale market. In markets where economies of scale are an important determinant of market structure there are limits to the number of large participants due to the resources required to participant. With the NEM comprising tier 1, tier 2 and standalone generators it is difficult to ascertain how the AEMC could infer the wholesale market as concentrated.

Given there are three large tier 1 participants, including Origin participating in contract markets it is logical that they may be counterparty to an OTC derivative. It does not necessarily follow, however, for the other counterparty to the contract to be another tier 1 participant. The other counterparty could, and from a hedging perspective more efficiently, be one of the other classes of participant noted above.

Liquidity in the NEM

The AEMC's view on the level of concentration and interconnectedness in the OTC derivative market leads to a further erroneous conclusion around the level of liquidity in the OTC contract market. In this instance, it infers that concentration in OTC derivatives leads to a reduction in liquidity and is, therefore, an indirect form of financial contagion. Indeed, "[t]he failure of large market participants can shrink liquidity in the contract markets and thus intensify the financial impact felt by other participants."²¹

Origin does not support this interpretation. Origin would contend, however, the other counterparty could not be another tier 1 participant. In this event, the failure of a large tier 1 retailer could create liquidity in the contract market, not reduce it. In addition, it is not clear how the AEMC can conclude there is limited liquidity in the NEM when total turnover based on the AFMA survey is three times annual NEM demand.

The AEMC has cited the 2012/13 AFMA survey where the total traded volume of OTC derivatives was 633TWh compared to total NEM demand of around 184TWh.²² This indicates a high level of liquidity and trading activity in the NEM. It is also indicative that it is unlikely the trading activity would be between large vertically integrated retailers. Material trading activity between tier 1 participants could be expected to result in lower levels of turnover though fewer participants to the trade, not more.

²⁰ Ibid. p. 37.

²¹ Ibid. p. 9.

²² AEMC 2013, NEM Financial Market Resilience, Stage Two Options Paper, 8 November 2013, Sydney. p. 24.

2.3 OTC derivative contracts and collateral

OTC derivatives enable retailers to enter into long-term supply contracts with a generator. Exchange traded and centrally cleared products, futures, for example, are not only standardised - leading to less efficient hedging - but are less liquid over longer time periods. Liquidity for exchange traded products is higher over progressive quarters but becomes thin beyond one to two years with negligible trading activity beyond two years. This could pose a challenge for retailers were they be required to routinely have to procure a large number or volume of contracts to hedge an existing customer load. OTC derivatives enable retailers to customise long term contracts with a generator to minimise risks through contracting.

Origin supports the AEMC in recognising the growth in OTCs being explained by policy uncertainty relating to carbon pricing.²³ The introduction and continued uncertainty over carbon pricing has caused participants to favour OTC derivatives over exchange traded products. Exchange traded products have a fixed carbon component priced into the trade while OTC contracts are flexible with AFMA clauses enabling the carbon component to be passed through at the time of settlement.

The link between the financial contract market and the underlying physical market is integral to the successful operation of the NEM. A retailer is able to customise a hedge contract to cover specific risks, for example customer load profile. Conversely, the generator is able to lock-in a revenue stream and cash flow through the payment of premiums by the retailer. This reduces risk for the generator and may be a critical determinant in gaining financial approval to underwrite the generation asset by a financial intermediary.

The AEMC noted, however, that there are three reasons why OTC electricity derivatives exist:

- They give the ability of participants to acquire customised contracts that could match their individual risk profiles;
- They allow participants to hedge without posting daily margins in exchange; and
- They allow participants to trade in contracts that either do not exist on exchanges or do not have enough liquidity on exchanges.²⁴

Origin agrees with the AEMC that entering into an OTC derivative contract enables a participant to customise a contract that would otherwise not be available on exchanges, more suited to trading standardised contracts.

Origin does not support the contention, however, that OTC electricity derivatives exist for the purposes of avoiding having to exchange an initial and daily variation margin or collateral. The use of OTC contracts has developed since the start of the NEM in 1998. Over this period it can be inferred that a need to post margin for OTC contracts to mitigate risk has not been identified by participants. There could be numerous reasons for this:

- Numerous generators are owned by state governments;
- OTC contracts of a long duration may not be suitable for margining;
- OTC contracts with generators of a lower credit grade may involve additional undertakings under the ISDA agreement; or

²³ Ibid. p. 23.

²⁴ Ibid. p. 13.

- A generator may have offsetting contracts or other strategies to manage counterparty exposure.

A further reason for the lack of margining or collateralisation identified by the AEMC is that:

...due to the nature of electricity OTC contracts, there will be a physical asset behind each trading position. A generator will have its generating units and a retailer will have its portfolio of customers. To the extent that there is value to these physical assets, then the lack of collateralisation in the market is less likely to give rise to systemic risk.²⁵

Origin agrees with this assessment.

Origin does not consider margining is required for OTC contracts. ASIC AFSL requirements ensures counterparties to the trade have financial resources and risk management frameworks in place. In addition, each side to the OTC contract has an intrinsic value, as recognised by the AEMC that would not be diminished by a counterparty default. Imposing margining requirements on participants could increase the cost of contracts and indirectly increase the risk for participants in needing to maintain sufficient liquidity to comply with the margining requirement, minimising credit risk but increasing liquidity risk at a direct cost to consumers.

It is also not clear that margining could reduce the settlement risk and credit risk on the cost of replacement contracts. As identified by Seed,²⁶ the time between default and gaining access to the capital held as margin may not be sufficient to remove a short-term funding requirement. A larger part of the cost following default is from the performance of the spot market and contract market following default and margin is unlikely to impact either.

A generator could still produce electricity following financial default

A counterparty failure involving generation would be unlikely to create a significant or enduring supply/demand problem as the underlying generation asset is not impaired. The physical market could continue to operate with generation assets continuing to export to the grid enabling the continued safe, secure and reliable supply of electricity to consumers.

Origin noted in a submission to the stage one options paper that the National Electricity Rules (NER) may need to be amended to maintain Financially Responsible Market Participant (FRMP) at the generation connection point. Under the NER the generation asset would be registered at the connection point with the participant acting as the FRMP. Following a default the participant would be unable to act as the FRMP under the NER for the generation asset through being under administration. Accordingly, the NER may need to be amended to enable an entity to act as the FRMP at the generation connection point to enable the generator to participate in the AEMO settlements process.

3. Risks and risk management in the NEM

The AEMC has identified a number of risks participants are exposed to operating in the NEM. The exposure each participant has to these risks can mitigate the overall risk profile of a participant operating in the NEM. This requires the AEMC to be precise about what it

²⁵ Ibid. p. 38.

²⁶ Seed Advisory 2013. p. 6.

is attempting to solve, especially given some of the risks emanating from outside the NEM and energy markets are regulated by other statutory bodies. Assumptions about a participants' ability to adequately manage a range of extreme scenarios and 'coincident risks' are, therefore inherently difficult and impractical. It is also not clear how a participant's ability to access collateral is consistent with the SCER terms of reference to assess the risk to financial stability from interconnectedness between participants.

Managing risk exposures

Participants that operate in the NEM are exposed to market risk through the spot price. To manage an exposure to market risk, a retailer can hedge the exposure through:

- The use of exchange traded contracts, exposing the retailer to liquidity risk;
- Through bilateral OTC contracts, exposing the retailer of credit risk; or
- Thought generation assets, exposing the retailer to operational or asset risk.

Market risk represents the most significant risk with liquidity, credit and operational or asset risk representing lower levels of risk for the retailer. Market risk is constant for retailers and generators but the occurrence of liquidity, credit or operational risk is of a lower probability with the retailer being able to actively manage liquidity, credit and operational risks through the development of internal risk management policies and procedures.

A participant could lower the overall risk profile of a business by limiting the exposure to different types of risk. This may, for example, lead a participant in the NEM to have a blend of generation and contracts in a portfolio to mitigate against the exposure to a particular risk whether, market, asset, liquidity or credit risk. In practical terms, optimally hedging a long-term exposure may involve a mix of generation, OTC and exchange traded contracts to limit an exposure to asset, credit or liquidity risk and lower the overall risk profile where a particular risk to materialise.

Stress test

A stress test can comprise an Earnings at Risk forecast in addition to applying a hard stress test limit. The application of a hard stress limit enables a participant to assess its ability to absorb financial shocks before experiencing other consequential risks including downgrades to credit ratings or breaching financial covenants. Participants may choose to assess risks on a whole-of-company basis with different hard stress test limits applied to different commodities and not be limited to limits to exposures in the NEM.

Once the retailer has hedged the market risk through a combination of generation assets, OTC and exchange traded contracts the retailer can estimate Earnings at Risk based on a simulation of spot market outcomes. An earnings distribution curve can be based on the probability of market outcomes occurring. Market outcomes based on a high probability of occurrence would form the centre of earnings distribution, with lower probability spot market outcomes representing the outlier probability of earnings under the distribution. A hard limit would then be applied to the upper and lower bound of earnings that are at risk.

ASIC assessment of risk management

In a response to submissions to ASIC Consultation Paper (CP) 177 on electricity derivative market participants, ASIC noted that it had some concerns regarding the risk

management practices of participants in the NEM.²⁷ The AEMC quoted the ASIC paper extensively,²⁸ implying the AEMC agrees with or shares the views of ASIC. Origin notes ASIC has conducted additional surveys of participants in the NEM and compelled some participants to provide information on individual businesses risk management policies and procedures under its powers for regulating AFSL holders.

Origin understands ASIC has a more detailed understanding of participants risk management practices since 2012, however, we would await comment from ASIC as to whether it still agrees with the comments noted in its report of December 2012.

4. Assessment of potential options to reduce systemic risk

The AEMC outlined factors to consider in recommending an option to improve existing risk management measures and an assessment framework for considering identified options. The AEMC has noted that, in accordance with the terms of reference, options would only be recommended where the existing market and regulatory mechanisms are inadequate or a deficiency has been identified that could result in a material risk or contagion. In addition, measures would only be considered where they enhanced the National Electricity Objective (NEO).²⁹

The assessment framework identified by the AEMC for considering the likely impacts and benefits of the options identified include:

- Contribute to a reduction in the risk for contagion in the NEM;
- Be effective and unlikely to contribute to perverse behaviour;
- Be able to be administered in a cost effective manner;
- Support the overall efficiency in the NEM;
- Be transparent; and
- Be proportionate to the materiality of the risk and the problem it seeks to address.³⁰

In commenting on the options, Origin considers the AEMC has not identified or quantified any risk to financial stability in the NEM. The AEMC outlined factors it considered could contribute to contagion and financial stability in the NEM³¹ but failed to explain how each of these factors was applicable to the NEM.

4.1 No new measure

The AEMC has not identified any inadequacy or deficiency with the current internal and external risk management mechanisms to mitigate contagion. On this basis, the imposition of additional regulatory requirements could impose costs on participants and reduce overall efficiency in the NEM. Origin believes, however, in continual improvement and recognises enhancements could be realised under existing regulatory requirements, for example ASIC licensing requirements as a condition of holding an Australian Financial Services Licence including surveys and assessing internal risk management frameworks.

²⁷ ASIC 2012, Report 320 -Response to submissions on CP 177 Electricity derivative market participants: Financial requirements, December 2012, Sydney.

²⁸ AEMC 2013. p. 31-32.

²⁹ AEMC 2013. p. 44.

³⁰ Ibid.

³¹ The AEMC identified the degree of concentration in the market, the value of open positions, a business's available reserves and cash flow and quality of underlying credit and access to collateral as factors contributing to systemic risk in the NEM.

4.2 Trade reporting

Origin recognises that enhancing transparency and promoting financial stability are objectives under the G20 reform agenda. Trade reporting could enhance transparency in the NEM, however, may not contribute to financial stability. Under the reporting Rules developed by ASIC as part of CP 205, the extensive reporting requirements could enhance transparency in relation, for example, to position reporting. While protecting the confidentiality of counterparties would represent an operation risk for a trade repository, it is not clear how trade reporting could promote financial stability or efficiency in the NEM. Transparency is also limited to the OTC position itself. Reporting an OTC positions does not provide insight into a participant's overall position, it does not take account of retail load, physical generation, etc.

Trade reporting may also not be a proportionate response to any perceived risks from interconnectedness between participants through the use of OTC derivatives. Imposing a reporting requirement on a participant would impose additional regulatory risks with a failure to comply with reporting requirements leading to maximum penalty of 1,000 penalty units.³²

Trade reporting would also impose a direct cost on participants with having to establish systems to enable reporting to a repository. ASIC has noted that it considers USD \$292,771 as a reasonable approximation for set-up costs and USD \$42,759 as a reasonable approximation for ongoing costs.³³ Origin understands that, based on financial intermediary's implementation costs for complying with reporting requirements that these figures are conservative and implementation costs could be substantially higher.

4.3 Stress test reporting

Origin does not support the compelled provision of stress test reporting as envisaged by the AEMC to the relevant authorities. Origin recognises that it is standard industry practice to conduct stress testing and for internal risk management policies to necessitate provision of the results of stress tests to be reported to management and relevant committees across its commodity portfolio. These stress tests and the associated hard stress test limits could be calculated in conjunction with Earnings at Risk methodologies to identify the capacity of the business to absorb financial shocks. With consideration to the proposed AEMC stress test, it is not clear what additional value conducting and reporting on an additional stress test could contribute to the efficiency of the market or be proportionate given the potential burden that further risk reporting could impose on businesses.

The development of any stress test to be applied across the NEM is problematic given the differing nature of participants. Retailers range from small single fuel retailers operating in limited number of jurisdictions to NEM wide vertically integrated players with upstream assets and exposures. It is for this reason that stress test are more usefully designed by each business to reflect its position and risks. Stress tests are of most value to understand extreme conditions in time for a participant to modify its position. They therefore need to be dynamic rather than static and market wide.

Indicative designs for the AEMC's proposed stress test indicate that it attempts to assess a range of scenarios including the ability of the business to withstand the failure of the largest counterparty, be exposed to high spot prices while having limited access to

³² Each penalty unit is currently \$170 with a maximum penalty of \$170,000.

³³ ASIC July 2013, G20 derivatives transaction reporting regime, Regulatory impact Statement, Sydney, 2013. p. 31.

capital. Imposing a stress test assessing the identified scenarios is not proportionate given the AEMC has not identified the risk participants pose to the NEM through OTC derivatives. Moreover, imposing a liquidity test, to assess the prudential standards of participants or assume financial markets have ceased to function normally, is beyond the remit of the AEMC with financial intermediaries regulated by the Australian Prudential Regulation Authority.

There are additional practical difficulties with how stress test reporting would fit into existing regulatory requirements. In addition to participants conducting monthly tests and annual reporting to ensure compliance with ASIC RG 166 requirements for holding adequate adjusted surplus liquid funds, ASIC is required to ensure the adequacy of AFSL holders risk management frameworks. It is not clear how the AEMC stress test would fit with the existing ASIC requirements and authority.

Credit ratings agencies regularly report and grade business listed on the ASX. Given this, how could the results of a stress test be interpreted were a participant to fail a stress test but have a solid rating from credit agencies? This could potentially be a catalyst for uncertainty and have a destabilising effect on the market, contra to the goals of financial resilience and stability. Equally, it is not clear how participants would be obliged to respond if they failed a stress test.

4.4 Code of best practice for NEM participants

Origin recognises that best practice guidelines may have some value. However, it should be recognised that a code of best practice is unlikely to reduce the risk of contagion. It is critical that any guidelines developed retain flexibility given the many businesses operating in the NEM are diverse, unique and operate in a range of energy and other markets. The risks that these businesses are exposed to are similarly outside of the NEM or any specific energy market.

In addition, it is not clear how a code of best practice could co-exist with or enhance existing internal or external requirements. Similar to the development of a stress test, participants are required to complying with a range of ASIC requirements as a condition of holding an AFSL. As the relevant entity regulating AFSL holders, it could be expected that ASIC to be best placed to have an insight as to what represents industry best practice and where a deficiency in a business risk management practice is identified having the relevant authority to enforce remediation.

4.5 Trade reporting + additional margin requirements

As noted in section 4.2, Origin does not support trade reporting.

The AEMC has not demonstrated a risk to financial stability in the NEM from OTC derivatives contracts. The AEMC has also not demonstrated how margin requirements for OTC derivatives could reduce the risk of contagion or systemic risk. Indeed, Origin supports the conclusion by Seed that margining may not be effective in reducing the risk of contagion and the margin may not be sufficient to remove the initial short-term funding requirement. The initial risk from default is the short-term funding requirement over the four to five week settlements cycle that the remaining counterparty is exposed. The remaining duration of the OTC could be replaced over the life of the contract with margining less likely to be effective where the funding requirement could be spread over subsequent years.

Imposing a margin requirement on participants imposes a cost to acquiring the capital and a liquidity risk in ensuring the requisite margin requirements are maintained. This

risk could be a greater risk than the exposure to counterparty credit risk. The margin requirements also have the potential to change the balance sheet of participants away from lower cost debt financing to higher cost equity financing. This has the potential to lower the profitability of the participant and likely return to shareholders. Were this to materialise, the increase in costs may need to be passed on to consumers and the broader economy in the form of higher prices.

In the absence of identifying a risk to system stability in the NEM through interconnectedness of OTC contracts it is difficult to demonstrate the proportionality or any efficiency gains through imposing margin requirements. This is particularly relevant where the AEMC has not identified why participants generally do not exchange collateral under OTC contracts in the first instance. The AEMC could be expected to identify significant benefits and reduction in risks to system stability before imposing the significant cost of margining on participants and broader economy.

4.6 Stress test reporting + additional supervision and regulatory powers

As noted in section 4.3, Origin does not support stress test reporting.

Participants that operate in the NEM are sophisticated risk managers. The businesses have internal risk management policies and procedures to identify and measure risks in the market and to manage risk to within acceptable risk limits. Businesses are also required to comply with a range of external mechanisms. Given these existing requirements to manage risk, the AEMC has not identified, firstly, the gap in the current regulatory framework and secondly, how an external entity or person could manage the business risks of a business better than the business itself.

Resourcing a regulator to monitor or having greater powers of intervention is likely to be significant. Given this, it is difficult to identify how the option could be a proportionate response or likely to promote transparency and efficiency in the market when the AEMC has not identified any risk to financial stability in the NEM in the first instance. The AEMC must quantify the net benefit from any proposed measures before progressing them.

5. Conclusion

Origin considers the AEMC has not identified the risk to financial stability in the NEM through the interconnectedness between participants and the use of OTC derivative contracts. Origin recognises the need to have an agreed framework for evaluating systemic risk, however, the criteria adopted by the AEMC seems to reflect the principles for managing credit and liquidity applied to central counterparties. These criteria are, therefore, not appropriate for participants operating in the NEM given the different risk profiles and systemic importance of the different entities.

The AEMC identified how contagion could be channelled through the NEM but not quantified the level or systemic importance of that risk. Origin is supportive of the findings of Seed Advisory and recommends the AEMC use the findings as the basis for further detailed analysis. In attempting to evaluate systemic risk in the NEM the AEMC has drawn unsupported conclusions around the level of concentration and liquidity in OTC contract markets and current risk management practices applied to OTC derivative contracts.

The AEMC has not identified a level of residual risk through a gap or deficiency in the current regulatory framework that could threaten financial stability in the NEM. On this basis, it is difficult for the AEMC or Origin to recommend options that could strengthen or enhance existing risk management measures. Options could only be recommended or

identified where a risk from the interconnectedness between participants has been identified that could pose a risk to financial stability in the NEM.