

MCE

Ministerial Council on Energy

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Mr John Pierce
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B10/1468

13 JUL 2010

Dear Mr Pierce 

As Chair of the Ministerial Council on Energy (MCE), I would like to thank the Australian Energy Market Commission (AEMC) for the Stage 2 Final Report on its *Demand-Side Participation in the National Electricity Market* (the Report) released on 7 December 2009.

Attached is the MCE's response to this report. The MCE notes the significant amount of work, either planned or under way, identified in the Report that will directly address barriers to the efficient uptake of demand side options.

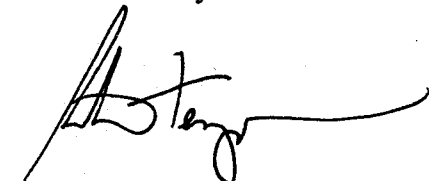
The MCE supports several of the proposed Rule changes included in the Report and will seek to progress these in accordance with section 91 of the National Electricity Law subsequent to this response.

The MCE also acknowledges the AEMC proposal for Stage 3 of the Review to consider the implications of smart grid and smart meter technologies in the National Electricity Market. The MCE supports the AEMC investigating these new technologies as well as addressing other issues identified as requiring further consideration.

This letter together with the attached response will be published and available on the MCE website (www.mce.gov.au).

Should you have any further enquiries, please contact Ms Kristen Palmer, Manager, MCE Secretariat, on (02) 6213 6107.

Yours sincerely



Martin Ferguson

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DEMAND-SIDE PARTICIPATION IN THE NATIONAL ELECTRICITY MARKET

MINISTERIAL COUNCIL ON ENERGY
RESPONSE TO THE AUSTRALIAN ENERGY MARKET
COMMISSION'S STAGE 2 FINAL REPORT

June 2010

Introduction

The Ministerial Council on Energy (MCE) notes the potential for more active demand-side participation (DSP) to improve the efficiency of the market and supports a regulatory framework that promotes the efficient adoption of DSP in the National Electricity Market (NEM).

The MCE also recognises that DSP represents a major opportunity for electricity users to better manage the cost of their consumption as Australia's energy markets transition to a low carbon economy.

The MCE notes a common perception that the NEM is supply-side focussed and that, as such, DSP is under-represented in Australian electricity markets. The MCE strongly supports a NEM regulatory framework that balances the incentives and obligations for supply and demand solutions and encourages the adoption of the most efficient option. Further, the MCE recognises the need for strong institutional arrangements to ensure that these frameworks are effectively applied.

The MCE notes the importance of the Australian Energy Market Commission (AEMC) *Review of Demand-Side Participation in the National Electricity Market* (The Review) and the *National Strategy on Energy Efficiency* (NSEE) as key work streams to address these concerns.

This document presents the MCE's policy response to the AEMC's Stage 2 Final Report of its *Review of Demand-Side Participation in the National Electricity Market* (the Report).

The MCE has considered the Report and developed this response addressing the AEMC's findings and recommendations. In addition, the MCE has considered the Report in light of the key elements of the NSEE Measure 2.1.1.

At the conclusion of the response is an outline of how the MCE considers the identified issues would be best progressed. In terms of the NSEE, the MCE notes that the Standing Committee of Officials (SCO) wrote to the AEMC on 4 June 2009 requesting the AEMC consider certain items as part of Stage 3 of the Review.

The MCE recognises the regular public consultation the AEMC has undertaken throughout the Review including the incorporation of a DSP Reference Group.

The following sections present the MCE's response to the Report.

Background and Context

AEMC review

On 23 October 2007, the AEMC wrote to advise the MCE of its intention to investigate the potential for amendments to the National Electricity Rules (the Rules) in order to better facilitate DSP in the NEM under section 45 of the National Electricity Law which authorises the AEMC to conduct reviews into the operation and effectiveness of the Rules as part of its policy development role.

In March 2008, the AEMC released its Statement of Approach for the Review noting the objective to identify any barriers or disincentives within the Rules which inhibit efficient DSP in the NEM.

As part of the Review, the AEMC released for public consultation a Stage 1 Final Report (May 2008); a Stage 2 Issues Paper (May 2008); and a Stage 2 Draft Report (April 2009). DSP issues have also been considered by the AEMC as part of other reviews including the *Review of Energy*

Market Frameworks in light of Climate Change Policies and the Review of National Framework for Electricity Distribution Network Planning and Expansion.

MCE consideration of demand-side participation

In 2006 the Council of Australian Governments (COAG) committed to improve price signals for energy investors and customers by, among other things, ‘implementing a comprehensive and enhanced MCE work program, from 2006, to establish effective demand-side response mechanisms in the electricity market, including network owner incentives, effectively valuing demand-side responses, regulation and pricing of distributed and embedded generation, and end user education’.

The MCE’s work to date has focussed on addressing barriers when establishing new national distribution and retail regulatory frameworks under the Australian Energy Market Agreement (AEMA), including the national framework for the economic regulation of distribution established in January 2008.

In February 2009, the MCE further committed to addressing impediments to, and promoting the commercial uptake of, demand-side response in the Australian market, as part of its *Forward Work Plan related to the Energy Market and Climate Change Policies*, noting the direct relevance of DSP issues to ensuring the energy market effectively transitions to a low carbon economy.

Further, in July 2009, COAG signed the *National Partnership Agreement on Energy Efficiency*, giving effect to the *National Strategy on Energy Efficiency* to deliver a nationally-consistent and cooperative approach to energy efficiency. Measure 2.1.1 of the NSEE comprises a commitment to consider the effectiveness of the electricity market in bringing forward cost-effective demand-side energy efficiency measures.

COAG has tasked the MCE with progressing NSEE Measure 2.1.1, indicating the measure’s key elements should initially be considered in the context of the AEMC’s *Review of Demand-Side Participation in the National Electricity Market*.

Demand-Side Participation in the NEM

This section presents the MCE’s response to the AEMC’s findings and recommendations.

The AEMC’s overall finding is that, in the context of the current technology and subject to a number of proposed amendments, NEM frameworks do not materially bias against the use of DSP. Further, the AEMC finds that overall, the costs and opportunities to participate in demand-side activities provided by market frameworks are appropriate. However, the AEMC also identifies a number of aspects of the Rules that can be improved to enhance the participation of the demand side.

The MCE generally supports the AEMC’s findings, noting that further work is to be undertaken or is under way, including a Stage 3 of the Review. The MCE also recognises that DSP impacts are being considered as an explicit part of other AEMC reviews such as the current review into the use of Total Factor Productivity (TFP) for the Determination of Prices and Revenues.

The MCE considers that efficient demand-side decisions are as important as efficient supply-side decisions if the overall efficiency of the NEM is to be optimised. The MCE therefore strongly supports the equal consideration of supply-side and demand-side options and implications as part of all future AEMC reviews.

The following sections present the MCE's response to specific aspects of the AEMC’s recommended national framework.

Economic regulation of networks

The AEMC notes that to enable customers to make efficient decisions they need to be provided with charges that accurately reflect costs, including network costs, and finds that existing NEM frameworks support the setting of appropriate, cost-reflective, network charges. However, the AEMC does note that there are practical limitations on the ability to set cost-reflective network charges at different locations and times due to some existing metering technology. Without the applicable metering technology to support time-of-use charges the AEMC finds that it is unlikely all the opportunities for efficient DSP will be realised.

Further, the AEMC notes that network businesses regulated under a price cap have private incentives to contract in a way that is consistent with socially efficient levels of DSP. The AEMC also finds that revenue cap regulation provides even stronger incentives for investment in DSP to the extent that, if anything, it biases incentives in favour of DSP. As a consequence, the AEMC finds, from an efficiency perspective, network businesses do not need to be compensated for DSP that reduces network demand.

The AEMC identifies two areas where changes to the regulatory framework would better encourage efficient DSP – the treatment of different types of costs between and over regulatory periods; and the incentives for innovation in DSP and for connecting embedded generators. Specifically, the AEMC recommends allowing for both transmission and distribution operating expenditure used for DSP to be excluded from the Efficiency Benefit Sharing Scheme (EBSS), as the current method for re-setting network prices or revenue allowances for transmission businesses appears to penalise a business which in the previous regulatory period used expenditure on DSP as a means of efficiently deferring capital expenditure. The AEMC also recommends the Demand Management Incentive Scheme (DMIS) be extended to include the connection of embedded generators, and that the Australian Energy Regulator (AER) consider a number of amendments to the Demand Management Innovation Allowance (DMIA) when designing a national scheme.

MCE Response

The MCE recognises the need for effective, cost-reflective price signals for efficient levels of DSP and that the technical limitations of some existing metering infrastructure are currently a key inhibitor to this being achieved.

However, the MCE notes that a significant proportion of load, particularly large electricity users, is already covered by interval meters capable of supporting time-of-use charges, and that the progressive replacement of the remaining metering stock is being considered through the national smart metering program.

In June 2008 the MCE reviewed the results of a smart meter cost-benefit analysis, decided on the initial timing and coverage of a national roll-out, and agreed to further review roll-out timing in 2012 following pilots and trials. The MCE is satisfied the national smart meter roll-out will appropriately address this issue in the medium term.

The MCE notes the AEMC's analysis of price cap versus revenue cap forms of regulation. The MCE also notes that the AEMC's conclusions are predicated on network businesses acting on all potential opportunities to minimise costs in order to maximise profitability which, for reasons external to the form of price control itself, may not always be the case.

The MCE notes that under Chapter 6 of the Rules the AER must consider numerous factors when determining the form of control for distribution businesses and that the AER has the flexibility to impose controls over price, revenue, or both. At this stage, the MCE is satisfied the degree of flexibility afforded the AER is sufficient to take this issue into account.

However, given the importance of economic regulation in determining balanced incentives for DSP, the MCE requests that the AEMC continue to consider regulatory incentive power for DSP in all relevant future work. The MCE notes that AEMC's current *Review into the use of Total Factor Productivity for the Determination of Prices and Revenues* is investigating form-of-regulation issues and has included consideration of the incentive power of TFP in relation to long term efficiency improvements, such as through greater use of DSP.

The MCE supports the AEMC's recommendation for transmission DSP expenditure to be exempt from the EBSS. The MCE notes that this would be achieved by requiring the AER to consider the possible effects of an EBSS on non-network alternatives when developing the scheme and would make transmission arrangements consistent with those for distribution.

The MCE recognises that innovation, including to develop more cost-effective connection practices and operational strategies for embedded generators, is important if efficient DSP outcomes are to be achieved in the long term.

The MCE notes that the existing DMIS was designed to encourage distribution businesses to implement efficient non-network alternatives and that it already appropriately permits the consideration of embedded generation where it represents an efficient non-network alternative.

The MCE also notes that the *connection* of embedded generation, in and of itself, does not guarantee a beneficial impact on a network constraint or a reduction of network augmentation costs, with the actual outcome dependent on how its size, location and operation relate to a given constraint. However, the AEMC's proposed rule is in effect addressing a different problem to the existing DMIS: the problem that network companies may have a lack of incentive to minimise the costs of connection for embedded generators. The MCE notes that energy users may wish to connect embedded generators for a range of reasons other than providing network support, and reducing connection costs should allow them to more efficiently do this.

On balance, the MCE considers it appropriate to expand the Rules allowing for the DMIS to explicitly cover a second purpose, being innovation in the connection of embedded generators.

The MCE also considers that there are other emerging drivers for innovation over the medium term, and that as these are better understood it may be appropriate to address these in a more unified way.

The MCE also notes the AEMC recommendations for the AER to modify the criteria used when developing a DMIA. The MCE notes that the Rules provide the AER a degree of flexibility to develop the DMIS (and hence DMIA) but that it must be developed in accordance with the distribution consultation procedures. The MCE supports the AER considering the AEMC's recommended modifications within this procedure when developing a national scheme.

Network Planning Standards and Service Incentives

The AEMC finds that probabilistic planning standards are likely to be more consistent with efficient use of DSP as compared to deterministic standards as these standards are more amenable to handling DSP with different degrees of "firmness". However, the AEMC also finds that there are benefits associated with the transparency and certainty provided by deterministic planning standards.

Consistent with the *Review of the National Framework for Electricity Distribution Network Planning and Expansion* (Distribution Planning Review), the AEMC recommends a review be undertaken to consider whether the form of standards for distribution networks should be derived on an economic basis, and if so, how.

The AEMC also finds that the service incentives schemes for transmission and distribution are not an impediment to efficient DSP as they allow network owners to appropriately compare

levels of reliability and continuity of supply delivered via network and non-network solutions with the likely penalties or benefits.

MCE Response

The MCE recognises the potential benefits of having a common overarching framework for expressing and applying reliability standards where this allows variation for local characteristics and supports, in principle, a consistent approach to reliability standards operating in the NEM. The MCE notes that service reliability standards remain State and Territory functions in accordance with the Australian Energy Market Agreement (AEMA) and it is appropriate for certain standards to differ across jurisdictions due to differing power system characteristics.

The MCE is currently considering the AEMC's recommendations from the *Transmission Reliability Standards Review*. The MCE considers a decision regarding the AEMC's proposed review of distribution reliability standards would be best made following its policy response to the *Transmission Reliability Standards Review*.

The MCE supports the AEMC's findings that service incentive schemes are not a barrier to efficient DSP and notes their further findings that indicate such schemes encourage network owners to consider the relative cost and reliability of network and non-network options. The MCE notes there may be future opportunities to enhance the scope for service incentive arrangements in NEM regulatory structures for both transmission and distribution, including through an increased role for service target performance incentive schemes.

In addition, the MCE notes that the progressive introduction of smart meter and smart grid technologies may enable the parameters for service incentive schemes to become more effective and targeted. The MCE supports the AEMC proposal to consider the implications of these technologies further in Stage 3 of the Review.

Distribution network planning

The AEMC finds that at present there is a lack of planning obligations in the Rules and that jurisdictional planning arrangements are not consistent and therefore limit the ability for DSP proponents to be effectively involved in distribution planning processes.

The AEMC notes that their Distribution Planning Review has sought to address DSP issues associated with the distribution planning arrangements. The recommendations from that review include establishing nationally consistent annual planning requirements, and more specifically a requirement for each distribution business to establish and maintain a Demand-Side Engagement Strategy.

MCE Response

The MCE supports distribution planning arrangements that facilitate the more active involvement of DSP proponents in network planning processes. The MCE will publish, separate from this response, a formal policy response to the AEMC Distribution Planning Review. The MCE considers DSP issues associated with network planning arrangements will be most appropriately progressed as part of the new national distribution network planning framework.

Network Access and Connection

The AEMC recognises embedded generation as a form of DSP and notes the importance of embedded generators being able to connect efficiently, and being appropriately rewarded for any services they provide to the market.

The AEMC finds that the Rules for connection processes do not appear to be a significant barrier and supports the current work being undertaken by the MCE to create a national framework for

distribution connections including provisions to streamline the process for small embedded generators.

The AEMC also finds that the charging frameworks that apply between distribution and transmission connected generators are sufficiently consistent such that they do not present a bias against investment in embedded generation.

However, the AEMC notes that the flexibility afforded distribution companies in determining minimum technical standards is causing delays and increasing costs for embedded generators and recommends that the Reliability Panel consider further the appropriate minimum technical standards for embedded generators as part of its *Technical Standards Review*.

The AEMC also finds there are benefits in retaining avoided transmission use-of-system (TUOS) payments to embedded generators, but only in instances where the generator is not already receiving a network support payment from a transmission business.

MCE Response

The MCE notes the AEMC's finding that the Rules governing the process of network connection do not constitute a barrier to embedded generation. However, the MCE notes that the process of connection may, in practice, involve considerable barriers for embedded generators for a range of reasons, including uncertainty over technical standards, network constraints due to networks being designed without significant embedded generation in mind, and resulting uncertainty over what costs may reasonably be charged to embedded generators in planning for connection.

The MCE considers the technical aspects of connection to be a significant emerging issue and supports the review of minimum technical standards by the AEMC Reliability Panel as part of the *Technical Standards Review*.

As part of, or in conjunction with the *Technical Standards Review*, the MCE supports the AEMC also considering how minimum technical standards may be incorporated into market frameworks to provide greater transparency and certainty for embedded generators regarding the impact of their connection on network performance and fault levels, and hence the allocation of any network augmentation and connection costs that may be required.

The MCE notes the broad industry adoption of technical standard AS4777 in relation to the connection of small inverter-connected generators (such as residential PV) and its intended use in the definition of a small embedded generator as part of the new distribution network connection arrangements being implemented in conjunction with the National Energy Customer Framework.

The MCE considers the adoption of such standards, where appropriate, represents a significant opportunity to address technical connection issues, streamline connection processes and reduce the costs of connection for embedded generators.

The MCE therefore supports the Reliability Panel also considering the development and adoption of similar technical standards for larger embedded generation connections as part of the *Technical Standards Review*.

However, the MCE notes that an investigation of embedded generation issues may be considered an extension of the Reliability Panel's current expertise. The MCE therefore requests that in undertaking the review, the Reliability Panel incorporates a high level of consultation with embedded generator proponents and industry experts to ensure the technical characteristics of embedded generation and their potential interaction with the grid are comprehensively covered.

The MCE notes the AEMC's finding that the charging frameworks for distribution and transmission connected generators are sufficiently consistent such that they do not present a bias against investment in embedded generation. The MCE also notes that along with network

security limitations, these costs present a practical, but legitimate, limitation to the uptake of embedded generation.

The MCE considers, however, that with emerging smart grid technologies and better processes, there may be opportunities to reduce the costs of connecting and managing significantly more embedded generation in the power system, and enhancing its operation to provide grid support. The MCE welcomes the AEMC's intention to investigate this opportunity in Stage 3.

The MCE supports the AEMC's analysis of avoided TUOS and recognises the long term benefits embedded generation can provide in relation to the transmission network, particularly if its operation aligns with network support requirements. The MCE also supports the AEMC's recommended amendments to the Rules to ensure that a generator that is already receiving network support payments from a transmission business does not also receive avoided TUOS, noting that to do so would represent a double payment.

Wholesale market participation

The AEMC finds that the costs of participating in the wholesale NEM as a scheduled load appear proportionate, given the need to maintain system security and confidence in the market and that the level of remuneration available in the wholesale market is not a barrier to DSP. As such, the AEMC finds there is not a case for demand-side participants to be provided with additional compensation in the form of an uplift type payment.

The AEMC also finds that it is often simpler, and more cost effective, for customers to participate in the NEM indirectly, through a retailer or through contracting and financial trading.

Separately, the AEMC identifies a barrier in relation to the aggregation of loads to provide market ancillary services. However, the AEMC also notes that a Rule change developed by the Australian Energy Market Operator (AEMO) should address this issue.

MCE Response

The MCE notes the AEMC's findings regarding the appropriateness of costs associated with direct participation in the NEM and the need for AEMO to maintain system security to ensure confidence in the market. The MCE also notes the potential benefits for demand-side participants of participating in the wholesale market through a retailer, as the costs are considered low and wholesale spot price pass-through contracts are available.

Further, the MCE notes the potential for smart grid and smart meter applications to enhance and extend this opportunity to smaller energy users and facilitate the aggregation of benefits from DSP in the wholesale market and in the context of network support.

The MCE notes, however, the importance of a competitive retail sector and effective financial markets if electricity users are to realise the full financial benefits of any DSP actions through effective price signals and reiterates its commitment to encouraging enhanced competition in the energy market. This issue is discussed further below, in relation to NSEE Measure 2.1.1

The MCE also notes AEMO's recent "Aggregation of Ancillary Services Loads" Rule change proposal regarding the aggregation of loads to provide market ancillary services. The MCE supports the Rule-making process under the National Electricity Law as the appropriate method of considering this issue.

Reliability

The AEMC finds that the existing intervention mechanisms, rather than being barriers to DSP, provide opportunities for customers to provide additional services in the NEM and notes that the

recently made Rule, “Improved RERT Flexibility and Short-notice Reserve Contracts”, provides a mechanism to pay users that are willing to modify their behaviour if requested.

In addition, the AEMC finds the use of this mechanism and market efficiency more generally may be enhanced by improving the provision of information to AEMO on volumes of DSP already in the market.

The AEMC also notes the need to consider further the role of small-scale embedded generators. The AEMC finds that it is likely that a non-trivial proportion of embedded generation is not yet strategically managed and that a potentially useful volume of generating capacity is idle at times when it could otherwise create value in the NEM.

The AEMC recommends the MCE’s current work on connection arrangements and AEMO’s work program “*Minimising Barriers to Cost-Effective Small Generator Participation in the NEM*” as the appropriate ways to consider this issue.

MCE Response

The MCE notes that the AEMC findings and recommendations regarding reliability were also included in the AEMC’s *Review of Energy Market Frameworks in light of Climate Change Policies*.

The MCE notes the new RERT arrangements and notes that the effectiveness of such an approach to procuring reserve is likely to be further assessed in the future. The MCE supports AEMO’s improved information gathering on DSP in the NEM and the assistance of market participants to collate the DSP data. The MCE also supports AEMO’s use of this information in a more sophisticated probabilistic manner as part of its market management processes, to allow for different degrees of ‘firmness’ of DSP. The MCE notes AEMO has already established a working group to address this recommendation.

Further, the MCE notes the inclusion of DSP projections in the AEMO Statement of Opportunities (SOO). MCE supports the public provision of aggregated information on DSP levels in the NEM and would welcome the update of projections in future versions of the SOO to reflect AEMO’s enhanced capability to collect DSP data.

The MCE notes that, while the 2009 SOO indicates the reported levels of DSP are consistent with historically-reported levels, this may under-account for actual levels of participation in the market given the difficulty of collecting and accounting for different approaches to participation.

The MCE supports an enhanced role for embedded generation in the NEM and work to facilitate the coordinated use of already-deployed embedded generators. The MCE notes that AEMO is progressing work that will address this issue with the release in December 2009 of a discussion paper “*Minimising Barriers to Cost-Effective Small Generator Participation in the NEM*”.

The MCE notes the potential for significant increases in the level of DSP in light of climate change policies and endorses AEMO’s undertaking of the above work streams as the most appropriate means to progress these issues. Further, the MCE notes the important role of market participants in facilitating these work streams and welcomes their ongoing contribution.

Future work program

The AEMC notes several recent developments that are likely to increase the scope for more active DSP in the NEM. In particular, the AEMC recognises that the roll-out of smart grids and smart meters will enable two-way flows of energy and information providing greater capacity for active management of energy by consumers or their agents.

The AEMC concludes there is a need for a further stage of this Review to fully analyse issues associated with smart grid and smart metering infrastructure and to recommend framework

changes where necessary. Issues identified that may fall within the scope of the next stage of the Review include:

- enabling an effective interaction between competitive and regulated services;
- the regulation of access to infrastructure, data and customers;
- encouraging efficient investment in new technology and services;
- enabling more sophisticated price signals to be passed through to customers; and
- ensuring that the rights and interests of customers are protected.

MCE Response

The MCE notes the potential for the services and applications supported by smart metering to facilitate significant increases in DSP among smaller customers by enabling more sophisticated and cost-reflective retail pricing and other products. Further, the MCE notes the potential for smart infrastructure to facilitate the entrance of new market players to act as intermediaries for customers to aggregate DSP opportunities and offer services to network businesses, retailers or the system operator.

The MCE supports and endorses the AEMC's proposed Stage 3 of the DSP Review to investigate issues associated with the realisation of these benefits.

The MCE notes the proposed scope of this work program and welcomes the AEMC consulting with the SCO and relevant stakeholders when developing the terms of reference for Stage 3.

The MCE notes that the National Stakeholder Steering Committee for the National Smart Metering Program is also developing advice to the MCE to support the roll-out of smart meters. Additionally, the SCO has commenced a review of customer protection and safety arrangements, to ensure they remain appropriate where smart meters are rolled out, releasing a Draft Policy Paper in August 2009. The MCE also notes that a regulatory work group has been proposed as part of the Australian Government's *Smart Grid Smart City* initiative.

The MCE has also requested the AEMC to provide advice on whether the existing economic regulation applying to distribution services, set out in Chapter 6 of the Rules, most efficiently accommodates the recovery of the efficient costs of smart metering activities mandated by a Ministerial Determination. The AEMC released its Draft Statement of Approach on 17 December 2009, outlining aspects to be addressed.

Interactions with these existing work programs on smart meters and smart grids will need to be considered when developing the terms of reference and in optimising the timing of the Stage 3 Review. In particular, any gaps in the consideration of current work streams regarding smart grids might appropriately be addressed by the AEMC's Stage 3 Review.

The MCE also notes that the scope of Stage 3 of the review needs to be considered in the context of the NSEE Measure 2.1.1. The inclusion of aspects from NSEE Measure 2.1.1 in the scope of work for Stage 3 is discussed further in the following section.

NSEE Measure 2.1.1

This section assesses the scope of the Report in light of the key issues identified in NSEE Measure 2.1.1, which seeks to consider the effectiveness of the electricity market in bringing forward demand-side energy efficiency measures.

The NSEE indicates the key elements of Measure 2.1.1 should initially be considered at the conclusion of Stage 2 of the Review with issues that require additional investigation identified

and progressed either as part of a Stage 3 to the DSP Review or, if required, by another process or independent review.

The AEMC, for the purposes of the Review, has defined DSP as “the ability of consumers to make decisions regarding the quantity and timing of their energy consumption which reflect their value of the supply and delivery of electricity”, of which the MCE considers energy efficiency an important part.

The adoption of energy efficiency options generally involves energy consumers including as part of their purchase decisions on appliances, machinery or other business and residential capital investments (such as building insulation) the consideration of the investment’s impact on their level of energy consumption and the value of the expected energy saving.

In this regard, energy efficiency decisions are not made in response to a single short term price signal but in response to the aggregate of the expected future price signals over the life of a particular investment. Energy efficiency may therefore be considered a more “passive” form of DSP when compared to demand-side response actions where a consumer effectively determines their immediate level of consumption in response to a short-term market price signal.

The MCE recognises that the AEMC Review appears to have focussed more heavily on barriers that limit the setting of short-term price signals and the uptake of more “active” demand-side response actions. However, the MCE notes that the long-run average retail price and the price trends used to inform energy efficiency decisions are effectively the aggregate of these short-run price signals and that components such as network costs are common to both. In effect, by addressing barriers to the setting of efficient short-term price signals and network costs for demand-side response, the AEMC is also indirectly, but equally, addressing barriers to the uptake of cost-effective energy efficiency.

The MCE is therefore satisfied that the AEMC’s consideration of barriers to DSP in the Rules also addresses barriers to demand-side energy efficiency decisions in the Rules.

The MCE recognises however, the potential for factors outside the Rules, such as the incentives and limitations on retailers to reflect efficient price signals in customer tariff structures, to impact the effectiveness of retail price signals and dampen incentives for the efficient uptake of cost-effective energy efficiency options. The MCE supports such issues being considered by the AEMC in Stage 3 of the Review.

The following sections present the MCE's response to the Report by reference to the key elements of NSEE Measure 2.1.1. The MCE notes that the AEMC has been consulting with the SCO regarding the scope of its future-focused Stage 3 Review, including the inclusion of items identified below as requiring additional investigation in Stage 3 of the Review.

In order to maintain consistency NSEE references to ‘distributed generation’ have been changed to ‘embedded generation’ in this section.

Identification of impediments in electricity market settings to investment in cost-effective energy efficient practices including pathways for further investigation

The MCE notes that as part of the review, the AEMC has broadly considered the potential for barriers to DSP and energy efficiency in the NEM, including regulatory frameworks governing network companies, the operation of the wholesale electricity market, and to a lesser extent, the business drivers and incentives facing market participants such as retailers.

As noted above, the MCE supports the AEMC’s overall finding that, in the context of current technology and subject to a number of proposed amendments, NEM frameworks do not materially bias against DSP, noting that further work will be undertaken in Stage 3 of the

Review, and that a number of work streams addressing barriers to the uptake of DSP are still under way.

In particular, the MCE notes the need for additional work regarding the implications of smart grid technologies and their potential to facilitate the provision of more efficient price signals, as well as the work required to address the application of minimum technical standards that are currently impacting the connection of embedded generators.

The MCE recognises that the costs and obligations placed on connecting embedded generation to ensure the continued reliability and security of the network can be significant. Similarly, the MCE recognises there can be significant costs for market participants associated with creating the infrastructure and tariff structures to permit efficient price signals, and for consumers in obtaining (or being provided with) the information required to make informed energy efficiency decisions. The MCE notes, however, that where these costs and obligations are proportionate and non-discriminatory, they should not be considered barriers to the efficient uptake of DSP.

The MCE notes that the AEMC has already considered the appropriateness of these costs as part of the Review. Further, the MCE notes that a significant amount of work is under way to minimise these costs where possible, including: AEMO's current work stream "*Minimising Barriers to Cost-Effective Small Generator Participation in the NEM*"; the Commonwealth Government's \$100 million *Smart Grid Smart City* initiative; and COAG's commitment to a staged national mandated roll-out of smart meters to areas where benefits outweigh costs.

The MCE also recognises that the AEMC is also considering DSP impacts as an explicit part of other reviews such as its current review into Total Factor Productivity. The MCE strongly supports the ongoing consideration of DSP issues in future AEMC reviews and the equal consideration of supply side and demand side issues.

Separately, the MCE recognises that, despite the AEMC finding no material biases against DSP in NEM frameworks at this stage of the review, factors external to the market have the potential to impact the efficient participation of the demand side. This and other more specific barriers are further discussed below.

Analysis of regulatory arrangements for energy efficiency in energy markets (in addition to, but seeking to integrate with the National Electricity Market) such as retailer obligation schemes

The AEMC's statement of approach notes the objective for the Review is to identify whether there are barriers or disincentives within the Rules which inhibit efficient DSP in the NEM. The MCE notes therefore that Stage 1 and Stage 2 of the Review have not directly considered regulatory arrangements additional to the NEM frameworks.

The AEMC does, however, identify a potential role for additional policy measures to encourage efficient levels of DSP in the Report. The AEMC notes that even where efficient price signals exist, there will remain a cost for customers in obtaining and assimilating information and in exploring the costs and benefits of different possible responses. Hence, there is a potential need to support consumers to make efficient DSP decisions.

The MCE recognises that smart grid technologies, including smart meters, have the potential to play an important role in reducing these costs. The MCE notes that smart meters will enable small customers to receive real time price signals that can reflect wholesale costs, network costs, or a combination of both. Importantly, however, smart grid technologies will also enable better analysis of a user's consumption patterns over time by either the user themselves or a contracted third party. Further, smart grid technologies will help to simplify the way that customers respond to these prices by enabling consumption decisions to be pre-determined and automated, including through direct load control programs.

As indicated above, the MCE supports the AEMC consideration of smart meter and smart grid technologies as part of a Stage 3 to the Review, including the degree to which these technologies will reduce the transaction costs associated with making electricity purchase decisions and physically responding to market price signals.

Further, the AEMC notes that consumers can also be supported in making efficient DSP decisions through education, reducing the costs of undertaking DSP actions, or by providing additional price signals through DSP contracts.

The MCE notes that this may be achieved through measures external to the NEM framework, including government-sponsored education programs and energy efficiency labelling for new appliances, but importantly, that this may also occur through existing electricity market structures. For example, DSP contracts and network support payments (where certain consumers are paid to reduce their load during peak periods) are already supported by existing market structures.

The MCE considers that opportunities may also exist to enhance current market frameworks and the obligations and incentives they place on participants, to further support consumers in making efficient DSP decisions. One such opportunity is the provision of more useful energy consumption information. The MCE Energy Bill Benchmarking work stream aims to, among other things, enable consumers to make better-informed decisions about actions to reduce energy consumption through the provision of benchmark data.

The MCE recognises, however, that the introduction of smart grid technologies and bill benchmarking requirements should not be expected to alleviate all of these costs and that some costs for consumers in obtaining and assimilating information will remain. The MCE therefore supports the AEMC considering in Stage 3 of the Review the need for additional policy measures that, although operating separately from NEM regulatory frameworks, would require interaction with existing market frameworks and structures, such as the placing of energy efficiency obligations on market participants such as retailers and distributors to facilitate efficient consumer DSP decisions and/or invest directly in energy efficiency opportunities themselves. The MCE notes that there are already a number of state measures in this area.

Relevant considerations in evaluating such opportunities include: the potential of such measures to facilitate efficient consumer DSP decisions and increase the uptake of cost-effective energy efficiency options; the costs and benefits of such measures; whether market participants are better positioned to facilitate energy efficiency decisions than external third parties or users themselves; and the potential of such measures to enhance the NEM's overall efficiency.

The MCE also recognises the potential for market institutions, such as AEMO, to facilitate energy efficiency and DSP measures by, for example, enhancing their market systems to recognise demand side response actions. The MCE therefore also supports the AEMC considering the potential of NEM institutions to facilitate efficient consumer DSP decisions and/or any barriers to their doing so, as part of Stage 3 of the Review.

Identification of regulatory and other barriers to the uptake and application of embedded generation, including tri-generation and co-generation

The MCE strongly supports an increased role for embedded generation participation in the NEM and recognises there is a perceived failure of NEM market structures to facilitate the efficient adoption of embedded generation, including co-generation and tri-generation technologies.

The MCE is committed to removing barriers to the efficient uptake of embedded generation and is directly addressing identified barriers when establishing new national distribution and retail regulatory frameworks in accordance with the AEMA. The AEMC's consideration of embedded generation issues as part of this Review is an important continuation of the MCE's work. Under

the Review, the AEMC has considered a broad range of issues that may impact the efficient uptake of embedded generation.

Regarding network planning arrangements, the MCE notes that barriers to embedded generation are being addressed as part of the development of a national framework which includes the AEMC's *Review of National Framework for Electricity Distribution Network Planning and Expansion*.

Key aspects of this proposed new national framework include the need for distributors to consider the market benefits of a potential increase in embedded generation when assessing the costs and benefits of a proposed network investment; and a requirement for distributors to include in their annual planning reports load forecasts for embedded generation capacity.

The MCE supports the establishment of the new national framework for network planning and augmentation as the most appropriate way to address this issue.

Similarly, regarding barriers to the greater participation of embedded generation in AEMO-operated markets, the AEMC finds that these issues are being considered as part of AEMO's current workstream *Minimising Barriers to Cost-Effective Small Generator Participation in the NEM* and the recently made Rule *Improved RERT Flexibility and Short-notice Reserve Contracts*.

In relation to other aspects of the Rules, the MCE notes the AEMC findings that the distribution and transmission charging frameworks that apply for connecting generators are sufficiently consistent such that they do not present a barrier to embedded generators and that there are benefits in retaining avoided TUOS payments to embedded generators.

As discussed above, the MCE supports the addition of a head of power in the rules allowing the AER to establish a scheme to support innovation in the connection of embedded generation, while noting that the connection and operation of embedded generation may already be eligible for consideration as part of the DMIS where they provide network support and that new and innovative approaches to the use of embedded generation are also eligible for consideration as part of the AER's DMIA.

The MCE notes, however, that a barrier to the uptake and application of embedded generation does exist in the form of minimum technical standards and the flexibility afforded distribution companies in determining them. To address this, the AEMC recommends that the Reliability Panel considers further the appropriate minimum technical standards for embedded generators as part of its *Technical Standards Review*. The MCE is satisfied the *Technical Standards Review* will appropriately address this issue.

In relation to co-generation and tri-generation, the MCE notes that the *Technical Standards Review* would include the consideration of any technical issues associated with these technologies connecting to the network. The MCE recognises that addressing this barrier should reduce the cost of connecting to the NEM, making these technologies commercially more attractive.

The MCE recognises, however, that some of the key barriers limiting greater uptake of co-generation and tri-generation technologies may be external to the NEM frameworks, including environmental regulations and commercial issues associated with fuel price risk and consumers being required to effectively 'lock in' their energy supply to one provider or technology.

The MCE notes that such broader issues are being considered as part of NSEE Measure 1.1.3 which seeks to maximise the potential for the application of co-generation, tri-generation and other distributed generation technologies that increase energy efficiency. The MCE considers such issues are most appropriately addressed as part of that measure.

Assessment of technical and administrative restrictions and barriers to the efficient operation of the price signal in the market

The MCE recognises the importance of consumers seeing the true costs of their consumption through efficient price signals if they are to make efficient decisions regarding the purchase and consumption of electricity, including whether to avoid or reduce future consumption through the purchase of energy-efficient equipment or to adopt more energy-efficient practices.

The AEMC finds, however, that due to the practical limitations of some existing metering stocks, the ability to set cost-reflective prices at different locations and times is inhibited. Hence, it is unlikely all opportunities for efficient DSP are being realised. The MCE notes that this limitation applies principally to consumer decisions on the *timing* of their energy use, rather than broader energy efficiency decisions which are responses to longer-term average prices – although to the extent that enhanced information would improve consumer understanding of their energy use generally, consumers may also be more likely to adopt energy efficiency opportunities.

The MCE recognises that significant work is under way to address these technical barriers to more cost-reflective pricing and enhanced information provision, including the Commonwealth Government's \$100 million *Smart Grid, Smart City* initiative and COAG's commitment to a national mandated roll-out of smart meters where the benefits of doing so outweigh the costs.

The MCE notes that at this stage the AEMC has only examined impediments to efficient DSP in the current framework with the technology available for the vast majority of customers. The MCE supports the investigation of the market framework implications of these new technologies in Stage 3 of the Review, including the conditions required to facilitate efficient price signals and enhance information availability to support decision-making.

The MCE recognises the potential for smart metering not only to remove technical barriers to cost-reflective *network* charges, but also to enable the provision of more sophisticated retail price signals reflecting wholesale (spot and financial) *energy* prices.

The AEMC notes, however, that the effectiveness of cost-reflective prices in influencing demand is largely dependent on retailer incentives to reflect them in customer tariff structures. For example, the AEMC identifies for possible investigation the profit drivers of retail businesses and the argument that prices that encourage consumers to use less electricity may be contrary to a retailer's business model. The AEMC also identifies several constraints which have the potential to dampen the incentives for, or the ability of, retailers to offer efficient price signals, including contractual constraints on price changes, the ability to effectively communicate pricing structures to customers and the impact of regulated caps on price.

The MCE notes, however, that where there is effective competition, retailers should be driven to respond to the desires of customers. That is, if customers want to manage their electricity consumption, competitive market pressures will drive retailers to offer pricing structures, tools and services that better enable customers to do so, as failure to do so would result in a loss of customers and market share.

However, as the AEMC notes, the effectiveness of competition in each jurisdiction varies and therefore there may be a limit on the extent to which competitive retail market pressure can achieve pricing efficiency. In the absence of effective competition, the AEMC suggests that it may be necessary to encourage retailers to pass on price signals if efficient levels of DSP are to be achieved.

The MCE supports the further investigation of the level of incentives and limitations to retailers' reflecting efficient price signals in customer tariff structures in Stage 3 of the Review and, if appropriate, the consideration of this issue in conjunction with the AEMC's investigation of the second NSEE key element regarding additional regulatory arrangements.

The MCE notes, however, that such measures need to be considered in the context of the long-term aim of promoting competition in Australia's energy retail markets.

The MCE notes smart technologies may facilitate the entry of new players in the market, to act as intermediaries for customers and offer services to network businesses, retailers or the system operator. The MCE recognises the potential for such players to facilitate competition in the retail sector through more dynamic product offerings and hence their potential to further drive the uptake of efficient DSP. The MCE also recognises a greater role for third-party consultancy services to advise customers on their energy purchase decisions.

The MCE therefore supports the AEMC considering the potential for increased retail competition to drive efficient price signals including the potential impact of new market entrants and energy service providers, their ability to facilitate more sophisticated competitive offers and enhance market efficiency, and any barriers in energy market structures that may hinder the effective operation of such parties.

Implementation of the MCE response

AEMC Stage 2 Final Report findings and recommendations

The MCE notes that a number of the issues identified in the Report are already being progressed as part of separate independent work streams, including: the progressive roll-out of smart meters where benefits outweigh costs; and AEMO work programs addressing DSP information gathering and the barriers to cost-effective small generator participation in the NEM. The MCE supports and endorses these work programs.

The MCE also supports the AEMC Stage 3 proposal to consider the implication of 'smart' technologies on NEM frameworks, noting the AEMC, in developing the terms of reference for this stage, has been consulting with the SCO to manage the synergies between the proposed Stage 3 work and other activities in this area.

Regarding technical standards for embedded generation, the MCE strongly supports the Reliability Panel's *Review of Technical Standards*. As indicated above the MCE considers this to be a significant emerging issue limiting the uptake of efficient embedded generation. The MCE requests this review be undertaken as soon as possible and in close consultation with embedded generation stakeholders.

The MCE supports the AEMC's proposed Rule changes regarding the EBSS, embedded generator connections, and avoided TUOS. The MCE will progress these proposed Rule changes in accordance with section 91 of the National Electricity Law.

NSSE Measure 2.1.1

The MCE is satisfied that the AEMC's consideration of DSP in the Review also addresses barriers to demand-side energy efficiency decisions in the Rules. Specifically, the MCE is satisfied the AEMC has appropriately addressed the following key elements of NSSE Measure 2.1.1, noting that the identified further work needs to be undertaken:

- Identification of impediments in electricity market settings to investment in cost-effective energy efficient practices including pathways for further investigation
- Identification of regulatory and other barriers to the uptake and application of embedded generation, including tri-generation and co-generation.

However, the MCE considers further investigation is required regarding the following two elements:

- Analysis of regulatory arrangements for energy efficiency in energy markets (in addition to, but seeking to integrate with the National Electricity Market) such as retailer obligation schemes
- Assessment of technical and administrative restrictions and barriers to the efficient operation of the price signal in the market

The MCE notes that the SCO wrote to the AEMC in June 2010 requesting the AEMC consider these items as part of Stage 3 of the Review. The MCE also notes that the AEMC has been consulting with the SCO when developing the terms of reference for Stage 3 of the Review.

The MCE supports the AEMC investigating these NSEE elements in Stage 3 as the most appropriate way to address these issues.