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Clean Energy Council

02/02/2012

John Pierce
Chairman
AEMC
PO Box A2449
Sydney South NSW 1235
Lodged Electronically

Dear Mr Pierce,

The Clean Energy Council (CEC) welcomes the Australian Energy Market Commission (AEMC) Transmission Frameworks Review (review) and believes it is critical to addressing impediments in achieving the Australian Government's commitment of 20% Renewable Energy Target (RET) by 2020.

The CEC supports the purpose of this review to consider the appropriate future role of transmission in providing services to the competitive sectors of the National Electricity Market (NEM). This review gives the AEMC the excellent opportunity to explore and explicitly consider the extent to which the current transmission network and framework will facilitate the achievement of the RET.

The CEC is the peak body representing Australia's clean energy and energy efficiency industries. Its priorities are to:

- create the optimal conditions in Australia to stimulate investment in the development and deployment of world's best clean energy technologies
- develop effective legislation and regulation to improve energy efficiency
- work to reduce costs and remove all other barriers to accessing clean energy

The CEC works with members and the government to identify and address the barriers to efficient industry development in the energy efficiency and stationary energy sector. The clean energy industry contributes to the generation of electricity using wind, hydro, solar, biomass, geothermal and ocean energy as well as the emerging technologies and service providers in the energy efficiency sector including solar hot water and cogeneration.

Our submission is attached below. It considers the specific issues raised by the AEMC with regards to the impact on CEC member clean energy generators in the context of the NEM. The attached initially presents some high level comments and subsequently considers the specific market areas presented by the AEMC for reform.

The CEC welcomes the release of the First Interim Report (report) and is pleased to have had the opportunity to make this submission and is also very pleased to be a part of the Transmission Frameworks Review Consultative Committee and is keen to continue to work

with the AEMC to achieve an effective outcome from the review. Please do not hesitate to contact the undersigned for any queries regarding this submission.

Yours sincerely,

Tom Butler

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1 High Level Comments

1.1 Review Timing & Objective

CEC members have expressed reservations about the timing of, and time period provided for this consultation. The CEC expects that the provision of a 10 week period over Christmas and the New Year (when most stakeholders are not available) is insufficient for many stakeholders to properly consider the implications of many of the options for reform presented by the AEMC.

As a result the CEC expects that submissions to the review could easily fail to capture the consensus of all stakeholders. In particular smaller organisations with fewer resources, and which make up a significant portion of stakeholders will remain poorly represented.

Despite the above and as discussed with the AEMC we recognise that the AEMC's objective at this stage of the review is not to determine a final outcome and framework. Rather it is to gain a consensus as to whether the proposed reform packages are workable, or whether stakeholders can agree on a potential model to take forward for detailed consideration. We also agree with the AEMC's statement in the report that the implementation costs and risks of any proposed change will be required to be proportionate to, and tested against any risks of retaining current frameworks[1].

The CEC also notes that no framework option should proceed into the relevant legislative instruments without detailed modelling and consultation. Failure to carry out this assessment in sufficient detail presents a significant risk where the framework deviates significantly from the status quo. We expect that this is in line with the AEMC's objective for this stage of the review.

1.2 Interaction between the National Electricity Law and the Review

The CEC understands that the AEMC operates under the National Electricity Law (NEL) legislative framework. However, we are concerned that the National Electricity Objective (NEO) is inconsistent with the objectives of other regulatory instruments formulated to improve the long term sustainability and environmental impact of the electricity supply industry. These include the Federal Government's objective of a 5% cut in greenhouse emissions from year 2000 levels by 2020 as well as the 20% RET.

In particular, through increased market penetration by renewables, reduced market penetration by retiring fossil fuel generators and enhanced energy efficiency, these federal policies will transform the energy supply industry. In conjunction traditional market signals have now altered to include environmental characteristics. The CEC is concerned that the NEO

[1] AEMC 2011, *Transmission Framework Review*, First Interim Report, 17 November 2011, Sydney, p. ii.

does not reflect these policy objectives, and as a result the NEM is likely to develop in a manner that is out of step with those policies.

Unless and until the NEO is amended in accordance with these policies, the day to day operation of the NEM is likely to be hampered and projects such as this review will also have less than optimal results due to the primacy of the NEO in its existing form. This was indicated by Maddocks in their recent report to the Department of Climate Change and Energy Efficiency where they stated that[2]:

> "The regulatory objectives underlying the NEM, as set out in section 7 of the NEL, could constitute an obstacle to effective adaptation of the regulatory framework for the supply of electricity to climate change"

Maddocks' statement was again reiterated by AEMO's Managing Director and Chief Executive Matt Zema in his forward to the National Transmission Network Development Plan when discussing the conceptual NEMLink project, saying it[3]:

> "represents a significant departure from the regional focus of the past. However, within the existing regulatory framework and current economic conditions, Australia cannot realise the full benefits NEMLink is capable of delivering."

The CEC argues that the AEMC (and other relevant agencies) should specifically consider electricity market reform consistently with associated legislation relating to climate change. This was also outlined in the CEC submission to the Issues Paper in late 2010[4]. As also suggested by Vestas' submission to the Issues Paper[5] it is likely that the review and future market developments will have significant shortcomings if these objectives are not consistent.

1.3 Generation development in the NEM

Over the remainder of this decade the interaction between frameworks and renewable energy will be crucial. This is particularly evident when considering the changing nature of the electricity generation market and the medium term outlook for this market.

A simple review of the planned generation projects in the NEM on the AEMO website[6] indicates clear market signals towards clean energy development in the coming years. This is represented by 17.5GW of proposed renewable energy generation spread across 103 projects.

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[2] Maddocks, 2011, *The Role of Regulation in Facilitating or Constraining Adaptation to Climate Change for Australian Infrastructure: Report for the Department of Climate Change and Energy Efficiency*, Canberra, see: www.climatechange.gov.au.

[3] AEMO, 2011, *National Transmission Network Development Plan: Executive Briefing*, see: www.aemo.com.au.

[4] Clean Energy Council, Issues Paper submission, p. 6.

[5] Vestas, Issues Paper submission, p. 2.

[6] AEMO, Generation Information Web Page, see: http://www.aemo.com.au/data/gendata.shtml

In contrast hydrocarbon-based generation projects present a planned capacity of 16.5GW across 37 projects[7].

The CEC expects that the weighting of interest towards decentralised renewable generation reflects a clear market signal. Further compounding this signal is the recognition that this interest has been gathered in the absence of economic signalling from a price on carbon, and under uncertain global economic circumstances in recent years.

On this basis the CEC believes that this market signal should be a fundamental characteristic of reform of the NEM. In conjunction the review should focus on removing impediments to market entry by new distributed renewable generators.

[7] ibid

2 Current Market Frameworks

2.1 Locational signals for generation developments

Historically, generators have been located close to resources rather than load centres. In the NEM this structure has placed large base-load generators in areas such as the Latrobe Valley in Victoria, the Snowy Mountains, Mt Piper and Bayswater in New South Wales and Tarong and Callide in Queensland. It is important to note that these developments occurred under state owned and regulated electricity transmission systems, prior to the introduction of the NEM. At this time they were grandfathered efficient network capacity and were heavily interconnected to load centres.

Under the current arrangements generators are still located relative to resource availability. However, other market signals also provide locational incentives in the form of connection costs, marginal loss factors and congestion risk.

As expected, future generation development will also be located relative to resource and land availability[8] due to the number of renewable generation project proposals. However, the distance between these generators and load centres will become a significant factor. Much of the accessible renewable energy resources in the NEM are located away from load centres and high capacity transmission backbones. As a result many renewable energy projects are presented with a different range of connection difficulties and costs. The CEC believes that reform to the electricity market should consider a mechanism for the enhancement of access to remote parts of the NEM which enables the management of these issues and costs.

2.2 Congestion

Under the current open access market network congestion occurs as a result of efficient market dispatch procedures. As indicated above a locational signal is also present for generators as congestion risk creates a disincentive for connection due to dispatch uncertainty and increased financing costs.

As renewable generation has to be developed where the resource is available, any transmission reform will be required to promote efficient methods of managing congestion in the longer term. Concurrently, under normal operating conditions incumbent generation which was grandfathered capacity at market commencement can be expected to be less exposed to congestion when compared to distributed renewable generation. Any future transmission frameworks should recognise the clear advantage held by incumbents over new entrants, and try to reduce this advantage.

[8] As demonstrated by the AEMO data presented previously.

While congestion is an inherent characteristic of the current NEM framework, the CEC also recognises that investment in reducing congestion presents diminishing returns. There is likely to be an optimum level of congestion for the market to accept. Under the present arrangements the CEC expects that the materiality of congestion issues require further consideration and that there may be a negative impact on the market to pursue a solution at this time, without thoroughly investigating possible framework changes further.

The CEC notes that the issue of congestion management is highly complex. There are other issues noted in the review which the CEC expects can make significant improvements to the current arrangements with regard to the NEO. These areas should be the focus of reform, rather than detailed consideration of complex congestion management schemes.

3 AEMC Framework Package Options

As indicated above the CEC expects that, while the consultation process may indicate a preferred reform package as proposed by the AEMC, doing so prior to undertaking comprehensive assessment could present a significant risk to the market.

We have given consideration for the proposed reform packages and determined that a preferred option cannot be selected at this stage. However, a question has arisen on the need for the depth of reform that is proposed by the packages. As discussed previously the CEC expects that reform of the existing arrangements can have a significant impact, as opposed to the extensive market restructure options considered.

Despite this position some aspects of the proposed packages have been considered and comments from the CEC are outlined below.

3.1 Package 1: Rule 5.4A

In conjunction to the discussion above on firm capacity the review considers that Clause 5.4A of the National Electricity Rules[9] (rules) sets out a condition whereby a generator can negotiate for firm access from the TNSP through an agreed level of transmission service user access as stated in 5.4A(e). Clause 5.4A(f)(4) implies that the generator and TNSP must negotiate in good faith on the charges relating to congested energy for both the TNSP and the generator, as defined in clause 5.4A(h).

In the negotiation process TNSPs generally do not consider this charge as it does not follow the principal of the NEM's open access arrangements.

In general the CEC agrees with the position of the AEMC on the removal of compensation arrangements for constrained energy should the NEM retain the current open access framework. However, clause 5.4A also contains other aspects relating to the negotiation process. These include the provision of information and negotiations in good faith. Removal of these components of clause 5.4A will present a significant barrier to achieving a reasonable outcome for new generators connecting in the NEM during negotiations with TNSPs.

3.2 Package 3: Generation transmission standards

As demonstrated earlier the generation development market is going through significant change. In particular, it is clear that a large majority of future investment in generation will be forthcoming from renewable generators, rather than fossil fuel derived generation. As with any infrastructure project the likelihood of a proposed generation project proceeding to

[9] National Electricity Rules (rules) clause 5.4A(f)

commissioning depends on a broad range of factors and there is always a risk that the project will not proceed at all. In conjunction, renewable developments in resource rich areas are generally subject to a number of proponents looking to establish projects.

In light of the above, schemes where the TNSP is required to develop its network based on generator planning standards are expected to present significant risk of over capitalising in the shared network. This presents a risk to consumers who fund the shared network as regulated by the Australian Energy Regulator (AER).

Network expansion or extension projects can take years to plan and deploy by a TNSP. Under present planning arrangements for load TNSPs can delay investment in a regulatory cycle. If incentives are not strong enough this behavioural pattern can be expected to be reflected in planning for generation, exposing generation projects to possible investment risks resulting from uncertain delays in the generation commencement date. Subsequently, this arrangement could have a significant impact on the efficient deployment of new generation.

3.3 Packages 4 & 5: Firm capacity

In many cases renewable generators require significant capital expenditure to deploy. As a result it is less likely that such generation will select to fund firm access to the network. Concurrently, given the distributed nature of renewable generation it is more likely that such generation will be heavily affected by other connections into the shared network.

Depending on the connection point of an existing generator, it is possible for a new generator to connect and simply deny the initial generator access to market by generating up to a constraint. Alternatively, under the condition that non-firm generators are required to compensate firm generators the possibility exists for a firm generator, which is connected with a favourable loss factor than a non-firm generator to increase generation in order to force a constraint condition. Under the right output and bid conditions the firm generator could profit from the compensation received from the non-firm generator.

The CEC also expects that firm access arrangements could discriminate against new entry generation over incumbent generators, which were grandfathered strongly interconnected transmission capacity upon market commencement.

As discussed above the provision of firm access could result in significant delays in generation deployment. In conjunction it is not clear whether this provision would increase or decrease congestion as the locational incentives for generators are unclear without significant further consideration.

3.4 Package 4: 'Enhanced' locational signals for generation developments

As mentioned previously, generators that were built prior to the commencement of the NEM did not have to face the same hurdles encountered by new entrants since 1998. This is demonstrated by the location of incumbent base-load generation across the NEM, where significant transmission capacities were grandfathered to these generators. Similarly, new distributed renewable generators will fundamentally be located based on resource and the availability of cost effective means to convert that resource into electricity. The CEC does not

expect enhancement of locational signalling mechanisms will have any significant impact on these fundamental characteristics.

As a result of the above enforcing *additional* costs on generators to locate in 'capacity-friendly' positions in the shared transmission network can be expected to have little to no impact. In particular the imposition of use of system charges for firm access for generators will present a significant issue for the entry of new distributed renewable generation. As discussed above these market participants would be less likely to take up a use of system charge to provide firm access. Concurrently, these generators will be subject to the highest charges due to their distributed nature. Thus, we expect that that the ability of renewable generation to access the market under such an arrangement will become significantly impaired.

It is important to note that the role of the interconnected electricity system is to supply *consumers* with electricity. Generation connections are the subsequent result of a requirement to achieve this, along with other market externalities imposed by consumer expectations. Thus consumers of electricity should be required to pay for the use of the system, not generators.

As indicated previously, the current open access framework provides strong locational signals for generators. These include connection costs, congestion risk and marginal loss factors. As recently submitted to the review by International Power[10] locational signalling for generators will be better achieved by implementing an average loss factor in settlement while retaining the marginal loss factor in dispatch.

The CEC also expects that this approach will enhance investment certainty, enhance the liquidity of the contract market and strengthen locational signals, thus providing a market benefit with regards to the NEO. We believe that the AEMC should investigate this option further prior to detailed consideration of access related charging mechanisms for generators.

3.5 Package 5: Reduced node market structures

As presented by the AEMC, framework Package 5 will require significant reform to the NEM. At this stage the CEC cannot see that the benefits of reform of this nature in isolation from amendments to the NEO will deliver significant benefits to the market. As a result we do not support a single node market structure. Despite this, we expect lessons from markets with high penetrations of mixed renewable generation technologies will be invaluable, should the AEMC determine that market reform of the extent proposed in Package 5 be required.

[10] International Power GDF Suez, First Interim Report preliminary submission, p. 7.

4 Planning

4.1 Establishment of a NEM-wide planning body

Following the passage of the 20% RET and Clean Energy Future legislation transmission planning is expected to present a significant challenge. Due to the distributed nature of renewable energy resources there is likely to be a need for significant enhancements to inter-regional planning. As renewable penetration increases planning bodies will require greater visibility of opportunities to achieve market benefits across regional boundaries to plan what is an essential service to consumers.

In principal the CEC supports the Victorian Department of Primary Industries' (DPI) position[11] that a NEM-wide system planner should be instated. While the planning methodology applied by that body should be the subject of further consultation, there is an expectation that a 'non-profit' planning arrangement would enhance the market with respect to the NEO for the following reasons:

- Although regulated by the AER and the ACCC a monopoly for-profit business will act in their own interest rather than to the benefit of the NEM, thus the profit objectives of these businesses distort the market and create a barrier to the realisation of the NEO.
- There are incentives for TNSPs to alter investment timings to improve profits within different regulatory periods.
- There are incentives for TNSPs to select transmission solutions over alternative non-network solutions such as generation or demand.
- As TNSPs receive a regulated rate of return on their capital expenditure there are incentives for over-capitalisation on investments rather than the delivery of cost-efficient outcomes.

Such a planning body must be independent of jurisdiction and of profit based interests, as with other planning authorities for essential services. The body will be required to have clear remit and authority over jurisdictional based TNSPs with the outcome being improved trade between states; strengthening of interconnectors and a holistic view of energy trade.

[11] Victorian Department of Primary Industries (DPI), Directions Paper submission, p. 7.

5 Connections

5.1 Connection negotiations

CEC members have raised concern about the frameworks under which negotiated transmission services are negotiated with TNSPs. Although regulated by the AER, these frameworks generally present the negotiation process with respect to the TNSPs obligations under clause 6A.9.5 of the rules, which requires the production of a framework document for approval by the AER. The CEC agrees with the AEMC[12] that a disconnection exists between the rules' provision of the connection process in Chapter 5 and the economic regulation of services in Chapter 6A of the rules. Further, this disconnection is evident in the AER approved negotiating frameworks[13] as they currently stand.

The negotiation frameworks are not structured to facilitate transparent processes and favour the position of TNSPs over connecting parties. Some CEC members believe that the process is so weighted that the term 'negotiation' is obsolete. As there is no effective channel of recourse supporting the connecting party they have no power and are forced to agree to TNSP terms to finalise a connection[14].

In particular with regards to the provision of commercial information, negotiation frameworks are structured for the TNSP to make two separate requests to the connecting party, whilst the converse only provides for a single exchange of commercial information[15]. No provision is made for the connecting party to access additional commercial information from the TNSP implying that detail is not required, or readily available.

In conjunction, the language provided in the negotiation frameworks is disconnected from that applied in Chapter 5 of the rules. Clause 5.4A(c)(2) of the rules indicates that the TNSP is required to provide to the connection applicant such information as is reasonably requested to "allow the Connection Applicant to fully assess the commercial significance" of a negotiated transmission service offered by the TNSP. However, the negotiating framework documents indicate that this information is provided to enable 'effective negotiations', not to make a comprehensive assessment as intended by Chapter 5.

One of the outcomes of the disconnection between Chapters 5 and 6 in the rules is the general approach by TNSPs to conceal the detail of the costs offered for negotiated transmission services along with the technical requirements for that service. Negotiations with connection applicants are generally based on lumped costs and undisclosed technical requirements.

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[12] AEMC 2011, *Transmission Framework Review*, First Interim Report, p. 288, 17 November 2011, Sydney.

[13] AER, Approved TNSP *Negotiating Frameworks*, see: http://www.aer.gov.au

[14] Infigen Energy Limited, Directions Paper submission, p. 6.

[15] Ibid.

Requests for detailed cost breakdowns and technical standards are usually refused on the basis that the TNSP is not required to provide this level of detail, despite the rules implying otherwise in Clause 5.4A(c)(2).

Independent cost estimates undertaken by CEC members have repeatedly shown that costs provided by TNSPs for negotiated transmission services are significantly inflated from that expected to be realised through a competitive process. In conjunction TNSPs require bank deposits as security bonds for the work to be undertaken. This significantly reduces the risk carried by the TNSP despite requiring a commercial rate of return regardless.

While the negotiation frameworks recognise the arbitration channels offered by Part K of Chapter 6A in the rules connection applicants are extremely hesitant to use this resource. Reasons for this include:

- The negotiation frameworks require that the initiation of this process triggers a suspension of the negotiation process until the dispute is resolved, significantly delaying the connection process.
- Unpredictable delays result in unpredictable costs which can cause the project to fail or be seriously damaged.
- Based on behavioural history from TNSPs generators expect that TNSPs will become obstructionist, should the arbitration process result to the generators favour, resulting in further delays or even the failure of the project.
- A scenario can be created whereby the TNSP is required under Chapter 5 of the rules to allow another applicant to connect ahead of the disputing applicant whilst the dispute process is underway, should the second party move unhindered through the process.

To the knowledge of CEC members this arbitration process has never been tested as a result of the above.

The CEC believes that the frameworks under which negotiations between connection applicants and TNSPs for negotiated transmission services are carried out require review. The objective of this review should be to align the intentions of Chapters 5 and 6 of the rules and to establish equivalent responsibilities with regards to disclosure of the necessary commercial information to *properly enable negotiations to take place* and align commensuration with risk. The CEC also expects that all of the aspects identified above will need to be managed in order to appropriately reform of the arbitration process. The CEC expects that these changes will enhance the ability of the market to meet the NEO.

5.2 Connection services and contestability

The CEC agrees with the AEMC that the rules are ambiguous when defining the services which TNSPs provide to a connecting party. There is also significant deviation in the interpretation of the rules by TNSPs across jurisdictions as a result of this ambiguity. The CEC is submitting that this interpretation varies depending on the economic objective of the planning authority in each jurisdiction.

However, contrary to the assessment of the AEMC (which determined that TNSPs use contestability to determine a non-regulated service), the CEC believes that 'for-profit'

monopoly TNSPs use the definition of non-regulated services in conjunction with contestability[16] to economic advantage by reducing the connecting parties access to contestable works.

In particular Grid Australia's *Categorisation of Transmission Service Guideline*[17] treats negotiated transmission services for the connection of a generator as being the works within the fence line of an existing substation. There is no technical basis for a TNSP to retain this demarcation when the construction of the assets within that boundary is undertaken to the standards outlined by the relevant TNSP.

A contractor could be engaged by an external party and construction practices would follow TNSP derived standards to produce an equivalent technical outcome. Hence the connecting party could retain control of the majority of the physical connection works and the subsequent costs of those works. Contractors would be engaged under a competitive process which is transparent to the connecting party and the TNSP would retain the desired level of quality as specified.

In the experience of some CEC members TNSPs will engage the same contractors as the connecting party, clearly demonstrating that the technical argument for the TNSP to control the works is flawed. In most cases the connecting party is paying an inflated cost to a TNSP because the works fall into a 'negotiated connection services' category. However, this is only a direct result of the TNSP's interpretation of the rules.

In Victoria where transmission planning is undertaken by a 'non-profit' planning body, there is considerable disconnection between negotiated transmission services and connection assets. In practice, and for connection works valued in excess of a cut off value and that do not require a network disruption, the AEMO interprets negotiated transmission services as only being the interface between the connection assets and the shared transmission network. In this case the majority of the connection works are considered contestable, whether inside the substation fence or otherwise. This enables connecting parties to control a larger portion of the connection works and the cost associated with these works.

Thus, while the CEC agrees that the definitions of prescribed, negotiated and non-regulated transmission services require clarification in the rules we believe that an expanded definition of contestable works for connection should be the basis for these definitions. The CEC expects that increased access to contestable works will better enable the market to achieve the NEO and that, where necessary the AER may be required for enforcement of this access.

The CEC also agrees with the AEMC that reform of the connection and negotiation process is required regardless of the outcomes of the review.

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[16] AER, Approved TNSP *Cost Allocation Methodologies*, see: http://www.aer.gov.au

[17] Grid Australia, *Categorisation of Transmission Services Guideline*, V.1., p. 7.

5.3 Economic regulation of connection-related services

As demonstrated above, the CEC agrees with the AEMC that there is significant imbalance in bargaining power for connecting parties when negotiating with TNSPs for the provision of negotiated transmission services. Despite this the CEC does not agree that the proposed options for tighter economic regulation of this process will improve its efficiency with regards to the NEO.

In particular the prescription of costs for connection related services is expected to present a high risk to generator connection costs in the long term. History indicates that prescribed costs tend to become inflated over time as they are subject to review and approval by the AER demonstrating that the AER has not effectively controlled prescribed costs. This characteristic is expected to be reflected over time under prescribed connection cost regimes.

Other options presented by the AEMC, such as enhancement of the dispute resolution process and the negotiation framework may have some merit. However, these aspects will also become self-monitored by market forces should the connecting party have greater access to contestable works. As previously discussed the CEC expects that placing greater limitations on negotiated transmission services will be the best avenue to achieve 'regulated' connection services and the NEO in conjunction.

5.4 Providing and accessing extensions to the shared network

One of the natural outcomes of an increased contribution of renewable generation in the NEM will be the de-centralisation of the generation asset base as areas with rich renewable resources are developed. Significant adaptation of the network is expected to be required as a result. The principles behind access to network extensions and the distribution of access to these extensions by generators will be fundamental to the NEM structure and the achievement of the RET and the further expansion of clean generation in the years beyond 2020. The views of AEMO and Maddocks on this topic (cited earlier in our submission) are particularly relevant here.

The AEMC has previously stated[18] that renewable generation developers are primarily concerned with control of the construction of connection assets under a competitive process. Fundamentally, this control enables a connecting party to manage the project's costs, timeline and subsequent risks. However, we believe that the discussion around extensions has become obscured for the following reasons:

- In the first instance we believe the definition of an extension as presented by Chapter 10 of the rules and quoted in page 161-162 of the report has been misinterpreted by the AEMC and historically by TNSPs. An important characteristic of the definition of an extension in the rules is that it refers to an augmentation of the *transmission network*. In turn the transmission network is defined by the rules as essentially being the

[18] AEMC 2011, *Transmission Framework Review*, First Interim Report, 17 November 2011, Sydney.

transmission backbone – exclusive of any connection assets. Hence an extension can be interpreted as being an augmentation to the transmission network, exclusive of the assets required to connect a generator, and inclusive of assets which strengthen or expand the transmission network backbone.

- Following on from the above we expect that the wording in the NEO is insufficient for the AEMC or the market to realise this interpretation of an extension. As the NEO omits environmental considerations, we expect that the perspective taken by the review will fail to capture the construction of transmission infrastructure or extensions for the long term benefit of consumers in light of such legislation.

On this basis the CEC proposes that any policy framework around extensions should make a clear distinction as to what an extension consists of. The CEC believes that there are in fact two types of augmentation relevant to a generator connection - only one of which is considered an 'extension' as intended by the rules, as follows:

- Connection Assets – consisting of infrastructure which serves a sole purpose for the connection of a generator or transmission customer. A connection asset is usually built to serve a single project only. Often this will be configured with limited capacity elements where the project uses most if not all of the asset's power transfer capacity.
- Network Extensions – consisting of a high capacity transmission infrastructure constructed in order to expand the network to facilitate access to multiple generators or loads to the interconnected *transmission network*. This is an expansion of the transmission backbone, it is thus built to service future growth of the network including both generation and load as necessary. An extension is never fully subscribed from the day it is built. Rather it planned to accept more generation and load at a later stage of the network's development.

In the first case a *connection asset* is constructed, owned, operated and controlled by the connecting party under their generation licence. Although this will typically be constructed for the capacity requirements of the connecting party generation licences may make a provision to obligate further connections if needed. Alternatively, multiple generators could coordinate a connection to make best use of the asset at construction. Connection assets do not form part of the *transmission network* as defined by the rules and thus do not form part of the TNSPs regulated asset base.

A *network extension* can be considered an extension of the transmission network backbone. With regard to renewable generation developments the driver for an extension would be climate change legislation (which was instigated under the pretence of long term social benefit). It would be constructed for the long term benefit of consumers, just like all other network extensions for load and should therefore be funded by consumers to some extent. The capacity of a network extension would be determined based on an assessment of the developable resource and load growth in the relevant area and initially the asset may be over-built, as with any other extension undertaken to supply load.

As indicated in the previous section there is no technical argument for removing contestability from the construction of an extension or connection asset. The network planner could manage the construction of a network extension through a competitive process, and the generator could do the same to develop a connection asset.

This arrangement would remove significant barriers to the large scale deployment of renewable energy in the NEM and would facilitate the objectives of the market externality of climate change polices and in the long term the NEO's economic objectives.

This proposal is in line with our position on the relevance of the NEO as it's presently written. Concurrently, the CEC also expects that the outcome of the AEMC's recent Scale Efficient Network Extensions Rule Change[19] would have provided an appropriate means to achieve this objective should the NEL have reflected the objectives of parallel market externalities to this effect.

[19] AEMC, 2011, *Scale Efficient Network Extensions* Rule Change, see: www.aemc.gov.au.

6 Summary

Once again the CEC thanks the AEMC for the opportunity to consider the review and to prepare this submission. We welcome the reform ideas proposed by the AEMC and the wider industry, whilst recommending that caution be exercised when considering proposals for significant reform ahead of proposals for improving the current framework. The following points summarise our submission.

- The CEC expects that submissions to the review could easily fail to capture the consensus of all stakeholders due to the timing and time period allowed for. In particular smaller organisations with fewer resources, and which make up a significant portion of stakeholders will remain poorly represented.
- Government policies framed to increase renewable generation and reduce anthropogenic emission are expected to transform electricity supply in the NEM. A simple review of the planned generation projects in the NEM on the AEMO website provides a clear market signal towards clean energy development in the coming years. On this basis the CEC believes that this market signal should be a fundamental characteristic of reform of the NEM.
- The CEC is concerned that the NEO does not reflect relevant external policy objectives, and as a result the NEM is likely to develop in a manner that is out of step with climate change legislation. It is likely that the review and future market developments will have significant shortcomings if these objectives are not consistent.
- We note that the issue of congestion management is highly complex. A question remains as to the need for the level of reform proposed by the AEMC. There are other options noted in the review which the CEC expects can make significant improvements to the current arrangements whilst better servicing the NEO. These areas should be the focus of reform in the first instance over significant efforts to impose complex congestion management schemes.
- The CEC expects that proposals for the use of generation planning standards for TNSPs are expected to present significant risk of over capitalising in the shared network and significant delays in the deployment of new generation.
- The provision of firm access for generators could result in significant disincentive and delays in the deployment of renewable generation. In conjunction it is not clear whether this provision would increase or decrease congestion as the locational incentives for generators are unclear without significant further consideration, which has not yet been undertaken.
- Generators have always been and will continue being located relative to resource availability. However, there is a significant difference in market position between incumbent generators and new-entry renewable generators. With the latter locating remotely to significant transmission infrastructure. The CEC expects that reform to the electricity market should consider a mechanism for the enhancement of access to these new entry generators.

- The current open access framework provides strong locational signals for generators. These include connection costs, congestion risk and marginal loss factors. The CEC suggests that locational signalling can be enhanced by implementing an average loss factor in settlement while retaining the marginal loss factor in dispatch. This mechanism will concurrently enhance investment signals, thus providing a market benefit with regards to the NEO. We believe that the AEMC should investigate this option further.
- The CEC supports the instatement of a NEM-wide 'non-profit' transmission planner as this will enhance the visibility of inter- and intra-regional planning decisions for the greater benefit of the NEM and subsequently, the NEO. This planning body would require significant power which could be exercised to enforce TNSP compliance on planning matters.
- While the CEC agrees that the definitions of prescribed, negotiated and non-regulated transmission services require clarification in the rules we believe that an expanded definition of contestable works for connection should be the basis for these definitions. The CEC expects that increased access to contestable works by connecting parties will better enable the market to achieve the NEO and that, where necessary the AER may be required for enforcement of this access. The CEC agrees with the AEMC that reform of the connection and negotiation process is required regardless of the outcomes of the review.
- The frameworks under which negotiations between connection applicants and TNSPs for negotiated transmission services are carried out require reconsideration, irrespective of the outcomes of the market frameworks under review. The objective should be to align the intentions of Chapters 5 and 6 of the rules and to establish equivalent responsibilities with regards to disclosure of the necessary commercial information to *properly enable connection negotiations to take place* and align commensuration with risk. The CEC also expects that significant reform of the arbitration process will be required in order to provide an effective mechanism for connecting parties to access.
- Policy frameworks around network extensions should make a clear distinction as to what an extension consists of. The CEC believes that the market has overlooked the intended meaning of an extension as defined in the rules. On this basis we submit that are two types of augmentation relevant to a generator connection. *Connection assets* are dedicated to a single customer and can be owned and operated by that customer. A *network extension* is part of the transmission network and is owned by the TNSP and forms part of the TNSPs regulated asset base. This position differs significantly from that outlined in the AEMC's First Interim Report.