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18 May 2010

Dr John Tamblyn
Mr Neville Henderson
Mr Brian Spalding
Australian Energy Market Commission
PO Box A2449,
Sydney South NSW 1235

Dear Commissioners,

National Electricity Amendment (Scale Efficient Network Extensions) Rule 2010

Alinta Energy Limited (AEL) welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) proposed rule change to introduce Scale Efficient Network Extensions (SENE) within the National Electricity Law and Rules. Consideration of the SENE rule change proposal reflects the Ministerial Council of Energy's request to have the AEMC initiate a rule change process to meet a recommendation from the AEMC's *Review of Energy Market Frameworks in Light of Climate Change Policies* (the Report).

In AEL's (formerly Babcock and Brown Power) submissions to the AEMC's *Review of Energy Market Frameworks in Light of Climate Change Policies*, we were broadly supportive of the SENE, formally the Network Extensions for Remote Generation (NERG), providing that any rule change proposal:

- adequately addressed the obvious risks of increasing congestion on the shared network from connecting SENE clusters;
- did not create a new or special rights for SENE generators – unavailable to existing generators;
- was technology neutral in its application.

The AEMC's SENE proposal does not address these issues. On this basis, and as outlined in this submission, AEL does not support the SENE rule change proposal. Moreover, the SENE rule change proposal in its current form does not meet the National Electricity Objective (NEO), which requires that for any proposed rule change to be accepted it must:

> "*...promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:*
>
> *a) price, quality, safety, reliability and security of supply of electricity;*
> *b) the reliability, safety, and security of the national electricity system.*"

The SENE proposal, if implemented, would negatively impact the NEO by:

- increasing transmission network costs to consumers by having consumers pay for the revenue requirement for transmission connection assets built to connect SENE zones unable to be recovered

from actually connected generation – these increases in transmission costs could last for a maximum of 40 years or up until that point in time that new generation connects in the SENE zone. In the absence of a SENE consumers would not face these increases in costs.

- increasing SENE zone connections is expected to increase the connection of renewable power generation – predominately wind generation, which is intermittent. If the Australian Energy Market Operator's planning approach is taken as a guide when examining reliability and security of electricity supply for the National Electricity Market (NEM) the capacity of wind generation is heavily discounted (between 5% and 10% of capacity is counted towards reliability and security purposes) due to it's ***unreliable*** nature. AEL contends that facilitating the accelerated connection of clusters of remotely located wind generation will negatively impact the reliability, safety and security of the national electricity system.

- increasing SENE zone connections for clusters of less remote power generators with ***reliable*** fuel sources would result in the provision of reliable and secure electricity supply. AEL concedes that these types of SENE zones may pass the NEO, although such SENE zones are likely to be connected under the current NER arrangements.

AEL contends that this a conceptual or structural weakness in the SENE rule change proposal, which can not be solved by the introduction of operational or procedural amendments. Moreover, AEL considers that the effective and efficient delivery of transmission services, which is expected to be reviewed by the AEMC under its Transmission Frameworks Review, represents a more appropriate process to consider whether the connection of renewable generation can be facilitated in a manner that meets the NEO.

AEL also does not support the AEMC's assessment framework being applied to examine whether the SENE rule change proposal meets the NEO, in particular, the AEMC's choice of status quo within the existing NER to compare the SENE proposal. Firstly, the AEMC's efficient investment in electricity services, principally the connection assets framework, has ignored critical elements of the NEO, namely:

- quality, reliability and security of supply of electricity
- reliability, safety and security of the national electricity system.

With no explicit consideration of these NEO elements the AEMC will be overstating any positive contribution that the SENE proposal would be forecast to make to the NEO. Importantly, AEL considers it impossible to estimate investment or costs associated with the efficient provision of connection assets without setting a standard for quality and reliability for connection assets.

Where the NEO included an objective that related to the promotion of renewable electricity supply then the SENE rule change proposal would be more likely to be considered as contributing to the NEO. Without this linkage, SENEs represent a distortion to the NEM that reflects the public policy objective of achieving the RET rather than making amendments to the NER ensuring the national electricity system meets the NEO.

AEL has sought to address each of the AEMC's proposed questions around the SENE proposal rule change by identifying, through illustrative examples, how the SENE rule proposal does not meet the NEO. This is contained at attachment A.

Should you wish to discuss this further please contact James Reynolds on 07 3011 7646 or 0438 668 680.

Yours sincerely

Scott Turner
Executive General Manager
Energy Markets
Alinta Energy Limited

Attachment A

Examining how SENE's might work, compared to the current arrangements, to determine which approach meets the NEO without explicitly considering all aspects of transmission was challenging. To make a meaningful assessment AEL utilised AEMO's *Network Extensions to Remote Areas Part 2 – Innamincka Case Study* to examine the likely costs and benefits expected from the AEMC's SENE proposal.

In examining network related costs and revenue recovery, AEL took the approach that while the SENE would be ring-fenced from NSPs prescribed services the form of revenue recovery would follow the building blocks cost to serve approach. To this end we assumed the NSPs would recover SENE revenue by the following assumptions:

- return on assets of 10% of investment;
- depreciation at 40 years (2.5%); and
- operating & maintenance of 2.5%

The balance of this document follows the structure of the AEMC's consultation paper.

Efficient investment in electricity services

1 Will the proposed framework improve efficiency in the construction of connection assets?

AEL does not consider that SENEs will deliver more efficient outcomes in the construction of connection assets. A significant risk of SENEs is that they may lead to:

- premature investment in both new renewable generation and new connection assets
- investment in new connection assets that remain under-utilised
- congestion in shared transmission or distribution networks immediately linked to the SENE connection assets.

AEMO's *Network Extensions to Remote Areas Part 2 – Innamincka Case Study* identifies a range of alternative network investment options to connect the Innamincka generation. AEL has assumed that under the SENE proposal the transmission connection assets would be built initially to ultimately meet the expected 5,000MW of generation.[1]

Adopting the same TNSPs revenue requirement assumptions as per AEL's stylised SENE benchmarks we found that under the range of options if only 500MW of generation connects then consumers could be paying an additional $12 billion in connection charges, which would represent a dead weight loss to society. Table 1 outlines a summary of AEL's findings.

[1] http://www.aemo.com.au/planning/0400-0005.pdf

Table 1 – Indicative Transmission Network Costs – Innamincka Case Study

Generation		Option 1 AC INN-ADL-MEL-SYD $ B	Option 2 AC INN-MEL- SYD $ B	Option 3 AC INN-WSD-SYD $ B	Option 4 HVDC INN-ADL-MEL-SYD $ B	Option 5 HVDC INN-MEL-SYD $ B	Option 6 HVDC INN-WSD-SYD $ B
	500	1.15	1.25	1	0.4	0.85	0.75
	5,000	5	4.6	4.2	3.4	3	2.8
Indicative TNSP capital investment		$5,000	$4,600	$4,200	$3,400	$3,000	$2,800
Implied Total Revenue Requirement		$750	$690	$630	$510	$450	$420
Return on assets (WACC = 10%)		$500	$460	$420	$340	$300	$280
Depreciation (40 yrs)		$125	$115	$105	$85	$75	$70
O & M (2.5%)		$125	$115	$105	$85	$75	$70
Revenue recovery							
Customers M $		$675	$621	$567	$459	$405	$378
Generators M $		$75	$69	$63	$51	$45	$42
SENE Revenue Increase % of TNSPs* AARR		44.41%	40.86%	37.30%	30.20%	26.64%	24.87%
Estimated required increase in retail tariffs		6.66%	6.13%	5.60%	4.53%	4.00%	3.73%
If no further generation arrives							
Present value of deadweight loss M		$12,075	$11,109	$10,143	$8,211	$7,245	$6,762
A further 1,000MW generation arrives							
Present value of deadweight loss M		$6,708	$6,172	$5,635	$4,562	$4,025	$3,757
Revenue recovery - 1,500MW							
Customers M $		$375	$345	$315	$255	$225	$210
Generators M $		$300	$276	$252	$204	$180	$168
SENE Revenue Increase % of TNSPs* AARR		24.67%	22.70%	20.72%	16.78%	14.80%	13.82%
Estimated required increase in retail tariffs		3.70%	3.40%	3.11%	2.52%	2.22%	2.07%

* - Annual Aggregate Revenue Requirement for Transgrid, Energy Australia, SP AusNet and ElectraNet

If only 1,500MW finally connects to the SENE zone then consumers would pay between $5.2 and $9.3 billion in additional charges for un-used connection assets. This again would represent a deadweight loss to society. The failure to utilise the entire capacity of the SENE presents itself as a substantial risks, which would be an inefficient outcome in terms of the efficient construction of connection assets under the SENE.

At a SENE level or participant connecting level the SENE framework does provide efficiencies to ensure that connection assets of sufficient scale are built to meet forecast requirements of generators connecting. However, AEL does not consider that these individual benefits out weight the material costs where the SENE generation does not arrive as expected or if at all.

Importantly, from AEL's perspective, the current NER provides the appropriate consideration of efficiency of construction of connection assets. Under the current NER, AEL could see the Innamincka generation passing the reliability requirements of the RIT, once the generation technology is commercially proven[2], and with a price on carbon emissions. If the Innamincka area was substituted for a Gas generation SENE, supplying the Surat Basin, then its also likely that this cluster would meet the reliability limb of the RIT-T.[3]

A Wind generation SENE is the only type of cluster that would be unlikely to pass the reliability limb of the RIT-T. For the Wind SENE zone to achieve the same level of reliable electricity supply to emerging customer loads as the Gas or proven Geothermal SENE zone the Wind SENE zone would need to have installed sufficient capacity to assure the reliable supply to meet the expected load. For example, if AEMO's reliability factor is applied to installed wind capacity (up to 10% of wind generation is counted towards meeting USE in NEM regions) then for the Wind SENE zone to have the same reliability as the Gas SENE zone, providing the basis to pass the reliability element of the RIT-T, there would need to be 9,600MW of wind installed to meet the 480MW of load.[4]

Where the SENE framework allows for Wind SENEs to emerge then the critical efficiency question is whether the potential loss to the community of paying for un-used connection assets capacity ahead of SENE generation arrival is less than the benefits of having more un-reliable generation capacity on the electricity supply system.

1.1 Under the existing rules, are inefficiencies likely to arise as a result of the significant new investment in renewable generation?

AEL suggests that the AEMC have effectively skewed its decision making framework to ensure a positive answer to this question as it is clear that for significant new investment in renewable generation the existing NER would result in renewable energy resources that are significant distances from existing transmission and distribution networks not gaining connection. The existing NER does this because the cheapest and most popular renewable generation, wind, is intermittent, and unreliable, and does not contribute to reliability and security of electricity supply within a national electricity system.

If the goal is to ensure entry of significant new investment in renewable generation then the current rules are efficient as they will connect reliable renewable generation that is required to provide electricity supplies. The current rules will not connect remote unreliable renewable generation. Importantly, the NEO explicitly requires that the AEMC examine rule proposals on the merits of being able to improve consumers' long term interests having regard to price and quality of electricity supply services, and more

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2 Geothermal would need to be commercially proven under the NER and under the proposed SENE framework.

3 In a regulatory environment where: carbon was priced; nuclear generation was not an option; no carbon capture and storage; and no more coal fired power stations would be approved – then reliable forms of generation to meet energy load would pass the existing arrangements.

4 Wind farms capital costs have been excluded from AEL's analysis. A wind farm's capital costs are around $2.8 million per MW installed – with a 10% reliability factor then to serve a 480MW load requires 4,800MWs of wind, or $12,000 M or around $28 million per MW of load served.

critically, the reliability and security of these electricity supply services within the national electricity system.

The fact that the existing NER is not able to connect significant unreliable renewable generation cannot be considered inefficient under the NEO. AEL suggests that the only means that the AEMC could conclude that the current NER is inefficient is to make assumptions around the imposition of a carbon tax or Emissions Trading Scheme (ETS) of a sufficient level that enables the AEMC to focus their attention on the 'long term interest of consumers' element of the NEO in order to support its narrowing of the NEO to ignore price, quality and reliability and security elements of the NEO.

Were the AEMC to make assumptions around carbon costs activating the 'long term interests of consumers' element of the NEO then it is likely that there is scope to consider the current outcomes provided by the NER to be inefficient. Importantly, AEL considers that examining the existing NER through this element of the NEO would also need to address long term efficiency trade-offs between:

- fast tracking connection assets to connect significant renewable energy generation, predominately wind;
- the extent that this investment 'drag-forward' delays or eliminates opportunities for significant investment in other renewable energy generation such as geothermal, wave and solar technologies, which may be located closer to loads not requiring the same level of connection assets.

1.2 If so, do the costs associated with these inefficiencies justify amendments to the rules?

AEL considers that there are no inefficiencies in the existing NER. AEL suggests that the AEMC would be better to examine this proposed rule as part of its Transmission Frameworks Review or after the implementation of a carbon abatement scheme that enhances the value of renewable generation.

1.3 Do you agree that the proposed rule change will lessen duplication risk of inefficient duplication of assets?

AEL considers that at the private participant level or for the SENE cluster of generators the SENE proposal is likely to reduce the risk of inefficient duplication of assets. However, AEL suggests that taking a broader perspective of the costs and benefits of the SENE proposal would not meet the NEO.

At the NEM level the SENE proposal may encourage the building of connection assets, which may be under-utilised or would otherwise provide a greater economic return if the connection assets were built for other generators or to supply load. From AEL's perspective while the SENE may reduce duplication at the participant level, which provides efficiencies to the overall market (we have reservations whether these efficiencies will make it consumers[5]), we note that at a market level an investment in a SENE proposal may foreclose the benefits to be gained by making an equivalent transmission investment in a non-SENE zone or in future SENE zones. The AEMC's analysis needs to consider the impact of these outcomes on the overall contribution of the proposed SENE framework to the NEO.

<u>Mitigating the risk of stranded assets under the proposed framework</u>

The key features of the SENE proposal is that it allows:

[5] NEM jurisdictions where electricity retail prices are still regulated by jurisdictional regulators the pass through of the RET liability by a range of approaches, either annual REC price review or via LRMC – if the clusters' REC costs are less than this regulated pass through then consumers do not capture any efficiency.

- scaled connection assets to be built in 'anticipation' of new generation to be built within the SENE zone without the current checks and balances around the 'firmness' or otherwise of that new generation
- when new generators connect and start using connection assets they pay
- any un-used connection asset capacity is recovered from consumers.

Asset stranding, as a consequence of business' making decisions to invest, is a good thing. Asset stranding provides decision makers with clarity on the outcome when a poor decision is made. The most important aspect to asset stranding is that the consequences of asset stranding are carried by the party that makes the original decision about the investment.

In the case of the NEM, this should be project generation proponents building assets, and TNSPs and DNSPs building connection assets to supply them. Generally, if these participants' interests are completely shielded from their decisions then the consequences to society's efficient allocation of scarce resources is likely to be less effective then it otherwise would have been. Contextually, AEL considers that the AEMC in proposing the SENE have confused these concepts.

Firstly, TNSPs and DNSPs, under the proposed SENE face no 'asset stranding risk' – under any outcome they will recover the full costs of their investments either through charges placed upon generators or customers. From an incentive perspective, under the SENE proposal without any asset stranding risk TNSPs and DNSPs are more likely to over-build. From AEL's perspective with the AER only having the right to 'optimise' assets through the application of prudency and efficiency tests once, when approving capital expenditure, TNSPs and DNSPs benefit greatly by overbuilding connection assets. The SENE proposal would hyper-incentivise these interests.[6]

Prospective beneficiaries of the SENE zones do not face asset stranding risks. In fact, the SENE proposal effectively 'nationalises' any asset stranding risk that a project proponent may face by passing this risk completely to consumers. A post-SENE proposal investment climate provides project proponents with the incentive to game the arrangements to ensure:

- connection assets installed are greater than required (pre-SENE framework)
- timing of arrival is tuned to REC market conditions and derivative market for RECs
- the required quality of transmission services.[7]

This type of investment climate is likely to have renewable project proponents seeking to build larger generation units, which may be further away from the shared network then previously considered. Moreover, to have new power generation capacity being invested in the NEM on the basis of the RET market rather than on the need for reliable capacity represents a complete distortion to the NEO.

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6 The ability of the AER to review actual and forecast SENE costs every 5 years does not represent an asset optimisation process, in fact, if actual costs are greater than forecasts costs, which may be likely as NSPs will be incentivised to choose a Transmission technology to service the SENE for next 50 years.

7 Given wind generation provides limited reactive power, voltage ride through and other important non-energy services – the unitised costs of SENE connection assets are likely to be much higher than non-intermittent connection assets. Moreover, with TNSPs and DNSPs facing no assets stranding risks its likely that they will build the best bundle of connection assets to ameliorate any negative impacts that intermittent SENE generation clusters may have on the shared network.

The SENE framework asks consumers to pay for un-used SENE connection assets, which results in consumers carrying the stranded asset risk, and facing the dead weight loss if generation proponents and NSPs get their investment decisions wrong. If SENE's connection assets are built and generation fails to arrive as forecast or if at all then customers would throw away, based on AEL's Innamincka Case Study, an extra $12 billion to pay for unused connection assets. From a dynamic efficiency perspective, the deadweight losses from having an un-used connection asset may also result in substantial opportunity costs to prospective alternative renewable generation technologies expected to arrive in the 2015-2025 period.

AEL has examined the AEMC's questions having regard to the concepts of asset stranding outlined above.

2. Will SENEs be efficiently sized and located so as to minimise risk to consumers?

2.1 Are NSPs likely to construct SENEs that are efficiently sized and located? Is there a significant risk of over-investment?

AEL considers that the SENE proposal creates interests which incentivise over-building of connection assets. AEL expects the over-build to occur in the following ways:

- emboldened by having connection assets built with consumers wearing the costs, generation proponents could seek connection for larger generation capacity then planned prior to the SENE proposal

- TNSPs and DNSPs, who like other network providers around the world, have limited experience in managing networks with significant levels of intermittent generation will overbuild connection assets, including supplementary assets to provide non-energy services that intermittent generators fail to provide.

The AEMC proposes that the AER manages the consumers' risks. The AER in its role of regulating TNSPs and DNSPs face significant information asymmetries, which can not be fixed by better regulation as TNSPs and DNSPs simply know more about their cost structures than the AER. In regulating SENEs the AER will face the combined information asymmetry of TNSPs, DNSPs and project proponents. Better regulation will only increase the deadweight loss to consumers through an increase in compliance costs, which in the end will simply be passed through to consumers.

The AEMC seems to be suggesting that the SENE connection assets will not form part of the regulated asset base, but the TNSPs and DNSPs revenue recovery are likely to be determined as per the building block cost of service model. Regardless of the regime, the existing NER does not provide the AER with the ability to 'optimise' a TNSPs and DNSPs regulated asset base. Put simply, once a TNSPs and DNSPs capital expenditure is reviewed by the AER for prudency and efficiency then it can not be reviewed again. [8] If the AER was able to review SENE connection assets continuously for optimisation this may mitigate some risks to the consumer.

AEL suggests that a possible solution for the AEMC to protect consumers would be to allow the AER to 'optimise' SENE assets. However, given that this would result in the SENE arrangements being inconsistent with the regulation of monopoly networks services the issue of optimisation may be best accommodated within the AEMCs Transmission Frameworks Review.

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[8] See footnote 6.

2.1 Are the risks associated with asset stranding outweighed by the potential gains from efficiently sized network extensions?

From AEL's perspective it is not about mitigating risks of asset stranding – its comparing the potential costs of locking in a dead weight loss to society compared to the expected benefits to be provided by building connection assets early to meet new generation. Taking the Innamincka Case Study example, the benefits from new significant renewable generation being connected early through connection assets, but ultimately not utilising these connection assets, would need to be greater than the estimated potential loss of the un-utilised connections – between $12.7 billion and $3.7 billion.

2.2 Does the rule change, as proposed, provide sufficient checks and balances to minimise risks to consumers?

The proposed SENE does not provide sufficient checks and balances to minimise the risks to consumers, and to minimise the potential loss of society's resources. AEL does not consider that the current proposal is able to be amended to mitigate this risk as this would require moving asset stranding on to the decision makers best able to manage this risk – SENE generation proponents and TNSPs/DNSPs. This is seen as being a significant problem with the current regime. A more appropriate alternative is to consider SENEs within the broader Transmission Frameworks Review.

Alternative mechanisms for managing risks

3 Are alternative risk mitigation measures more appropriate?

AEL considers that the SENE proposal creates powerful incentives which can only result in substantial dead weight losses to consumers. Moreover, we do not consider that there are 'effective' alternative risk mitigation measures within the current SENE proposal that would adequately keep a check on the behaviours that are likely to emerge as a function of these incentives.

Critically, as previously illustrated in Table 1, the scale of the potential losses to consumers is substantial. If the Innamincka capital costs are taken to be indicative of the connection assets of other similar SENE clusters, and six of these SENE zones are identified and connected, but experience 50% underutilisation then customers could be carrying a deadweight loss of between $20 and $40 billion. AEL maintains that there are no market scenarios or carbon abatement assumptions that would provide sufficient benefits, in the long term interest of consumers from the SENE proposal that would counter balance these potential costs. It is difficult to see how the AEMC could consider that the SENE proposal meets the requirements of the NEO in light of these potential risks.

Were the AEMC to dismiss AEL's interpretation of the NEO then we submit the following alternatives to ensure that TNSPs, DNSPs and SENE generators face reasonable asset stranding risks:

- amend the NER to allow the AER to optimise SENE connection assets – if it emerges that generation does not arrive then consumers do not incur the full consequences
- allow TNSPs and DNSPs to seek an upfront capital contribution or prepayment from SENE proponents, and where the SENE generator does not arrive then the TNSPs and DNSPs should be able to apply these funds to reducing the impact on customers – AEL considers that is likely to incentivise TNSPs and DNSPs to make a judgement as to the likelihood of prospective SENE generators to connect

- amend the NER, ensuring a minimum percentage, of the SENE capacity is contracted by SENE generators

- provide any SENE generator to buy the un-used connection asset capacity, and sell this capacity – where new SENE generation does not arrive as forecast, then the TNSP or DNSP could auction the capacity to another registered market participant.

AEL suggests that the AEMC consider applying each of these alternatives. However, given that these arrangements would be specific only to the SENE arrangements this would be inconsistent with NER, in terms of no optimisation generally allowed in the regulation of monopoly networks services, and existing generators have no means of buying un-used connection asset capacity. AEL maintains that the SENE proposal, and alternative risk mitigation is best addressed as part of the AEMC's broader Transmission Review.

Alternative configurations of SENEs

4. Will generators be able to connect to the SENEs in the most efficient configuration?

For this question, AEL supports the approach advocated in the National Generators Forum (NGF) submission to the AEMC consultation report.

4.1 Should the draft rule allow for configurations other than a "hub and spoke"?

For this question, AEL supports the approach advocated in the National Generators Forum (NGF) submission to the AEMC consultation report.

4.2 If so, how could the charging arrangement best promote efficient locational decisions by generators and by NSPs in locating SENEs?

AEL broadly supports the NGF's submission to the AEMC consultation paper on this question. AEL also provides the following observations relating to the AEMC's SENE proposal.

For connection assets, particularly, transmission connections assets the range between incremental and stand-alone costs, theoretically, should be substantial – and if prices fall within this range then economically the price is considered to be 'efficient'. On this basis an efficient price may have no value in terms of having the scarce connection asset capacity go to the party that values it most.

A potential means to resolve this problem would be to let the TNSP and DNSP auction off un-used connection asset capacity that becomes available as a result of expected SENE generators not arriving. Such an auction would allow the TNSP and DNSP to 'sell' the capacity to the participant that values it most – which would break the nexus of trying to set an efficient price in the face significant differences in costs benchmarks. This combined with a form of pre-payment or capital contribution by prospective SENE generators would provide a means for sharpening the pricing signals to SENE generators.

At a practical level, TNSPs and DNSPs comply with the NER's pricing requirements by applying:

- a detailed cost (revenue) allocation process driven by grouping of assets by transmission or network service or customer

- setting of prices through a 'fully distributed cost' (FDC) approach, which conceptually is driven by measured capacity and use (AEL understands that the most common pricing package is Tprice).

NSPs practical implementation of network pricing does not approximate either incremental or stand-alone cost prices, although it is arguable that FDC is more likely to lie closer to the stand-alone cost test. Consequently, any behavioural benefits that the AEMC were expecting from having prices set between this efficient pricing band may prove to be illusionary, and where prospective SENE generators are simply required to pay a stand alone cost price.

4.3 Should the costs of the SENE be spread across all generators irrespective of where they locate?

AEL is uncertain as to how the AEMC proposes to spread the SENE connection asset costs amongst SENE generators and customers. Where a SENE zone mimics the AEMC example (a) in Figure 6.1 (page 18) then the sharing of connection asset costs is relatively straight forward. However, the remaining type of SENE connections, as outlined in Figure 6.1, look complex, and without effective review processes will incentivise deferment of connection to 'free ride' or result in SENE generators being constrained off the SENE connection assets before they arrive.

Efficient use of electricity services

5. Will capacity be efficiently allocated to connecting generators?

AEL supports the AEMC's proposal will allocate capacity efficiently for SENE connecting generators.

5.1 Will the framework promote the efficient allocation of capacity on the SENE?

Once the capacity of the SENE is fully utilised the AEMC proposes the next or subsequent connecting generators to:

- fund the augmentation to the SENE to increase the connection assets power transfer capability; or
- pay compensation where the connecting generator causes the congestion of existing connected generators; or
- a combination of the above.

AEL notes that the AEMC considers that this approach is consistent with existing NER requirements. There is no compensation scheme that operates within the NEM where connecting generators that cause constraints to available network capacity pay to existing generators compensation. Section 5.4A of the NER provides the regulatory framework to identify such occurrences, and provide compensation, but in AEL's experience, including recent attempts with relevant NSPs, TNSPs do not consider these requirements to be compulsory but are optional – most NSPs opt not to use the framework.

If SENE connected generators are provided with a 'new' right, which allows them to be compensated by subsequent connecting generators then there would exist a fundamental difference in the access rights being afforded between SENE generators, and non-SENE generators. Moreover, as the SENE proposal is technology neutral the inclusion of this new right provides additional incentive for all new connecting generation to seek classification as a SENE cluster within either the transmission or distribution networks as a means of:

- having sufficient connection assets built early and with economies of scale
- avoiding any asset stranding risks
- being compensated where subsequent SENE generators constrain off the existing SENE generators.

This is likely to increase the extent of AEMO and AER workload in reviewing and identifying legitimate SENE clusters.

5.2 More generally, will the SENEs framework result in efficient outcomes in the wholesale market?

The AEMC's proposition that the SENE framework would promote increased efficiency in the wholesale energy market is predicated on the concept that the SENE framework would facilitate more connection of remote generation that otherwise may not have connected, increasing competition and reducing prices. AEL considers that the AEMC's proposition is misguided, and narrow in perspective failing to take into account broader considerations.

The SENE framework may very well connect more remote generation than would not have connected under the existing NER, however, we expect there to be costs: to SENE generators from paying the stand alone cost price for connection assets; or consumers paying the revenue requirement to NSPs for un-used SENE connection assets; or the potential that the new remote SENE generation could potentially erode the NEM's ability to supply reliable and secure electricity supplies. It is likely that these costs would be greater than any benefit from more competition.

The AEMC needs to also capture the costs or loss to the NEM where new remote SENE generation potentially erodes the NEM's ability to supply reliable and secure electricity supplies. The RET and the SENE framework, if implemented in its current form, is likely to facilitate increased investment in remote generation. AEL suggests that where this generation is intermittent it is likely to reduce the reliability and security of electricity supply in the NEM.

AEL suggests that the reduction in reliability and security of electricity supply is likely to occur because:

- the dominant renewable generation technology that would benefit substantially from the SENE, will be wind, which is intermittent and does not contribute to the reliable supply of electricity

- the current NER requires that generators which contribute reactive power, inertia, and voltage stability (non-energy services) through generators performance standards, are not directly renumerated for these services. If more remote generation connects, displacing existing generators in the bid stack through reduced dispatched prices in the wholesale energy market, then eventually there is likely to be a loss in the amount of non-energy services provided to the market.

Importantly, AEL maintains that the short term benefit of lower wholesale energy prices may not be sufficient to counter balance the potential costs and losses to consumers when electricity supplies are less reliable and secure or there is the requirement to make substantive investment in other electricity supply assets to supply those non-energy services currently being supplied by existing generators for free. AEL suggests that the AEMC's review of SENE framework and likely improvement to efficiency of the wholesale energy market needs to take into the impact on electricity supplies in terms of reliability and security as per the NEO.

5.3 Could an interruptible generator connect to the SENE? If so, what arrangements would need to be in place to ensure the full cost of the SENE can be recovered?

AEL refers to its response to question 5.1

<u>Distinguishing SENEs from the shared network.</u>

6 How could loops to the shared network and load connections to SENEs best be accommodated?

From AEL's perspective the AEMC's examination of how a SENE could be best accommodated in the event of looping or interaction with the shared networks is evidence that the AEMC's SENE proposal needed to examine the interactions between SENEs and the shared network. The fact that the AEMC has had to examine various options, including 'ring-fencing' the SENEs from being regulated as per the shared network in order to keep the SENE separate reflects the need to consider SENE as part of the broader Transmission Frameworks Review.