Mr Ben Davis
Project Leader
Contestability of Energy Services Demand Response and Network Support
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

9 February 2017

Dear Mr Davis

Consultation Paper National Electricity Amendment (Contestability of Energy Services Demand Response and Network Support)

The Australian Energy Council (the AEC) is an industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia, and sell gas and electricity to over 10 million homes and businesses.

The emergence of services that provide benefit to the customer from their premises reflects a turning point in the electricity supply sector. As well as customer benefit, services such as small scale embedded generation, storage and demand management tools can also provide support back to the grid. These are commonly referred to as behind the meter, or BTM, services. Of equal importance is that this emerging class of energy services is not limited to BTM installation, and that grid connected storage or demand management assets may also create both active and reactive energy that are not exclusively for the conveyance of energy within a distribution or transmission network.

The AEC also recognises that energy storage has enormous and immediate potential. In its 2015 report to the AEMC, CSIRO found that energy storage could be viable for households in seven years under current tariff structures[1]. CSIRO also estimates that energy storage in the NEM could compete against gas within 20 years[2] . This implies the potential for thousands of MW of storage, and further it identifies that the value of storage is large. The AEC's view, consistent with the National Energy Objective (NEO), is that the long term interests of customers will be best served by arrangements that facilitate the provision of investments in these services of the right size, location and operational characteristics that maximise economic benefit. Competitive markets represent the best model in this regard.

Competition is the best method to efficiently allocate resources. Increasing levels of intermittent generation in the market requires dynamic price signals, so that markets can adjust and respond accordingly to meet peak demand. This means that the DNSP is not the best party to make the investment decision.

The AEC's rule change request was premised upon the following principles:

- Competition is the best mechanism for providing goods and services to customers at an efficient cost; and
- Where competition could or can deliver these goods and services then it should.

Competition also provides, through its very nature, a stand-alone assurance of:

[1] CSIRO website: http://www.aemc.gov.au/Major-Pages/Integration-of-storage/Documents/CSIRIO-Future-Trends-Report-2015.aspx

[2] Ibid

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- Choice of service;
- Encouragement of innovation; and
- Fair and equitable access to markets.

Competitive markets are flexible and responsive to changing conditions. Such markets prevent monopoly returns and reward the efficient above the inefficient. Competition achieves regulatory goals but, unlike regulation, can also provide a strong profit incentive.

However, in practice, when DNSPs supply and/or own the assets, competition in the provision of these services to customers is compromised. This is because the DNSP can access the network support benefits far more easily than other participants in the market, allowing them to offer the customer services at a lower cost. Over time, this allows DNSPs to dominate the market for BTM services in their own service area, denying customers the dynamic benefits of effective competition. This is not least because the DNSP will seek to retain as much of the value as possible, so any price differential will only be just enough to keep other competitors out.

Of course, DNSPs should continue to have access to the network support services that these technologies can offer. In fact it is essential that they do so in order to achieve a lowest cost system for the benefit of customers. However, the AEC's position is that they should be required to procure them from the competitive market, as robust competition for the provision of these type of services will in turn allow the network to deliver its regulated services at the most efficient cost.

Any regulatory form of control which guarantees revenue recovery up to a cap provides incentives to the DNSP to favour expenditure which increases the RAB. In addition, a compelling bias towards the DNSP's own affiliates over third parties is also apparent when revenue will remain within the corporate group. Our submission also addresses impediments to efficient investment, such as:

- DNSP bias towards capital expenditure over operating expenditure;
- DNSP bias towards in-house sourcing rather than outsourcing; and
- DNSP bias towards their own ring fenced affiliates over third party providers.

As an illustration of these concerns, we note the Energy Users Association of Australia's (EUAA) report on DNSP valuations estimates that Australian electricity networks are realising total returns of around 23 times the returns being realised in the construction sector, and around 16 times the returns being realised in the telecommunications sector.[3]

Should you have any questions in relation to this submission please contact David Markham, telephone 03 9205 3111 or david.markham@energycouncil.com.au. We look forward to the opportunity to discuss our submission with you further.

Yours sincerely

Sarah McNamara
GM Corporate Affairs

[3] Assets or Liabilities? The Need to Implement Fair Regulatory Valuations for Australian Electricity Networks, EUAA, Hugh Grant, May 2016

Detailed responses to the consultation paper

1. Reclassification of Distribution Services, including a new Contestable Services classification.

Question 1a)

Is there a problem with the current process for distribution service classification?

In their rule change proposals both COAG and the AEC raised concerns about the classification of distribution services. The National Electricity Rules (Rules) were developed when the electricity supply chain was entirely characterised by a one-way flow of electricity from large, centralised generators through the transmission and distribution systems to the end user. The current and future state of Demand Response (DR) and Network Support (NS) technologies could not have been predicted.

Broadly speaking, both submissions argued that the inputs available to be used by the DNSP's in the provision of distribution services may have outstripped the capacity of the NER to effectively regulate distribution services, and that the likely consequence was an inefficient, anti-competitive arrangement that would stifle innovation and price competition.

The AEMC has sought to clarify what it perceives as misunderstandings in this regard, however there is broad consensus on what constitutes a distribution system versus a distribution service. To achieve NEO objectives, inputs can and have been carved out of distribution services on the basis of both functionality and technology (metering services for example). The AEMC has proposed that because these services, such as metering services, can be cost allocated on a per customer basis (and inputs into distribution services cannot), then they can be easily made contestable.

Notwithstanding the difficulty in obtaining and explicit per customer charges, there remains a case for potentially limiting the discretion that DNSP's have over how they provide direct control *and* alternate control services. A procurement only model may be a suitable substitute to achieve the objective of avoiding inefficient, anti-competitive arrangements that may impede innovation and price transparency.

(i) Does the current determination by determination approach reduce clarity over likely service classification decisions?

Generally a determination by determination approach will have the practical effect of reducing clarity over all related decisions. However, the purpose of the AEC's rule change application is not to contend nor remedy this regulatory outcome, but to create the necessary environment for the development of competitive markets in services which are or should be contestable.

(ii) Does the timing of the framework and approach process (in advance of each distribution determination) inhibit stakeholder engagement on service classification decisions?

Service classification is currently reviewed for each DNSP through the Framework and Approach process. This is a fragmented process that lacks consistency and means constant second guessing as to the AER's likely determinations.

Classification decisions determine how DNSP's will recover their costs in providing services. Ausgrid has suggested that changes to the classification of services will be difficult within the time period for Framework

and Approach Papers[4], and warns that this may lead to adverse impacts for customers, though it fails identify these adverse impacts.

In our view stakeholder engagement on service classification decisions is in practice very similar to the already complicated and arcane world of regulation that the Framework and Approach process characterises. A Guideline would hopefully set a universal standard on the classification of services, with a known review approach, and customer engagement throughout that consultation and review process.

For these reasons we consider the framework and approach process is not a desirable form of customer engagement and serves mostly NSP interests. Consultation on the Guideline and a Review Process headed by the AER would be a welcome approach.

1b)

Would a distribution service classification guideline increase clarity regarding distribution service classification?

Service classifications are for all practical purposes a universal description of distribution services and therefore a guideline could increase clarity of distribution service classification. More importantly, the guideline would allow the AER to make or review service classification guidelines, particularly with regard to the impact of new inputs into distribution services. The guideline should also direct the AER towards competitive methods for service delivery.

The view that by defining services not inputs we achieve regulatory efficiency is reasonable. It is also reasonable to expect the emerging classes of energy services that may form these inputs that can be delivered competitively will be delivered competitively, and these objectives are not mutually exclusive. This is why in our rule change proposal we seek to restrict networks from using capital expenditure in providing certain services, and require that these services are only obtainable through opex expenditure when procured from a genuinely competitive market.

The direct classification of such services may be difficult. The justification for a procurement only model for network support and demand response services being incorporated into the service classification guideline is that the market benefits will exceed the regulatory benefits. In this case instead of regulation correcting the market failure, we acknowledge that there is no market failure in the provision of these inputs. An alternative to direct participation by the DNSP can be reached if the DNSP's properly ring fenced affiliates are genuinely competing to provide these inputs.

1c)

To what extent does service classification being locked in over the regulatory control period create a lag in the appropriate reclassification of services?

COAG propose that its rule change request to amend service classification addresses regulatory lag by, for example, facilitating timely re-classification of services or classification of new services in order not to hinder the development of effective competition in relation to emerging technologies. The AEC shares their objective.

Whilst we accept the AEMC view that this understanding of services may not reflect the NER definitions, nonetheless the fundamental objective remains: to better enable the competitive development and deployment of new technologies and to ensure effective competition in relation to emerging technologies.

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[4] Ausgrids Framework and Approach 2019 - 2024 Discussion Paper

1d)

What other changes to the economic regulatory framework may be required to allow clear and properly informed decisions on reclassification of services within a regulatory control period?

To allow for clear and properly informed decisions there should be consistency in the classification of services. The current experience is that service groupings and conventions vary widely over the discrete networks. Our view is that this arrangement needs to be challenged in terms of its end user benefit, rather than ease of administration by the DNSP.

The definition of a distribution service (the subject of Question 2) as "..a service provided by means of, or in connection with, a distribution system" also requires review.

1e)

What would be the costs and benefits of allowing reclassification of services within a regulatory control period?

Simplistically, rewards or penalties incurred by DNSP's within a determination period are either adjusted in that period, or in future periods. As a principle, we would not support the AER being able to reach into and reclassify services in a current regulatory control period a service that was approved for the period, notwithstanding it may be inconsistent with the published guideline. This is because this is for all practical purposes a re-opener. Instead, the AER should be required to consider the potential for competitive markets and provide for contestable provision.

Once published, the classification guideline, and its regulatory review processes as per the AER, are known to the NSP and its effects are able to be incorporated into the next control period.

Question 2

2a)

Does the definition of distribution services provide clear guidance regarding which services are distribution services and which are not?

The definitions in the NER, particularly the definition of "distribution service" are vague and imprecise.

- "Network services" is defined as a "distribution service associated with the conveyance, and controlling the conveyance of electricity through the network". A "distribution service" is "a service provided by means of, or in connection with a distribution system".

- "Distribution system" is defined as "A distribution network … which is connected to another transmission or distribution system". That is, a distribution network is a thing connected to another network. This is an entirely circular definition.

- "Energy-related", is a term in the AER Draft Ring Fencing guideline which is not a defined term in the NER. "Energy" is defined as Active Energy and/or Reactive Energy. Active Energy is a measure of electrical energy flow.

The effect of this collection of vague and circular definitions is that the application of the AER Ring Fencing Guideline is uncertain, and therefore subject to avoidance.

The AEMC notes in the consultation paper that the proposed definition of energy related or contestable services may not actually be able to be classified in the form proposed by COAG or the AEC because they are not actually services, but rather inputs into services. Notwithstanding this, defining the scope of NSP activities may still be able to be achieved by defining what is excluded from distribution services.

2b)

What types of changes could be made to clarify the term?

Because future technologies are hard to predict, and the objective is to create dynamic and visible price signals covering all parts of the value chain so as markets can use these future technologies in response, the better guidance is to address which services are not distribution services.

Distribution services excludes smart energy equipment co-located with consumer load. This means, in the language of our current technologies, that energy equipment including solar PV, battery storage and household appliances that operate automatically in response to price signals.

This definition should also capture energy equipment that operates passively such as a rooftop solar PV system without a smart controller that supplies the grid when the sun shines as opposed to as a response to pricing signals from elsewhere in the supply chain. This is because so called passive operation can still respond to price signals, such as the solar power installation facing west instead of north to help address evening peak.

2c)

What would be the pros and cons of changing the definition of distribution services?

To classify services with the greater degree of competition or the potential for competition only as unclassified or negotiated services is not a satisfactory approach, as unclassified services appear to constitute what are residual services from the perspective of the Rules. This is because any service that is not otherwise classified as either a Direct Control Service or a Negotiated Service is deemed to be unclassified.

We originally proposed a new classification of *energy related*, or *contestable*, *services* to capture, amongst other things, smart energy equipment co located with consumer load, or *behind the meter*. However defining the scope of NSP activities can be achieved by defining what is excluded from distribution services.

Changes to the definition of distribution services to exclude smart energy equipment co-located with consumer load provides that:

- The market determines the value of these services, not a regulatory process;
- Competition is promoted to the greatest extent possible;
- Consumer choice drives the development of the market; and
- The likelihood of technology bias is reduced.

Concerns may be that:

- Consumers need to be educated to the associated risks and how to best manage them;
- Networks will not be permitted to directly participate in services that could otherwise be provided by a competitive markets (but can still procure those services as inputs); and
- The regulatory framework may constrain the expansion of additional services through requirements for periodic review what is excluded from distribution services.

The AEC does not support the idea that the status quo should prevail. The requirement to consider the impact of service classification decisions upon the emergence of potentially competitive markets should be a priority consideration in any change of definition.

Question 3

3a) Do the form of regulation factors provide clear guidance to the AER in determining whether distribution services should be classified as direct control services, negotiated services or be left unclassified?

The form of regulation factors are on the face of it sufficient to consider the classification of services against. The question of direct control services and the contestability of energy services more directly addresses not the nature of services themselves, but whether the services (or the inputs to these services) should be procured from competitive markets rather than by direct investment by DNSP's and the regulated return. Addressing the discretion that DNSP's have in providing distribution services is possible within the existing form of regulation factors.

The form of regulation factors remain a second best approach however in that they presuppose that regulation needs to be argued out rather than justified. Our view is that the promotion of a long term competitive market in the delivery of demand response and network support services requires that DNSP's are prevented from investing directly in these contestable energy services. Such an approach requires less regulatory benchmarking and a greater emphasis on competitive outcomes, such as the relationship between prices and costs, investments in innovation, empowered consumers and so on. As such, the emergence of potentially competitive markets should be a priority consideration.

3b) Should the requirement not to change service classification unless a new classification is clearly more appropriate be removed?

This requirement is unnecessary if the regulator is operating appropriately.

Question 4

4a)

Are the NER clear regarding classifying direct control services as standard or alternative control services?

The definitions in the NER, particularly the definition of "distribution service" are vague and imprecise.

- "Network services" is defined as a "distribution service associated with the conveyance, and controlling the conveyance of electricity through the network". A "distribution service" is "a service provided by means of, or in connection with a distribution system".

- "Distribution system" is defined as "A distribution network … which is connected to another transmission or distribution system". That is, a distribution network is a thing connected to another network. This is an entirely circular definition.

Notwithstanding this, the NER does clearly and explicitly state that Direct Control Service can be subdivided into standard and alternative control services.

4b)

Do the NER provide effective guidance to the AER in classifying direct control services into standard and alternative control services?

The NER provides some guidance with regards to efficiency, costs and consistency of classifications. This guidance is mostly in the form of making comparisons, to the extent of similarities with other services attributes and price. It does not consider technical methods.

We make the case that methods that involve the storage or generation of energy, or load management, should be expressly considered as separate, and split off. This approach ensures that services that involve or are the product of the storage or generation of energy are available to distributors to address issues such as local congestion, at the same time recognising that the technologies used to provide these services are fairly immature, and hence there are likely to be sizable cost reductions/technology improvements and business model innovations obtainable in the future that market dominance by the networks could delay or inhibit.

4c)

Should the requirement not to change a service classification unless a new classification is clearly more appropriate be removed?

This requirement to maintain the status quo does not consider technical methods, and generally seems to limit regulatory scope to improve efficiencies. This requirement appears largely as a legacy to the change from jurisdictional to national regulation to ensure an early steady transition. However today, and where a regulator is doing the most careful job they can in the normal course of their activities, there is no need to retain this requirement.

Question 5

5a)

Is an objective for service classification in the NER necessary?

An objective for service classification in the NER is still necessary to the extent that the potential for conflict between technologies and services, such as likely cost reductions and technology improvements and business model innovations that may be obtainable in the future could be delayed or inhibited by market dominance by the networks.

Whilst generally we agree with the COAG Energy Council that only services which exhibit natural monopoly characteristics should be economically regulated, this driver alone may not be sufficient to ensure that where competitive markets can our could provide the necessary outcomes - then they should. Whilst we see regulation as a second best approach, where there is potential for market dominance by the networks that will diminish competition or innovations then the only practical solution is to regulate to prevent this.

More importantly, service classifications are the basis by which regulated revenue streams are defined and these are then considered in the context of the total revenues required to maintain network business viability. Therefore an objective for service classification in the NER is still necessary.

5b)

Should the steps for service classifications be informed by the same considerations?

Where services exhibit natural monopoly characteristics economic regulation of those services should be considered, but again where the inputs into those services can or could be provided by competitive markets then they should be. The question as to whether service classification be based on market characteristics is

to some extent complimentary to the approach we suggest to address the matter of technology change and DER opportunities. This does not simplify regulation necessarily but the cost of regulation is not the only consideration. Consumers may well benefit from technology improvements and business model innovations to a greater extent than the cost of regulation.

Whilst there is some sympathy this approach with a view toward regulatory consistency, it is not plausible to lock in service classifications based on Rules that were developed when the electricity supply chain was entirely characterised by a one-way flow of electricity from large, centralised generators through the transmission and distribution systems to the end user; a time when current technologies had barely been imagined.

The nature of natural monopoly changes over time. Telstra has a natural monopoly over copper wire networks (its duplication is perhaps not feasible) and this resulted in a natural market monopoly structure. Technology advances disrupted this natural monopoly structure and although the copper network monopoly remains, Telstra does not have a monopoly not over telecommunications services. New technologies will continue to have a major impact on services and the regulatory framework needs to address how to decisively prevent any business from stifling innovation by taking over a market and blocking the entry of competitors; something regulated entities like Telstra have attempted before. Telstra gained a significant advance on the deployment of broadband services to homes through the deployment of digital subscriber line access multiplexers (DSLAMs) upstream in its network at the local exchanges. This ultimately had to be addressed by regulation.

Similarly whilst the costs of supplying electricity from generators to households would be higher with duplication of poles and wires, technology change means that the requirement for poles and wires needs to be de-linked from the supply an increasing number of energy services and that at his juncture we need to avoid the possibility of Telstra like behaviour inhibiting innovation and technical development.

Importantly any consideration has to have regard to the role of service classifications in defining regulated revenue streams. Over time a greater and greater proportion of regulated revenue may be required to come from a decreasing number of service definitions, and there may be pressure for asset write downs as a result. This should be offset by the opportunities for regulated businesses properly ring fenced affiliates to enter new business opportunities in the provision of unregulated services, or merchant energy services.

5c)

Within this framework should new classifications be added?

The AEMC highlights the difficulty with the current definitions of services classification, but also makes the point that some services, such as contestable metering services, can be excised cleanly from regulated services. We acknowledge that the new classification of contestable or energy related services may be problematic, but nonetheless defining the scope of NSP activities may require adding new classifications.

5d)

Should the AER expressly be required to have regard to the interaction between service classification and other forms of regulation?

Service classifications are the basis by which regulated revenue streams are defined and these are then considered in the context of the total revenues required to maintain network business viability. Therefore the joint interactions between service classification and other forms of regulation is significantly important enough for the AER to be required to have express regard to them.

Beyond that, our intent is to ensure that the ring fencing, cost allocation and shared asset guidelines all reflect that the promotion of a long term competitive market in the delivery of demand response and network support services. Ensuring this requires the AER give consideration to the joint interactions between service classification and other forms of regulation.

Again, however, where a regulator is doing the most careful job they can in the normal course of their activities there is really no need for this requirement.

Incentive framework for economically regulated services

Question 6

6a)
Is there a problem with DNSP's having service delivery discretion in relation to DR, NS and other inputs from assets located 'behind the meter'?

The problem with DNSP's having service delivery discretion from BTM assets is that to maximise the chances of a long-term competitive market in providing energy services behind the meter, networks need to maximise the scope for other parties to offer services that may have both network benefits and non-network benefits.

The tools to do this include any and all of:

- Cost-reflective tariffs;
- Planning data sharing (where is augmentation or other investment contemplated in the near term, network characteristics and performance, etc.);
- Competitive tendering (or ex post tests that the service is competitively provided), and;
- Properly ring-fenced affiliates.

Further regulatory requirements are:

- Value-at-risk adjustments to regulated revenue;
- Partnering with other parties on network research/trials by making this a condition of DMIS expenditure;
- Shared assets removed from the RAB and replaced by an opex allowance for leasing back the part-asset;

6a (i)
What is the problem?

The relationship between innovation and regulation can be troublesome given that the rewards and punishments which occur in competition that lead to stronger incentives for competitors to reduce costs, make correct decisions and innovate do not occur under regulation. Under regulation, high rewards may well be denied (not that price to earnings ratios reflect this necessarily) but equally the regulated entity is protected from losses (punishment) provided its decisions are deemed 'prudent'. Under regulation, decisions that the market will not work, or may not work, and that central planning will lead to a better outcome are almost always wrong.

The 1993 Hilmer Report explains why vertical and horizontal integration between natural monopoly and competitive activities should be regulated:[5]

- it presents opportunities for uneconomic cross-subsidisation between monopoly and competitive services; and
- where access to the natural monopoly element is essential for the competitive activity vertical integration will limit competition because the monopolist has no incentive to deal with its downstream competitors.

6a (ii)
How material is it?

Materiality is a comparative measure. If the total estimated size of the market and associated services is small, then the materiality is low. In this case, the CSIRO reported to the AEMC in 2015 that it estimated:

- Energy storage could be viable for households in seven years under current tariff structures[6]; and,
- Energy storage in the NEM could compete against gas within 20 years[7] .

Therefore the total estimated size of the market and associated services is material.

6a (iii)

Provide examples of the problem?

The troublesome relationship between innovation and regulation is well illustrated by the Victorian roll out of smart meters, which saw the State's electricity users pay an estimated $2.239 billion for next generation metering services, including the rollout and connection of smart meters[8], and it is clear that the full potential of these meters has yet to be realised. Good economic policy relies on providing the right people with the right incentives. The fact the customer benefit of smart meters appears to have been largely absent from the distributor led roll-out highlights the problem that the regulated entity is protected from losses provided its decisions are deemed 'prudent'. That is the avoided cost of replacing, or manually reading, the old accumulation meters.

DNSPs having service delivery discretion in relation to the inputs provided by smart meters has failed to deliver the adjunct benefits of:

- Lower average bills from the identification of redundant excess capacity on the networks; or
- Lower energy costs during expensive peaks,

Because the right people don't have the right incentives.

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5 National Competition Policy, Report of the Independent Committee of Inquiry, August 1993, p. 219.

6 CSIRO website: http://www.aemc.gov.au/Major-Pages/Integration-of-storage/Documents/CSIRIO-Future-Trends-Report-2015.aspx

7Ibid

8 Realising the Benefits of Smart Meters, Victorian Auditor General, September 2015

Question 7

The AEC does not think it is appropriate to blame network businesses for current inefficiencies. Mostly these businesses are responsive to regulatory incentives and structures that impede their efficiency.

7a)
Does the regulatory framework provide balanced incentives for DNSP's to use the most efficient mix of:

Several reviews have concluded[9] that the key driver of DNSP profits is returns on RAB, and from this we can broadly conclude that the regulatory framework provides incentives that skew towards network options.

7a)(i) Network and non- network options?

Recognising that the regulatory framework does inadvertently or otherwise lead to RAB solutions, it is critical that DNSPs cannot use their monopoly position, or their ability to obtain benefits from NS and DR services that cannot be obtained by other parties, to reduce competition for the provision of these services. This reduction in competition will also reduce efficiency in the market in potentially both the short and long terms.

It is difficult to determine which of these incentives in the regulatory framework promotes this skew to the RAB, although RAB valuations are clearly a driver. The lack of visibility around DNSP decision making with regard to these options makes it difficult to assume anything other than that the network will pick the network or non-network option that maximises its own benefit. Whilst theoretically at least this should also maximise customer benefit, that makes heroic assumptions that all the other parameters are either efficient or theoretically perfect. However if we examine some of the indicators of balanced incentives, we discover that:

- Returns on the RAB are the primary driver of regulated revenues, and some end user associations such as the EUAA, have accused the AER providing of 'return on equity' allowances of around four times the level that equity investors actually require to invest in the networks.[10] ; and

- On the basis of RAB growth trends, especially when compared to the physical growth in energy connections, the incentives for DNSPs to use non network options would appear prima facie to be much lower than the incentive to use network options.

7a)(ii) Capital and operating expenditure?

The ex-post review provisions provide the AER with some limited capacity to exclude capital expenditure from the RAB where they can determine that a DNSPs capital expenditure should have been classified as operating expenditure. The limitation is that the AER can only consider capex where this is above the total

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9 Senate Inquiry Into The Performance and Management of Electricity Network Companies, June 2015

Electricity Network Regulatory Frameworks: Productivity Commission Inquiry Report, 9 April 2013

Senate Select Committee on Electricity Prices: Reducing Energy Bills and Improving Efficiency, Independent Review Panel, Electricity Network Costs, Final Report, November 2012

The Energy Market Death Spiral - Rethinking Customer Hardship, Paul Simshauser and Tim Nelson, 2012

10 Assets or Liabilities? The Need to Implement Fair Regulatory Valuations for Australian Electricity Networks, EUAA, Hugh Grant, May 2016

capex allowance. The argument that this limitation on the AER in of itself creates asymmetric incentives in favour of the DNSP has already been widely made.

Whilst regulators should be concerned with the potential for under investment by DNSPs, the approach outlined in the AEC rule change proposal sought to address the question of efficient investment, especially in augmentation projects and to some lesser extent replacement projects. The truncated RIT-D seeks stricter enforcement to this end, requiring:

- Network Support and Demand Response only be added to capex and opex allowances after being exposed to the truncated RIT-D;
- The AER remove capex from the RAB not subject to the RIT-D regardless of whether DNSP had exceeded capex allowances; and
- Capping the capex added to the RAB at the value revealed through the RIT-D.

7a)(iii) A range of technologies?

According to Western Power's rule change request, distribution services are intended to be classified by reference to the characteristics of a particular service, not by reference to the underlying assets. It asserts that there is currently uncertainty about what constitutes a distribution service.

The Western Power rule change request contends that, to invest in innovation, DNSPs need greater certainty that these technologies are captured in the classification of distribution services. In their view, the less apparent it is that a particular technology or innovation can be used to provide a distribution service, the less likely it is that innovative, more efficient service options will be undertaken.

Western Power's argument might be seen to support the view the regulatory framework fails to provide balanced incentives for DNSPs to use the most efficient mix of technologies, however we need to be mindful that the current definition of a distribution service is a broad one; distribution services are services provided in connection with a distribution system. There is no inherent disincentive to DNSP investment in innovative, more efficient service options in this services definition.

Question 8

Is there a problem in the current planning framework in relation to network support and demand management? If so:

(i) What is the problem?

The current planning framework in relation to network support and demand management requires detailed capital and operating expenditure incorporated into regulatory proposals submitted to the AER. The problem with this approach in relation to network support and demand management is that the DNSP is both the investment decision maker and the asset owner.

In the near future, now in fact, flexible network support and demand management resources located both behind the meter and on the network have the potential to offer both value in the energy market and as network support. It should not be assumed that these benefits will be coincident, as network peaks will be based on localised demand, while energy market value may be based on times when solar/wind resources

are unavailable. So the goal is co-optimising the value of flexibility across both the competitive energy market and the network monopoly.

It is not credible to suggest that co-optimisation can be controlled by a single party. Distributed resources owned by each party should be regarded as theirs to control and the rights and responsibilities associated with the resources to rest with them, though in practice they may find that their utility is maximised by ceding control to another party who can maximise the value of the services on their behalf.

The problem is that right now the annual planning requirements are not adequate for a third party to make decisions about investing to co-optimise this value. Amongst the other market reforms required to ensure efficient investment and promote dynamic efficiency, the information that will enable both competition in the provision of network support and demand management services and co-optimisation of the energy and network services values is critical.

(ii) How material is it?

In their 2015 report to the AEMC the CSIRO found that energy storage could be viable for households in seven years under current tariff structures. The CSIRO also estimated that energy storage in the NEM could compete against gas within 20 years. This implies the potential for thousands of MW of storage, and identifies that the value of storage is large. Even absent storage, smarter inverters have the potential to allow PV to be managed at the margins, and potentially provide ancillary services back to the grid. Other distributed resources, such as cogeneration/trigeneration are also growing.

In addition, the development of various communications technologies and protocols has brought the prospect of effective aggregation of distributed resources much closer. Old assumptions that inducing demand responses from small customers are not worthwhile due to the transaction costs no longer hold true.

Finally, the growing penetration of intermittent renewables at both large and small scale is increasing the value of flexibility in the energy market and associated ancillary services market. To date the signals for this value have been muted due to oversupply, but recent events in South Australia indicate that as older baseload-style generation exits this market, this value may be revealed very rapidly in the form of highly volatile prices for energy and ancillary services. Given increasing penetration of distributed generation and storage, and the need to consider the values of both the network peak and the energy peak, the DNSP is arguably not the best party to make the investment decision.

(iii) Provide examples?

The existing planning framework examines the alternative non-network solutions to better manage demand on the network in isolation, and is not suitable to co-optimising the value of flexibility across both the competitive energy market and the network monopoly. Consider the example of SA Power Networks (SAPN)'s bid to defer a $3 million network[11] upgrade, which raises the following questions:

- How did SAPN let the market know of its requirement for storage and management services at Salisbury?;
- Was there an invitation to any other party to make a competitive pitch?; and

[11] SAPN media Release 19 May 2016

- How did SAPN create a price signal?

In this case the value of the NS or DR opportunities could have been succinctly provided to the market. It is a reasonable assumption that the value of network peaks was available to inform the SAPN investment decision.

Question 9

a) *Does the combination of cost allocation principles in the NER, the AER's cost allocation guideline and the DNSP's CAM provide for efficient cost allocation in relation to assets that can provide both direct control services and network support or demand response?*

It is not plausible to conclude that all of the regulatory mechanisms (EBSS, CESS, Shared asset guidelines, CAMs etc) are in place to ensure that a DNSP procures an OPEX solution from the competitive market if that is more efficient. This is because every single parameter affecting each of those mechanisms must be 100% correct for the regulatory framework to be an adequate proxy for competition. These parameters that must be 100% correct include, but are not limited to:

- Every component of the WACC that the AER determines;
- The percentage allocation of a shared asset's value that is determined by the AER under the CAM; and
- The split of revenue under the shared asset guideline.

A DNSP's investment incentives are skewed if any of those parameters are incorrect. For example, if the AER allows a DNSP to recover 1% more of a shared asset's value (e.g., battery) via the regulated RAB than would otherwise be reflected in competitive market outcomes, then even this small inaccuracy skews the incentive for a business to invest in that asset as a DNSP instead of procuring that service from a competitive market via an OPEX payment.

In short, the threshold test shouldn't just be that the incentive mechanisms are in place, but instead consider the probability that one or more of the detailed assumptions are wrong, thus skewing incentives as compared to the alternative. The prudent approach is not reliance on a proxy for competition, but reliance on the real thing – actual competition.

The only 'efficiency' consequence arising from actual competition is that, if it wants to participate in the network support market, a DNSP has to procure these services through a properly ring fenced entity. The incremental costs of this are marginal being:

- The incremental cost of creating a ringfenced entity in the first place, relative to a base case in which most business will establish a ring fenced entity no matter what the decision is on service classification, is marginal if not zero; and

- The loss of any economies of scope as a result of having to do this through the ring fenced entity instead of via their own regulated entity should be marginal.