Endeavour Energy

18 July 2017

Mr John Pierce
Chairman
Australian Energy Market AEMC
PO Box A2449
Sydney South NSW 1235

Dear John

RE: AEMC Consultation Paper – *National Electricity Amendment (Alternatives to grid supplied network services) Rule 2017* (Reference ERC0215)

Endeavour Energy welcomes the opportunity to provide feedback on the AEMC's consultation paper – *National Electricity Amendment (Alternatives to grid supplied network services) Rule 2017* (the consultation paper). The consultation paper follows a rule change request from Western Power that seeks to amend the National Electricity Rules (NER) to include, as a distribution service, the provision of microgrid or stand-alone power systems (SPS) (i.e. off-grid services) to existing customers as an efficient substitute to traditional, grid-connected energy supply.

The proposed rule change is designed to address two issues with the regulatory framework:

1. Distorted incentives: Electricity distribution networks provide an essential infrastructure service. Edge-of-grid customers (e.g. remote rural areas) require additional network infrastructure to supply, increasing the overall cost of the network which is recovered from customers on a shared basis. As a consequence, cross-subsidies exist between individual customers which distort their price signal. Edge-of-grid customers therefore receive an artificially low network charge that is significantly cheaper than the cost of establishing an SPS and defecting from the grid. This removes any incentive for edge-of-grid customers to consider efficient off-grid solutions, inhibiting the development of this potential market.
2. Regulatory uncertainty: In the absence of a price signal that can support the development of an off-grid supply market DNSPs may instead be able to provide these services to existing, edge-of-grid customers. These efficient alternatives could be funded by DNSPs reducing the level of the cross-subsidies. However, the current definition of "distribution services" in the NER discourages DNSPs from utilising off-grid solutions and technologies.

Western Power's analysis suggested substantial cost reductions could be achieved if it were allowed to invest in off-grid supply as a distribution service. This would benefit the existing edge-of-grid customer by providing, in all likelihood, a more reliable energy supply. It would also benefit the remaining customer base by improving the safety of the network (e.g. lower bushfire risk where the overhead network could be removed from heavily vegetated and remote areas) and reducing the extent to which they are required to cross-subsidise edge-of-grid customers through higher prices.

Therefore, we support the proposed rule change as it would allow the implementation of more efficient solutions. We consider the proposed amendments to the definition of a 'distribution service' will resolve the existing uncertainty in the regulatory framework. However, we acknowledge the complexity in modifying the definition of a fundamental term in the NER and the potential for unintended consequences. We would be supportive of any alternatives which achieve the same outcome of permitting DNSPs to implement network substitute services for existing, consenting customers as per Western Power's stated intention.

Our views are supported by our own preliminary analysis of the prospective benefits that may be afforded to our customers. We have attached to our response an example of an edge-of-grid network constraint we are currently reviewing. Our analysis indicates that the proposed rule would provide network customers a cost benefit of $477,000 for the off-grid transfer of this individual customer. We believe several additional remote locations within our network could also be suitable candidates for efficient off-grid transfer. Further, we expect both the volume of eligible customers and the potential benefit of their defection off-grid to the remaining customer base to increase as the costs associated with off-grid systems reduce.

The AEMC's consultation paper identifies these potential benefits, the challenges of accurately amending the NER and some concerns with the proposed change. Of primary concern is whether the proposed amendments would adversely affect the potential for competition in off-grid services if DNSPs are permitted to exclusively provide these services on a shared cost basis to existing network customers.

We consider this rule change will advance the development of the off-grid market as it overcomes the price signal issue which will expand the potential customer base for off-grid services. The rule change simply allows DNSPs to fund an off-grid solution rather than requiring the individual customer to. The off-grid solution may be network or non-network depending on which party can most efficiently provide the service. The existing regulatory framework will protect against any DNSPs inefficiently seeking to monopolise these services where more efficient alternatives exist.

This would be preferable to a status-quo option which restricts the potential competitive market. This is because there would be a smaller market size if existing customers had to fund the off-grid solution. It is highly unlikely that off-grid solutions will be cheaper than the subsidised network charge. We acknowledge that the price of off-grid technologies will reduce over time, however high capacity devices would have to be a fraction of their current cost in order to be a viable network substitute which may take many years to occur (if at all).

An alternative would be to either; mandate locational pricing for edge-of-grid customers to improve their incentives or remove their right to a network connection and compel them to take-up an off-grid solution. Both options would expand the potential market for off-grid services without requiring the participation of a DNSP. However, these are obviously unfair solutions that remove customer choice and their ability to access a public utility on reasonable terms. We therefore consider that the Western Power proposed solution will best advance the long-term interests of customers and the achievement of the National Electricity Objective (NEO). The proposed solution will preserve customer choice and remove the current pricing barrier which prevents the consideration of efficient investment alternatives to conventional network connections.

To best encourage the voluntary transfer to off-grid supply we recognise that it will be essential that customers are provided comparable levels of reliability, service and customer protections to traditional network supply. The AEMC's analysis of the various jurisdictional arrangements is useful and we encourage the AEMC to provide recommendations and guidance on how it considers these issues could best be managed by jurisdictions in a consistent, effective manner.

In summary, Endeavour Energy considers the proposed rule change addresses the failure of the current framework (and inability of the competitive market) to deliver the most cost-effective outcome for network customers. The proposed rule change will best achieve the NEO by reducing the subsidisation of edge-of-grid customers, improving network safety and providing a more reliable supply of electricity to edge-of-grid customers. It would also enhance the development of the off-grid market by expanding the potential customer base for these services allowing DNSPs to procure them from third party suppliers, who until now have been limited to providing solutions to the comparatively small market of yet-to-be connected network customers.

If you have any queries or wish to discuss this matter further please contact Jon Hocking, Manager of Network Regulation at Endeavour Energy on (02) 9853 4386 or via email at jon.hocking@endeavourenergy.com.au.

Yours sincerely,

Rod Howard
Chief Operating Officer
Endeavour Energy

Response to the AEMC's consultation questions

Question 1 Nature of issues

a) **Do Western Power's concerns, as described in section 2.2, accurately identify the nature of any problems associated with distributor-led transitions from grid supply to off-grid supply in the jurisdictions that are part of the national electricity market?**

We agree with Western Power's observations that uncertainty over the classification of some potentially viable non-network options may restrict a network's ability to address network constraints (or inefficiency) by implementing off-grid solutions.

b) **In relation to customers who currently have a grid connection, is there workable competition for off-grid supply systems, or are there barriers that significantly impede businesses that are not economically regulated (non-distribution businesses) from providing off-grid supply to these customers?**

Cost sharing across all network users has long been a widely supported means of enabling customer access to affordable electricity supply, regardless of the location of the connection within the network. This subsidised pricing approach however does not expose many existing customers to a cost reflective price signal upon which to make a rationally efficient decision about their grid connection or defection. In the case of grid supply, existing customers generally will not actively seek the services of a significantly more expensive (although competitively derived) off-grid provider. Given the cost benefits enjoyed by grid connected customers from being provided a subsidised network supply, it is highly unlikely that a non-distribution business could provide off-grid supply services to these customers on terms the customer would agree to. In most instances, costs would need to fall significantly from current levels before they are considered a viable alternative.

Removing the ability of networks to cross subside network services would result in fully cost-reflective pricing signals. However, this would also result in significant adverse impacts and socially undesirable outcomes. We consider the proposed Rule provides the ability to unlock the potential development of the off-grid (and wider non-network) service market for grid connected customers by overcoming the distorted incentives of individual customers. DNSPs would instead be able to fund off-grid solutions which would greatly increase the likelihood that the edge-of-grid customer consents to the substitution. It is unlikely DNSPs would have the necessary capabilities to efficiently supply all aspects of an off-grid service which would mean they would be required to procure these services from competitive providers.

Consequently, we believe the potential for workable competition does exist for off-grid supply systems where DNSPs are permitted to essentially be the source of demand for these services.

c) **Does the issue identified by Western Power, and any barriers from (b), indicate that it may be appropriate to allow distributors to provide off-grid supply as a regulated service, in certain circumstances?**

We consider inhibiting distributor provision of off-grid supply would ensure a continuation of the current situation whereby network customers are prevented from benefiting from potential price reductions through efficient network investment in off-grid alternatives. As mentioned previously, connected customers will only consider transferring to off-grid supply when costs are comparable to their existing network charges. In our view, this is unlikely to occur anytime in the near future (even allowing for the rapid pace of technology development and expected cost reductions).

Expanding the definition of distribution services to capture off-grid supply (or some analogous amendment to the NER) will allow DNSPs to provide edge-of-grid customers a more, or comparably, reliable service. This would be at a lower cost thereby reducing the extent to which the remaining customer base subsidises edge-of-grid customers. It would also improve the safety of the remaining network by allowing DNSPs to remove overhead assets from typically rural, densely vegetated areas prone to bushfire risk.

We also consider the solution is appropriate as it represents the most effective way to stimulate the delivery of efficient off-grid services. We consider this measure provides the necessary catalyst to unlock the potential development of the off-grid supply market. Providing DNSP's with the clarity sought by the rule change request will allow distributors to provide a source of demand (which otherwise remains absent) to which off-grid providers can competitively supply.

We would expect that provision of off-grid services would only be offered to customers if it represents the most cost-effective option and the customer agrees. The regulatory framework and proposed amendments will ensure off-grid investment is limited to such circumstances.

d) **Other than concerns as to whether off-grid supply would constitute a distribution service, what barriers (such as other regulatory barriers or licence requirements) prevent distributors from seeking customers' agreement to move off-grid where it would be cost effective?**

The proposed rule addresses the single largest barrier that prevents distributors from approaching customers with an off-grid supply option. We expect to commence assessing locations and identifying customers for efficient transfers if the proposed rule is progressed. However, the surety and reputation of the network and jurisdictional arrangements may also represent a barrier to obtaining customer agreement.

This is because customers are familiar with networks and their proven ability to reliably supply electricity. Customers may be uncertain about the reliability of emergent technologies and consider off-grid solutions to be riskier than a traditional network supply (even if this is demonstrably not the case). This may be exacerbated by jurisdictional arrangements that are largely silent on the treatment of off-grid networks or do not provide comfort that the customer will receive appropriate protections for the reliability and quality of the service. We consider this issue may be overcome in time as off-grid technologies become more prevalent and customers become more familiar and confident in them.

Question 2 Costs and benefits of moving to off-grid supply

a) **Do you agree with Western Power's description of the costs and benefits of transitioning from grid supply to off-grid supply? What other costs and benefits should be considered?**

We are confident Western Power has identified the most material impacts from classifying off-grid supply as a distribution service. Given the differences in network characteristics, it would be expected the materiality of the identified costs and benefits would vary across networks. Although further analysis is required to determine the full range of costs and benefits, Endeavour Energy's preliminary assessment suggests the potential benefits of the proposed rule outweighs the likely costs.

In addition to the cost saving benefits to networks which will reduce overall prices, we believe there will also be benefits to reliability and safety from replacing long overhead feeders traversing dense and extensive areas of vegetation. Off-grid supply would allow Endeavour Energy to better manage exposure to significant bushfire risk and provide a more reliable supply. Removing existing assets as a potential ignition source following an off-grid transfer, represents a more effective and cost-efficient way to eliminate the threat of bushfires than undertaking regular vegetation management.

In terms of costs, we understand that customers who agree to transfer to an SPS supply will no longer require physical connection to the grid. Following connection removal, edge-of-grid customers with rooftop PV (to supplement their grid connection needs) who may currently receive a feed in tariff for supplying electricity to the grid will no longer be able to receive payment. As access to DER improves, more customers may wish to engage in energy trading opportunities made available to grid connected customers, which may suppress voluntary grid transfer. These customers however, may benefit from not having to pay the retail component of their electricity usage, only the off-grid supply service charge.

b) **What credible estimates are there of the current costs to procure, install and maintain (i) microgrids and (ii) individual power systems in fringe of grid areas of**

Australia? How are those costs broken down between electricity generation, network provision and retail costs/billing? How do these costs compare to the costs of providing electricity to such customers through the national grid?

We would expect the financial costs associated with providing off-grid supply would vary significantly, primarily driven by customer energy usage requirements (system sizing) and locational factors (e.g. remoteness of location, accessibility, terrain type).

As revealed in the attached case study, we have estimated the indicative cost to provide the identified customer with an off-grid individual power system is between $200,000 and $250,000. This reflects the system set-up requirements and is specific to the location and level of service needed to satisfy the load profile of the customer. We caution against using this estimate as a standard approximation for the cost of supplying all remotely located customers as differences in load demand and environmental factors will potentially result in significantly different costs. We would expect cost estimates for establishing microgrids to similarly vary.

c) **Distributors, please provide information (to the extent you have any) on the number of your customers who are currently grid-connected but who you consider may be more cost-effectively served by (i) microgrids and (ii) individual power systems. Consider current and projected costs of those systems.**

Given the current prohibitive barriers to providing off-grid supply, Endeavour Energy has not established an advanced process for identifying multiple potential candidates for off-grid supply and quantifying the costs and benefits that may be derived from their transfer. The attached case study analysis has been prepared specifically as a supporting document for this response. The identified customer is located remotely from the grid and requires immediate network investment to maintain supply as the current overhead line has reached the end of its serviceable life. These factors contribute to the candidacy of the location for off-grid supply. Our analysis has revealed the NPV costs for the two options are:

- Maintain grid supply - $867,341
- Providing off-grid supply - $390,189

Despite being clearly the most efficient option, current regulatory uncertainty prevents us from considering off-grid supply as an alternative to mains replacement.

We have manually identified an additional 8 remote locations whereby off-grid supply could possibly present a more efficient alternative to asset replacement. Although the current condition of the assets in these locations are sufficient to maintain grid connection, once the need for replacement is determined, off-grid supply is likely to result in the most efficient outcome.

We would expect that potentially dozens of additional customers could be identified as suitable candidates once a more precise method is established to assess off-grid supply options and as the costs of off-grid technologies reduce. Possible candidates in Endeavour Energy's network are most likely to be located in the sparsely populated regions west of the Blue Mountains. However, the number of candidates may be limited due to most customers in these areas being located in community clusters rather than on remote individual parcels of land.

d) **What are the key factors that make customers candidates for off-grid supply? For example, upcoming line replacements, local reliability or congestion issues, safety standards, line undergrounding requirements, declining costs of off-grid supply, presence of existing distributed generation?**

We would expect that customers located on the edge of network areas are likely to be the most suitable candidates for off-grid transfer. It should be generally regarded that the further these customers are from shared network assets, the more costly it may be to replace and undertake maintenance on customer specific (dedicated) network assets. In order to identify prospective candidates, we would expect a variety of factors would first need to be considered. Although ultimately an evaluation between the costs of replacing and/or maintaining a grid connection with a

comparable off-grid substitute will ultimately determine customer candidacy, some factors which may inform this decision include:

- Asset condition: dedicated assets that are approaching end-of-life may initiate an off-grid option analysis.
- Historically poor reliability: alternate supply options and ride-through capabilities may be considered for customers receiving relatively poor levels of reliability.
- Dedicated line length: often correlated with vegetation management and inspection costs. May also contribute to substandard reliability.
- Rate of deterioration: assets which experience poor life expectancy and often require life extension maintenance.
- Energy consumption: limited off-grid supply capability may not be able to meet the needs for large energy consumers or consumers with highly variable demand patterns.
- Authorisation: rental customers may not have the authority to consent for off-grid transfer.
- Topography: environment may present a constant risk to safety (e.g. bushfires).
- Ability of accessible technology to provide network equivalent (or otherwise agreed) standard of service.
- Restricted access customers: customers who have previously exhibited behaviour not conducive to network access or similar (threatening behaviour, regular non-payment, meter tampering, regular restriction of access) may prefer a more private, isolated system.
- Existing PV installation: these customers may be receptive although they may be denied the ability to benefit from energy trading through losing connection to grid connected customers.
- Life support: customers may be excluded (at least initially) until networks can guarantee that off-grid can provide a grid equivalent reliable supply.

e) Distributors, if you were permitted to supply the customers identified in question (c) through off-grid supply, please provide an estimate of your annual savings (if any). Please state any critical assumptions such as pricing approaches to be applied to off-grid customers.

As revealed in our case study example, supplying the identified customer through an off-grid system would provide an estimated cost saving of $477,000. Our analysis beyond the case study example has not yet evolved sufficiently to allow us to quantify the potential benefits on transferring other potential customers to off-grid supply. However, we consider there is little cost downside to off-grid supply and a significant potential cost saving upside to the remaining customer base in reducing the cost impact of edge-of-grid customers.

f) Other than the costs of the off-grid supply itself, what costs and benefits are likely to arise from moving certain customers off-grid, for the customer, the distributor, the customers remaining on the grid, retailers, local generators, or any other parties? How could any costs be mitigated?

Off-grid customers

All network customers, including off-grid customers would share the benefits of lower prices arising from DNSPs implementing more cost-effective supply options. The materiality of the price impact would depend on the volume of customers transferred and the value of the net benefit arising from each transfer. We consider prospective off-grid customers are more likely to value off-grid supply for the improved reliability, environmental and safety outcomes offered from a localised supply option.

Specifically, off-grid customers would benefit from reduced supply interruptions from line disturbances. Bushfire threats are likely to be significantly reduced following overhead line decommissioning and removal. For several of our customers, these two factors are expected to be important considerations in the decision to provide transfer consent.

Other benefits may include:

- Improved emergency response times from eliminating the need to identify the location of a fault on a potentially extensive line.
- Reduced local and community disturbance from line maintenance activities.
- Improved aesthetics and vegetation regrowth.

As noted earlier, a possible deterrent to off-grid conversion is the inability to participate in energy trading opportunities that require a grid connection to be maintained. The value of having this ability will differ between customers. Ultimately, the cost of not having this ability (as with any other perceived costs) will be assessed by the customer against the benefits going off-grid will provide them.

Distributors

As demonstrated through our case study and suggested in Western Power's rule change request, reduced levels of capital expenditure is likely to be the most significant outcome for distributors from off-grid transfer. We expect these benefits are likely to be more significant for networks with several long customer dedicated lines (typical of regional areas with sparsely populated communities and customers).

Off-grid supply would also eliminate the need to incur a variety of operating costs (e.g. vegetation management and line inspection/investigation) but would create additional maintenance costs associated with maintaining and servicing off-grid systems.

We believe distributors would incur costs from additional investigation and option analysis as part of regular investment planning processes. As each potential off-grid customer is likely to provide networks with different costs and benefits, we expect assessments will need to be conducted for each individual prospective location. Networks may also need to incur some customer engagement/communication costs directly with customers to provide a fully informed process for conversion. However, we consider these costs are likely to be outweighed by the benefits to DNSPs as per the attached case study.

Grid Customers

Despite not being directly involved in the transfer decision or impacted by the process, grid customers will benefit from the price outcomes which follow off-grid investment. This is because the amount to which grid customers subsidise the costs of remote customers will reduce. The degree to which these benefits are realised depends on the amount of successful transfers. As aforementioned, grid connected customers would also benefit from the improved safety of the remaining network with reduced bushfire risk.

Retailer

A DNSP is restricted from selling energy to customers. This may require an exemption or the involvement of a third party, most likely a retailer, to provide this part of the off-grid service. Otherwise, retailers would receive no benefit from this rule change and would instead have a reduced grid-connected customer base to provide services to. We consider these costs would be negligible given the relatively low number of potential off-grid customers. Any costs would likely be offset by the ability for retailers to diversify into the market for off-grid services as an additional product offering. However, we consider the costs and benefits of this rule change for retailers are largely irrelevant in assessing its contribution to the achievement of the NEO.

Off-grid service provider

As aforementioned, the proposed rule has the potential to significantly open up the market for off-grid services which is currently limited to supplying new customers with no existing grid connection. DNSPs are likely to engage third party providers in delivering off-grid supply to customers. This is

incentivised and required by the existing regulatory framework which includes planning transparency, a well-developed process for engaging and considering non-network alternatives and a requirement to demonstrate least cost, efficient expenditure solutions.

Question 3 Potential alternatives to the proposed rule

a) **If a rule change is considered necessary, are there alternatives to the proposed rule which relate to the issues raised in the request and:**
(i) are consistent with the Law;
(ii) would allow all customers to benefit from lower costs by enabling electricity to be supplied in the most efficient way in each area; and
(iii) would result in customers who move to off-grid supply receiving electricity supply with appropriate reliability, quality, safety and other relevant consumer protections?

We consider the proposed rule is an appropriate step to support distributor selection of the most efficient investment option. The amendments proposed by Western Power appear to be well-drafted and targeted at addressing this specific issue. However, we acknowledge the complexity associated with modifying a fundamental term in the NER and the opportunity for unintended consequences. We have not developed any alternatives to the proposed changes by Western Power. Although we would be supportive of any alternatives that are more practical or targeted whilst achieving the same outcome.

b) **Would the alternatives in (a) be able to be achieved through changes to the Rules alone, or would changes to other instruments, such as the Retail Rules or other laws, regulations or licences (jurisdictional or national) be required or desirable?**

N/A

Question 4 Assessment framework

Do you agree with the approach set out in section 3.3 to assessing whether the rule change request will, or is likely to, contribute to the achievement of the national electricity objective? If not, how should it be assessed?

We support the factors proposed by the AEMC to assess the merit of the proposed rule.

In respect to competition, it is widely recognised competitive forces often allow a market to arrive at an efficient outcome. Any change that may improve or impede the manner in which competition is allowed to derive an efficient outcome should rightfully be investigated. However, Endeavour Energy considers a competitive market for off-grid supply to existing customers, somewhat unusually, cannot arrive at the most efficient outcome without the catalyst that can only be provided through distributor intervention – a measure typically associated with impeding the competitive process.

The market for an off-grid service first requires the presence of customer demand. This is unlikely to arise as the supply of electricity on a centralised, shared cost basis is far superior on a cost and service basis compared to the supply of off-grid services to existing grid connected customers. This is observable in the lack of grid-defection to date and the low level of new, non-grid connected customers selecting off-grid supply over grid connected supply.

We are therefore concerned by the impact on competition factor. Competition is not the exclusive means by which the NEO can best be advanced. In certain circumstances, the desired outcomes can be more effectively and efficiently delivered by alternate means to competition. We suggest consideration instead by given to the impact of competition and whether this would best promote the achievement of the NEO or whether regulatory intervention is required in the place of competition or to initiate it. This is discussed further in question 5.

Question 5 Competition issues relating to moving from grid supply to off-grid supply

a) **To what extent do you consider that distributors' ability to average the costs of grid-connected distribution services across their customer base inhibits the development of competition in off-grid supply as an alternative to grid connection?**

Prior to examining the effects of sharing network costs equitably across our customer base, we believe it would be important to clarify the reason for doing so is not a strategically considered management decision but an exogenous regulatory requirement. The pricing framework within the Rules requires that retail customers by assigned to tariff classes on the bases of the nature and extent of their usage and connection to the network. Further, the Rules require that retail customers with a similar connection and usage profile should be treated on an equal basis. In short, distributors are only able to average the costs of grid-connected network services because they are obligated to. This is for good reason as it ensures customers can access a public utility on fair and reasonable terms. Many customers would be unable to afford electricity if discriminatory pricing was permitted which would be socially undesirable and inequitable.

We acknowledge that due to network cost cross subsidisation, many existing customers are not faced with prices which reflect the cost of providing them grid connected supply. Therefore they have imperfect information upon which to make decisions with distorting their ability to select more efficient solutions. For instance, a remote grid connected customer would be more likely to consider off-grid supply provided by a competitive market if they were forced to pay the distributor for the ongoing inspection, maintenance and replacement costs incurred in order to maintain a grid connection. In the absence of a fully cost-reflective price, existing customers a far less likely to ever consider off-grid supply which will restrict the development of this market.

To resolve this issue we do not suggest, nor advocate for, a change to a more locational based cost allocation structure. Although this may increase the uptake of DER services for existing customers, it would deny many the access to affordable electricity supply (provided on or off-grid). Ultimately, sharing network costs across all network users offers significant social benefits that greatly outweigh any associated costs. Endeavour Energy does recognise that customers most suited to off-grid supply are not incentivised to do so because of the benefits received through cost sharing. However, rather than inhibit competition, we believe allowing DNSPs to fund the costs of providing off-grid services instead of the individual customer would unequivocally stimulate demand and foster competition in these services. DNSPs could drive significant demand for off-grid technologies and services from third parties as opposed to customers with no incentive to consider these alternatives.

b) **If the proposed rule (or a more preferable rule) is made, and the AER classifies off-grid supply as a standard control service, would distributors' ability to offer below-cost off-grid supply hamper the development of competition in the off-grid supply market, as costs of off-grid supply fall in the future?**

Endeavour Energy recognises that the proposed rule change seeks to introduce distributors as the provider of off-grid services to grid-connected customers. The introduction of a monopolistic provider of services has typically been viewed to potentially inhibit the development of a competitive market which tends to lead to outcomes which conflict with the long term interests of customers and consequently, the NEO.

However, we believe Western Power have demonstrated that implementing measures that would normally enhance the prospect of competition would instead hinder a competitive market from developing. If the barriers identified in the rule change request remain, we do not foresee consumers providing sources of demand necessary for the off-grid market to develop. Given the large extent to which these customers benefit from subsidisation, we believe the status quo would continue to be observed even as off-grid system costs continue to be driven down by technological improvements.

The proposed rule would allow distributors to unlock the potential of the market through providing a potentially large source of demand (and most likely the exclusive provider of demand) currently not provided by individual consumers. We envisage distributors would seek to competitively procure these services from off-grid suppliers who are currently limited to providing services to new, non-grid connected customers. The proposed rule provides a catalyst that enables the distributor to take the place of the consumer and fund efficient off-grid services essentially on behalf of the most suited customers.

We would encourage the AEMC to take a broader view of the implications on competition than normally considered – specifically, a consideration and comparison of the likely competitive outcome resulting from both denying and allowing distributors to provide off-grid supply to existing customers. Our view is the long term interests of consumers and the NEO is best advanced if competition is allowed to develop through classifying off-grid supply as a standard control service. Any concerns about DNSPs inefficiently monopolising the market could be addressed by ensuring off-grid projects are subject to the Regulatory Investment Test – Distribution (RIT-D) and the Distribution Annual Planning Report (DAPR) to ensure that the process is transparent and third party suppliers are provided a reasonable opportunity to offer potential off-grid solutions and be selected where they constitute the most efficient option.

c) In addition to the issues discussed in chapter 4, what other factors affect competition for providing off-grid supply in place of grid supply?

We accept that the further customers are located from shared grid assets, the more likely they are to be identified as off-grid candidates. Remoteness from other customers may also impact on the degree of market competition offered by off-grid providers to install off-grid systems and conduct maintenance. Few providers may be willing to compete (or have the capacity to meet the ongoing maintenance obligations) to supply off-grid systems to customers in locations that would provide the largest benefit from conversion. The limited scope for competition may inhibit off-grid system take up, however, cost reductions may lead to improvements in the long run.

d) Would the AER's process for classifying distribution services, including considering the potential for the development of competition, provide an adequate way in which to address these competition issues in practice?

In general, we support the AER's current approach to service classification. It largely results in services being classified in a way that allows for affordable access to electricity services whilst promoting the development of competitive markets where appropriate. The approach seeks to limit the costs of providing services across the shared network by attributing customer or location specific service costs to individual customers or groups.

Two key factors the AER regularly considers when assessing services for the purpose of classification are the potential for competition to develop and the extent to which costs are directly attributable to individual customers. Combined, the presence of these attributes may lead to the considered service being classified as contestable or alternatively, an alternative control service. Assessing off-grid supply services using this approach however would maintain a customer's incentive to remain connected to the grid, fail to stimulate a market for off-grid services and deny the opportunity to realise the benefits previously discussed. To provide distributors with the confidence to invest in off-grid alternatives specifically requires the AER to classify off-grid services (supplied as a distribution service) as a standard control service – consistent with the classification of the shared service it would be replacing. It would be valuable to understand the AER's preliminary views on this issue in assessing the rule change.

Question 6: Competition issues arising after moving to off-grid supply

a) Should a monopoly provider of a service in one area of the supply chain for off-grid services be able to provide an integrated service whereby it provides all the services forming part of off-grid supply, in circumstances where competition is limited?

Yes. We consider the AER's ring-fencing guideline could regulate the circumstances under which a DNSP can essentially act as the supplier of last resort. In all likelihood, third party suppliers will by engaged by DNSPs as the most efficient option. However, there may be circumstances under which no third party supplier is available or competitive with a DNSP led approach. In such circumstances, we consider the DNSP could apply for a ring-fencing waiver from the AER to conduct the activities that are non-distribution services from which they are otherwise prohibited from provided.

b) If a customer moves to off-grid supply where one entity is the monopoly off-grid retailer, generator and distributor, what disadvantages are they likely to face due to the lack of ability to change retailers?

We consider there will be a commercial discipline on DNSPs to provide a competitive and efficient integrated off-grid solution where they are required to do so. This is because a customer will maintain the right to connect to the network. As a network substitute service the off-grid supply will need to compete with the retail offering. If DNSPs are not providing an off-grid service that is analogous or superior to the grid-connected service in terms of price and quality the customer is likely to request a grid-connection. This would increase a DNSPs costs and require capital and operating costs that are likely to not be included within their expenditure allowances.

However, we acknowledge that an off-grid solution is not currently catered for by the existing rules or all jurisdictional regulators in terms of reliability, consumer protections and reliability. This issue will exist irrespective of whether one entity or multiple entities provide the off-grid solution. Further clarity and protections may be necessary in some jurisdictions to address these risks.

c) Do the extent of any disadvantages under (b) depend on which entity provides the monopoly services (e.g. a licensed, regulated distributor, compared to an entity that is exempt from registration and licensing provisions under the Rules and state laws)?

We consider the differences would be minimal as competitive pressures would apply to the off-grid supplier given the customer could defect back to the grid if a suboptimal service is provided.

d) How can any disadvantages under (b) be mitigated?

Existing regulatory arrangements are designed to incentivise and require that the most efficient solution is adopted. Jurisdictional regulations may also be required to address service quality and consumer protection concerns.

e) Is it desirable (in light of the long-term interests of consumers) that customers being moved to off-grid supply would be offered, or would be able to access, competitive offers for each component of off-grid supply (for example, provision of generating plant, maintenance of the plant, billing)? If so, what circumstances or policies would encourage this?

We consider it would be preferable for customers to have access to competitive offers for each component of off-grid supply. We consider this proposed rule change will contribute to the achievement of this by increasing the potential size of the market. Competitive providers likely already exist for generation, billing and installation and maintenance. The key barrier these suppliers face is being unable to compete with the cross-subsidised network charge. If this issue is addressed by allowing DNSPs to fund the off-grid solution it is likely to stimulate growth in these markets. Existing regulatory arrangements should ensure that DNSPs do not simply adopt integrated solutions where more efficient alternatives exist.

Question 7: Appropriate regulation of reliability of off-grid supply

In light of the varying reliability requirements that may apply to off-grid supply under the current arrangements, are specific consumer protections regarding the reliability of off-grid supply required before the Rules should allow distributor-led transition to off-grid supply?

Transfer candidates are likely to seek assurance from their respective distributor that they would not be disadvantaged following a switch off-grid. They will need to be confident of receiving (at least) existing levels of reliability as an off-grid customer. This assurance can best be provided if the reliability conditions imposed on distributors in providing a grid connected service and an off-grid alternative are clear and consistent.

Reliability and performance standards for Endeavour Energy (and other NSW distributors) are determined by the NSW state government and outlined in licence conditions for distribution providers and monitored for compliance by IPART. We agree with the AEMC's observation that interruption duration and frequency standards, specified in our licence conditions, could potentially apply to customers provided an off-grid distribution service.[1] Transferred customers in NSW would therefore receive the same reliability protections as grid-connected customers.

In jurisdictions where distributor standards for providing off-grid supply is less certain, we would expect some candidate customers to be less likely to voluntarily convert to a relatively new and unfamiliar supply source. Although this may impact customer acceptance rates, we do not consider the proposed rule should be further delayed until these provisions are developed. Advancing the proposed rule would:

- provide the opportunity to achieve efficient outcomes particularly in jurisdictions where off-grid reliability requirements are clear and consent is plausible;
- allow all prospective customers the opportunity to make a decision based on information available, clear or not (reliability protection concerns would be assessed individually by customers – the value for reliability would be reflected in their defection decisions); and
- provide the impetus to jurisdictional regulators to address any deficiencies in reliability requirements for off-grid supply

Question 8: Impacts on consumers of moving to off-grid supply – general questions

a) **Chapter 5 discusses various regulatory issues and considers the potential impacts of moving to off-grid supply under the current regulations. If you have further information on, or a different analysis of, any of these issues, please provide details.**

b) **What are the impacts on off-grid customers of ceasing to be covered by the protections in the Retail Law and Retail Rules, bearing in mind the protections provided by the Australian Consumer Law and by state laws?**

We consider the form of protection most valued by customers is access to the free and independent services offered by the jurisdictional energy Ombudsman. The reputable and dependable dispute resolution service provided would give confidence to customers contemplating off-grid transfer particularly if off-grid supply in NSW is not covered by the Retail Law.[2] NSW distributors are required to participate in the Ombudsman scheme with each customer entitled to access these services. Endeavour Energy would support and actively contribute in a process that would ensure off-grid connections are provided with the same access rights as grid customers if coverage under the current legal framework is considered inadequate or unclear as suggested by the AEMC.[3]

c) **To what extent are customers who move to off-grid supply likely to face additional risks relating to electricity supply not faced by grid supplied customers? If additional risks arise, what is the nature of these risks and how material are they?**

Although off-grid supply may provide access to a more reliable service (specifically reduced outage frequency), the AEMC suggests the factors that affect reliability for off-grid may be different to those which impact grid service.[4] Grid interruptions are usually well understood and monitored and can be restored autonomously or by staff manually. Off-grid customers may encounter more

[1] AEMC, Consultation Paper: National Electricity Amendment (Alternatives to grid-supplied network services) Rule 2017, p.49
[2] Ibid, p.30
[3] Ibid, p.31
[4] Ibid, p.27

technically complex issues to unfamiliar assets that may require specialist attention that network employees or contractors may not be capable of providing. This may lead to extended periods of interruption compounded by the remoteness of the location which may hamper supply restoration efforts. This would likely incentivise DNSPs to engage third parties with expertise in monitoring and maintaining off-grid technologies in order to meet any service level guarantees provided to the customer or to avoid the customer defecting back to the grid.

An appendix to this submission containing confidential information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 108 of the National Electricity Law.