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18 July 2017

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

Dear Mr Pierce,

Re: Consultation Paper - *Alternatives to grid-supplied network services* Rule Change Proposal (ERC0215)

Western Power welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) Consultation Paper *Alternatives to grid-supplied network services.* As the rule change proponent, Western Power appreciates the detail in which the AEMC has considered its proposal and the extensive Consultation process that has now commenced.

Western Power acknowledges that many of its stated positions on the questions posed by the AEMC are articulated in the rule change proposal. However, as a result of implementation of its successful pilot Stand-alone Power System project, Western Power is able to offer additional insights as to the costs and benefits of the proposed rule change, as well as further clarifying its position on issues raised by the AEMC.

Western Power has provided responses to questions raised in the Consultation Paper as Attachment A. Questions not answered by Western Power are done so on the basis that the Rule Change Proposal represents Western Power's position.

For further information on this submission, please contact Jai Thomas on (08) 9326 6109 or at jai.thomas@westernpower.com.au.

Yours sincerely

M. Pyrchla

Margaret Pyrchla
Head of Function – Regulation and Investment Management

Attachment A: Response to 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?

(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?

Western Power considers that uniform tariff policies imposed by State Governments provide a significant barrier to any workable competition for existing grid-connected customers. Uniform tariff policies restrict the provision of an efficient price signal to customers who are most likely to be candidates for stand-alone power systems (SPS), and act as a significant barrier to the currently-connected grid customer electing to pursue more system-efficient supply options.

Whilst small scale solar PV, and increasingly battery storage products, are widely adopted by consumers under existing uniform price structures, the scale of infrastructure required to completely disconnect and sustain network quality or near-network quality supply are not cost-competitive under current pricing arrangements. Stand-alone power systems procured for Western Power's pilot project cost in the order of $150,000 - $200,000 per unit, with a lifetime cost per kWh still significantly higher than existing general retail tariffs.

Western Power recognises the importance of the social policy objectives that uniform tariff policies are trying to achieve, however precluding DNSPs from pursuing efficiency gains as intended under the rule change proposal serves only to further exacerbate the cross-subsidy effects of uniform tariff policies.

Western Power considers competition already exists for unpowered sites which weigh up grid connection (and potentially augmentation) costs relative to self-supply costs, noting that for such customers, limitations on any customer protections beyond Australian Consumer Law are apparent.

(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?

(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?

Jurisdictional legislation in Western Australia defines that Western Power's function is to provide transmission and distribution services limited to the South West Interconnected System (SWIS). Similarly, jurisdictional subordinate legislation and regulation only contemplates this function, and these limitations flow through associated instruments.

For example, Western Power has statutory power to access land under the *Energy Operators Powers Act 1979 (WA)* only where that access is necessary in the performance of its function to provide interconnected network services. As such, Western Power does not have any statutory land access powers enabling it to install, run and maintain SPS equipment that is not interconnected with the SWIS.

As noted in the Consultation Paper, as Western Power is not currently regulated under the *National Electricity Rules*, any rule change would not apply. However, even with the national regulatory framework applying, it is likely that the described jurisdictional legislative amendments would be required to provide Western Power with the legal function to deploy stand-alone power systems and disconnected microgrids within its legislated functions. Western Power has not conducted a review of legislation in other jurisdictions, however expects similar issues to be encountered.

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?

(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?

(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.

(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?

Western Power notes it has provided a broad overview of SPS drivers in the rule change proposal. It is also worth noting that where external events, such as bushfires, impact existing network infrastructure, investment drivers may be accelerated. In these circumstances, the requirement to rebuild traditional network infrastructure 'like for like' may not represent the most efficient method of supplying customers. Such unforeseen 'opportunities' may arise without notice – Western Power's investment and geographic models provide for quick assessment of rebuild costs relative to stand-alone power systems.

(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.

(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?

Western Power considers two additional key benefits that are likely to emerge – reliability improvements and wholesale generation avoided.

Reliability Improvements

Reliability improvements to customers have the potential to be significant where stand-alone power systems and disconnected microgrids are deployed. Importantly, reliability performance is typically measured within broad categories of performance by network type (e.g. by distribution feeder type).

Generally, reliability investments are rarely justifiable to individual customers due to the high cost of rectification relative to the minimal improvement in reliability performance by category.

Western Power's Pilot SPS project has been operational from 1 August 2016, and has demonstrated significant reliability improvements to customers provided with a SPS relative to the outages they would have experienced on their grid connection.

The Pilot project has deployed SPS units to customers whilst maintaining energised lines. As such, the measurement of outage duration on the line relative to performance of the SPS units is relatively simple – as the existing spur outage data reflects the experience the customers otherwise would have had without the SPS in place. In the 10 months 1 August 2016 to 31 May 2017, average outages avoided for the 6 customers were just under 60 hours per customer (see Table 1).

Table 1: Reliability performance for SPS pilot sites

Site	Network		SPS	
	Minutes	Hours	Minutes	Hours
Pod 1	3908	65.13	897	14.95
Pod 2	3908	65.13	0	0.00
Pod 3	3947	65.78	0	0.00
Pod 4	3908	65.13	404	6.73
Pod 5	3908	65.13	120	2.00
Pod 6	3393	56.55	0	0.00
Average		63.81	Average	3.95

Whilst reliability performance incentives will rarely be enough to drive an SPS decision in its own right, it is an additional benefit where replacement expenditure is required.

Avoided Wholesale Generation

Under the proposed rule change, a SPS or disconnected microgrid solution deployed by a DNSP will effectively deliver generation that would normally be provided (and settled) via the central dispatch system provided for under Chapter 3 of the *National Electricity Rules*, or the *Wholesale Electricity Market Rules* in Western Australia.[1] Western Power's cost-benefit modelling outlined in the rule change proposal did not account for any additional value that emerges from avoided generation or capacity costs.

Consideration should be given as to how such sites would interact with these wholesale market rules, specifically how the wholesale generation portion of the electricity cost stack would be accounted for. Western Power's rule change proposes standard pricing arrangements for disconnected customers, delivered within the network portion of the cost stack – the solution is simply a lower-cost method of delivering supply to customers. However, extracting customers from the wholesale generation market will effectively "unlock" value that can be accounted for elsewhere.

Apportioning this value requires further consideration from the AEMC and stakeholders, noting that existing ring-fencing rules would likely prevent DNSPs from recovering any additional revenue beyond that recovered for network tariffs.

[1] The same principle applies for capacity market component of the cost stack where applicable, such as in Western Australia.

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?

(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?

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?

Western Power considers that the approach set out in section 3.3 is appropriate

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?

Western Power considers that the averaging of costs to consumers under postage stamp pricing policies are largely imposed by State Governments as a broad social policy, rather than a beneficial "ability" to smear costs as implied in the Consultation Paper.

As part of its proposed transition to the national regulatory framework, it should be noted that Western Power would have continued to be required to apply a postage stamp pricing policy to its tariff structures.[2]

As noted in the response to question 1(b), until cost reflective pricing can be widely implemented to reflect locational pricing characteristics, DNSPs will continue to be required to manage cross-subsidisation of high cost to serve customers within the bounds of monopoly service obligations and the intent of efficiently minimising costs. The regulatory framework requires amendment to ensure that DNSPs can deliver the most efficient service when all policy drivers that are externally applied to it are considered.

(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

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[2] Section 3.3.1 - https://www.finance.wa.gov.au/cms/uploadedFiles/Public_Utilities_Office/Electricity_Market_Review/Information-Paper-Transitioning-to-the-National-Electricity-Regulatory.pdf

development of competition in the off-grid supply market, as costs of off-grid supply fall in the future?

Western Power considers that the stimulation of the off-grid supply market by DNSPs procuring such systems that would otherwise have electricity services delivered by traditional (higher cost) network infrastructure provides for the development of competition in such markets.

Western Power notes that in simple terms, the proposed rule change seeks to significantly reduce the cost to serve the candidate customers. As noted in the response to question 5(a), Western Power considers that workable competition has not emerged for grid-connected customers and as such, a limited market currently exists for the provision of off-grid systems to these customers, despite cost reductions in recent years. The implementation of Western Power's rule change proposal would provide significant stimulus to this nascent market.

(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?

(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?

Western Power considers the AERs process as being appropriate, however, as noted in the Rule Change Proposal, there is the potential for additional AER costs given the requirement to consider the classification of an additional set of potential services.

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?

The intent of Western Power's proposed rule was for existing customer relationships and protection measures to be maintained, and that the rules be amended to simply provide for an alternate method of meeting network service obligations, where an alternative approach was more cost-effective.

Customer supply as a result of being provided with network services from an off-grid system was not intended to be extracted from the existing regulatory regime and vertically integrated, as this would undermine the retailer-customer relationship and the retailer-customer market in general.

(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?

(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)?

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

(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?

Western Power notes that under the DNSP-delivered model, the issues of procurement of system components and ongoing operations and maintenance are ultimately the obligation of the DNSP, guided by the intent of the regulatory framework to efficiently minimise costs. Opportunities for bundled services (i.e. provision of the system plus ongoing maintenance) in a single contract or innovative lease models would be a matter for the DNSP to resolve in the most efficient manner possible when going to market.

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?

Western Power considers that no specific additional reliability protections are required, assuming that once amended, such customers fall within the bounds of jurisdictional network reliability measures, and where applicable, reliability incentive measures such as the AER's Service Target Performance Incentive Scheme.

Generally speaking, customers supplied by SPS or disconnected microgrids will traditionally be located in regional areas with typically lower reliability standards applying. The network-led model provides for reliability improvements to be included in performance measures and incentive payments (or avoided penalties).

Additionally, for individual systems, system design should align with relevant Australian Standards (AS4509 – stand-alone power systems).

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?**

(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?**

Western Power has provided its position on these issues in the rule change proposal.